Rural Environment. Education. Personality. (REEP)

Proceedings of the 13th International Scientific Conference

Rural Environment. Education. Personality. (REEP)

Proceedings of the 13th International Scientific Conference

Latvia University of Life Sciences and Technologies

Jelgava, Latvia

2020

Participating organizations

Association "School of Home Environment"

Baltic International Academy, Latvia

Baranavichy State University, Republic of Belarus

Belorussian State Pedagogical University named after Maksim Tank, Republic of Belarus

Czech University of Life Sciences Prague, Czech Republic

Daugavpils University, Latvia

EKA University of Applied Sciences, Latvia

Federal College of Education (Technical) Akoka, Nigeria

IT Company "Autentica", Latvia

Kazakh National Women`s Teacher Training University, Kazakhstan

Kazakh Ablai Khan University of International Relations and World Languages, Kazakhstan

Kiryat Bialik Municipality, Israel

L.N. Gumilyov Eurasian National University, Kazakhstan

Latvia University of Life Sciences and Technologies, Latvia

Liepaja University, Latvia

Lithuanian Academy of Music and Theatre, Lithuania

Lomonosov Moscow State University, Russia

London Metropolitan University, UK

Moscow Pedagogical State University, Russia

Mugla Sıtkı Kocman University, Milas Vocational School, Turkey

National College of Art and Design, Ireland

National Armed Forces, Latvia

Norwegian University of Science and Technology (NTNU), Norway

Peter the Great St. Petersburg Polytechnic University, Russia

Rezekne Academy of Technologies, Latvia

Riga Stradins University, Latvia

Riga Technical University, Latvia

RISEBA University of Applied Sciences, Latvia

PRIVUS Ltd, Latvia

Slovak Academy of Sciences, Slovakia

Smolensk State University, Russia

Tallinn University, Estonia

Tokat Gaziosmanpasa University, Turkey

Transport and Telecommunication Institute, Latvia

University of Helsinki, Finland

University of Ilorin, Nigeria

University of Latvia, Latvia

University of Paderborn, Germany

Ontario Tech University, Canada

University of Rzeszow, Poland

Vilnius Gediminas Technical University, Lithuania

Vocational Education Competence Centre "Riga Technical College", Latvia

Vytautas Magnus University, Lithuania

Warsaw University of Life Sciences, Poland

Abstracted/Indexed: The Proceedings after the conference will be submitted for publishing in databases: Web of Science™, Clarivate Analytics (former Thomson Reuters), SCOPUS, EBSCO Central and Eastern European Academic Source, AGRIS, CAB Abstracts.

The data bases select the articles from the Proceedings for including them in their data bases after additional individual qualitative estimation.

Chairman of conference committees: associate professor, Dr.paed. **Vija Dislere**

Scientific committee

Every article was subjected to the review and edition of the Scientific Committee, which members are professors from 9 countries – Czech Republic, Estonia, Finland, Germany, Ireland, Latvia, Lithuania, Poland, UK. All reviewers were anonymous for the authors of the articles.

Professor, PhD. **Kaija Turkki**	University of Helsinki, Finland
Professor, Dr.paed. **Baiba Briede**	Latvia University of Life Sciences and Technologies, Latvia
Professor, PhD **Sue Bailey**	London Metropolitan University, UK
Professor, Dr. **Kirsten Schlegel-Matthies**	University of Paderborn, Germany
Professor, Dr.hab. **Marzena Jezewska-Zychowicz**	Warsaw University of Life Sciences, Poland
Professor, Dr.hab. **Joanna Kostecka**	University of Rzeszow, Poland
Associate prof., Dr.paed. **Zivile Sedereviciute-Paciauskiene**	Vilnius Gediminas Technical University, Lithuania
Associate professor, Dr.paed. **Vija Dislere**	Latvia University of Life Sciences and Technologies, Latvia
Associate professor, PhD **Ene Lind**	Tallinn University, Estonia
Assistant professor, Dr.Ed.D. **Patsey Bodkin**	National College of Art and Design, Ireland
Assistant professor, Dr.paed. **Iveta Lice-Zikmane**	Latvia University of Life Sciences and Technologies, Latvia
Assist. professor, Dr.Ing. **Karel Nemejc**	Czech University of Life Sciences, Czech Republic
Senior researcher, Dr.paed. **Rita Birzina**	University of Latvia, Latvia
Assistant professor, Dr.paed. **Iveta Kokle-Narbuta**	Latvia University of Life Sciences and Technologies, Latvia

Organizing committee

Professor, Dr.paed. **Baiba Briede**	Latvia University of Life Sciences and Technologies, Latvia
Professor, Dr.hab. **Marzena Jezewska-Zychowicz**	Warsaw University of Life Sciences, Poland
Associate professor, Dr.paed. **Vija Dislere**	Latvia University of Life Sciences and Technologies, Latvia
Associate professor, PhD **Ene Lind**	Tallinn University, Estonia
Associate prof. Dr.paed. **Zivile Sedereviciūte-Paciauskiene**	Vilnius Gediminas Technical University, Lithuania
Assistant professor, Dr.paed. **Iveta Lice-Zikmane**	Latvia University of Life Sciences and Technologies, Latvia
Assistant professor, Dr.Ing. **Karel Nemejc**	Czech University of Life Sciences, Czech Republic
Assistant professor, Dr.paed. **Aija Pridane**	Latvia University of Life Sciences and Technologies, Latvia
Assistant professor, Dr.paed. **Natalja Vronska**	Latvia University of Life Sciences and Technologies; Association „School of Home Environment", Latvia
Senior researcher Dr.paed. **Rita Birzina**	University of Latvia, Latvia
Assistant professor Dr.paed. **Iveta Kokle-Narbuta**	Latvia University of Life Sciences and Technologies, Latvia
Lecturer, Mg.paed. **Silvija Reihmane**	Latvia University of Life Sciences and Technologies, Latvia
Lecturer, Mg.paed. **Ligita Ozolniece**	Latvia University of Life Sciences and Technologies, Latvia
Lecturer, Mg.paed. **Janis Pavulens**	Latvia University of Life Sciences and Technologies, Latvia
Researcher, Mg.psych. **Laura Simane-Vigante**	Baltic International Academy, Latvia
Lecturer, Mg.paed. **Zane Beitere-Selegovska**	Latvia University of Life Sciences and Technologies; Association "School of Home Environment", Latvia

Content

EDUCATION FOR GETTING COMPETENCE

EDUCATION FOR SUSTAINABLE DEVELOPMENT

DESIGN AND CRAFTS

DEVELOPMENT OF PROFESSIONAL EDUCATION AND CAREER

Foreword

The Institute of Education and Home Economics of the Faculty of Engineering, Latvia University of Life Sciences and Technologies organizes annual international scientific conference **Rural Environment. Education. Personality (REEP-2020).** Authors of the articles are from 13 countries - Canada, Czech Republic, Estonia, Israel, Kazakhstan, Latvia, Lithuania, Nigeria, Norway, Republic of Belarus, Russia, Slovakia, Turkey. Totally 43 educational establishments are represented in the Proceedings.

Aim of the Conference: to find out solutions, exchange ideas or highlight topical problems on the 21ˢᵗ century education tendencies in university and adult education, competence, education for sustainable development, design and crafts, career development and vocational education. Thematic groups of the articles:

- problems and solutions for nowadays university and adult education;
- education for getting competence;
- education for sustainable development;
- design and crafts;
- development of professional education and career.

The focus of the conference is on educational development trends, new learning strategies and how they could be developed, to improve learners' ability to compete in the labour market and to benefit for society.

The first section **Problems and solutions for nowadays university and adult education** includes researches in the fields of quality assurance of study process in universities, innovations in adult education, new methodologies in music education and language learning, as well as use of information technologies in education.

In recent years the system of **higher education** quality assurance has undergone several essential changes: a greater emphasis is being laid on the development of human capital in regions, on the qualification framework, on student-centred learning and study results; also there is a change in the attitude from quality assurance towards the development of the teaching staff, also important is building and maintaining a strong institutional brand, and the perception of the teacher's image by students comes to the forefront. Researchers focuses on students' academic performance, learning motivation and encourage students to think about the future of civilization, about a sustainable and unsustainable behaviour on a local and global scale, to use international summer schools, academic discussions and creative work-shops.

Currently, adult education is a diverse and mobile system of educational services. Given the current situation, adult education is designed to fill the list of missing competencies of a modern specialist, among which soft skills are important. Researchers have theoretically substantiated, developed and evaluated the communicative space of adult education lessons and developed guidelines for its modelling.

Several articles are about **music education** innovations specifically focusing on non-formal children education, paying specific attention to peculiarities of learning an instrument in a group; on innovations in study process of prospective music teachers; on students' perceptions about the use of background music in music lessons while performing written tasks, and on innovative methods for the development of interval hearing during the process of solfeggio lessons.

The several articles highlighted the importance of **language learning**. Transversal competences are fundamental in the 21st century and necessary for every higher educational institution graduate as they are prerequisites for well-being and success in life, adapting to the changeable and complex world and

meeting multiple demands of today's society, being competitive in the labour market, managing profitable business and developing an enterprise. The authors describe the process of developing such transversal competences as critical thinking, collaboration and creativity in case study-based professional English course in business administration studies; the development of adults' autonomous English learning experience in blended learning environment; implementing of communicative approach and a technological approach, and importance of peer collaboration in language studies.

One article is about attitude towards violence, criminal violence regarding with forensic psychology - "The Relationship between Implicit and Explicit Attitudes towards Criminal Violence and Attachment Styles". The aim of this study is to research the relationship between the results of implicit and explicit measurements of attitudes towards criminal violence and attachment styles of violent sentenced male offenders and non-offenders.

Articles covering conducted researches in the field of **using information technology in education and teaching mathematics** are about transformative digital learning in the context of higher education; the self-evaluation methodology of programmers' competitiveness in information technology organisations; entrepreneurial competence for competitive professional activity in the changing conditions of the modern labour market and professional environment of the industry for prospective engineers in food science.

The scientists clarified the concepts "professional competence of an engineer", this study demonstrates positive dynamics in the following indicators: projective and prognostic skills; organizational skills; information skills; analytical skills and efficiency of knowledge.

Some articles are about competencies-based education in secondary school, the researchers explain how to measure complex competence-based knowledge, skills and attitudes for developing mathematical competence and transversal skills such as collaboration, decision-making and self-discipline for pupils.

The articles in the second section **Education for getting competence** deal with situation in higher, school and adult education.

The papers related to investigations in **higher education** consider the relevance of the formation of professional competence of future specialists associated with the features of engineering activities of computer profile as well as the methodology for the use of mathematical modelling for the formation of methodological competence of the future teacher. The process of developing such transversal competences as critical thinking, collaboration and creativity in case study-based professional English course in business administration studies is analysed. The article from Lithuania reflects the experience accumulated while creating a new programme for emotional intelligence development based on the author's Method of Emotional Imitation, and discusses competences necessary for the developer and the teacher as well as challenges and problems encountered in the process of programme development.

The articles in **school education** comprise topical challenges in education in Latvia and they deal with: the theoretical analysis of innovations in the improved curriculum content of competence approach in Latvia; the role of technologies in the teaching and learning process of STEM in general comprehensive schools of Latvia as well as the investigation on promotion of the students' cultural understanding in general education by means of different curriculum designs and pedagogical approaches aimed at the development of learner's cultural understanding, and the analysis of their suitability for particular educational purposes in Latvia. The investigation of the diverse understandings of character and virtue education in Riga city, the capital of Latvia is reflected in the article from the University of Latvia. In the article from Czech Republic mapping the possibilities of outgoing international mobility in educational institutions and an exploratory survey to study the perception of international mobility by secondary school students are analysed.

Development of a constructive approach to mediation based on dialogue (discourse) and learning to create a dialogue is reflected in the article in the field of **adult education**.

Articles in third section on **education for sustainable development** describe the topics on sustainability in organizations, quality of education, pedagogical competences, ethnic identity, graceful aging, gender perception, children in kinship care and students' smoking.

Sustainable development is a civilizational strategy recognized by the world community, within the framework of which environmental impact does not go beyond the natural possibilities, written in the article Competency-Based Approach to Educational Content for Sustainable Development in Latvia. The transition to sustainable development is a complex and requires a change in the very foundations of social life. Education is essential in achieving sustainable development. The article contains practical suggestions to strengthen teachers' educational capacities for sustainable development.

The aim of the study Formation of the Electronic Informational and Educational Environment in the Prospects of the University 4.0 of scientists from St. Petersburg is substantiate the need to create modern personnel competencies for the digital economy and create a new model of modern universities. Strengthening the role of the university, as one of the main producers of knowledge and competencies for the information society, dictates the need for it to implement both the functions of education and research, as well as the functions of transfer, commercialization of technology, and a provider of knowledge about the future.

The article Pedagogical Competence of Aesthetic Cosmetologists for Sustainable Development write about implementation of sustainability in organizations, emphasize large increase of innovative hardware technologies, more sophisticated procedures for skin care, what justifies an increasing need for highly qualified professionals in the Aesthetic Cosmetology industry who are able to perform these complex procedures professionally and educate their client awareness. Research show opinion of aesthetic cosmetologists regarding the need for pedagogical competence. In the field of healthcare, the Aesthetic cosmetologist holds a preventive role to minimize cases of skin sicknesses.

One of the main tasks of modern university professional education is to develop the sustainable mindset of future specialists. The development of a sustainable mindset within the study process can be achieved by combining professional competences with sustainability competences. The study refers to the quality assurance process at the university and reveals a sustainable way of thinking for future professionals in article "Discovering a Sustainable Mindset in Hospitality Educators".

The relationship between ethnic identity and sustainable development is not one dimensional. A person is viewed as a central focus of the sustainable development. The topicality of the study Ethnic Identity and Sustainable Development is determined by an interest to explore various manifestations of personality, and, in the study, by the ethnic aspect of identity. Researchers pay close attention to such aspects of ethnical identity as mother tongue, ethnic character, ethnic values, and ethnic culture.

Turkish scientists investigate certain views on the family life of the woman, the work life of the woman, whether the man was considered as the leader of the family, and whether these views had a relationship with gender in article "Gender Perception Towards Women in Rural Areas in Turkey". The majority of the men that took part in the survey think that the man is the family's leader and that men should make the most important decisions. An important part of the men think women are vulnerable and they should be protected.

The study investigated *Nutrition Education on Graceful Aging among Senior Secondary School Staff* in Mushin Local Government Area of Lagos State, Nigeria. The study revealed that majority of respondents agreed to the statement that nutritional education can promote graceful aging, teaches that over nutrition causes problem such as obesity. On the result of survey data, it was concluded that nutrition education plays a pivotal role in graceful aging.

The article *Challenges of Sustainable Development for Children in Kinship Care Families* accentuate the problems of children taken out of biological families and who can be placed in kinship care, foster families or in institutions. International and national political documents determine that placement close to family is a basic priority. Scientists identify resilience factors in kinship care families.

The aim of the study *Starting and Maintaining Smoking: A Qualitative Study of Tobacco Use in High School Students* is to investigate the motives for starting smoking, the factors that contribute to smoking initiation and how high school students become "regular smokers" from "trying" tobacco products.

Articles in fourth section on **design and craft** are about design thinking and craft entrepreneurship. To successfully train prospective product designers, authors have researched and described design thinking

strategies, what helps to plan business development. Design thinking is centred on the solution of the problem and creation of desirable outcome. Authors worked out design thinking concepts and stages, and opportunities of their implementation at university courses and school subject. Craft making is growing and regaining its position both: as hobby and business in Latvia. The craft entrepreneurs create different types of value ranging from materialistic to idealistic by nature and from economic to transformational by the impact: economic and regenerative on one end to symbolic and developmental on the other end of the continuum.

Articles in fifth section on **development of professional education and career** came from all over the world - researchers from 13 organizations in 7 countries had focused on researching the topic.

The result of the joint study by Latvian and Israeli scientists is the developed, adapted and practically approbated model for understanding the relationship between Organizational Learning Culture and Organizational Citizenship Behaviour. The proposed methodology can be used to assess the type of organization according to Organizational Learning Culture and classifying employees in relation to their organization to develop methods for improving the efficiency of the organization.

Two articles are devoted to the topic of supervision. One examining the learning motivation, involvement in the study process and formation of supervisor professional identity of prospective supervisors, in the other supervisors' opinion about supervisions of school career counsellors are explained. The researchers conclude that there is a need for greater promotion of supervision by the responsible authorities and to develop a longitudinal study to identify the internal (personal) and external factors that influence the awareness and formation of the supervisor's professional identity during the study process at the university.

Several articles focus on improving of students' career management skills and career guidance in general and vocational education (especially in work-based learning). Researchers conclude that in some vocational education programs, students experience the least career guidance activities that could have a negative impact on their career path. Also, the quality of the guidance received is not always sufficient, as the results show that only one-third of the students have established a dialogue with the career guidance stakeholders of secondary vocational education. The researchers conclude that career guidance in work-based learning will be useful if all stakeholders - students, group teachers, subject teachers, practice supervisors, career guidance professionals and employers - work together and offer a career guidance program that promotes collaboration. In a separate study, the importance of career guidance and the role of career counsellor is described and highlighted. Researchers conclude that a career counsellor must be competent at all fields of competences: career information, career education, career counselling, career service managing and she/he must also possess generic competencies.

One of the most popular topics is the role of the teacher in society. Researchers have found out the teacher's prestige in contemporary Czech society, have researched at what it looks like a professional handicraft teacher in the eyes of the student, and taking care of the further education of teachers, have evaluated the use of gamification as a means of consulting support for continuous professional development of teachers. The results of the study's lead to the conclusion that the prestige of teachers in society is not high enough, and one of possible reasons for lowering teachers' prestige may be their low remuneration, another reason is lower respect of teachers by students and their parents. The prestige of teachers is also linked to their ability to meet the expectations of students. According to the students, the task of the teacher is to create a free and reliable working environment that requires calmness, empathy, and instructional skills, students expect that teacher should be a friend and an equal partner who can be trusted to seek advice and discuss life problems. To help teachers develop their professional skills and protect them from burnout, gamification is presented as a form of consulting support of the process of teacher professional development directly at the workplace. Researchers recognize that the usage of experimental model simulation as a real phenomenon in pedagogical activity, creates optimal conditions and prerequisites for teacher's research competencies formation and helps to produce innovative solutions in problematic situations, which may arise in the teacher work.

Professional development and career management are important in all professions and work environments, including The Armed Forces. Health support for military personnel is a key stone for successful executing combat capacities of military personnel in time of military tasks realization. Researchers indicate problems of recruitment system for medical personnel that are lack of information

for target auditory (medical students) about recruitment procedure for military (medical) service and offer solutions to improve the situation.

Authors of the articles – professors, lecturers, teachers, master and doctoral students have made a significant scientific contribution in the preparation of these international proceedings and shared their experiences on topical issues of conference topics. Many thanks to the chiefs of all conference sections – B. Briede, R. Birzina, I. Kokle-Narbuta, I. Lice-Zikmane, Z. Beitere-Selegovska, J. Pavulens, L. Vigante-Simane and A. Vorobjovs – for organization and management of section effective work.

I greatly appreciate the contributions of authors, reviewers and organizers for their tremendous amount of work done improving articles and guaranteeing high quality proceedings of scientific articles and successful work sessions.

<div align="right">

On behalf of the Conference Organizing Committee
Associate professor Vija Dislere
Institute of Education and Home Economics
of the Faculty of Engineering,
Latvia University of Life Sciences and Technologies

</div>

Problems and solutions for nowadays university and adult education

Multimedia technologies in teaching a foreign language

Akzhan Abdykhalykova[1] Dr.paed.; **Larissa Turusheva**[2] Dr.paed.
Zhanna Beysembayeva[3] Dr.philol.; **Gulzhannat Dukembay**[4] Dr.philol.
L.N. Gumilyov Eurasian National University, Kazakhstan[1,3,4]
EKA University of Applied Sciences, Latvia[2]
akzhan80@mail.ru[1]; larisa.turuseva@eka.edu.lv[2]; zhannabei@mail.ru[3]; dukenbai_gn@mail.ru[4]

Abstract: At the present stage of development of education, Kazakhstan higher school faces the task of improving the quality of training, which with the introduction of new state educational standards (both for undergraduate and graduate) is associated with the prospect of implementing a technological approach to learning, science-based new pedagogical and information technologies. In this regard, the aim of the research is to highlight the problem of finding the optimal didactic capabilities of modern information technologies used for improving the system of training specialists in the field of foreign languages teaching. The article reveals the main components of the system of modern technologies use in foreign languages teaching at Theory and Practice of Foreign Languages Department of L.N. Gumilyov Eurasian National University. The article presents training and monitoring online programmes, their approbation in real conditions of pedagogical activity, which proves the effectiveness of using the modern technologies in the training of foreign and second language students. The authors summarized the relevant literature and results of the research and teaching experience. The electronic educational materials, recommendations developed by the authors can be used in teaching a foreign language and can serve as a basis for the development of information, communication and instrumental provision in other subjects. The need for further research is to create online platforms, multimedia and testing programmes, to develop variants of using modern technologies in foreign language teaching.

Keywords: foreign language teaching, multimedia technology, online platform, university education.

Introduction

The information technology age, which has taken a significant place in the educational process, begins to take multimedia learning tools that occupy a worthy place in the University.

At the present stage of development of education, Kazakhstan higher school faces the task of improving the quality of training, which with the introduction of new state educational standards (both for undergraduate and graduate) is associated with the prospect of implementing a technological approach to learning, science-based new pedagogical and information technologies.

Implementation of the technological approach in the preparation of the future teacher of English is hampered by the following contradictions:
- between the rapidly growing level of development of Kazakhstan's information society and the ability of the higher education system to meet the growing requirements;
- between the need to improve the professional training of future teachers of foreign languages on the basis of technological approach and the weak readiness of University teachers;
- between versatile research and development in the science of theoretical bases of information technologies and insufficient attention to their implementation in the field of professional training of the expert in the field of teaching of foreign languages;
- between the broad didactic possibilities of information and communication technologies (ICT) and the low level of their use in the practice of education at the University.

The following questions arise from the identified contradictions, the first, whether the existing system of professional training of future teachers of foreign languages is capable to provide formation of professional competences, which meet new requirements and the second what should the training of future specialists in the field of foreign languages at the University be, so that they can continue to work competently with information and effectively use, as well as be able to develop multimedia technologies in their activities?

These issues together defined the problem of research, which is to improve the system of teaching disciplines on the methodology of teaching foreign languages at the University through ITC and their instrumental support. Referring to the analysis of the initial facts, contradictions and the problem, we highlight the following main idea of our research: the ability to navigate in the ever-increasing volume of information, to use it correctly for various purposes, to use modern means of communication that should become essential components of the modern content of pedagogical education, and a computer – a tool for managing the educational process.

According A.P. Gilakjani (2017), the use of technology helps learners to get involved and learn based on their interests. It has been extensively accepted for teaching English in the modern world. Technology satisfies both visual and auditory senses of the learners (Shyamlee, Phil, 2012). M. Chirwa (2018) said that several studies in the whole world have shown that the appropriate use of multimedia technology in educational context would provide quite a lot of benefits.

A. Frigaard (2002) and M. Timuçin (2006) confirmed that technology increases the development of teaching methods and learners' knowledge. Y. Lam and G. Lawrence (2002) also expressed that technology helps learners to regulate their own learning process and have access to any information that their teachers cannot provide. A.P. Gilakjani and L. Lai-Mei (2012) elaborated that the unique opportunities technologies provide have brought about new tools, approaches, and strategies in the teaching and learning of language skills. Technologies are increasingly widespread, impacting many aspects of our social and work lives, and many of our leisure activities. Many researchers stated that technology could be used as an instructional tool in teaching and learning skills. B.C. Bruce and J.A. Levin (2003) expressed that technology can be useful in the classroom by helping communication, making teaching products, and assisting learners' self-expression. According to A.P. Gilakjani (2017), when we talk about instruction, education, or training issues we have to consider the important role of technology. The researchers continued that the application of technologies in education opens a new area of knowledge and provides a tool that has a great potential to change the existing teaching methods.

The use of a computer in teaching a foreign language is not limited to classroom activities. Various researchers offer options for the use of Internet technologies in the classroom and in extracurricular work of students. For example, the use of ICT in teaching foreign languages is considered in the works of Russian and Kazakh scientists E.V. Artykbayeva (2014), G.K. Nurgalieva (2002), G.K. Kenzhebayev, T.T. Dalayeva, (2014), G.V. Rogova, F.M. Rabinovich, T.E. Sakharova (1991).

A promising direction in the study is the use of Internet technologies, various aspects of which are devoted to many publications. In recent years, a lot of attention of teachers is attracted by the mass open online courses as a new form of online education, since they allow anyone to learn practical training, regardless of time and location.

The question of formation of the content of foreign language teaching methods in universities received plenty attention from scientists. The scope of application of ICT in teaching foreign languages, including such scientists as S.S. Kunanbayeva (2000), D. Nurmukhanova, Zh. Sagyndykova, I. Līce, J. Pāvulēns (Nurmukhanova et al., 2014) made a great contribution to teaching foreign languages in Kazakhstan.

However, in our opinion, to date, the impact of online learning on the quality of education has been insufficiently studied. We also try to work with students online, but now we have not received enough results to mention this direction in the article. The analysis of literature and educational practice has allowed coming to a conclusion that in the conditions of fast growth of the volume of information the computer can become the tool of management of the educational process. New information technologies do not displace the traditional system of education and innovative pedagogical technologies, but complement and strengthen each other. This integration requires further research to improve the quality of training of the future teacher of a foreign language.

The aim of the research is to highlight the problem of finding the optimal didactic capabilities of modern information technologies used for improving the system of training specialists in the field of foreign languages teaching.

Methodology

In the process of research, the following methods were used: theoretical (analysis of pedagogical, psychological, methodical literature, normative and programme - methodical documentation, Internet resources; generalization; forecasting, design and modelling), a diagnostic questionnaire on Google forms, empirical (pedagogical observation), and methods of graphic representation of the results.

The experimental base of the research was L.N. Gumilyov Eurasian National University, Philology Faculty, Theory and Practice of Foreign Languages Department, Specialty "Foreign languages: two foreign languages".

The study of the problem was carried out in two stages:
- at the first stage, an information system of foreign language teaching was developed, a set of components of this system was identified and justified for the effective training of the future teacher of foreign languages;
- at the second stage, experimental work was carried out, analysed, tested and refined insights obtained in the course of the pedagogical experiment, were summarized and the obtained results reported.

Participants. The study was conducted in two groups. Both groups had 25 people from 20-35 years old, they were equivalent in the direction of training, academic performance and teaching programme. In the first group (experimental) multimedia technologies were used in the educational process, and in the second group (control) the educational process was organized by the traditional method.

Experimental procedure. The study was conducted during one semester. After the final testing of the level of performance, the results of the study were processed and analysed. When processing the results, a test was used to check the differences between the control and experimental groups.

At the 1st stage, a survey was conducted, and 30 English language teachers took part in it. The questionnaire included the following questions:
1. What pedagogical technologies do you primarily use in your lessons?
2. Does the use of this technology make it possible to fully implement the tasks of the lesson?
3. What is the leading motive for students attending your English lessons?
4. What tools should be used to strengthen interest in the English language.
5. Do you have computer skills?
6. Is your office equipped with computer equipment?
7. How often do you use a computer in class?
8. What computer technologies are most accessible and easy to use for you?

The purpose of the *second stage* of the experiment was to identify students' use of multimedia technologies in the educational process, and 80 students took part in it. The questionnaire included several questions, which helped understand the use of multimedia technology effectiveness in the educational process. Thus, we were interested in the students' vision on implementation of multimedia technologies at the lesson, their practical skills in the use of them and the accessibility of computer technologies for them.

Results and Discussion

The analysis of the responses of the surveyed teachers (1st stage) gave the following results: on the first question, the majority (40 %) answered that they continue to use traditional methods in lessons, 23 % use traditional and information technologies, 24 % implement project technologies, group and pair work, and only 13 % of teachers use game technologies (Figure 1).
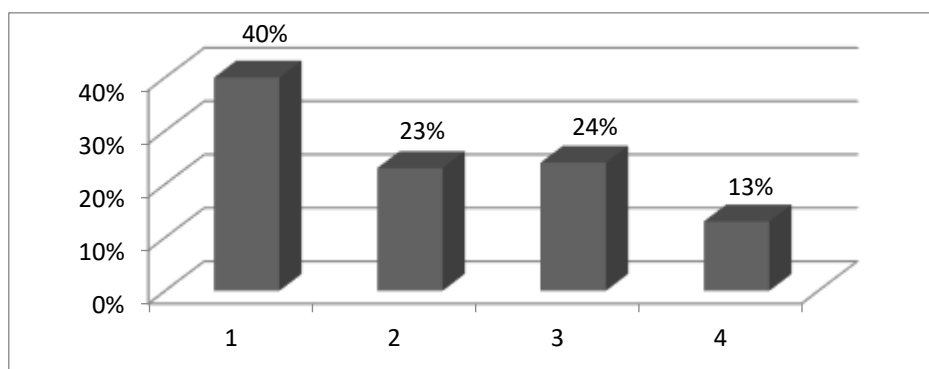
Figure 1. The analysis of the responses of the surveyed teachers.
(1 - indicator of users of traditional methods, 2 - indicator of users of traditional and information technologies, 3 - indicator of users of project technologies, group and pair work, 4 - indicator of users of game technologies)

The comparative analysis of the responses of the surveyed teachers and students gave the following results:

- by the first question on the use of different methods at the lesson, the answers of students completely coincide with the answers of teachers. Thus, 40 % said that the teachers continue to use traditional methods in the lessons, and 60 % use both traditional and information technologies.

- by the second question (whether the use of technology makes it possible to fully implement the tasks of the lesson), as a result of the analysis of the teachers' answers, it was concluded that the use of conventional pedagogical technologies does not always make it possible to fully implement the tasks set in the lesson. The use of new technologies does not always implement the objectives of the lesson either. This is due to the technical side of the learning process, computer illiteracy and inability to work in groups and pairs.

- by the third question (on leading motives of students to attend particular lessons), all teachers, based on their observations, first believe that children come to the lesson to get an assessment. 47 % are aware of the need for knowledge of English in their future professional activities, 24 % - the need to learn a foreign language to further expand the circle of communication, 19 % come to an English lesson in search of new knowledge and only 10 % pursue motives caused by fear of the school management or their parents;

- by the fourth question on the tools to be used, 71 % of teachers and students noted that the use of information technologies in the classroom (training presentations, educational films, Internet resources, electronic textbooks) increases interest in learning English, while the remaining 29 % of teachers believe that it is possible to use new technologies in the classroom for this purpose (group and pair work, projects.);

- the following four questions (No 5 - 8) were selected in order to find out the level of computer literacy of teachers, whether all school classrooms in English are equipped with computer equipment and what difficulties arise when implementing information technologies in the educational process. As a result of counting the responses, the following ratio was revealed. 50 % of teachers do not have enough computer skills to be able to regularly use information technology in the learning process. And it is mainly the teachers of the older generation. 20 % of teachers experience difficulties in using computer technology due to the lack of equipped classrooms, and the remaining 30 % successfully implement computer technology in the educational process.

At the first stage of existing methodological approaches to teaching a foreign language, the aim was to develop students' ability to understand the process of developing online technologies. Although the needs of the analysis have become an important stage in the development of a foreign language for professional purposes, it has mainly provided information on what to teach, leaving unanswered the question of how to teach. Systematization of previous experience has led to the fact that the students' needs were in the centre of attention of developers of foreign language programs for professional purposes. This approach was called personality-oriented (learning-centred approach), in which the

centre is the personality of the student and his cognitive activity, and the students' needs are the basis for the construction of the course.

Information technologies open up new opportunities for the future teacher of foreign languages, form a new way of thinking and action lay the foundations of new ethics and culture of understanding of the world. The basis of information technology of foreign language learning is computer training, for the successful implementation of which (in addition to the computer as the main technical means) requires special didactic tools and thoughtful methods of working with them.

At the second stage, students developed multimedia products for teaching and learning English. We carried out this work in the following areas:

- creation of electronic learning platforms, blogs that can be used as a means of visibility, submission and reception of information, control of knowledge and skills, creative activity;
- creation of training and test programs, which can then be supplemented and improved by the students themselves.

In this article, we present the introduction of multimedia technologies in foreign languages teaching. Here is a brief description of multimedia products that we use in our teaching process (Table 1).

Here we may emphasize the following advantages of multimedia products:

- teaching goes faster and the knowledge acquisition is deeper, if a student takes a great interest in the subject;
- learning the ways of finding correct answers is more important for a student than just learning the answers themselves. That is, learning is more effective if the forms of the acquisition of knowledge and skills are such that can easily be transferred to real life conditions (which they are designed for).
- teaching goes faster if students "learn the result" of each of their answers immediately. If the answer is correct, then the students should immediately receive confirmation of that they did well, if not, they learn about it quickly as well. Even a little delay in getting the results dramatically slows the learning process down. Oftentimes our students have to wait long for the results of their tasks in traditional learning;
- being aware of the results of tasks stimulates the completion of upcoming tasks. The difficulties that students have to overcome should appear before them one by one. Moreover, the successful solution of these problems has a positive influence on motivating and activating students to learn;
- teaching goes faster if the subject programme is organized according to the principle of sequential complexity of educational material. The difficulty level of educational material is rising on a daily basis. This will continue until the desired degree of proficiency and competency is reached (Kobysia, Zarichanska, Bobliienko, 2017).

Nowadays, a paradigm shift leads to facilitation learners to become creative and communicative learners, accommodated to radical autonomy in the perspective (Bojare, Ignatjeva, 2014). The use of new tools has significantly transformed the traditional scheme of organization of the process of training, ensuring the development and implementation in practice of the variable structure of the educational process of higher education with components that allow automating many processes.

In addition, we would like to list the new technology tools that we use in our teaching process, they are:
- Speech Tools for Teachers: Announcify, Chrome Speak, DSpeech, FoxVox, PowerTalk;
- Digital Storytelling Tools: Animoto, Capzles, Cartoonist, PicLits, Pixton;
- Podcast Tools: Audacity, Easypodcast, PodOmatic, SoundCloud, VozMe;
- Survey, Polls, and Quizzes Tools: addpoll, Google Forms, Pollhost, Wufoo;
- Exercise and testing Tools: Kahoot, Socrative, Hot Potatoes;
- Online teaching platforms: Padlet, Blog, Nicenet, Canvas.

Table 1

Multimedia products and their brief description

№	Multimedia products	Description
1.	Electronic textbook, multimedia teaching materials of disciplines	A software tool designed to facilitate an active understanding and memorization using the computer in learning process involving aural and emotional memory. It is not only text information as such, but the whole technology of information delivery to the consumer, namely: multimedia components; interactive elements; controls; *powerful search engine;* hypertext link system; additional service capabilities (bookmarks, notes, filing); *opportunity* for *comfortable reading;* synchronous listening and a host of other things (Popov, Cuksina, Mozerova, 2001). Electronic textbook, multimedia teaching materials of disciplines as software for educational purposes can be represented as a system consisting of two subsystems: information (substantial part) and software (software).
2.	Multimedia encyclopaedia, multimedia lectures	The modern educational tool that combines the advantages of different multimedia technologies facilitates the perception of even the heaviest educational material. Unlike traditional encyclopaedia or lectures, multimedia encyclopaedia and lectures can contain not only text and graphics, but also video and audio recordings, three-dimensional diagrams, drawings and much more (Thamarana, 2015).
3.	Electronic didactic aids	Visualized material, revealing the action or process necessary for a teacher to explain students the new teaching material; animated historical and geographical maps, electronic laboratory works (Young, Bush, 2004).
4.	Film about events	A film about important events. Video congratulation, corporate celebration, anniversary, assigning categories, titles, awards, association or expansion, launching of a new product or production resources, opening new sites, (Thamarana, 2016).
5.	Presentation film	A film about the activity area of educational institutions, companies, offering the products of exceptional quality, service, promotions, discounts, classic and original forms of services, guarantees and other features.
6.	Representative films	The history of educational institutions, businesses, the main activities, a description of resources and processes, achievements, prospects, staff, goods, services, partners, covered market segments.
7.	Video showcase	Video sequence to show in the shopping centre or showroom. Video showcase is successfully used in combination with other videos (video clips, movies) (Motteram, 2013).
8.	Video catalogue	Video catalogue of products and services of a company provides information on the competitive advantages of quantitative and qualitative characteristics of each item. Efficiency can be improved by combining the video catalogue with other videos.
9.	Educational video film	Didactic videos, which a teacher can use in the classroom to explain new educational material or to enhance students' learning.
10.	Digitalization of books	Conversion of paper sources into electronic (digital) type (Kennedy, Soifer, 2013).
11.	Electronic library	The information system that allows safe and effective use of various collections of electronic documents (text, image, sound, video), localized in the system, and inaccessible communicational networks as well (Healey et al., 2018).

The use of various technologies allows implementing a differentiated approach to students by creating conditions for their independent work. The use of methodically well-constructed online materials helps to replace the means of paper visibility, frees the teacher from writing on the board, allows you to trace the material of the lesson in dynamics.

The great advantage of using technologies in comparison with traditional method means of visualization is the convenience of their storage, distribution with the ability to copy and edit. Colourful on-screen training material increases the interest and motivation of students to learn.

According to the method of using technology in teaching foreign languages, three models of classes were implemented:
- in demo mode (one computer on the teacher's Desk + projector);
- in the individual mode (occupation in a computer class without access to the Internet);
- in individual remote mode (class in the computer room with Internet access).

To obtain relevant information, it is necessary to develop students' skills of searching for it in a constantly updated resource – the Internet. To do this, students are offered our catalogues of public sites and various online tools.

Conclusions

In recent years, new technologies have had a significant impact on the improvement of the education system and have been an important focus of the restructuring of both general and higher education. The main educational value of information technologies is that they allow creating a multisensory interactive learning environment with almost unlimited potential opportunities, which appear in the teaching and learning environment. Information technology allows not only to saturate teaching with a large amount of knowledge, but also to develop the intellectual and creative abilities of students, their ability to acquire new knowledge, as well as to work with various sources of information. Using the multimedia technologies, such as: Padlet, Canvas, Socrative, Kahoot, Hot Potatoes, Google Forms, PowerTalk for teaching foreign languages helps to increase motivation to study a particular discipline, deeper assimilation of the material, the development of skills of search, analysis and structuring of information and, ultimately, the formation of general cultural and professional competencies defined in modern state educational institutions of higher education. The materials of this article may be of use for teachers engaged in the training of specialists in the field of foreign languages, as well as students of higher educational institutions. In conclusion, this article was designed for teachers who mainly adhere to traditional and outdated methods, whereas they are virtually not sophisticated in using modern devices, applications and sources in teaching.

Bibliography

1. Artykbayeva E.V. (2014), Theory and Technology of E-Learning in Secondary School. Synopsis of a Thesis, Almaty: World Scientific Publishing.
2. Bojāre I., Ignatjeva S. (2014). Autonomous English Acquisition in Blended e-studies for Adults for Sustainable Development: Quantitative research. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 7.* Jelgava: LLU, 42-49. Retrieved from https://llufb.llu.lv/conference/REEP/2014/Latvia-Univ-Agricult-REEP-2014proceedings-42-49.pdf
3. Bruce B.C., Levin J.A. (2003). Roles for new technologies in language arts: Inquiry, communication, construction, and expression. In J. Flood, D. Lapp, J.R. Squire, J.R. Jenson (Eds.). *The handbook for research on teaching the language arts* (2nd ed.), 649-657. NY: Macmillan. https://jgregorymcverry.com/readings/Bruce, Levin - 2003 - Roles for new technologies in language arts Inquiry, communication, construction, and expression.pdf
4. Chirwa M. (2018). Access and use of internet in teaching and learning at two selected teachers' colleges in Tanzania. *International Journal of Education and Development using Information and Communication Technology (IJEDICT), 14*(2), 4-16. Retrieved from https://www.learntechlib.org/d/184687
5. Frigaard A. (2002). *Does the computer lab improve student performance on vocabulary, grammar, and listening comprehension?* ERIC Document Reproduction Service No. ED476749 Retrieved from https://eric.ed.gov/?id=ED476749
6. Gilakjani A.P. (2017). A Review of the Literature on the Integration of Technology into the Learning and Teaching of English Language Skills. *International Journal of English Linguistics, 7*(5), 95-106.
7. Gilakjani A.P., Lai-Mei L. (2012). EFL Teachers' attitudes toward using computer technology in English language teaching. *Theory and Practice in Language Studies*, *2*(3), 630-636. doi: 10.4304/tpls.2.3.630-636

8. Healey D., Hegelheimer V., Hubbard P., Iannou-Georgiou S., Ware P. Kessler G. (2018). TESOL *Technology Standards Framework.* Virginia: Teachers of English to Speakers of Other Language, Inc.

9. Kennedy S., Soifer D. (2013). *Technology-Driven Innovations for Teaching English Learners*. VA: Lexington Institute. Retrieved from https://www.lexingtoninstitute.org/wp-content/uploads/2013/11/TechnologyInnovations.pdf

10. Kenzhebayev G.K., Dalayeva T.T. (2014). E-learning in the system of the pedagogical education in Kazakhstan. *Procedia – Social and Behavioral Sciences*, *152*, 179-183. doi: 10.1016/j.sbspro.2014.09.177

11. Kobysia V.M., Zarichanska N.V., Bobliienko O.P. (2017). Creating and using electronic textbooks for language learning. *Information Technologies and Learning Tools, 61*(5), 15-23. doi: 10.33407/itlt.v61i5 (in Ukrainian)

12. Kunanbayeva S.S. (2000). *Methodical preparation of students in the conditions of informatisation of the theory and methods of foreign language teaching*. Almaty: World Scientific Publishing

13. Lam Y., Lawrence G. (2002). Teacher-student role redefinition during a computer-based second language project: Are computers catalysts for empowering change? *Computer Assisted Language Learning*, *15*(3), 295-315. doi: 10.1076/call.15.3.295.8185

14. Motteram G. (2013). Introduction. In G. Motteram (Ed.), *Innovations in Learning Technologies for English Language Teaching*. London: British Council, 5-13. Retrieved from https://www.teachingenglish.org.uk/sites/teacheng/files/C607%20Information%20and%20Communication_WEB%20only_final.pdf

15. Nurgalieva G.K. (2002). *Pedagogical technologies of informatisation of education.* Almaty: World Scientific Publishing.

16. Nurmukhanova D., Sagyndykova Zh., Līce I., Pāvulēns J. (2014). Competency – based approach to teaching foreign languages in Kazakhstan. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education.* Personality *(REEP), 7.* Jelgava: LLU, 116-122. Retrieved from https://llufb.llu.lv/conference/REEP/2014/Latvia-Univ-Agricult-REEP-2014proceedings-116-122.pdf

17. Popov N.S., Cuksina L.N., Mozerova L.A. (2001). Novije informacionie tehnologii obucenija inostranim yazikam [New information technologies for teaching foreign languages]. Materials of international scientific conference *Problemi i perspektivi integracii visshej skoli Rosii v mirovuju sistemu obrazovanija i nauki* [Problems and prospects of integration of higher education of Russia in the global system of education and science], *2*. Voronezh, 138-140. (in Russian)

18. Rogova G.V., Rabinovich F.M., Sakharova T.E. (1991). *Metodika obucheniya inostrannym yazykam v sredney shkole.* [Methods of teaching foreign languages in secondary school]: Prosvescheniye (in Russian).

19. Shyamlee S.D., Phil M. (2012). Use of technology in English language teaching and learning: An analysis. In International Conference on *Language, Medias and Culture IPEDR, 33*. Singapore: IACSIT Press, 150-156. Retrieved from http://www.ipedr.com/vol33/030-ICLMC2012-L10042.pdf

20. Thamarana S. (2015). Role of Multimedia Resources in Teaching and Learning of English Language. In G.R.S. Reddy, M. Teaching (Eds.), *English Language and Literature Challenges and Solution* English Language Teachers' Association of India (*ELTAI*), Tirupati chapter, 187-192. Retrieved from https://www.researchgate.net/publication/283214562_Role_of_Multimedia_Resources_in_Teaching_and_Learning_of_English_Language

21. Thamarana S. (2016). Use of Multimedia technologies in English language learning: A Study. *International Journal of English Language Teaching (IJELT)*, *4*(8), 15-30, Retrieved from http://www.eajournals.org/wp-content/uploads/Use-of-Multimedia-technologies-in-English-language-learning-A-Study.pdf

22. Timuçin M. (2006). Implementing CALL in the EFL context. *ELT Journal, 60*(3), 262-271. doi: 10.1093/elt/ccl006

23. Young C.A., Bush J. (2004). Teaching the English Language Arts with Technology: A Critical Approach and Pedagogical Framework. *Contemporary Issues in Technology and Teacher Education*, *4*(1) 1-22. Retrieved from https://citejournal.s3.amazonaws.com/wp-content/uploads/2016/04/v4i1languagearts1.pdf

Formation of Professional Competence of the Future Computer Engineer in a Technical University

Nadezhda Almazova[1] Dr.sc.; **Anna Rubtsova**[2] Dr.sc.
Maria Odinokaya[3] PhD; **Maya Bernavskaya**[4] PhD
Peter the Great St. Petersburg Polytechnic University, Russia
almazovanadia1@yandex.ru[1]; annarub2011@yandex.ru[2]; World.Maria@hotmail.com[3]
bernavskaya@mail.ru[4]

Abstract: The paper considers the relevance of the formation of professional competence of future specialists associated with the features of engineering activities of computer profile. The aim of the study is to analyse of psychological and pedagogical literature and current educational standards, an attempt is made to understand the expected results of training first- and second-year students of engineering study programs, taking into account current trends in the engineering industry. The article attempts to clarify the concepts "professional competence of an engineer". The study demonstrates positive dynamics of development in most indicators. There is a qualitative growth in the following indicators: projective and prognostic skills; organizational skills; information skills; analytical skills and efficiency of knowledge; and the greatest development is obtained during training in the Bachelor's degree. The general conclusion is that the Russian technical university lays a positive dynamic in the development of professional competence. A technical university provides ample opportunities to encourage the development of professional and personal potential student, creating conditions for professional development, reflected in the successful implementation of professional functions, as well as contributing to excellence, by bringing the personal contribution of the engineer, which enriches the experience of the profession in the engineering field.

Keywords: professional competence, computer engineer, technical university.

Introduction

At the present stage of development of the engineering education there are changes, in particular, in engineering personnel of a computer profile caused by multi-layered economy of Russia and a variety of the professional and educational interests of the population forming market demand for staffing of hi-tech productions. The training of highly qualified engineering personnel largely determines the success of solving the leading task of social development on the formation of the innovative economy of the country. An engineer in modern conditions should be responsible for quality of the rendered services before society, before authorized bodies (Odinokaya et al., 2019b). The engineer needs to have a value attitude to his professional activity, in particular, to the project being developed, as well as to be aware of the measure of responsibility for the decisions made. The engineer should be focused on the performance of duties in a subject area of activity, and have the ability to flexibly change professional functions, using professionally significant information technology, that is, to be professionally competent.

Engineering activity is multifunctional and poly-subject and is based on the laws, methods of transformative activity corresponding to the perspective conditions of social development, manifested in the totality of competencies and competencies of invariant and subject-transformative nature. At the present stage of development of society engineering activity is directed on development, production, introduction of the most difficult products and designs (Odinokaya et al., 2019a).

A modern engineer, as a representative of one of the most numerous and significant social and professional groups that determine the further progress of mankind, needs to have creative potential, the ability to self-development and self-improvement, the creation and transfer of values of a healthy lifestyle, which, in turn, is fixed in the Federal State Standards of Higher Education in the form of general cultural, general professional, professional competencies, as a response to the designated social request. At the moment, the development of basic professional educational programs should be carried out with the participation of enterprises-employers of the region, taking into account the requirements reflected in the professional standards.

The development of technology leads to a change in the paradigm of production-some professions disappear, new ones become familiar, which previously appeared only in science fiction literature, and modern requirements for the third radically change the approach to training. Modern businesses face a situation of improving their technology and produce new products, depending on use of scientific method in manufacture, change of consumption habits and rise of manufacture multiplicity including change of customer options. This situation has increased qualified person demand, which is an important factor in fulfilment of this need. The graduated engineers experience difficulty in the work place with the given education during the period of upper education when they first begin any work. Additionally, in a period of time they require help from other workers and believe that they need additional education in order to work in the better position they desired (Ertug, Goksel, 2019). The gap between the demands of employers and the real competence of graduates is large. Actualization of the problem of formation of professional competence of future engineers is one of the key markers of modern professional education.

Theoretical background

The analysis of the studies devoted to the question of formation of professional competence of the future engineer in educational space is consecrated in works as domestic (Almazova, Baranova, Khalyapina, 2019; Rubtsova, 2019) and western authors (Goft, Terpenny, 2012; Drabik, Gil, Nowacka, 2013; Briede, Pēks, 2014; McKinley, 2014; Knutson, 2015; Azmi, Kamin, Noordin, 2018; Lasauskiene, Bagdonaviciute, 2018; Sinkus, 2019), represents the actual and demanding further research direction. The researchers emphasize that one of the key roles in the successful development of society is occupied by engineering personnel.

Under the professional competence of an engineer is understood the ability and willingness to reflexively successfully carry out multi-functional, multi-subject, complex engineering and technical activities by solving professional problems that go beyond the main type of professional activity, having scientific and technical knowledge, skills, skills of professional activity; on the basis of the formed abilities aspiring to independence, self-restoration, self-actualization, self-improvement, responsibility, creativity, professional cooperation; promptly adapting in a rapidly changing environment; endowed with personal qualities and having a sense of responsibility for the results of professional activity and awareness of socio-economic and environmental consequences. The professional competence of the engineer is understood as the ability and culture to carry out qualified professional activities in the field of engineering. In the educational process of a technical university, a generalized model of a certain profile of professional activity of a specialist is implemented, in particular, a computer profile, according to which a student needs to gain knowledge, master specific activities, develop and develop professionally important qualities. Through competence, the generalization of educational information about the object, means of activity, the subject in the manner of actions that ensure the quality of certain educational work is carried out (Almazova, Baranova, Khalyapina, 2019).

As the basic components of professional competencies, it is necessary to allocate knowledge, designed in a system of professional concepts; experience of professional activity; focus on transversal competences (comprising critical thinking, collaboration, creativity, innovative thinking and life-long learning competences), business-related competences (comprising business management and personal management competences) and foreign language-related competences (comprising linguistic, interpersonal, strategic and pragmatic competences) (Sinkus, 2019). Thus, as part of the professional competencies in the direction of training "Software engineering", the following basic components can be conditionally distinguished: the ability to formalize in their subject area, taking into account the limitations of the research methods used; ready to use methods and tools the study of objects of professional activity; willingness to justify design decisions, to carry out the formulation and execution of experiments to validate them for correctness and efficiency; ability to prepare presentations, to issue scientific and technical reports on the results of performed work, to publish research results in the form of articles and presentations at scientific conferences; skills of modelling, analysis and use of formal methods of software design; ability to assess the temporal and capacitive complexity of the software.

Professional competence is formed and implemented in the course of all types of practices through the actualization of the following engineering skills: projective and prognostic skills; students emphasize the need to develop projective skills as a primary indicator of professional maturity of young

professionals; organizational skills; these skills are indicators of intrapersonal potential for self-healing, including the development of communication skills; information skills; the development of these skills contributes to the saturation of modern technical university electronic information resources; analytical skills and efficiency of knowledge; these skills are associated with scientific and theoretical activities.

Special attention should be paid to the aspects of general cultural development of Bachelors of technical university: personal colouring of knowledge, that is, enthusiasm for their professional sphere of activity, a measure of responsibility in making professional decisions, communication, manifested in the disposition to people, goodwill, sociability; perceptivity (professional observation, professional intuition, the presence and manifestation of sensory indicators, assertiveness; dynamism of the personality, arising in emotional stability, ability to self-regulation, liability, culture of professional communication (professional tact).

The purpose of this study is to identify the importance of professional competence for their productive professional activities. The objectives of the study are to consider and compare the process of development of analytical, predictive, projective, reflective, organizational, information and developmental skills of students of the computer profile of the Federal state Autonomous educational institution of higher education "Peter the Great St. Petersburg Polytechnic University" as a basis for the formation of professional competence.

Methodology

In connection with the relevance of the topic, the author conducted a survey on the basis of the Federal State Autonomous Educational Institution of Higher Education "Peter the Great St. Petersburg Polytechnic University". The aim of the pedagogical experiment was to identify the self-assessment of the current state of professional competence of future computer engineers, competence of Bachelors (future engineers of computer profile) 1st and 2nd year students of computer profile. Bachelor's degree is the main form of professional training in Russia. Its introduction, instead of the traditional "specialty" was a step of the Russian labour market towards the international market. Russian students receive this degree as part of a three- or four-year program. These are officially regulated terms defined by law (Federalnij zakon…, 2019).

The choice of the participation of 1st and 2nd year students is justified by the fact that during these years of study at the educational institution they are consciously preparing for the design of a professional life path, the process of formation of the essential qualities affecting the efficiency of the activity and the success of its development takes place. There is also an opportunity to realize the difficulties that students face in the process of forming professional competence and make efforts to eliminate. It is difficult to implement it during the last courses of study, since students are already completing their studies.

The survey was attended by 45 students (on the example of the direction of training "Software engineering"), who graduated from the first and second year. Students were asked to answer 11 questions of a pre-developed questionnaire.
1. Give your opinion on the idea of your professional activity.
2. Evaluate your professional skills in the sphere of engineering.
3. Express your opinion on your scientific and technical skills of professional activities implementation, characterized by awareness in the engineering field.
4. Express your opinion about your communication and analytical potential.
5. Express your opinion about your professional culture and ethics, manifestation of your value attitude, in particular, awareness of responsibility for your professional activities.
6. Give your opinion on your theoretical background.
7. Express your opinion about your practical training.
8. Express your opinion about your production discipline in order to prevent failure, the potential for self-education and self-establishment, compliance with environmental safety of the organization of working team, compliance with industry requirements for product quality.
9. Express your opinion about your adaptation to professional working conditions.
10. Give your opinion on your cloud technology proficiency.
11. Evaluate your personal progress.

Questions 1 to 5 related to the identification of the current state of knowledge and skills in the field of professional activity. Questions 6 to 8 are aimed at identifying shortcomings in the professional training of students. Questions 9 to 10 are aimed at identifying the difficulties that the student had to face when solving problems in the field of professional activity. Question 11 was aimed at assessing personal growth.

The analysis of the survey results of 1st and 2nd year students of a direction "Software engineering" Federal State Autonomous Educational Institution of Higher Professional Education "Peter the Great St. Petersburg Polytechnic University", as well as analysis of expert evaluation of the teacher for whom the students were attached to the practice has allowed to reveal the real state of training of Bachelor-engineers of computer profile. The analysis of questionnaires showed that at the time of carrying out pedagogical experiment it is necessary to consider features of future professional activity of students (in the future - engineers).

The object of this study was the professional competence of students of technical university, the subject-the process of formation of elements of professional competence of students (future engineers). The methodological basis of the study was a comparative analysis of questionnaires of 1st and 2nd year students of computer profile. The study had a prolonged character: in 2017, students of the direction "Software engineering" filled out a questionnaire, in 2018, as 2nd year students, they re-answered a similar questionnaire.
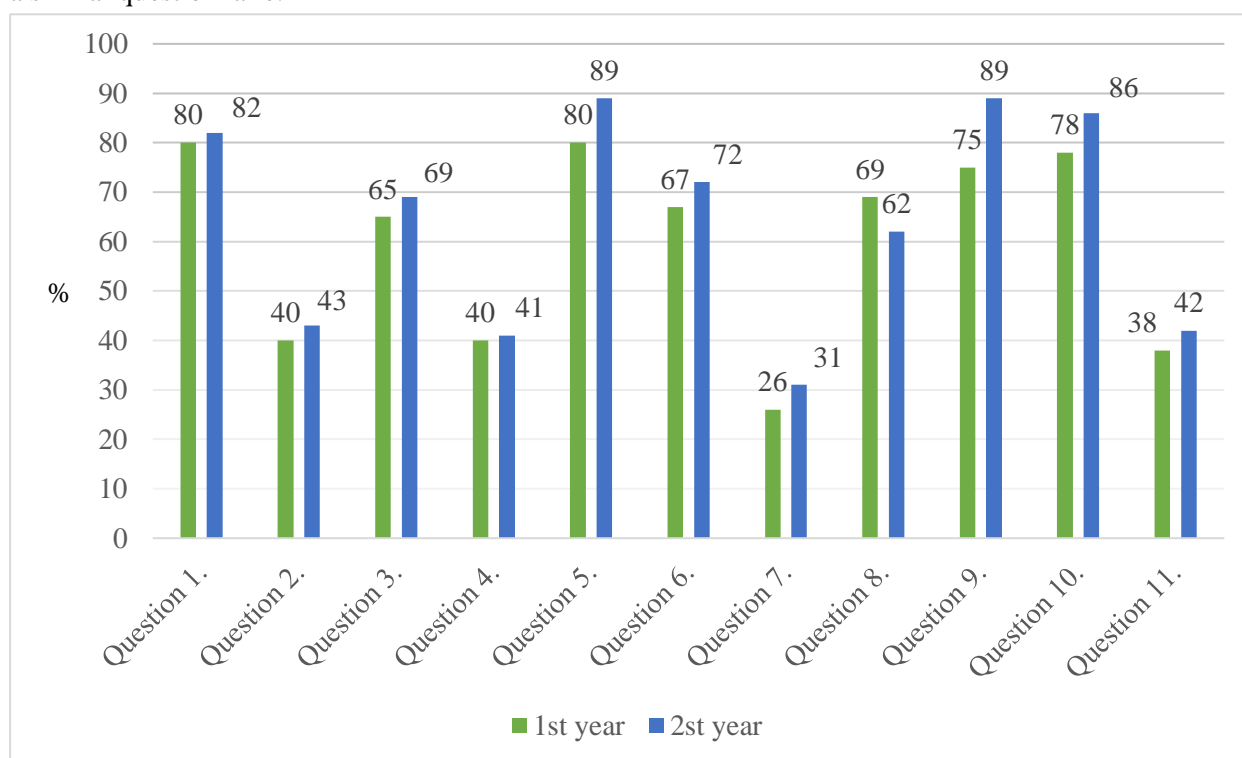
Figure 1. Comparison of results of the professional competence of 1st year and 2nd year students of the technical university.

Within the framework of the questionnaire, students conducted a self-assessment on the indicators of professional competence, as well as the formation of personal level (Figure 1). Students had the opportunity to assess the indicators of professional competence and personal growth on conditionally allocated four levels: 4 - clearly formed (90-100 %); 3 - sufficiently formed (75-89 %); 2 - takes place (60-74 %); 1 - formed to a minimum degree (0-59 %).

As a basis, we took professional competencies (code) and their description for software engineers (code decryption). Conventionally, we have identified 4 levels of their degree of manifestation in the educational process (we have mentioned them in the experiment). If the student's response contained keywords or similar ones from the description of professional competencies, then we rated it as it is expressed (level 4), if it was absent (level 0), if it is weakly expressed - level 2, if there is, but it is not clear (level 3).

Results and Discussion

The study made it possible to draw the following results.

The results showed that in the first question the current level of knowledge and skills in the field of professional activity can be described as sufficiently formed, the majority of students 80 % (1st year), 82 % (2nd year) has an idea about the essence of their professional activity and it is very significant, the remaining respondents 20 % (1st year), 18 % (2nd year) consider it important and necessary. The study demonstrates positive dynamics of development in terms of indicators.

In the second question, respondents were asked to assess their knowledge of the characteristics of professional skills in the structure of engineering culture. The following data were obtained: a quarter of students (40 % - 1st year, 43 % - 2nd year) believe that they are sure about it, 35 % (1st year), 36 % (2nd year) believe are not completely sure about it, the remaining 25 % (1st year), 21 % (2nd year) of respondents find it difficult to answer. In the second year there is a positive increase, although not so large compared to the first year. It means that this indicator is formed to a minimum degree.

In the third question, the majority (65 % - 1st year, 69 % - 2nd year) of students noted the presence of scientific and technical skills of a competent professional activity, characterized by the awareness of engineering activities, 25 % (1st year), 26 % (2nd year) I not completely sure about this, and the other 10 % (1st year) and 5 % (2nd year) difficult to answer. In the second year there is a trend of positive growth, although not as large as in the first year. It signifies that this indicator takes place.

In the fourth question, 40 % (1st year), 41 % (2nd year) of the respondents indicated the presence of a potential communicative and analytical skills, 30 % (1st year), 32 % (2nd year) not completely sure about that; 25 % (1st year), 22 % 2nd year) takes place; 5 % (1st year), 5 % (2nd year) difficult to answer. A small increase in this indicator indicates the need for additional work in the field of scientific and theoretical activities. Bachelor's degree as a whole has an applied character. It means that this indicator is formed to a minimum degree.

In the fifth question, the majority of 80 % (1st year), 89 % (2nd year) of respondents noted the presence of a professional culture and ethics, the manifestation of a value attitude, in particular, awareness of the measure of responsibility for their professional activities. It signifies that this indicator is sufficiently formed.

In the sixth question, the majority of 67 % (1st year), 72 % (2nd year) respondents noted the presence of their theoretical training. It signifies that this indicator takes place.

In the seventh question 26 % (1st year), 31 % (2nd year) respondents noted the presence of their practical training. It means that this indicator is formed to a minimum degree. A relatively small increase in this indicator is the result of the accumulation of theoretical knowledge and the possibility of applying them in practice and is associated with the fact that practical training should be supported by the experience of real activity in the professional sphere, and the student has his accumulated practical experience accumulated within the walls of his native university is objectively small. Students' practical training is perceived by modern employers as a primary indicator of professional maturity of young personnel in any field of activity.

In the eighth question 69 % (1st year), 62 % (2nd year) respondents expressed their opinion about their discipline in order to prevent failure in operation, have the potential to educate themselves, environmental safety organization of work, compliance with industry requirements for product quality. It signifies that this indicator takes place. A relatively small decrease in growth in the second year can be attributed to the fact that the student has already settled in the student environment compared to 1st year students.

In the ninth question, 75 % (1st year), 89 % (2nd year) of respondents noted their adaptation to professional working conditions. This is characterized by the fact that in general, the technical university lays a positive dynamic in the development of professional competence. It signifies that this indicator is sufficiently formed.

In the tenth question, 78 % (1st year), 86 % (2nd year) of respondents expressed their opinion about their quality of ownership and use of cloud technologies. Information skills are applied. As the study shows, this indicator was particularly developed in both freshmen and sophomores. In addition, the Federal state

Autonomous educational institution of higher professional education "Peter the Great St. Petersburg Polytechnic University" is active using of electronic information resources to which students, starting with the first year immersed in the electronic learning environment of the polytechnic university on 2 course information skills continue to gain a foothold. It signifies that this indicator is sufficiently formed.

In the eleventh question, 38 % (1st year), 42 % (2nd year) of students noted the presence of personal growth, which, in turn, is the most important indicator of the process of personal development. It means that this indicator is formed to a minimum degree.

Based on the analysis of the results of the study, it can be acknowledged that in general, four components of professional competence show positive dynamics, which indicates a positive impact of the educational process of a technical university on the formation of professional competence. However, there are four components of professional competence such as assess their knowledge of the characteristics of professional skills in the structure of engineering culture, the presence of a potential communicative and analytical skills, the presence of their practical training, the presence of personal growth, that show slight downward trend. At the same time, such components as the presence of their theoretical training; the presence of scientific and technical skills of a competent professional activity; expression of opinion about the production discipline in order to prevent failure, the potential for self-education and self-establishment, compliance with environmental safety of the organization of working team, compliance with industry requirements for product quality take place. The conducted research has shown that the awareness of the majority of the students of self-assessment of the current state of future computer engineers' professional competence is high and it is a good start for the targeted and effective action in the future for the benefit of all humanity. It can be also seen that the tendency of slightly increasing figures takes place. Nevertheless, it cannot be stated that this tendency is statistically different between 1st and 2nd year student. The level "Clearly formed is" is missing. As already stated before, there is the gap between the demands of employers and the real competence of graduates. It is important to have a closer collaboration between university and businesses. That can foster the improvement the preparedness of the future engineer students for business, and also to make sure that, upon starting their labour years, students have acquired the skills the businesses expect from them. The key organiser in the facilitation of this collaboration is the university who promotes and organises these collaboration opportunities.

The practical significance of this study is determined by the fact that the provisions and conclusions contained in the work contribute to the understanding of how to approach the formation of professional competence of an engineer, focusing on the development of certain professional and personal qualities; the fact that the research materials can be used by teachers and researchers in the educational process of a technical university.

Conclusions

Summarizing the above, we can conclude that the fruitful period of studies in a technical university is a milestone for students in a conscious search for their professional identity, laying the foundations of professional activity, implying self-determination, self-actualization and self-restoration. It is necessary to focus on the fact that in the process of training in a technical university theoretical knowledge acquires personal significance, is assimilated and becomes relevant. It should be noted that the features of engineering work impose high demands on both professional and personal characteristics of the engineer. The technical university provides a positive dynamics in the development of professional competence, providing ample opportunities to encourage the development of professional and personal potential student, creating conditions for professional development, reflected in the successful implementation of professional functions, as well as contributing to excellence, by bringing the personal contribution of the engineer, which enriches the experience of the profession in the engineering field. There is a qualitative growth in the following indicators: projective and prognostic skills; organizational skills; information skills; analytical skills and efficiency of knowledge; and the greatest development is obtained during training for the Bachelor's degree.

Bibliography

1. Almazova N., Baranova T., Khalyapina L. (2019). Development of students' polycultural and ethnocultural competences in the system of language education as a demand of globalizing world. In: Z. Anikina (Ed.), Conference Going Global through Social Sciences and Humanities: *A Systems and ICT Perspective. GGSSH 2019. Advances in Intelligent Systems and Computing*, 907, 145-156. doi: 10.1007/978-3-030-11473-2_17

2. Azmi A.N., Kamin Y., Noordin M.K. (2018). Competencies of Engineering Graduates: What are the Employer's Expectations? *International Journal of Engineering and technology, 7*(2.29), 519-523. doi: 10.14419/ijet.v7i2.29.13811

3. Briede B., Pēks L. (2014). A constructivist approach in teaching in higher education for getting methodological and reflection competences. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 7. Jelgava*: LLU, 84-89. Retrieved from https://llufb.llu.lv/conference/REEP/2014/Latvia-Univ-Agricult-REEP-2014proceedings-84-89.pdf

4. Drabik M., Gil A., Nowacka U. (2013). Virtual Laboratory in the Engineering Education. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 6*. Jelgava: LLU, 316-323. Retrieved from https://llufb.llu.lv/conference/REEP/2013/Latvia-Univ-Agricult_REEP_2013_ISSN_2255-808X-316-323.pdf

5. Ertug Z.K., Goksel E. (2019). Yeni mezun mühendislerin aldıkları lisans eğitimine ilişkin görüşleri ve mesleki yeterlilik algıları [The views of newly graduate engineers' regarding to the undergraduate education received and perceptions of professional competence]. *İktisat ve idari bilimler dergisi*, *14*(2), 347-364. doi: 10.17153/oguiibf.468739 (in Turkish)

6. *Federalnij zakon ob obrazovanii v rpsijskoi federacii* N 273-ФЗ [The Federal Law about Education in the Russian Federation N 273-ФЗ]. (2019). Moscow: Russian Federation. Retrieved from http://zakon-ob-obrazovanii.ru/ (in Russian)

7. Goft R.M., Terpenny J.P. (2012). Engineering Design Education - Core Competencies. *Industrial and Manufacturing Systems Engineering Conference Proceedings and Posters, 11*. doi: 10.2514/6.2012-1222

8. Knutson C. (2015). The 7 Success Competences for your Engineering Career. Retrieved from https://www.engineering.com/JobArticles/ArticleID/9621/The-7-Success-Competencies-for-Your-Engineering-Career.aspx

9. Lasauskiene J., Bagdonaviciute J. (2018). Building Intercultural Competence through Different International Study Programs at University. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 11*. Jelgava: Latvia University of Life Sciences and Technologies, 208-214. doi: 10.22616/REEP.2018.026

10. McKinley M. (2014). The Top 5 Competences for Quality Engineers. Retrieved from https://www.morganmckinley.ie/article/top-5-competencies-quality-engineers

11. Odinokaya M., Krepkaia T., Karpovich I., Ivanova T. (2019a). Self-Regulation as a Basic Element of the Professional Culture of Engineers. *Education Sciences, 9*(3), 200. doi: 10.3390/educsci9030200

12. Odinokaya M., Krepkaia T., Sheredekina O., Bernavskaya M. (2019b). The Culture of Professional Self-Realization as a Fundamental Factor of Students' Internet Communication in the Modern Educational Environment of Higher Education. *Education Sciences, 9*(3), 187. doi: 10.3390/educsci9030187

13. Rubtsova A. (2019). Socio-linguistic innovations in education: Productive implementation of intercultural communication. In *IOP Conference Series: Materials Science and Engineering, 497*(1):012059. doi: 10.1088/1757-899X/497/1/012059

14. Sinkus T. (2019). The Implementation of Transformative Case Study Model for the Development of Professional English Language Competence in Business Administration Studies. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 12*. Jelgava: Latvia University of Life Sciences and Technologies, 165-172. doi: 10.22616/REEP.2019.021

Fostering Peer Collaboration Skill Development at the Tertiary Level

Vineta Apse[1] MBA, Ed.M.; **Monta Farneste**[2] Dr.paed.
University of Latvia, Latvia
vineta.apse@lu.lv[1]; monta.farneste@lu.lv[2]

Abstract: Peer work at tertiary level, especially in writing classes, emphasising peer editing, has been studied frequently around the world, but there is no available research in Latvia when students collaborated not only in improving their papers, but also in writing them. Therefore, the goal of the present study was to find out undergraduate students' perception about a successful peer collaboration in such a context and whether group work assignments are useful. An authors' designed questionnaire survey was used as the main research method. 162 undergraduate students from three universities and three various study programmes participated in the research. The results show that 53 % of the respondents considered working in groups, when writing group papers / reports useful or very useful, but the results vary when the answers of the students of different study programmes are compared, with the philology students tending to value these assignments higher. The majority of the students also considered that they would need the skills developed during the collaboration, but most of them disagreed that this collaboration helped them to improve their writing skills. The most useful experience during the peer collaboration, according to the respondents, is idea generation. Because fostering teamwork skills is being emphasized more and more as one of the skills at tertiary level and because advanced writing skills are demanded by employers, the authors conclude that an academic writing course where peer collaboration is practised needs to be included in all university study programmes.

Keywords: university education, peer collaboration, academic writing, undergraduates, group report.

Introduction

Peer work has been of constant interest among scientists, including teachers, in different levels: primary level (Philippakos, 2017; Stramkale, 2018), secondary level (Taar, 2013), tertiary level (Guardado, Shi, 2007; Goldin, Ashley, Schunn, 2012; Barnard, de Luca, Li, 2015), as well as professionals (e.g. peer writing groups among colleagues) (Myatt, Edwards, Bird, 2014). It has been emphasised that student collaboration should be started with a discussion of the task, not only an analysis of papers written by their peers (Bruffee, 1980; Bruffee, 1984; Dobao, Blum, 2013). As it is highlighted in the documents meant for teaching languages (Common European Framework…, 2001, 19), the need for peer collaboration has become a way of learning in *English as a Foreign Language* (EFL) classes. Abilities to provide constructive pair and group work are important for a further career; thus, such skill development should have been focused on at universities. As to the classes of academic writing at tertiary level, students might doubt about peers' competence in contrast to the teacher's experience. When learning at school, students receive the teacher's feedback and cannot imagine that a peer might provide a reliable feedback as a teacher does. Moreover, students themselves frequently do not feel secure about their own knowledge, namely, whether their papers are well-written. In fact, they do not realize benefits of peer collaboration before they have experienced that in the classes of such a course as academic writing.

Prior studies held in Latvia emphasized that EFL undergraduates are positive towards peer feedback on their papers (Farneste, 2005a). They stressed that peers mainly focused on grammar, then organization and spelling, but seldom on content, layout and punctuation (Farneste, 2005a, 31). As the authors had expected feedback on language and organization, it is clear why they were positive towards peer work (Farneste, 2005a, 29). Those students who claimed that they did not like to provide peer feedback in the classes of writing explained that it was difficult to notice mistakes, that they could misunderstand peers and make wrong corrections, it was difficult for them to verbalize their suggestions how to improve the papers (Farneste, 2005b, 18). The genre-process approach (Flowerdew, 1993; Badger, White, 2000; Hyland, Hyland, 2006) to teaching writing has ensured that students learn not only about the genres they need in communicating with academic community, but also how to work at their papers starting with drafting, writing and ending with proofreading of the paper before its submission for grading.

Collaboration is essential in professional life; therefore, these skills should be developed while studying. A. Burke (2011) in her study emphasized that group mates help not only to master the themes better, but also to develop teambuilding skills. In order to ensure a successful group work, learners need to be instructed how to do that, namely, their responsibilities and assessment criteria (Burke, 2011, 90-91). Learners should be given grading rubrics for 'the group process and final product' where the first would focus on active student collaboration and expertise in the task performance, while the second, on the assessment criteria of a text (Burke, 2011, 92). B.H.H. Golsteyn, A. Non and U. Zölitz's (2017, 18) study demonstrated that 'more persistent peers and less risk-tolerant peers achieve higher grades.' However, 'peers' self-confidence or anxiety [did not] affect their performance'. It was interesting that highly persistent peers could successfully collaborate with less-persistent ones in order to have good results in performance (Golsteyn, Non, Zölitz, 2017, 18-19).

C. Lau Chun Yun (2006) claimed that collaboration, although proved to be effective, is neglected at tertiary level. He emphasized that the skills developed while collaborating with peers will be useful in their career (Lau Chun Yun, 2006, 287). Among such reasons was mentioned that an employee should be able not only to collaborate, but also be autonomous while performing his/her duties (Lau Chun Yun, 2006, 288). The small-scale study of second-year pre-university students enrolled in a Commerce Mathematics class demonstrated that peer collaboration had a positive result in the studies, as it helped to develop leaners' interaction as well as communication skills (Lau Chun Yun, 2006, 295). E.H. Chiriac and K.F. Frykedal (2011, 3) pointed out that group work at school involved not only 'different challenges', but also 'enjoyment for both the teacher and the students. They also emphasized two types of group work: 'working *in* a group' and 'working *as* a group' (Chiriac, Frykedal, 2011, 3). Therefore, two types of group work can be distinguished: one of them when students work together to reach some aim, and the other, when students work separately by doing their small task in the whole task (Chiriac, Frykedal, 2011, 3-4). They also emphasized that not only the subject, but also group work needs appropriate pre-teaching: '(a) how to structure group work, (b) take different roles or (c) handle group processes' (Chiriac, Frykedal, 2011, 9); however, the teachers seem to be reluctant to use it in their classrooms because they 'lack experience' how to help 'to develop the ability to collaborate' rather than 'to acquire subject knowledge' (Chiriac, Frykedal, 2011,12).

D. Hennessy and R. Evans (2006) contrast collaborative learning with peer cooperation. If peer cooperation is more focusing on task completion of the task as the teacher requires, collaboration, in its turn, envisages active involvement 'in the teaching and learning process', namely the students are organizing themselves with little intervention of the teacher (Hennessy, Evans, 2006, 97). D. Hennessy and R. Evans state that the teacher only deals with the product, not the process of student collaboration, which allows students to debate and make their own choices.

As seen from the papers discussed above, fifteen years have passed since the prior research in Latvia on tertiary level student collaboration on their academic essays (Farneste 2005a; Farneste 2005b). However, no research has been held in Latvia when students collaborated not only in improving their papers, but also in writing them. Thus, the present study will focus on finding out undergraduate students' perception about a successful peer collaboration in such a context and whether group work assignments are useful.

Methodology

As peer collaboration is a form of learning fostered in all universities, but because the authors of the research have met explicitly and implicitly individually expressed dissatisfaction with group work assignments, when students know they are going to be graded, it was decided to study the students' perception about a successful peer collaboration during group work assignments and whether such assignments are useful. The following research questions were posed: (1) What do students understand as a successful peer work? (2) What knowledge can they share in the classes of writing?

The research method was a survey, based on a questionnaire designed by the authors of the paper. The questionnaire contained 6 questions, two of which referred to data about the respondents, that is, the study year they were in (second or third) as only the ones with some experience in peer collaboration when writing papers and reports were selected for the research. One question was asked to find out whether the respondent was a student in a full programme or an Erasmus+ exchange student. The other questions

asked for the respondents' opinion on how useful they considered peer collaboration, which aspect of writing, for example idea generation, planning the paper, proofreading etc. they considered most useful during the peer work, as well as whether the respondents thought that peer collaboration helped them to develop their writing skills and that the skills developed during the peer collaboration activities would help them in their future career. The questionnaire used closed questions, where the respondents were asked to select one answer that suits them. Questions 5 and 6 also contained an added open-end question requesting the respondents to state why they considered that peer collaboration while writing had not helped them to develop their writing skills or would not be useful in their future career, but as very few answers were received, these responses will not be analysed within the framework of this paper.

The research was a case study as it comprised surveying undergraduates of only five groups studying English Philology, two groups studying Tourism and Hospitality Management in English and two groups studying Public Relations and Advertising Management (only some of the subjects in this programme are delivered in English). Thus, the case study included three higher educational establishments in Latvia and was conducted over a period of two years – 2018 and 2019. The English Philology students have several courses in academic writing where emphasis is placed on developing their peer editing skills, as well there are some subjects where students are asked to deliver group reports. The students of the other two programmes are frequently asked to deliver a report as a final product of a group work assignment in the content subjects they are taking. The group report assignments require both peer collaboration and peer cooperation.

During the survey the students had to evaluate how useful the peer collaboration was, and what aspects of collaboration they considered most useful. They were also asked to express their opinion whether peer collaboration could help them to develop their writing skills as well as if the skills gained during peer collaboration would be needed during their future career.

The questionnaire was distributed in paper form, and 162 completed questionnaires were received. The respondent body consisted of 53 second-year English Philology students and 6 students who were EARSMUS + exchange students in the programme, 94 third-year students from the other two programmes, among which 26 were international students who had been enrolled in a full programme, and the remaining 15 students were EARSMUS + exchange students.

Results and discussion

As the survey results indicate (Figure 1), the majority of the respondents (68) considered working in groups when writing group reports or papers 'useful' or even 'very useful' (18 respondents), which in total results in 53 % of positive response of the entire group of respondents. The 24 % (or 39 students) of those who selected the response 'partly useful' could also be added to this group as they were suggesting that they still developed some useful skills during the group work writing activities. 20 % (or 32 students) considered peer work 'not useful at all'. Taking into consideration the requirement to emphasise developing and fostering undergraduates' teamwork skills while at the university, this is a relatively large number of students who consider peer collaboration not useful, and the reasons for such an opinion need to be further investigated.
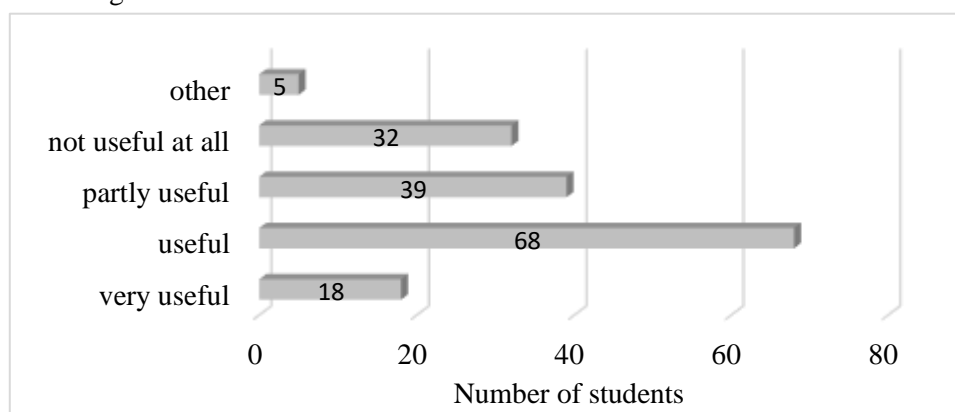
Figure 1. Usefulness of collaboration while writing a group report / paper.

The results are slightly different, however, when the answers are compared across the programmes in which the students are studding. Only 33 % of the respondents in the Public Relations and Advertising Management programme considered peer collaboration 'very useful' or 'useful' and 27 % called it 'not useful at all', while 69.5 % of the English Philology students and 53 % of the students of Tourism and Hospitality Management programme considered it 'very useful' and 'useful'. A potential cause for such a striking difference could lie in the approaches the teaching staff use and assess group writing assignments, for example, is it peer collaboration or just per cooperation that is demanded to fulfil the assignment? The latter is usually liked less as students need to organise the entire research and writing process themselves, and it is difficult. However, the ability to plan and organize one's work and to collaborate in a group is valued high by the employer. Other causes for the observed difference in opinions might be the students' previous experience with such assignments and their ability to cope with the various roles group work assignments pose, as well as the students' individual qualities and many other factors.

It was also in the research interest to study the particular experience the students had while working together on writing assignments. Therefore, they were asked to evaluate the usefulness of their experience regarding various aspects of writing skills.
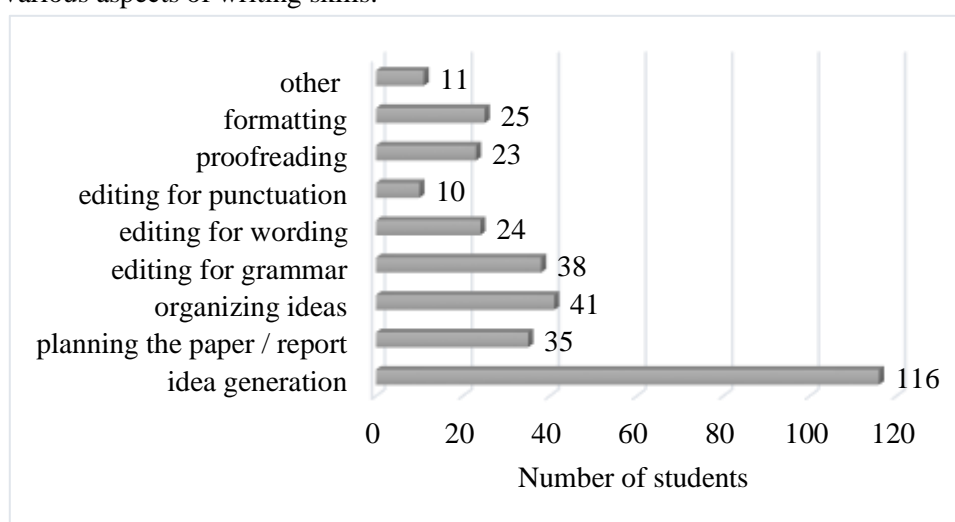
Figure 2. The most useful experience during peer collaboration writing activities.

Figure 2 demonstrates that the respondents considered idea generation as the most useful activity during the assignments (116 respondents), while the other useful experiences (organizing ideas, editing for grammar, planning the paper / report) were also considered useful but selected by a considerably less number of respondents (41, 38 and 35 respectively). The least useful activities, according to the respondents, were editing for punctuation and other not indicated in the answer choices (11 and 10 respondents). This allows the authors to assume that collaborating while writing including peer editing, although paid attention to during the academic writing courses at tertiary level, is not considered applicable by the students and they prefer to do this alone. However, idea generation and discussions about the content of the paper / report are considered as valuable activities. The reason might be that students had been practising this during classes more than writing and peer editing.

When asked directly if peer collaboration can help to develop their writing skills, 53 % of the respondents replied in the negative. However, when the answers are compared across the study programmes, it is observed that English Philology students considered peer collaboration useful in order to develop their writing skills as 50 (out of 59) agreed with the statement (Figure 3). The result is not surprising, because English Philology students definitely have more academic writing courses and classes than the undergraduates of the other two programmes; thus, they have obviously managed to see the benefits of peer collaboration in writing assignments in practice.

The students were also asked to express their opinion on whether they would need the skills developed during the peer work activities, to which 78 % (127 students) responded affirmatively while a rather large group (22 % or 35 students) considered them not applicable in the future. This result raises a question why the students have developed this perception and what the university teaching staff could do to change it.
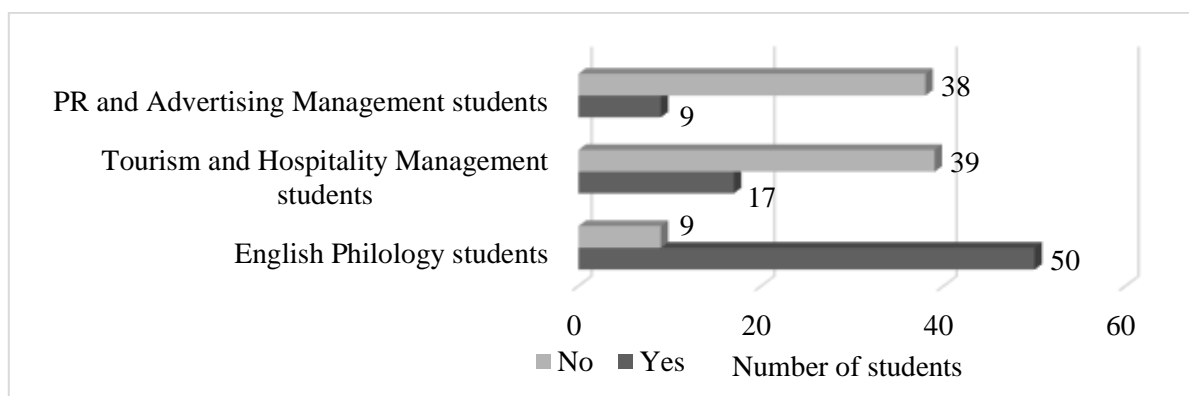
Figure 3. Students' perception if peer collaboration can help to develop their writing skills.

Conclusions

Although the above described research was only a case study, the findings of the survey allow the authors to conclude on the following:

1. The majority of the respondents considered peer collaboration in writing assignments very useful or useful while the opinions differed when the responses of the students from various programmes were compared. However, employers require all their employees, not just graduates of philology programmes, to demonstrate good writing skills.

2. The respondents considered idea generation the most useful activity of peer collaboration. This is an indication that the other activities need to be practised more to change the current students' perception.

3. Only the English Philology students considered peer collaboration while writing as something that could help to improve their overall writing skills.

4. Students' experiences with peer collaboration in writing assignments, including exposure to teaching it, vary and therefore shape their perceptions whether peer collaboration is useful at all and applicable in their future.

5. In writing classes students could share their knowledge on grammar, punctuation, wording and organizing ideas logically as some of these already appeared as the respondents' choices for useful experience while working on writing assignments together with peers; thus, they need to be practised more.

6. All the above indicates why more emphasis on peer writing and collaboration should be placed in tertiary level courses and why academic writing courses where peer collaboration is practised need to be included in all undergraduate study programmes.

7. The research results also implicitly suggest that to demand students to write papers and reports together as part of a peer cooperation activity may be successful only if these tasks are first used as part of peer collaboration assignments, which could teach the students how to successfully work in a team with various people and, thus, make them more self-confident, as well as convince that peer collaboration is a useful skill to possess for the future career.

Bibliography

1. Badger R., White G. (2000). A process genre approach to teaching writing. *ELT Journal, 54*(2), 153-160. doi: 10.1093/elt/54.2.153
2. Barnard R., de Luca R., Li J. (2015). First-year undergraduate students' perceptions of lecturer and peer feedback: a New Zealand action research project. *Studies in Higher Education*, *40*(5), 933-944. doi: 10.1080/03075079.2014.881343
3. Bruffee K.A. (1980). *A Short Course in Writing. Practical Rhetoric for Composition Course, Writing Workshops, and Tutor Training Programs.* Boston: Little, Brown and Company.

4. Bruffee K.A. (1984). Collaborative learning and the "Conversation of Mankind". *College English*, *46*(7), 635-652.doi: 10.2307/376924

5. Burke A. (2011). Group work: how to use groups effectively. *The Journal of Effective Teaching, 11*(2), 87-95. Retrieved from https://uncw.edu/jet/articles/vol11_2/burke.pdf

6. Chiriac E.H., Frykedal K.F. (2011). Management of group work as a classroom activity. *World Journal of Education, 1*(2), 3-16. doi: 10.5430/wje.v1n2p3

7. *Common European Framework of Reference for Languages: Learning, teaching, assessment*. (2001). Council of Europe Cambridge, UK: Cambridge University Press. Retrieved from https://rm.coe.int/16802fc1bf

8. Dobao A.F., Blum A. (2013). Collaborative writing in pairs and small groups: Learners' attitudes and perceptions. *System*, *41*(2), pp. 365-378. doi: 10.1016/j.system.2013.02.002

9. Farneste M. (2005a). Benefits and drawbacks of peer co-operation in the course of academic writing. In A. Veisbergs (Ed.), *Contrastive and Applied Linguistics, XIII*. Rīga: Latvijas Universitāte, Moderno valodu fakultāte, 20-37.

10. Farneste M. (2005b). Developing peer feedback skills at the tertiary level. In N. Trofimova (Ed.), Zinātnisko rakstu krājums *Valoda-2005, Lingvistikas didaktikas problēmas*, *XIV-XV*. Daugavpils Universitāte: Saule, 15-20.

11. Flowerdew J. (1993). An educational, or process, approach to the teaching of professional genres. *ELT Journal, 47*(4), 305-316. doi: 10.1093/elt/47.4.305

12. Goldin I.M., Ashley K.D., Schunn C.D. (2012). Redesigning educational peer review interactions using computer tools: an introduction. *Journal of Writing Research, 4*(2), 111-119. doi: 10.17239/jowr-2012.04.02.1

13. Golsteyn B.H.H., Non A., Zölitz U. (2017). The impact of peer personality on academic achievement. *Working Paper Series*, Working Paper No. 269. University of Zurich. doi: 10.5167/uzh-141964

14. Guardado M., Shi L. (2007). ESL students' experience of online peer feedback. *Computers and Composition, 24*, 443-461, doi: 10.1016/j.compcom.2007.03.002

15. Hennessy, D., Evans, R. (2006). Small-group learning in the community college classroom. *The Community College Enterprise*, *12*(1), 93-110. Retrieved from https://eric.ed.gov/?id=EJ846009

16. Hyland K., Hyland F. (2006). Feedback on second language students' writing. *Language Teacher, 39*(2), 77-96, doi: 10.1017/S0261444806003399

17. Lau Chun Yun C. (2006). What effects does peer group study have on students' learning in commerce mathematics? A case study of diverse ethnic learning. In Proceedings of the EDU-COM 2006 International Conference *Engagement and Empowerment: New Opportunities for Growth in Higher Education*. Australia, Perth Western: Edith Cowan University, 287-298. Retrieved from http://ro.ecu.edu.au/ceducom/85

18. Myatt P., Edwards A., Bird F. (2014). Achieving greater productivity with a peer writing group. In Proceedings of the Australian Conference on *Science and Mathematics Education*. Sydney: University of Sydney, 140-148 Retrieved from https://openjournals.library.sydney.edu.au/index.php/IISME/article/download/7672/8119

19. Philippakos Z.A. (2017). Giving feedback: preparing students for peer review and self-evaluation. *The Reading Teacher, 71*(1), 13-22. doi: 10.1002/trtr.1568

20. Stramkale L. (2018). Student's Communication Activity in Small Group Learning. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality. (REEP), 11*. Jelgava: Latvia University of Life Sciences and Technologies, 25-32. doi: 10.22616/REEP.2018.029

21. Taar J. (2013). Student-student interaction during group work tasks in home economics lessons. In V Dislere (Ed.) Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP),* 6. Jelgava: LLU, 256-266. Retrieved from https://llufb.llu.lv/conference/REEP/2013/Latvia-Univ-Agricult_REEP_2013_ISSN_2255-808X-256-263.pdf

Development of Adults' Autonomous English Learning Experience in Blended Learning Environment: Transformation of Action

Ināra Bojāre Mg.paed.
Daugavpils University, Latvia
inara.bojare@inbox.lv

Abstract: Holistic approach is essential in postmodern situation when the educational process is aimed at facilitation the development of a personality capable to autonomous learning in blended learning environment as preparing for self-organised learning process in virtual learning environment in the context of sustainable development of the society. The purpose of an article is to present the results of the research about the development of adults' autonomous English learning experience in blended learning environment. It is intended to analyse the development of autonomous learning approach towards its holistic comprehension in blended learning environment and present the results of the case study (N=50), realised by methods of the survey and SWOT analysis, about the process of transformation of adult learners' experience. Fractal of learning action based didactic model is theoretical and practical result of the research. It visualises systemic view of didactic categories of autonomous learning – learner's and mentor's learning action, learning environment – and makes the methodological base for pedagogical facilitation of the development of experience of autonomous English learning in blended learning environment in adult nonformal education.

Keywords: autonomous English learning experience, blended learning environment, transformation.

Introduction

Pedagogical phenomena of holistic education, development of integrated (Forbes, 2003; Martin, 2003) personality and the concept of *learning environment* (Dewey, 1966; Rousseau, 1979) have been the focus of attention of many authors in the past. New aspects to these phenomena are added by nowadays postmodern situation when paradigm shift in education is actualised by connectedness of human's action and the environment. Educational environment (Bell et al., 2002) is promoting the process of learner's cognition and developing of the whole person during his / her activity with the mentor for the development of English competence. Adult learners' involvement in the learning process of nonformal education, their interactivity in group and with ICT (information and communications technology) expands the learning environment and is connected with global goal of qualitative education: *ensure inclusive and equitable quality education and promote lifelong learning opportunities for all* (United Nations, 2015, 19).

D. Lieģeniece (1999) distinguishes the concept of the learning environment: the structured environment, the developing environment, the environment of things those correspondents to educational, developmental and educative aim of education (Žogla, 2017). Structured environment complements it with the structure of time, interpersonal communication and organisational factors that is important for the development of learning to learn competence and experience of autonomous learning.

The developing learning environment supposes involving different learner's abilities in acquisition of the learning content for the development of personality as a whole. The development of learner autonomy using a postmodern and poststructural orientation is investigated by C. O'Leary (2018). She stresses participants' - "pluralist perspective" in constructing the reality of learning within their specific learning context, moving away from macro theories closer to practice and the possibility of change at a micro level.

Nowadays environment of things includes different ICT demanding digital skills and critical thinking. Technologically facilitated autonomous language learning (Benson, 2011) is the result of transformation of functions of technologies in pedagogy: from the subject of learning they have become a didactic mean for realisation of learning tasks, but the accessibility to the internet has promoted changes in the learning environment and expanded the possibilities of lifelong learning.

Nevertheless, results of special research of EC Eurobarometer 386 (European Commission, 2012) show insufficient adults' learning experience for participation in the learning process in technological age, but

insufficient using of interactive learning possibilities, proposed by ICT, and using of blended environment in English learning reduces their participation in learning.

Blended learning as the qualitative conception *stresses the thoughtful integration of classroom face-to-face learning experiences with online learning experiences* (Garrison, Kanuka, 2004, 96). In reorganisation of the instruction and learning dynamic based on new ICT transformed learning conditions the most significant changes in blended learning are connected with changes in learning experience from organised learning in the classroom environment to organised learning in virtual learning environment.

Nevertheless, the possibility to manage normative learning process and supervise the learning outcomes (Garrison, Kanuka, 2004) increases a contradiction between normative component of organised process of facilitation and free accessibility of external means of English learning. That forms pedagogical problem of the research: what kind of help is optimal for adult learners in nonformal education in order that blended environment of organised learning process (psychological, social and technological) promotes the development of their autonomous learning experience.

Using of ICT in the process of learning languages enriches the learning environment. Necessity of comprehension of influence and using of possibilities of the environment created by ICT should be taken in account when learner centred paradigm is realised from the point of view of complex sustainable development of the society supposing involvement learners into the development of own's personality.

It gives the opportunity to integrate learners' experience of organised and self-organised learning in blended learning environment of adult nonformal education as joining link between formal and informal learning. Common feature of these kinds of learning process is a fractal of learning action (Broks, 2000; Broks, et al., 2013). There are several concepts connected with autonomous learning that are not synonyms: self-directed learning, self-regulated learning, self-determined, self-organised learning. Theoretical analysis of the development of autonomous learning approach shows its development towards its holistic comprehension in blended learning environment that includes the concepts mentioned above.

Historically the concept of autonomous learning is introduced by C. Rogers (1967) and depends on philosophical principle of learner centred paradigm of education: freedom as one's choice and responsibility. As universal value, it corresponds *to situation in which learners study entirely on their own; a set of skills which can be learned and applied in self-directed learning; an inborn capacity which is suppressed by institutional education; the exercise of learners' responsibility for their own learning; the right of learners to determine the direction of their own learning* (Benson, Voller, 1997, 1).

M.S. Knowles (1970; 1975) outlines self-directed learning implements in nonformal education. Teaching process and learner's facilitation depends on adult learner's need to know, learner's self-concept and experience, readiness to learn and orientation to learning, motivation. The contract should be concluded between the learner and the learning institution.

Self-regulated learning (SRL) depends on teacher's managed autonomous learning where the learner becomes a subject of learning in the process of improving his / her learning skill. In this meaning the approach of SRL is used in English learning. Autonomy in foreign language learning is defined as ability to take charge about own's learning and the process that has to be acquired (Holec, 1981). As follows, the concept of autonomy moves the focus from teaching to learning where learning strategies (O'Malley, Chamot, 1990; Oxford, 1990, 2003) are important for improving language skills.

Self-determined learning in group is directed towards reaching own's learning goal that is also the goal of his / her life action (Rubene, 2003). The further development of autonomous learning is directed towards increasing interactivity in group aimed to coordinate the learning goal and facilitate each other in its reaching and involving learners in interactivity with technologies for the development of English competency.

English learning in virtual learning environment is motivated if autonomous learning develops to self-organised learning (SOL) in open virtual environment (Benson, Voller, 1997). SOL in this research is an organisational form of the learning process where self-determined learners cooperate and interact in group in virtual environment. The new quality of learning action is reached by self-organisation of participants during the learning process. Systemic changes lead to new learning community centred relationships between participants of the learning process.

That changes a teacher's role because his / her authority is delegated to learners and to groups. Group autonomy is promoted because learners *should consult with groupmates before asking the teacher* (Jacobs, Power, Inn, 2002, 6).

P. Benson's (2007) review of developments in the philosophy of autonomy and the role of autonomy in global educational policy and reform shows that postmodern theory of autonomous personality depends upon a theory of narrative identity (Straub, Zielke, Werbik, 2005). From this perspective, autonomy is not grounded in substantive individual identities, but in identities that become individual through narratives involving self-reflection and self-thematization. It has value for work on the development of autonomy through long-term experiences of language learning (Benson, 2006).

The whole of the lesson is influenced by variety of learning possibilities that are not determined in time and place. That leads to accepting a fractal pattern of activity as the whole of the learning process. Fractal is a concept of practice introduced in systemology of education in Latvia by A. Brok (Broks, 2000; Broks, Jonāne, Vilks, 2013). Fractal is a repetitive pattern of action (Flower, 2014); a cycle of human's purposeful action (Broks, 2000); a problem-solving cycle for considered life: observing – thinking – designing or planning – acting (Bawden, 2016).

Methodological base of using fractal approach in education is proposed by L. Jonāne (2009). She has produced the conceptual model – didactic fractal for organisation of the learning process for implementation the goal of education of natural sciences – the development of the competence oriented sustainable action.

A fractal of learning action identifies the learning action in any learning environment independently from the form of education and organisational form of the learning process. Open ICT based learning environment ensures inclusion of learning action, based in fractal structure of general action (investigation – consideration – action), in learning action of lifelong learning, learner's life action and general human action (Broks, 2000) in the context of sustainable development of society.

The aim of the study is to produce an appropriate pedagogical model for learners' involving in blended learning environment that makes easier for learner to transform from organised learning action to self-organised learning action, to evaluate and create own's learning environment for the development of autonomous learning experience.

Methodology

Several research questions were advanced for implementation of the study:
- What is the essence of autonomous English learning in postmodernism, what are indications of English learners' autonomous learning experience and the dynamic of its development in blended learning environment?
- What characteristics of mentor's action and personal characteristics are desirable for the teacher for the improving learner's learning experience in blended learning environment?
- How to facilitate a learner of nonformal education in evaluation of own's learning environment and its creating, and in transformation of learning action for the development of autonomous learning experience in blended learning environment?

After theoretical investigation and creating the questionnaire, the case study was done. Autonomous English acquisition readiness scale (AEARS) in blended learning environment was created on the base of results of the qualitative part of the research. It is a three level Likert-type scale that includes the level of learning environment, organisational forms of the learning process and learning methods exposed by metacognitive strategies (MCS). Its validity depends on comparing of theoretically selected and practically obtained criteria with the European language portfolio for adults (European Language Portfolio…, 2006).

Reliability of the AEARS is based on exploratory factor analysis of distinguished factors done for factorial analysis of the structure of the questionnaire and for selecting the main components in quantitative part of the research (Bojāre, Ignatjeva, 2014). Factorial analysis allowed to find the structure of four factors distinguishing four forms of organisation of the learning process based on the organisational approach of facilitated self-regulated learning, self-determined learning in group, self-directed learning in classroom learning environment and holistic English acquisition in virtual learning environment. Respondents have

not distinguished separate structural elements in English learning in virtual learning environment. Summative dispersive percent, that could be explained by these factors, is 78,7 %.

The validity of Cronbach's Alpha, reflecting congruence of obtained indices, ranges from 0.932 (K) to 0.976 (V). Cronbach's Alpha coefficients and the coefficients of correlation the index with attributes characterises the methodological approaches that allow to reduce initially composed questionnaire with 51 items to 21 items. After that the amount of indicates in each attribute is three, but totally in the questionnaire - 126. Reduced questionnaire is used for organisation of the survey in the case study.

Sample of the case study (N = 50) was completed by choosing the volunteers from the group of English learning programme of adult nonformal education. The case study is realised in three cycles with number of participants in the first cycle (N1 = 46), thirty-two of them took part in the second cycle (N2 = 32) and four their mentors took part in the third cycle (N = 4) of the research.

Quantitative data for characteristic of the group depending on respondents' attitude towards proposed organisational forms of autonomous learning process and their connection with MCS were obtained by the survey in the first cycle of the case study. Participants of the group made SWOT (strong sides, weak sides, opportunities and threats) analysis of MCS in classroom and virtual learning environment for obtaining qualitative data during the second cycle of the case study.

SWOT analysis of using MCS in classroom and virtual learning environment was done for investigation of opportunities of facilitation of the learning to learn competence. Weak sides of MCS were excluded from SWOT analysis by factorial analysis done in the quantitative part of the research. Participants of the case study made SWOT analysis individually, in pairs and groups. Their mentors did the same in the third cycle of the case study.

Results

The results of the survey in the case study characterises the research group as L--++ in accordance to divergence of its attitude towards organisational forms of the learning process (figure 1) from average evaluation – 3.45 points. The group includes characterises with the lowest evaluation of English acquisition in virtual learning environment and then average in the whole.
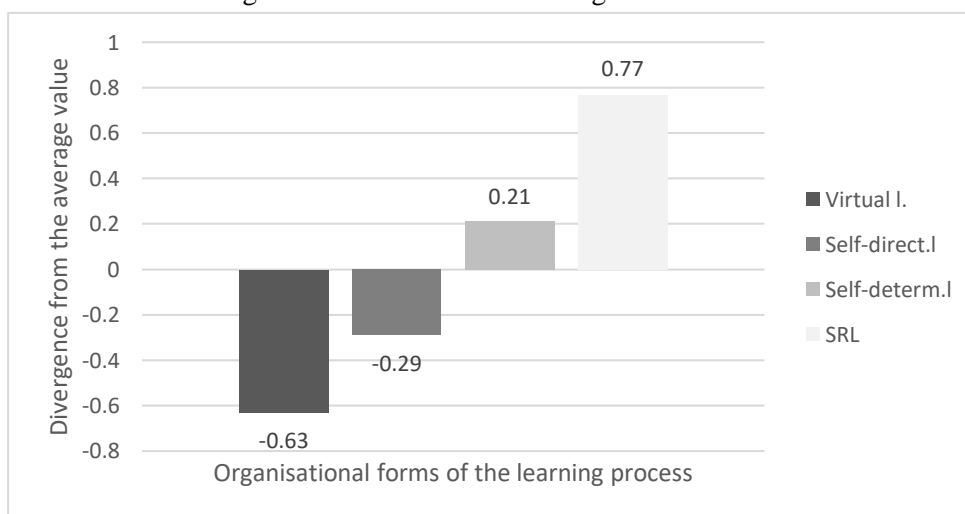
Figure 1. Group's L--++ attitude towards organisational forms of the learning process.

Where:
F_1 is K- self-regulated learning in the classroom;
F_2 is G- self-directed learning in the classroom;
F_3 is P- self-determined learning in the classroom;
F_456 is V- self-organised learning in virtual learning environment.

Group's L--++ attitude towards MCS is summarised in Table 1 where the highest evaluation is given for MCS of skills. It correspondents to traditional pedagogical approach and adults' experience of learning the foreign languages.

Evaluation of MCS given by the participants of the case study shows to their mentor the actuality and hierarchy of learners' needs in reaching learning goal – English competence, for example, they need the tutoring in choosing methods / strategies for doing learning tasks.

Results of the SWOT analysis of MCS allows to conclude that pedagogically and technologically traditional self-regulated acquisition of English skills is facilitated in English programmes of adult nonformal education.

Table 1

The content of the metacognitive strategies and their evaluation by group L--++

MCS	Content of MCS	Values
Skills	Working with learning materials; acquisition of listening skill; translation of texts	3,58
Knowledge	Reading of texts; answering questions about the text; acquainted grammar rules	3,56
Planning	Corrections of learning action for reaching the learning goal; taking responsibility about own's learning process; positive emotions connected with learning the English language	3,47
Organisational	Choice of the learning topics; choice of the learning materials; dividing of the learning content	3,45
Evaluation	Determination of the criteria of the quality of the learning result; evaluation of the learning result; evaluation of quality of the learning process	3,42
Development	Writing a letter; writing essays; general investigation of the topic	3,37
Participation	The choice of strategies and methods for doing the tasks; making tables about acquainted topics, grammar rules; making mind maps and schemes about acquainted topics, grammar rules	3,32

Pedagogical function of investigation of attitude of participants of English programmes of adult nonformal education is self-reflection about own's learning; comprehension of learning opportunities for improving the quality of choice and removing threats that inconvenience to realise these opportunities.

Environment of ICT and social environment has already influenced learners' attitude so learner's action should be pedagogically transformed by adapting mentor's comprehension to learner's comprehension and by widening of learner's comprehension with comprehension of MCS in the environment.

SWOT analysis of MCS in classroom and virtual learning environment shows common and different in learner's and mentor's evaluation and substantiates the content of facilitation of MCS.

Results of SWOT analysis show that action in virtual learning environment generally is connected with individual learning. Realised SWOT analysis helps learners and their mentors to conscious changes in learning environment and stimulates to change the learning action. Important direction of transformation of the learning action is transition of levels of interactivity in the classroom to virtual learning environment, integration of organised and self-organised learning process in blended learning environment, promoting of learner's participation in learning process. Changes in learning environment creates necessity to widen learning facilitation from traditional pedagogical facilitation of acquisition of learning content by using ICT, to promoting learner's participation for the development of their English competence and learning to learn competence in blended learning environment.

The research gives mentor the comprehension that changes in learning environment create systemic changes in learning process and in needs of facilitation of learning. Facilitation of learning should be adopted to learners' new needs. Results of SWOT analysis of MCS show the directions of help for the development of learner's experience of holistic autonomous English learning in blended learning environment:

- promoting individual and group's responsibility, planning of learning goal / result, maintaining of interest;
- involving learners in creating of favourable relationship and learning environment, purposeful learning process, social cooperation and interactivity with ICT for the development of English competence and its practical use in the learning process;
- developing skills of using ICT for promoting using of internet resources for choosing of learning content and ensuring of interactivity in virtual learning environment;
- promoting the development of critical thinking in the choice of the learning content, involving learners in structuration of learning content and time management;

- involving learners in exchange of views about learning process and criteria of the quality of the result, in evaluation of learning process and result, in self-control and analysis of the learning result;
- promoting the use of printed and digital learning resources for investigation of learning topics from different perspectives and for doing individualised and specific creative tasks given to particular learner;
- increasing learners' individual / group's contribution in learning process by giving them opportunity to choose a strategy for doing the task; structuration of the learning content, making dialogues.

Experience of autonomous learning is precondition, the goal of the development, resource and outcome of learning necessary for self-involvement in lifelong learning. Changes in learning environment create transformation in learners' attitude towards learning that, in its turn, actualises transformation of the learning action. Self-organised learning, collaboration, participation and self-control in blended learning environment are the features of the experience of holistic autonomous English learning. Learners' experience of holistic autonomous English learning in blended learning environment and active participation in learning process is the base of changes for sustainable development of society where a mentor fulfils a role of the agent of changes.

The mentor needs English competence, using of ICT / digital competence, competence of pedagogical facilitation and promoting of collaboration for implementation of the fractal of the learning action.

Iterations of interconnected teacher's and learner's interaction, based on paradigm shift from teaching to learning and underlying on principle of fractal action, form the complex learning process in the learning environment. Teacher's action with adult learners acquires such characteristics and the character of help that are more relate to mentor's action and role. The new quality of teacher's action forms transition of teacher's action from working in the programme with learners to mentor's help to realise them the programme.

A conception of the research for promotion adult learners' experience of autonomous English learning in blended learning environment is based on integration of learners' experience of organised learning and self-organised learning in blended learning environment by connection of learner's and mentor's action in blended learning environment for improving learning process in adult nonformal education.

Results of the research allow to create simplified didactic model for nonformal education – the fractal of the learning action. It includes conceptual and methodological aspect of holistic autonomous English learning in blended learning environment. Learner's and mentor's action is connected in the environment. The experience of autonomous learning develops by transformation of learning action from organised learning in the classroom to self-organised learning action in virtual learning environment.

The learner starts to evaluate own's learning action and learning environment, starts to create technologically mediated learning environment. Virtual learning environment increases transformation of unknown content to known content with changes in learner's attitude towards learning process and creates new quality level of autonomous learning – holistic autonomous English learning in blended learning environment integrating forms of autonomous learning mentioned above.
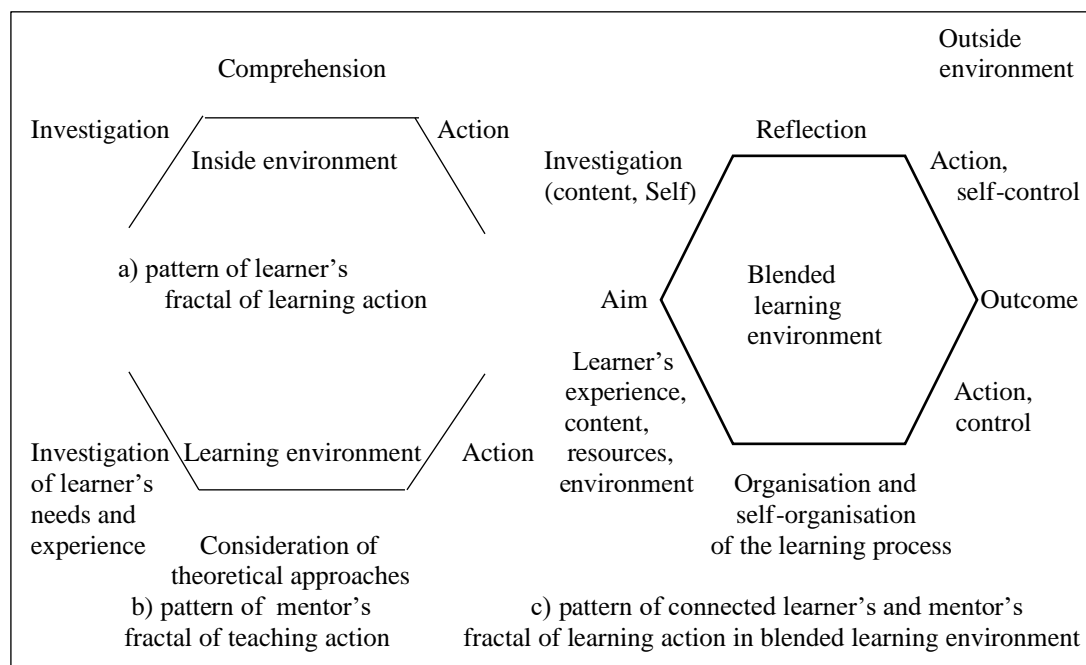
Figure 2. Patterns of learner's and mentor's learning action in the learning environment.

Patterns *a* and *b* are made by specifying Brok's general pattern (Broks, Jonāne, Vilks, 2013, 5). The pattern c is author's produced by joining fractals of learner's and mentor's learning action in blended learning environment.

The influence of changes in the learning environment on the process of learning is investigated in this research. Changes create a complex system where linear development of the experience of autonomous English learning for improving learner's English competence by self-directed, self-regulated, self-determined learning and self-organised learning, emerged of autonomous learning, transforms to nonlinear / integrated development of experience of holistic autonomous English learning in blended learning environment. The results of the research allow to connect fractals of learner's and mentor's learning action in the learning environment (Figure 2) with double feedback loop: (1) between management / self-management of cognitive and metacognitive process and the skill of using learning resources and learning environment; (2) between learner's acquired experience of autonomous English learning and the experience of autonomous English learning that should be acquired with transformation of his / her attitude towards organised and self-organised learning process as a middle result in the direction towards holistic autonomous English learning process in blended learning environment (Figure 3). Connection of the structure of pedagogical process (Žogla, 2017) with the fractal structure of scientific investigation and general human action (Broks, 2000) is shown in Table 2.

Table 2

Connection of the structure of pedagogical process (Žogla, 2017) and the fractal of general human action (Broks, 2000)

Pedagogical process / fractal of action	External component of teacher's action	Internal component of learner's action
Investigation / cognition	Standards, aims, objectives, incentives, teacher's experience	Learning identification, reasoning, motivation, learner's experience and level of autonomy
Theory / consideration	Suggested process design, teaching structure	Learner's acceptance of process design
Action	Content, subject-matter, goals (academic outcomes), reflection, evaluation	Learner's tools, learning structures, learner's personal achievements, self-assessment, self-evaluation
Next cycle of investigation – consideration – action	To further aims and objectives	

Conditions of connection of didactic model and the fractal of learning action is implementing of complex learning aim that is shown by learning outcome – acquainted experience of holistic autonomous English learning in blended learning environment. It integrates implementation of educational, developmental and educative aims: the experience of acquainted learning content – competence of English, experience of changes in the attitude towards learning process – competence of learning to learn and the experience of learner's autonomy as the value – holistic autonomous learning in blended learning environment.
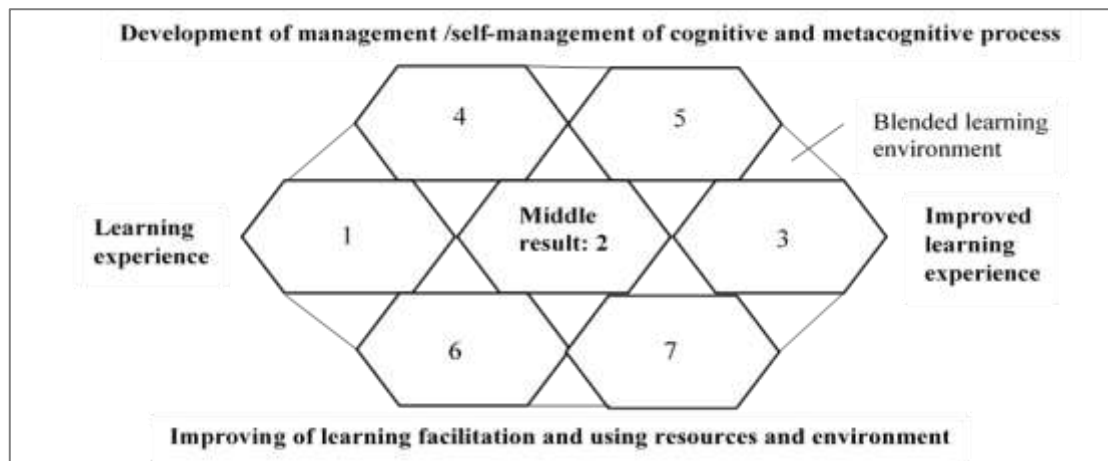
Figure 3. Pattern of the fractal of learning action in integrated organised and self-organised learning process in blended learning environment (author's produced).

Where 1 – goal, content, organisation of the process; 2 – change of the attitude; 3 – self-organisation of learning process, result; 4 – cognitive strategies of learning; 5 – meta-cognitive strategies; 6 – pedagogical facilitation; 7 – choice of resources, using of environment.

The model of holistic autonomous English learning in blended learning environment – the fractal of learning action visualises interconnected learner's and mentor's action in blended learning environment. The experience of autonomous learning develops by transformation of learning action according to transformation of the attitude.

The pattern of the learning action reflects essential didactic categories of educational / English learning action in conceptual aspect and in the aspect of organised and self-organized learning process. In conceptual aspect mentor is conscious about (a) the aim of holistic education – the development of integrated personality, (b) context – sustainable development of society and (c) the content of pedagogical facilitation and process for moving towards the learning goal: learner's action of learning, pedagogical facilitation and learning result.

The development of the management / self-management of cognitive and metacognitive processes and the development of skill of using learning environment and resources in social and ICT environment is stressed in organisation of the learning process. Transformation of the experience of autonomous learning to holistic autonomous English learning in blended learning environment happens by integration of learner's self-directed, self-regulated and self-determined learning experience in self-organised learning experience and differentiation of learner's attitude towards metacognitive strategies – MCS.

Metacognitive strategies of action are directed towards already known: the broadening of knowledge / collaboration, improving skills, development and broadening of the experience (Boghian, 2016; Clegg, 2015) by synthesis of metacognitive, cognitive, social and affective learning strategies in MCS of action. Mentor's facilitation changes during the development of learner's experience. During pedagogical facilitation the mentor is planning and organising the learning environment for purposeful, transformative and holistic learning process where the learner step by step is able to reach his / her learning goal – English competence and learning to learn competence.

By dividing of the pattern of the learning action based on MCS, the content of MCS for connection of learner's and mentor's learning action in goals, motives, choice of means / resources, evaluation and self-evaluation of the results is exposed in the case study. The content of facilitation of the MCS follows from the results of SWOT analysis of MCS in classroom and virtual learning environment.

Mentor's facilitation should be adapted to learner's necessities of learning facilitation in blended learning environment. The result of nonlinear development of the experience is reached in the process of multiple iterations of learning episodes. The feedback occurs at learner's and mentor's, learner's and group's, learner's and ICT levels of interactivity according to organisational form of the learning process in blended learning environment.

Conclusions

- In the process of holistic autonomous English learning in blended learning environment two integrated actions – learner's learning and mentor's help – are coordinated by didactic model that changes the learning process by transformation of these actions from organised help and organised independent learning action to self-organised learning and mentor's help, but the fractal structure of learner's learning and mentor's help determines including of these actions in life action and general human action in the context of sustainable development.

- The process of holistic autonomous English learning in blended learning environment promotes transformation of linear development of learner's experience of autonomous learning in nonlinear / integrated development of learner's experience of autonomous learning that strengthens essential qualities of autonomous learning in learner's experience – responsibility, cooperation, ability and skill to use metacognitive strategies in interaction with social and ICT environment in blended classroom and virtual learning environment what simplified didactic model – the fractal of the learning action - helps to organise in nonformal education.

- In holistic autonomous English learning in blended learning environment the learner persuades in the importance of own's participation in the learning process and is active its participant that allows to decrease teacher's facilitation in improving of the skill of self-management of cognitive and metacognitive process and using learning resources and learning environment. Working with adult learners saves some teacher's characteristics (individual approach and facilitation of participation, skill of using academic knowledge and ICT, research skill, the competence of organisation of the learning process), but the qualities should be borrowed from the mentor are tolerance and openness to learner's learning experience, common responsibility and mutual loyalty; the experience of learning other foreign languages and still to use them in real situations; ability to make horizontal relationships with learners to promote setting and reaching learning goal common for group; the skill to organise learning process in blended learning environment according to structure of general action: investigation – consideration – action.

Bibliography

1. Bawden R. (2016). *An Atlas of Conceptual Maps: Linking Cognitive Processing with learning and the development of identity – making sense of our thinking*. Retrieved from https://www.education.sa.gov.au/sites/default/files/an_atlas_of_conceptual_maps.pdf?v=1457328077

2. Bell P.A., Greene T.C., Fisher J.D., Baum A.S. (2002). *Environmental Psychology* (5th ed.). Wadsworth: Thomson.

3. Benson P. (2007). Autonomy in Language Teaching and Learning. *Language Teaching, 40,* 21-40. doi: 10.1017/S0261444806003958

4. Benson P. (2011). *Teaching and Researching: Autonomy in Language Learning* (2nd ed.). London, New York: Routledge Taylor, Francis Group. doi: 10.4324/9781315833767

5. Benson P., Voller P. (Eds.). (1997). *Autonomy and Independence in Language Learning.* London: Longman.

6. Boghian I. (2016). Metacognitive Learning Strategies in Teaching English as a Foreign Language. *Journal of Innovation in Psychology, Education and Didactics, 20*(1), 53-62.

7. Bojāre I., Ignatjeva S. (2014). Autonomous English Acquisition in Blended e-studies for Adults for Sustainable Development: Quantitative research. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *7.* Jelgava: LLU, 42-49. Retrieved from https://llufb.llu.lv/conference/REEP/2014/Latvia-Univ-Agricult-REEP-2014proceedings-42-49.pdf

8. Broks A. (2000). *Izglītības sistemoloģija* [Systemology of Education]. Rīga: RaKa. (in Latvian)

9. Broks A., Jonāne L., Vilks I. Salītis A., Krons A., Paulins P., Harja J., Voitkāns A. (2013). *Vispārizglītojošā fizika profesionālajās vidusskolās: metodisks materiāls fizikas skolotājiem* [Physics in Comprehensive Secondary

Schools: Methodological Materials for Teachers of Physics]. Rīga: LU akadēmiskais apgāds. Retrieved from http://blogi.lu.lv/broks/files/2012/11/Broks-u.c.-VFPV2013.pdf (in Latvian)

10. Clegg J. (2015). *Metacognition: An Overview of its Uses in Language-learning.* Retrieved from https://www.slideshare.net/hamizahosman1/j-clegg-metacognitionanovwerviewofitsusesinlanguagelearning

11. Dewey J. (1966). *Democracy and Education: An Introduction to the Philosophy of Education.* New York: The Free Press; London: Collier Macmillan.

12. European Commission. (2012*). Europeans and Their Languages. Special Eurobarometer 386. Report.* Retrieved from http://ec.europa.eu/commfrontoffice/publicopinion/archives/ebs/ebs_386_en.pdf

13. *European Language Portfolio for Adults*. (2006). Rīga: Public Service Language Centre. Retrieved from https://valoda.lv/wp-content/uploads/docs/Projekti/LV_mat_evp_pieaug.pdf

14. Flower E. (2014). *Fractals in Forex Trading*. Retrieved from http://www.onestepremoved.com/fractals-forex-trading/

15. Forbes S.H. (2003). *Holistic Education: An Analysis of its Ideas and Nature.* Brandon, VT.: Foundation for Educational Renewal.

16. Garrison D.R., Kanuka H. (2004). Blended Learning: Uncovering its Transformative Potential in Higher Education. *Internet and Higher Education, 7*(2), 95-105. doi: 10.1016/j.iheduc.2004.02.001

17. Holec H. (1981). *Autonomy and Foreign Language Learning.* Oxford: Pergamon Press.

18. Jacobs G.M., Power M.A., Inn L.W. (2002). *The Teacher's Sourcebook for Cooperative Learning: Practical Techniques, Basic Principles, and Frequently Asked Questions.* Thousand Oaks, California: Corwin Press, Inc.

19. Jonāne L. (2009). *Kontekstuālās pieejas īstenošana dabaszinību kompetences pilnveidei vispārējā vidējā izglītībā: promocijas darba kopsavilkums* [Implementing of Contextual Approach for Improving of Competence in Sciences in Comprehensive Secondary Schools]. Daugavpils: Daugavpils Universitātes Akadēmiskais apgāds „Saule". (in Latvian)

20. Knowles M.S. (1970). *Modern Practice of Adult Education: Andragogy Versus Pedagogy.* Chicago: Association Press.

21. Knowles M.S. (1975). *Self-directed Learning: A Guide for Learners and Teachers*. Chicago: Association Press.

22. Lieģeniece D. (1999). *Kopveseluma pieeja audzināšanā* [Holistic Approach to Upbringing]. Rīga: RaKa. (in Latvian)

23. Martin R.A. (2003). *Teachers as Learners: Case Study of an Action Research Program within Holistic Education* (Doctoral dissertation, Iowa State University, Ames, Iowa, US) Retrieved from https://lib.dr.iastate.edu/cgi/viewcontent.cgi?article=1603&context=rtd

24. O'Leary C. (2018). Postmodernism as a Theoretical Framework for Learner Autonomy Research. *SiSAL Journal, 9*(3), 342-370. Retrieved from https://sisaljournal.org/archives/sep18/oleary/

25. O'Malley J.M., Chamot A.U. (1990). *Learning Strategies in Second Language Acquisition.* Cambridge, U.K.: Cambridge University Press.

26. Oxford R.L. (1990). *Language Learning Strategies: What every Teacher should Know.* New York: Newbury House. Retrieved from https://escholarship.org/content/qt1446j36q/qt1446j36q.pdf

27. Oxford R.L. (2003*). Language Learning Styles and Strategies: An Overview. Learning Styles and Strategies.* /Oxford: GALA. Retrieved from http://web.ntpu.edu.tw/~language/workshop/read2.pdf

28. Rogers C. (1967). The Facilitation of Significant Learning. In L. Siegel (Ed.), *Some Contemporary Viewpoint of Instruction.* San Francisco: Chandler Publishing Co.

29. Rousseau J.J. (1979). *Emile, or On Education*, introduction, translation and notes by Allan Bloom. New York: Basic Books.

30. Rubene Z. (2003). Jauniešu kritiskās domāšanas izpēte studiju procesā universitātē [Research of critical thinking of young people in the study process at university]. (Doctoral Thesis, University of Latvia). Retrieved from https://dspace.lu.lv/dspace/handle/7/540 (in Latvian)

31. Straub J., Zielke B., Werbik H. (2005). Autonomy, Narrative Identity, and their Critics: A Reply to Some Provocations of Postmodern Accounts in Psychology. In W. Greve, K. Rothermund, D. Wentura (Eds.), *The Adaptive Self: Personal Continuity and Intentional Self-development.* Cambridge, MA: Hogrefer & Huber, 323-350.

32. United Nations. (2015). *Transforming our World: the 2030 Agenda for Sustainable Development.* A/RES/70/1. Retrieved from https://www.unfpa.org/resources/transforming-our-world-2030-agenda-sustainable-development

33. Žogla I. (2017). Pedagogy and Educational Sciences: Competing Traditions in the Study of Education in Latvia. In G. Whitty, J. Furlong (Eds.). *Knowledge and the Study of Education: an International Exploration.* Oxford: Symposium Books. / *Oxford Studies in Comparative Education, 27*(1), 101-122.

Students' Opinion on the Quality Assurance of a Study Process: Case Study at Daugavpils University, Latvia

Jeļena Davidova[1] Dr.paed.; **Irēna Kokina**[2] Dr.psych.
Daugavpils University, Latvia
jelena.davidova@du.lv[1]; irena.kokina@du.lv[2]

Abstract: It is obvious that in recent years the system of higher education quality assurance has undergone several essential changes: a greater emphasis is being laid on the qualification framework, on student-centred learning and study results; also there is a change in the attitude from quality assurance towards the development of the teaching staff. One of the characteristics of higher education is the extent the higher education is based on active students' participation in the assessment of the study process. The aim of the study is to explore students' opinions about the process of study quality assurance at the Daugavpils University (further – DU), Latvia. The participants of this study were 60 students from 12 master and doctoral study programs at DU. The analysis of structured interviews with the students made it possible to identify the typical characteristic features of DU internal quality assessment. The research showed that students assess highly lecturers' personal qualities (attitude to their profession, personal interest in students' success, empathy, striving for cooperation) and their professional qualities (knowledge of the subject, didactic and communicative competence, and ability to get the feedback from students as well). To promote the cooperation between the students and the academic staff of DU, it is useful to practice trans-disciplinary out-of-study forms. Summer schools for students studying in master and doctoral programs encourage students to think about the future of civilization, about a sustainable and unsustainable behaviour on a local and global scale, goals of a sustainable development and awareness about them, and also about the role of a qualitative education content and study environment for achieving these goals. The use of international summer schools, academic discussions and creative work-shops contribute to a deeper understanding of the study content, of topicalities in global education and possibilities of synergetic thinking in cooperation between students and lecturers.

Keywords: study process quality assurance, out-of-study forms in a higher education institution.

Introduction

A further quality assurance (further – QA) of a higher education institution (further – HEI) relates to the compliance of aims, content, practice and results of education with the future of new generations at solving the problems of the new millennium. The increase in the HEI added value greatly depends on the improvement of the internal processes, while the creation of value is mainly based on the adequacy of aims and satisfaction of people who are concerned with the growth of education services (Davidova, Kokina, 2018, 2019).

Quality management is a decisive factor in a sustainable development of HEI. The goal of the Bologna Process is to develop the area of Europe's higher education and make European higher education competitive, transparent and multiform by assuring a qualitative higher education which will create conditions for a sustainable social-economic development (The Bologna Declaration, 1999). In order to develop quality assurance in European higher education area following the Bologna Declaration in 2000 the European Association for Quality Assurance in Higher Education (ENQA, 2019) was created as a European network for quality assurance in higher education.

The main principles of European standards and guidelines for higher education are:
- good quality of higher education where the interests of students, employers and society are taken into consideration;
- institutional autonomy;
- proper external quality assurance for the goals of the institution (Standards and Guidelines…, 2015).

According to the ESG revised version adopted on May 15 – 16, 2015, at the Summit of European Ministers in Erevan (Standards and Guidelines…, 2015), many aspects of quality assurance are being

dealt with, for instance, such as a quality of academic standards, adequacy of assessment, involvement of those concerned into the management and the reliability of internal practice. This document stresses the fact that higher education institutions must have QA policy oriented towards:

- development of QA system;
- responsibility of structural units and HEI management, staff and students for QA;
- academic honesty and freedom;
- intolerance to academic deceit;
- struggle against lack of tolerance and discrimination of students and the staff;
- involvement of external interested parties in QA.

In 2016, at the 25th conference "Management and Qualitative Education" the ministers of education from ES member states came to an agreement that education quality is closely related to four interrelated aims:

- training for a sustainable employment;
- getting ready for life as active citizens in a democratic society;
- personal development;
- to develop and maintain a comprehensive, progressive knowledge base via teaching, learning and studying (Council of Europe, 2016).

The external and internal environment of HEI-s constantly changes. Over the time, the role of students, as those concerned internally, has been different. In between 1970 and 1990, students could be seen more frequently as members of academic community in the leading structures of HEI (Student Göteborg Convention, 2001). HEIs compete to attract and maintain a highly qualified academic environment (Baruch, 2006). The young generation (called Gen Y) is highly skilled people that place high value on career development and would like to work for organizations that will provide them with career development opportunities (Mayer, 2006; KASASA, 2019). The environment around us has an impact on students' consciousness and sub-consciousness. The quality of a study process determines the way of their thinking, habits and personality on the whole.

A comprehensive QA system ought to verify the diverse quality concepts by making use of three interrelated areas:

- quality of available human and material resources;
- quality of management and a study process;
- quality of outcomes (Frazer, 1994; Westerheijden, Kohoutek, 2013; IQM-HE, 2016; Ganseuer, Pistor, 2017; Martin, Parikh, 2017).

In HEI, the academic factors identify an important aspect of education quality. A. Lizzio with colleagues (Lizzio, Wilson, Simons, 2010) have established that the understanding about the HEI study environment enhances the academic outcome, while the previous academic achievements do not influence it.

The majority of studies on the system of quality management in industry and education underline factors that promote the development of this system, for example, such as obligations of a higher-level management, involvement of employees and a continuous development (Curry, Kadasah, 2002; Montes, Jover, Fernández, 2003). Research on the quality management in higher education emphasizes the especial importance of QA effectiveness (Welsh, Dey, 2002; Wiklund et al., 2003; Logermann, 2014; Tomsikova, Slavik, 2014; Roskosa, Stukalina, 2018; Nemejc, Smekalova, Kriz, 2019).

Recent five years testify to essential changes in the QA system of HEI:

- a greater emphasis is put on a qualification framework, student-centred studies and learning outcomes;
- change in the attitude from quality assurance towards the development of a teaching staff;
- greater attention is given to the regulations on the financing for studies and educational activities, adequate and easily accessible study resources and the support for students.

At the same time, these tendencies focus on the quality of students' services, but quality in its turn unavoidably requires students' involvement on an institutional, national and European level. Students, as an important internal HEI group of those concerned, are active partners with a shared responsibility for their own learning and achievements. Actually, one of the characteristics of higher education is the

extent to which it is based on students' active participation in the assessment of a study process and on students' sense of belonging to the higher education institution. The degree of their satisfaction is an essential indicator of HEI reputation.

A good HEI has to be aware of students' expectations (prospective development aims) in order to work out plans for its QA policy and strategic development, as well as to create a reasonable and humane system of education management. Despite the fact that students' involvement into processes of internal quality assurance of HEI is an essential factor for achieving the Bologna goals as to the quality, the studies on the issue of students' integration into the procedures of internal quality assurance are very few and fragmentary (Kohoutek, Land, Owen, 2013). Besides, little is known about students' actual situation or influence on processes of internal quality assurance to achieve a high study quality level. To assess the current situation concerning the procedures of internal quality according to the Bologna Declaration (The Bologna Declaration, 1999), this research is oriented towards studying students' position on the process of study quality assurance at Daugavpils University.

The aim of the study is to explore the DU students' opinions about the process of study quality assurance at Daugavpils University.

Methodology

Studies based on a qualitative methodology allow us to more objectively identify the QA similarities, differences and ideas about the quality of a study process and students' satisfaction with its course. The research process for this case study involved the use of structured interviews aimed at collecting data about students' position in the context of quality assurance of a study process at Daugavpils University. The data obtained during interviews of this qualitative research were analysed according to the R. Tesch (1990) principles.

A total of 60 informants (students from 12 master and doctoral study programs at DU) participated in the interviews individually. Each interview was non-structured and about 30 to 40 min long. The interview data were collected, transcribed and analysed according to regular qualitative coding principles (Dey, 1993). Responses from each participant were analysed in detail and in isolation from those of other participants; there were several approaches to the analysis of these responses and the key words were identified.

The key words were classified into broader categories that might be refined and challenged until the key words classified reasonably. The major open-ended questions in the interviews were about study process quality: competences and personal qualities of academic staff, study program's content, evaluation requirements, as well as about students' participation in study quality assessment. A qualitative data analysis was achieved by identifying topics in the frames of research object in the collected research data, which were synthesized and generalized.

Results and Discussion

The analysis of interviews with the students enabled us to identify the typical characteristic features of DU study quality assessment which are shown in Table 1.

On the whole, students assess competences of DU lecturers in their respective areas and their favourable attitude to students as high. However, to students' mind, there could be more practical classes in some subjects. As regards the requirements for assessing learning outcomes, students are satisfied with the fact that the assessment requirements and criteria are clear to them and lecturers are objective when assessing their knowledge, skills and competences.

When students evaluate their cooperation with lecturers, they greatly appreciate academic staff's readiness to motivate, help and support students: this encourages them to develop themselves. In regard to students' possibility to influence a study process as well as content quality all the informants are positive: lecturers are obliging and work with students outside their class-time, if the students need it; in case any problems arise, they are resolved in cooperation with a program director.

Students state that they are active participants in assessing the study process and take part in surveys, work in study program councils and on faculty Boards or openly and constructively communicate with the academic and administrative staff in this context.

Table 1

DU students' opinion about the characteristic features of quality assessment (N=60)

Study quality parameters	Examples of students' statements
Lecturers' competences in the respective area	- *Study course content complies with the requirements […] and the program title…;* - *Lecture materials are very well-considered […] and structured;* - *Lecturers at DU are very professional.*
Assessment of the study results to be acquired	- *We are always informed about assessment requirements;* - *Assessment requirements are clear, […] and on a high level;* - *Assessment requirements are explained at the beginning of a study course;* - *Lecturers give objective assessment of study results…;* - *…study results are assessed according to specific criteria […] which are explained by the lectures at the beginning of the semester.*
Cooperation with lecturers	- *Regular cooperation…on both lecturer's and my own initiative…;* - *Lecturers' attitude is always motivating, supporting and patient;* - *…in case of need, a lecturer gives assistance and support all the time…;* - *Cooperation is regular, on the initiative of both parties;* - *…a cooperation-oriented […] study process encourages and motivates to perfect oneself […] as well as support the other students and help them in case of need.*
Students' possibility to influence the quality of study process and content	- *If we wish, we can approach the lecturer about an in-depth acquisition or research of a theme […], lecturers are obliging and highly qualified in their respective fields;* - *Lecturers take interest in what is urgent for us at this moment, […] and are ready to organize additional classes for an in-depth study of the material;* - *We inform lecturers or a study program director about various problems arising at acquiring one or another study course […], as well as about our satisfaction with it. […] the academic staff always tries to help us to resolve the problem;* - *There is constantly a good dialogue with lecturers….*
Students' participation in study process assessment	- *We regularly fill in questionnaires containing questions about different aspects of a study process;* - *Students are involved in study program councils and can make their proposals concerning the improvement of a study process…;* - *…we actively communicate with lecturers and a program director about various issues of a study process.*

This research showed that lecturers' personal qualities (attitude to their profession, taking interest in students' achievements, empathy, striving for cooperation) as well as their professional qualities (knowledge of the subject, didactic and communicative competence, and also the ability to get feedback from students) are very important for students. In this aspect, the data obtained in our research are closely analogous to the results of the research done by S. Arnon and N. Reichel, who established that such lecturers' qualities as general knowledge, orientation to a specific social mission are considered by students as less important (Arnon, Reichel, 2007).

What concerns the diversity of out-of-study forms, we can say that for several years already DU has been practicing summer schools for students in master and doctoral programs. This study process form encourages students to think about the future of civilization, sustainable and unsustainable behaviour on a global and local scale, about aims of a sustainable development and awareness about them, as well as about the role of a qualitative education content and study environment for achieving these aims.

During group discussions, the summer school participants managed to identify the possible ways for their cooperation, some complex education problems and opportunities for engaging in deeper studies of these problems (for example, challenges in higher education, higher education quality, innovations,

research paradigms, inter-disciplines, and other themes). Students also take part in creative work-shops and academic discussions.

As to the questions on the influence of summer schools, students emphasize the valuable experience gained by their participation in the discussions organized by summer schools (see Table 2).

Table 2

DU students' opinion about the influence of summer schools in the context of assuring study quality (N=60)

Parameters of summer school influence	Examples of students' statements
Improvement of knowledge and competences	- *...help to more thoroughly understand the role of education both on a global and local scale;* - *...help to have a better grasp of sustainable and unsustainable activities...;* - *...contribute to producing new ideas....*
Opportunities for cooperation and self-development	- *Two heads are better than one;* - *Live and learn, feel inspired and cooperate!* - *Cooperation leads towards the goal set!* - *The skill of cooperating productively is one of the basic elements of sustainability!* - *...promote the development of skills of how to cooperate productively and be synergetic;* - *...ensure cooperation between lecturers and students based on the principles of freedom and partnership;* - *...promote setting specific aims for developing oneself professionally;* - *...help to reflexively assess experience gained previously and outline broader opportunities for the development in future.*

At summarizing the opinions expressed by the majority of students about the usefulness of summer schools, the key words used in the statements of summer school participants are as follows: sense of strength in the community, process of creation, very good feelings, a lot of new ideas, exchange of contacts and experience, diversity in generating ideas, positive mutual dependence, and energy for the whole year. Students especially appreciate the opportunities for cooperation and self-development provided by summer schools.

Conclusions

- Study process quality is one of the factors for the effectiveness of HEI internal quality assurance. A regular study process assessment helps to maintain the internal quality of HEI as well as to better understand changes and possible tendencies of the current period, responding in case of need to the established changes in due time. Students' involvement in the processes of HEI internal quality assurance guarantees an adequate coordination between HEI management processes and perspective needs of society. The research data show that the personal qualities and professional qualification of the teaching staff are one of the most important factors that influence the perception of education quality.

- A higher education institution has to provide students with better conditions for studies, with adequate activities for acquiring the study content, as well as to promote the environment for self-development. To encourage the cooperation between DU academic staff and students, it is advisable to practice trans-disciplinary out-of-study forms (for example, international summer schools, academic discussions, and creative work shops). Work in summer schools a) helps to deeper understand the study content, global topicalities in higher education and also provide opportunities for synergetic thinking in cooperation between lecturers and students; b) gives creative impulses for the nearest perspective; c) creates a platform for generating new ideas; d) provides an opportunity for identifying oneself as a researcher in the area of interdisciplinary and trans-disciplinary problem studies.

Bibliography

1. Arnon S., Reichel N. (2007). Who is the Ideal Teacher? Am I? Similarity and Difference in Perception of Students of Education Regarding the Qualities of a Good Teacher and of Their Own Qualities as Teachers. *Teachers and Teaching: Theory and practice, 13*(5), 441-464. doi: 10.1080/13540600701561653

2. Baruch Y. (2006). Career Development in Organizations and Beyond: Balancing Traditional and Contemporary Viewpoints. *Human Resource Management Review, 16*(2), 125-138. doi: 10.1016/j.hrmr.2006.03.002

3. *Council of Europe*. (2016). 25th Session of the Council of Europe Standing Conference of Ministers of Education. Retrieved from http://www.coe.int/t/dg4/education/standingconf/Default_en.asp

4. Curry A., Kadasah N. (2002). Focusing on Key Elements of TQM: Evaluation for Sustainability. *The TQM Magazine, 14*(4), 207-216. doi: 10.1108/09544780210429816

5. Davidova J., Kokina I. (2018). Paradigms, Approaches and Principals of Knowledge Management. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *11*. Jelgava: Latvia University of Life Sciences and Technologies, 58-65. doi: 10.22616/REEP.2018.006

6. Davidova J., Kokina I. (2019). Study Environment in the Context of HEI Study Quality Assurance: Case study at Daugavpils University (Latvia). In J. Domenech, P. Merello, E. de la Poza, D. Blazquez, R. Peña-Ortiz (Eds.), Proceedings of the 5th International Conference on *Higher Education Advanced (HEAD'19)*. Valencia: Universitat Politècnica de València, València, 1305-1312. doi: 10.4995/HEAd19.2019.9047

7. Dey I. (1993). *Qualitative Data Analysis: A User-friendly Guide for Social Scientists.* London: Routledge. Retrieved from http://fsnnetwork.org/sites/default/files/qualitative_data_analysis.pdf

8. ENQA. (2019). European Association for Quality Assurance in Higher Education. Retrieved from https://enqa.eu/index.php/about-enqa/

9. Frazer M. (1994). Quality in Higher Education: An International Perspectives. In D. Green (Ed.), *What is Quality Higher Education*. UK: SRHE and Open University Press, 101-111. Retrieved from https://files.eric.ed.gov/fulltext/ED415723.pdf

10. Ganseuer Chr., Pistor P. (2017). *From Tools to an Internal Quality Assurance System University of Duisburg-Essen, Germany.* Paris: International Institute for Educational Planning. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000249502

11. *IQM-HE*. (2016). *Internal Quality Management in Competence-Based Higher Education.* Retrieved from https://iqmhe.wordpress.com/

12. KASASA. (2019). *Boomers, Gen X, Gen Y, and Gen Z Explained*. Retrieved from https://www.kasasa.com/articles/generations/gen-x-gen-y-gen-z

13. Kohoutek J., Land R., Owen C. (2013). *Identifying Barriers in Promoting the European Standards and Guidelines for Quality Assurance at Institutional Level (IBAR)*: Final synthesis report IBAR Project. Retrieved from https://www.academia.edu/30102971/Identifying_barriers_in_promoting_the_European_Standards_and_Guidelines_for_Quality_Assurance_at_institutional_level_IBAR_

14. Lizzio A., Wilson K., Simons R. (2010). University Students' Perceptions of the Learning Environment and Academic Outcomes: Implications for Theory and Practice. *Studies in Higher Education, 27*(1), 27-52. doi: 10.1080/03075070120099359

15. Logermann F. (2014). *Students as Stakeholders in the Policy Context of the European Standards and Guidelines for Quality Assurance in Higher Education Institutions: A comparative case study of a Dutch and German higher education institution. (*Master Thesis. Universiteit Twente). Retrieved from https://essay.utwente.nl/65543/

16. Martin M., Parikh S. (2017). *Quality Management in Higher Education: Developments and Drivers: Results from an International Survey.* Paris: International Institute for Educational Planning. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000260226

17. Mayer J.D. (2006). *Personality: A Systems Approach.* New York: Pearson.

18. Montes J.L., Jover A.V., Fernández M.M. (2003). Factors Affecting the Relationship between Total Quality Management and Organizational Performance. *International Journal of Quality & Reliability Management, 20*(2), 189-209. doi: 10.1108/02656710310456617

19. Nemejc K., Smekalova l., Kriz E. (2019). A Reflection of the Quality of Education in the Use of Teaching Aids and the Importance of Lifelong Learning. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality* (REEP), *12*. Jelgava: Latvia University of Life Sciences and Technologies, 94-103. doi: 10.22616/REEP.2019.012

20. Roskosa A., Stukalina Y. (2018). Management of a Study Programme in the Context of Quality Assurance in Higher Education. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 11*. Jelgava: Latvia University of Life Sciences and Technologies, 118-127. doi: 10.22616/REEP.2018.014

21. *Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG).* (2015). Brussels, Belgium: EURASHE Retrieved from https://enqa.eu/wp-content/uploads/2015/11/ESG_2015.pdf

22. *Student Göteborg Convention.* (2001). European Students' Information Bureau. Gothenburg. Retrieved from http://www.ehea.info/cid102734/student-goteborg-convention-march-2001.html

23. Tesch R. (1990). *Qualitative Research: Analysis Types and Software Tools.* New York: Falmer.

24. *The Bologna Declaration.* (1999). Joint Declaration of the European Ministers of Education. Retrieved from https://www.eurashe.eu/library/modernising-phe/Bologna_1999_Bologna-Declaration.pdf

25. Tomsikova K., Slavik M. (2014). Evaluation of University Education and Its Indicators. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP),* 7. Jelgava: Latvia University of Life Sciences and Technologies, 131-138. Retrieved from https://llufb.llu.lv/conference/REEP/2014/Latvia-Univ-Agricult-REEP-2014proceedings-131-138.pdf

26. Welsh J., Dey S. (2002). Quality Measurement and Quality Assurance in Higher Education. *Quality Assurance in Education, 10*(1), 17-25. doi: 10.1108/09684880210416076

27. Westerheijden D.F., Kohoutek J. (2013). Analysing the implementation of the European Standards and Guidelines for Quality Assurance at institutional level: Outcomes of the IBAR project. In D. Derricott, H. Kekäläinen, M. Kelo, R.S. Kristensen, T. Loukkola, B. Michalk, F.G. Palomares, N. Ryan, B. Stensaker (Eds.), Working Together to Take Quality Forward. *European Quality Assurance Forum, 8.* Sweden: University of Gothenburg, 6-12. Retrieved from https://enqa.eu/indirme/papers-and-reports/occasional-papers/EUA_EQAF_Publication_web-1.pdf

28. Wiklund H., Klefsjo B., Wiklund P.S., Edvardsson B. (2003). Innovation and TQM in Swedish Higher Education Institutions − Possibilities and Pitfalls. *The TQM Magazine, 15*(2), 99-107. doi: 10.1108/09544780310461116

Music Education Innovations as a Condition for Development of Non-formal Education: Learning in a Group

Giedrė Gabnytė PhD
Lithuanian Academy of Music and Theatre, Lithuania
ggabnyte@yahoo.com

Abstract: The article presents the expression of music school teachers' attitude towards education innovations specifically focusing on one of them, i.e. on learning to play an instrument in a group. The author of the article attributes this kind of music education to innovations because individual learning to play an instrument is most common in teaching practice. Today the need of innovation in music education is proved by changing educational goals: education should create the environment, which would imitate real life situations, whereas learning should provide skills that are necessary in everyday life. Such essential skills mean the ability to communicate and collaborate. The aim of the research presented in this article is to identify the attitude towards music education innovations expressed by teachers from music schools, as one of conditions for development of non-formal children education, paying specific attention to peculiarities of learning an instrument in a group. In the first stage of the research, the questionnaire survey aimed to find out the attitude of music school teachers towards the innovation of music education as one of the conditions for the development of non-formal children's education. It was found that most teachers of music schools in Lithuania do not approve of instrument learning in a group, claiming that learning to play an instrument is only possible through individual teacher − student work. The second stage of the research, using focus interviews, aimed to reveal the peculiarities of learning the instrument in a group, using the views of the teachers applying this innovation in their work. According to the teachers, learning in a group focuses on the process rather than the result: learning in a group students not only play but also listen to music, they get to know music theory, communicate and collaborate. Making music in a group differs from the individual learning in more difficult lesson management, a variety of activities and the need for different teacher's competencies. The research revealed that the ability to apply the approach of individual learning in parallel with group learning in education is likely give more diversity in music learning, making it more engaging and inclusive.

Keywords: learning an instrument in a group, music school, music education innovations.

Introduction

The main goal of non-formal children education is to satisfy learners' cognitive, learning and self-expression needs and to enable them to become proactive members of their society. Therefore, it is obvious that with increasing requirements for study subjects in formal education, non-formal education provides an equal counterpoint, which facilitates school learners' becoming a self-creating personality (Perulli, 2009; Romi, Schmida, 2009; Rogers, 2005; Thoidis, Pnevmatikos, 2014; Kaufmann, 2015). Non-formal children education in Lithuania has undergone various stages of development, shifts in models, transformations of names and today is regulated by a number of documents (*Lietuvos Respublikos švietimo…*, 2011; Valstybinės švietimo…, 2015; Vaikų ir jaunimo…, 2010; Neformaliojo vaikų švietimo…, 2012) that underline the significance of personal, educational, social and professional competences acquired in non-formal education, emphasise non-formal education as an opportunity to obtain tolerance skills, abilities to cope with problems, to gain an in-depth understanding of experience and traditions of own nation as well as to adopt them. The focus of this article is on music education in Lithuanian music schools, which is assigned to the structure of non-formal education and supplements formal education. Under considerable changes in the country's political and socio-cultural conditions, the question arises: to what extent does the "product" of 1940s – present music school and curriculum implemented in it – really comply with the new goals of education and training shaped by transformations in paradigms? According to the researchers focusing on education in music schools, education in the afore-said schools has not changed for many years: it is absolutely departed from the process of creation and the objectives of learner's esthetical development (Antilla, Lehtonen, 2007; Gabnytė, 2011; Kriščiūnaitė, Strakšienė, 2016; *Laes*, *Schmidt*, 2016; *Björk,* 2016; Gabnytė, 2019). A considerable drop-

off rate among learners has become a common phenomenon in the process of education, which also shows that education is unattractive and does not reflect the needs of a present-day learner.

Nowadays learning an instrument in music schools is based on the tradition of individual teaching (Luff, Lebler, 2013), in terms of both education organisation (teaching is individual) and objectives of education (development of individuality). However, the current era has been gradually imposing new conditions on daily pedagogical activities. Educational recommendations emphasise the necessity for education to create the environment, which imitates real life situations, whereas learning should provide skills that are necessary in everyday life. Abilities to communicate, to collaborate and work in a team have been prioritised these days. According to L. Šiaučiukėnienė (Šiaučiukėnienė, Stankevičienė, Čiužas, 2011), working in a group learners acquire better social skills, live through more intensive feelings of self-respect and responsibility, develop empathy, which allows them to better learn not only the self but also another person. It is not excluded that all these skills can be obtained through playing music. According to D.W. Luce (2001) and S. Hallam (2010), learning music in a group contributes to development of teamwork, communication and collaboration skills as well as those of pursuing a common goal. Learning to play an instrument in a group, a school child acquires a wide range of abilities and competences, which are not always developed during individual lessons: in a group a child learns to critically evaluate a peer playing music together, encounters a higher probability of experiencing joy of performing music. Moreover, music itself and its performing are perceived not only as a study subject but rather as part of social context (Swanwick, Swanwick, 1994; Daniel, 2004). According to D.A. *Berezhnoi*, learning to play an instrument in a group can be considered an innovation so far and further research and practice will show if such learning "takes roots" and becomes traditional (*Berezhnoi, 2*011). Some authors emphasise the significance of harmonising individual teaching and learning in a group: during individual classes a student is able to improve playing skills, whereas learning in a group enhances interpretation skills (*Berezhnoi, 2*011). It is interesting that most frequently researchers discuss if it is possible to learn playing the piano, i.e., the instrument, which is undoubtedly considered an exclusively solo instrument by its "nature", in a group (Bastien, 1999; Fairchild, 1996; Rowe, 1999).

The aim of the research presented in this article is to identify the attitude towards music education innovations expressed by teachers from music schools, as one of conditions for development of non-formal children education, paying specific attention to peculiarities of learning an instrument in a group.

Methodology

Seeking to identify the attitude of music school teachers in Lithuania towards music education innovations, the empiric research was conducted in two stages. The questionnaire survey was carried out during the first stage, which targeted at teachers of piano, string, folk music, guitar, brass-wind and percussion instruments from Vilnius and other Lithuanian towns and settlements. The sample of the questionnaire survey consisted of 367 respondents: 74.4 % women and 25.6 % men. There were 30.2 % of the respondents with a working experience of 21-30 years, 41.8 % of the respondents were holders of senior teacher's qualification, 34.3 % of teachers methodologists, 18.5 % of teachers and 5.4 % of teachers experts. The piano teachers made up the biggest proportion of the respondents, whereas the number of bassoon teachers was the lowest. The second stage of the research was based on the *focus* group interview with teachers. The interviewees were selected following the principle of homogeneous sampling (the sampling includes similar or one-type cases from the same social layer, sharing common interests, experience, sociodemographic characteristics (Patton, 1990) and they included music teachers (1 piano teacher, 1 percussion teacher, 2 violin teachers and 2 guitar teachers) from 6 music schools in Vilnius, who apply one of music education innovations, i.e. learning an instrument in a group, in their teaching practice. The main research question was: what are the peculiarities of learning an instrument in a group, analyzing it by the aspects of lesson organization, the variety of activities, effect on learners' abilities, advantages and disadvantages. The research data were collected applying **the methods of scholarly literature analysis, questionnaire survey and interview**. A questionnaire was designed to identify the attitude of teachers from music schools towards learning an instrument in a group, which was based on Likert scaling methodology. The reliability of the diagnostic scales was measured calculating the value of *Cronbach* α coefficient (acceptable coefficient variation range $0.5 \leq \alpha < 1$, values approaching the unit indicate high internal consistency of the test). Sorting the data variables were excluded if their significant loadings were less than 0,3 (L < 0.3). (The results of *Cronbach* α coefficient was: *Differentiated education: Cronbach* α – 0.72, L - 0.65/0.81 Need for experimentation:

Cronbach α - 0,7, L-0,69/0,88). The data were processed applying statistical data analysis (SPSS 16.0 for Windows*). Chi-square test* was used to evaluate the statistical significance of correlations of the respondents' demographic data, professional factors and teacher's attitudes. A semi-structured interview questionnaire was designed to conduct the research on peculiarities of group learning. The data acquired during the *focus* group interviews were processed applying strategies of contextualisation and categorisation assigned to qualitative data analysis methods (Maxwell, 1996).

The constructivist qualitative research approach, i.e. construction of categories on the basis of obtained research data, was used, when the elements of the received data were compared with each other and the titles generalising the data content were assigned to the categories (Charmaz, 2006).

Results and discussion

To identify the attitude of music school teachers towards music education innovations, seven diagnostic scales were used. They targeted at clarifying opinions of teachers about differentiated education, change in assessment system, need for experimentation in education, possibilities of learning several specialities (instruments) in parallel, adult music education, special education and learning an instrument in a group. As it can be seen from the data in Table 1, the biggest number of teachers do not approve of learning an instrument in a group.

Table 1

The teachers' attitude towards music education innovations. Percentage frequencies (N=367)

Innovations	Disagree		Partially agree		Agree	
	N	%	N	%	N	%
1. Differentiated education	28	7.6	129	35.1	210	57.2
2. Change in assessment system	188	51.2	143	39	36	9.8
3. Need for experimentation	59	16.1	166	45.2	142	38.7
4. Learning an instrument in a group	191	52	136	37.1	40	10.9
5. Adult music education	16	4.4	78	21.3	273	74.4
6. Special education	17	4.6	83	22.6	267	72.8
7.Possibility of learning several specialities at time	60	16.3	136	37.1	171	46.6

The significant factors that influence the expression of such an attitude of teachers were also distinguished. The results of Chi-square test revealed that a disapproval of applying learning an instrument in a group is possibly inspired by a negative attitude towards differentiated education and experimentation. It is likely that the stronger the disapproval of these innovative innovations, the stronger reluctance to include learning an instrument in a group into curriculum is identified (Table 2).

Table 2

The causal relationships of negative attitude towards learning in a group and factors influencing this attitude. The results of Chi-square tests (N=367)

Factors that influence the attitude	Value	df	Sig (p)
Differentiated education	27.984	4	0.000
Need for experimentation	25.951	4	0.000

NB. Value- chi-squared test**, df** - degrees of freedom, **Sig(p)** - statistical significance

The expression of such teachers' attitude is also influenced of some personal and professional factors (Table 3). A strong and statistically significant relationship was established between the aforesaid attitude and the subject taught: piano teachers seemed to be the most reluctant to introduce this innovation (p=0.017). In fact, to teach the piano in a group is, probably, the most challenge or even hardly possible (according to sceptics) task. However, the supporters of learning an instrument in a group state that the goal of such learning exceeds that of improvement of playing skills only. As it can be seen from experience in music education accumulated in foreign countries, while playing in a group learners are provided with conditions not only to acquire certain playing skills but also to experience playing in an ensemble and to learn communication. The results of questionnaire surveys revealed that pedagogical qualification teachers had influence on formation of such an opinion among them. The results revealed that teachers-experts had the most contradicting opinion regarding this innovation, hence, elder teachers

were most reluctant to learning an instrument in a group. It is logical to assume that older generation teachers are more loyal to education traditions, they tend to be guided by their pedagogical experience, they find it difficult to adapt to possible education challenges and practically implement innovative teaching. A statistically significant relationship was identified between the negative attitude towards learning in a group and the place of living: the teachers from Lithuanian cities were least willing to apply learning in a group (p=0.002). Such a result proves that learners' high artistic achievements that enable them to participate in prestigious country events, such as concerts, festivals and competitions, are most important to teachers from cities. Distinguished students and a high number of winners in competitions create the conditions for teachers to seek higher degree qualifications and faster professional recognition.

Table 3

The influence of personal and professional factors on the attitude towards learning an instrument in a group. The results of Chi-square tests (N=367)

Factors that influence the attitude	Value	df	Sig (p)
Study subject taught	18.546	8	0.017
Place of residence	28.147	10	0.002
Pedagogical qualification	18.088	6	0.006

The negative attitude of music teachers towards learning an instrument in a group encouraged a more detailed analysis of peculiarities typical of this innovation more. A *focus* group interview with teachers, who apply this way of teaching in their teaching practice, was conducted. The teachers were asked about specific features of a group lesson aimed to learn an instrument. What is characteristic of managing such lessons? What activities are possible during such lessons? What valuable things can be learnt during group lessons? The interview disclosed that teachers encounter serious challenges delivering group lessons. One of them includes in indetermination of criteria for selecting learners to the group and an optimal number of learners in it. The respondents stated that the groups are most frequently formed on the basis of learners' age, sometimes according to the year of studies or level of learning. In some cases, groups have to be reformed due to different achievements of learners, what causes stress to teachers as well as learners. According to the teachers, the lesson content is determined by the number of learners attending it, which can range from 2 to 8 children depending on the specifics of a music instrument. For example, the number of children in percussion or piano classes may depend on the instruments available in the classroom. Meanwhile, much more learners can attend violin or guitar classes at a time because these instruments have a more subtle sound and do not create any inconveniences because of excessive noise in the classroom. The teachers were also asked what determines the success of learning in a group. The respondents emphasised that there are many success factors related to school environment, variety of music instruments, individual character features and musical abilities. However, teachers distinguished a set of teacher's personal qualities and abilities, which partially predetermine the lesson content and learners' achievements as well as contributes to establishment of good emotional atmosphere (Table 4). The most emphasised teachers' qualities included creativity, charisma, abilities of lesson planning and leading a group. The received responses of teachers highlighted 3 main categories generalising responses related to teacher's personality.

The researcher also made attempts to identify the differences between learning an instrument in a group and individual learning in terms of the set goals and their implementation. According to the respondents, individual lessons mainly focus on development of music performance skills and perfection of repertory performing. Meanwhile, the purpose of group lessons is slightly different. The process rather than the result is the main focus here: endeavours are undertaken to enable a learner to experience a joy of creation, to enjoy playing in an ensemble, to develop his or her creative abilities and to live through positive experiences of self-expression. These goals of group learning also presuppose significantly more varied learners' activities during the lesson. According to the teachers in the research, listening to music, learning the theory of music and playing an instrument are used in group lessons and these activities can be performed in a number of ways: students learn to improvise, to accompany, to compose and to illustrate. All this is particularly rarely used during individual lessons.

Table 4

The factors of successful instrument lesson related to the teacher's personality (N=6)

Category	Subcategory	Illustrating statement
Teacher's personal qualities	creativity	"Working with a group, a teacher requires a creative attitude not only to a lesson but also to music education in general" (5*)
	sincerity	"Very soon children start feeling the extent to which their teacher is sincere with them" (3)
	charisma	"Every time you have to feel and act like on the stage, otherwise you'll experience defeat" (5)
Teacher's didactic abilities	striving for raising general level of group knowledge	"Individual achievements of each learner as well as achievements of the whole group are equally important to me" (1)
	differentiation of presented learning material	"Though it is not easy but I try to present an assignment according to the level of each child's perception and abilities" (2)
	lesson planning abilities	"It is impossible without improvisation but if you want to improvise, you have to plan everything very well in the beginning "(6)
Teacher's communicative skills	spontaneous response to an unexpected situation	"You have to react very fast because you may lose your authority"(2)
	flexibility of attitude	"I try to adapt and consider every learner's opinion"(1)
	ability to lead a group	"If a teacher succeeds in bringing a group members together, they will succeed in playing as well" (4)

*number of responses

The teachers were asked about what abilities and skills of learners are developed playing in a group and what advantages of this way of learning compared to individual teaching can be identified. The respondents provided a wide range of abilities, which were grouped into three categories. Table 5 shows that personal skills are best developed while learning an instrument in a group. Such social skills as learning to communicate and collaborate as well as development of musical skills are not left aside either.

Table 5

The influence of group learning on schoolchild's abilities (N=6)

Category	Subcategory	Illustrating statement
Personal skills	friendliness	"Life in a group of people is always vibrant. It would be impossible to adapt to other group members without friendliness" (4)
	patience	"We train our patience while playing in a group" (3)
	concentration of attention	"Concentration of attention in such a lesson is of utmost significance" (5)
	sense of responsibility	"I think that the sense of responsibility for the self and others is developed strongest" (2)
	motivation to learn	"Learning in a group motivates you, especially, when you hear a friend, who plays better"(5)
Social skills	communication	"It is more interesting to for schoolchildren in a group" (6)
	collaboration	"Collaboration occurs every minute during a lesson while playing in a group" (6)
	socialisation	"Ability to adapt to other people is of utmost importance. School students can learn this while playing in a group" (1)
Musical skills	ability to play in ensemble	"Playing in a group you learn to play as an ensemble" (2)
	ability to interpret	"We learn to interpret. This is easier to learn this in a group than playing solo"(2)
	ability to hear performing of others	"The success of learning in a group is rooted in hearing others and I always emphasise that to my learners" (2)

The negative expression of attitude towards learning an instrument in a group, which was identified during the research on the attitude of music school teachers towards music education innovations, encouraged an analysis of drawbacks of this way of teaching. Almost all the respondents pointed out that both teachers and learners feel certain inconveniences during such lessons. The teachers stated that lack of individual attention to every learner is the most difficult issue to deal with, which limits possibilities for addressing

technical problems of playing. In group learning the moment of verbal encouragement or personal praise is delayed but such attention is important to every learner. Seeking to provide individual attention, teachers sometimes start hovering on the verge of a dynamic or chaotic lesson. The teachers also mentioned that learning in a group frequently results in a competitive environment. A healthy competitive atmosphere encourages attainment of the set goals. However, it can also evoke anxiety and lower self-confidence among more sensitive learners or strengthen their concern about falling behind the best peers. According to the research participants, the aforesaid problems can be eliminated combining learning in a group with individual lessons. The respondents are sure that group learning to play an instrument cannot replace individual lessons in any case but it can become one of alternatives of innovative education.

Conclusions

- Changing times have led to shifting needs of learners, which in its turn should also result in transformations of educational conditions, i.e. teaching goals, applied methods and forms. Education that imitates real-life situations, facilitates development of skills applicable in daily life and still complies with targeted education and development of personality has become of utmost importance lately. Music education innovations in the context of non-formal children education constitute an important step towards more sustainable education that considers the learner's preferences and contributes to creation of general welfare and culture in the country.

- The attitude of music school teachers in Lithuania towards music education innovations is of multi-dimensional nature. On the one hand, a favourable attitude towards adult and special education, a positive opinion about differentiated education and experimentation declare the desire of teachers to adapt to the epochal challenges. However, an unfavourable approach to learning an instrument in a group still reveals stagnation and a certain distrust in innovations, a doubt in their benefit and development, and probably an inability to organise innovative learning in practice. The teachers' attitude towards innovations is a specific projection of perspective music education that describes how education is implemented "today" and how this will be done "tomorrow".

- Learning an instrument in a group is a relatively new and only fragmentary applied educational practice. According to the opinion of teachers from music schools, who have experience in working with a group, learning an instrument in a group has a lot of advantages compared to individual learning. Playing in a group of peers, a school student learns to communicate and cooperate, more frequently lives through positive emotions and experiences the joy of music performing without much effort. However, such learning cannot equal individual teaching, which aims at perfect and complete interpretation of music composition. According to the opinion of participants in the research, possibility of applying both ways of teaching in parallel is likely to provide the variety to learning an instrument in a group and would make such education interesting and attractive to learners.

Bibliography

1. Antilla M., Lehtonen K. (2007). Problems in Finnish Music School. *Problem in Music Pedagogy, 1*, 81-93. Retrieved from https://du.lv/wp-content/uploads/2015/12/Volume_1__2007.pdf
2. Bastien J.W. (1999). *How to Teach Piano Successfully* (3rd ed.). San Diego, California: Neil A. Kjos Music Company.
3. Berezhnoi D.A. *(*2011*).* Problema individualno grupovogo muzykalnogo obucheniya detei [The Problem of Individual and Group Music Education of Children]. In E.B. Abdulin (Eds.), the international scientific-practical conference *Pedagogy of Musical Education: Problems and Perspectives of Development*, *3.* Nizhnevartovsk: Nizhnevartovsk Humanitarian University, 212-216. (in Russian)
4. *Björk C.* (2016). *In Search of Good Relationships to Music Understanding Aspiration and Challenge in Developing Music School Teacher Practices*. Åbo: Åbo Akademi University Press. Retrieved from https://www.doria.fi/bitstream/handle/10024/122837/bjork_cecilia.pdf?sequence=2
5. Charmaz K. (2006). *Constructing Grounded Theory. A Practical Guide through Qualitative Analysis*. London: SAGE Publications. Retrived from http://www.sxf.uevora.pt/wp-content/uploads/2013/03/Charmaz_2006.pdf
6. Daniel R. (2004). Innovations in Piano Teaching: a Small-Group Model for the Tertiary Level. *Music Education Research, 6*(1), 23-43. doi: 10.1080/1461380032000182911

7. Fairchild J.A. (1996). Teacher's Guide to More Effective Group Piano Study. *Piano Guild Notes,* May/June, 4-6.

8. Gabnytė G. (2011). The Reasons and Premises of Changes Non-Formal Music Training System in Lithuania. Evaluation of Piano Teaching Programmes. In *Time of Challenges and opurtunities: problems, Solutions, and Perspective: International Scientific-Practical Conference of Young Scientists and Students.* Rezekne: SIA "ETRA", 260-267.

9. Gabnytė G. (2019). Features of Education in Lithuanian Music schools: Opinion of Students and Graduates. *Music Science Today: the Permanent and the Changeable, 3*(11). Daugavpils, Daugavpils University, 159-165.

10. Hallam S. (2010). The Power of Music: its Impact on the Intellectual, Social and Personal Development of Children and Young People. *International Journal of Music Education, 28*(3), 269-289. doi: 10.1177/0255761410370658

11. Kaufmann K. (2015). Non-Formal Education in International Comparison: Patterns of Participation and Investment in Selected European Countries. *International Journal for Research in Vocational Education and Training*, *2*(4), 239-267. doi: 10.13152/IJRVET.2.4.1

12. Kriščiūnaitė A., Strakšienė D. (2016). Tendencies of Future Music Teachers᾽ Attitude Towards the Assessment of the Students' Progress and Achievements Under the Conditions of the Change of Educational Paradigms. *Social Welfare: Interdisciplinary Approach*, *1*(6), 77-91. doi: 10.21277/sw.v1i6.242

13. *Laes T*., *Schmidt P.* (*2016*). *Activism within music education*: *Working towards inclusion* and *policy change* in the *Finnish music school context*. *British Journal* of *Music Education*, *33*(*1*), *5-23*. doi: 10.1017/S0265051715000224

14. *Lietuvos Respublikos švietimo įstatymas [Law on Education of the Republic of Lithuania].* (2011). Retrieved from https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.395105 (in Lithuanian)

15. Luce D.W. (2001). Collaborative Learning in Music Education: A Review of the Literature. *Update: Applications of Research in Music Education*, *19*(2), 20-25. doi: 10.1177/87551233010190020105

16. Luff P., Lebler D. (2013). Striking a Balance in Brass Pedagogy: Collaborative Learning Complementing One-to-One Tuition in the Conservatoire Curriculum. In H. Gaunt, H. Westerlund (Eds.), *Collaborative Learning in Higher Music Education*. Farnham: Ashgate, 173-178.

17. Maxwell J.A. (1996). Qualitative Research Design. An Interactive Approach. *Applied Social Research Methods Series,* Vol. 41. London: Sage.

18. *Neformaliojo vaikų švietimo koncepcija* [*Conception of Non-formal Children Education*]. (2012). Retrieved from https://www.smm.lt/uploads/documents/svietimas/neformalus%20ugdymas/KONCE PCIJA%202012%2003%2029%20isak%20Nr.%20V-554.pdf (in Lithuanian)

19. Patton M.Q. (1990). *Qualitative Evaluation and Research Methods* (2nd ed.). Newbury Park, London, New Delhi: Sage Publications.

20. Perulli E. (2009). Recognising non-formal and informal learning: An open challenge. *Quality of Higher Education, 6*, 94–115. Retrieved from https://www.vdu.lt/cris/handle/20.500.12259/728

21. Rogers A. (2005). *Non-Formal Education– Flexible Schooling or Participatory Education?* Springer US. doi: 10.1007/0-387-28693-4

22. Romi S., Schmida M. (2009). Non-Formal Education: a Major Educational Force in the Postmodern Era. *Cambridge Journal of Education*, *39*(2), 257-273. doi: 10.1080/03057640902904472

23. Rowe Ch. (1999). Class Piano Lessons After 30 Good Years. *Clavier, 38*, 6-7. Retrieved from https://openmusiclibrary.org/article/810427/

24. Swanwick P., Swanwick K. (1994). *Musical Knowledge: Intuition, analysis and music education*. London, New York: Routledge, Falmer. doi: 10.4324/9780203424575

25. Šiaučiukėnienė L., Stankevičienė N., Čiužas R. (2011). *Didaktikos teorija ir praktika* [Theory and Practice of Didactics]. Kaunas: KTU leidykla Technologija. (in Lithuanian)

26. Thoidis I., Pnevmatikos D. (2014). Non-Formal Education in Free Time: Leisure-Or Work-Orientated Activity? *International Journal of Lifelong Education, 33*(5), 657-673. doi: 10.1080/02601370.2014.918197

27. *Vaikų ir jaunimo socializacijos programa [Programme for Children and Youth Socialisation].* (2010). Retrieved from https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.383712?jfwid=-je7i1syyn (in Lithuanian)

28. *Valstybinės švietimo 2013–2022 metų strategijos įgyvendinimas* [*Programme of Implementation of Provision of the State Education Strategy for 2013–2022*]. (2015). Vilnius: Švietimo aprūpinimo centras Retrieved from https://www.smm.lt/uploads/lawacts/docs/687_990ea392c0adc4c25c657236b66583c4.pdf (in Lithuanian)

Entrepreneurial Competence Self-Evaluation of Prospective Engineers in Food Science within the Context of Competitiveness

Sandra Iriste[1] Dr.paed.; **Irena Katane**[2] Dr.paed.
Latvia University of Life Sciences and Technologies, Latvia[1,2]
sandra.iriste@gmail.com[1]; irena.katane@inbox.lv[2]

Abstract: Ecological perspective creates the necessity to change the pedagogical approach in the study environment within the authentic context. The role of a higher education institution is: 1) to prepare specialists capable of continuous learning, to acquire the necessary knowledge independently, taking into account the rapid pace of technological advancement; 2) to educate prospective engineers in food science, to successful, competitive professional activity in the changing conditions of the modern labour market and professional environment of the industry, incl. to promote the formation and further development of their various competences. Entrepreneurial competence plays an important role in the competitiveness structure of any specialist. The aim of the study is to experimentally approbate the developed methodology for the entrepreneurial competence self-evaluation of prospective engineers in food science within the context of competitiveness development promotion. The TOP10 of self-evaluation indicators of entrepreneurial competence shows that: 1) students' group of study programme Food Quality and Innovation would readily to manage the company, dealing with human resource management; 2) while the students' group of study programme Food Science would prefer to do business by creating and investing in new food companies. The TOP10 list of indicators of the both experimental groups' participants has 5 indicators that coincide in both groups, depending on the sums of self-evaluation. The self-evaluation methodology of the entrepreneurial competence developed by the authors is valid and can be applied not only for the evaluation of prospective engineers in food science competitiveness, but also for its promotion.

Keywords: entrepreneurial competence, university education, competitiveness, ecological approach.

Introduction

On 24-25 May 2018 during the EHEA Ministerial Conference in Paris there was Paris Communiqué (Paris Communiqué…, 2018) adopted, where the demand for the services of higher education institutions, the growth of their specialists' careers and professional self-determination, their ability to be lifelong demanded, competitive in the labour market, to realize themselves as personalities and professionals, to be able to cooperate have become the criteria of competitive education, as well as the indicators of the level of a country's socio-economic development on the whole.

Independent and continuous lifelong learning, reflection competence and experience are an important precondition for an individual's viability under the changing environmental conditions (under the social, economic, professional activity environment and other types of environmental conditions) (Sustainable development goals…, 2015). Therefore, in the 21st century there increases the topicality of the close connection between the concept of competitiveness and educational ecology, and the great significance of the developmental environment of competitiveness.

Ecological perspective creates the necessity to change the pedagogical approach in the study environment within *the authentic context* (Herrington, Oliver, 2000). The authentic study environment may be both physical and virtual; it should resemble the real world with all its opportunities, limits and complications (De Jong, 2015). Within the context of the promotion of the development of prospective engineers, the dual study environment of a higher education institution shall become the place for the new specialists' reflection and social activities, where there are discussions encouraged, people share with their amassed experienced and create new knowledge and experience, there is an on-going interaction between the study environment of a higher education institution and the environment of professional activities, where there are a number of changes in the professional activity of the modern engineer in food science, among which, in addition to production, entrepreneurship should be implemented. If the engineer is not doing business, he/she is just a tool (Fredholm et al., 2002). Thus, the role of a higher education institution is: 1) to prepare specialists capable of continuous learning, to acquire the necessary knowledge independently, taking into

account the rapid pace of technological advancement; 2) to educate prospective engineers in food science, to successful, competitive professional activity in the changing conditions of the modern labour market and professional environment of the industry, incl. to promote the formation and further development of their various competences. Initially, the prospective specialist must be able to participate, but later must be able to manage all stages of the planning, design and production of processes, systems, objects and projects, as one of the most important task of modern education is to prepare any specialty, also engineers in food science, for an independent entrepreneurship: starting and running own business.

The environment of professional activities of food science engineers has many aspects; each aspect enables the prospective specialist to discover his or her creative potential, to self-develop and self-organize. This environment is related to both entrepreneurship – business, political and legal issues, the advanced technologies in food industry – and social environment – human resources management and society as a whole, paying particular attention to the needs and interests of consumers of services and goods produced in food science. Thus, the development of the prospective engineer in food science takes place in the transformative study process of the higher education institution, where the student develops not only as a spiritual, ecologically-minded personality, but also as a competitive specialist who is able to make appropriate and responsible decisions in competitive conditions of constantly changing environment. The environment of higher education institution also implies prospective engineers' internships - the environment of professional activities in the companies, where students interact with this multi-component environment, learn not only the join, becoming an integral part of this environment, but with their creative and innovative activity create and modify it. The new paradigm of competitiveness states that a competitive specialist is able to reconcile his/her own interests, needs and goals with the interests, needs and goals of the company in which he/she works, and with interests, needs and objectives of society as a whole, promoting sustainable development.

Thus, the ecological approach is one of the conceptual approaches on which the promotion of a competitive specialist development within environment of a higher education institution is based.

The competitiveness structure of any specialist, also engineer in food science, consists of several components, where entrepreneurial competence plays an important role. Entrepreneurial competence is one of the main issues of the contemporary research, as indicated by several recent publications (Duval-Couetil, Shartrand, Reed, 2016; Strauti, Dumitrache, Taucean, 2018).

The aim of the study is to experimentally approbate the developed methodology for the entrepreneurial competence self-evaluation of prospective engineers in food science within the context of competitiveness development promotion.

Methodology

In the first quarter of 2019 (January - March), at the Latvia University of Life Sciences and Technologies, at the Faculty of Food Technology a study was carried out in which authors developed ***methodology for the entrepreneurial competence self-evaluation of prospective engineers in food science*** was approbated.

The ***theoretical basis*** of the empirical study carried out became the results of previous theoretical studies in the following directions: *competitiveness of prospective engineers (*Katane, Baltusite, Katans, 2017; Llopis, Guerrero, 2018); *ecological and constructivist approach in study environment* (Briede, Pēks, 2014; Capra, 1996; *Iriste, 2018;* Liao, Wu, 2010; *Young, 2016)*; *competence of environment of professional activity* (Delamare Le Deist, Winterton, 2005); *business environment in the substantiation of the entrepreneurial competence* (Boyatzis, 1982; Duval-Couetil, Shartrand, Reed, 2016; Komarkova et al., 2015; Liao, Wu, 2010; Liventsova, Rumyantseva, Syriamkina, 2016; Raven, 2001; Strauti, Dumitrache, Taucean, 2018; Verma, 2010).

Executive Director of International Organization VIF D. *Young* (*Young,* 2016) has highlighted the importance of the environment for the present and the future: to prospective engineers in food science could effectively participate in the changing, non-linear, unpredictable world of the 21st century, they should understand the regularities of this new world, i.e. they will have to sell their product/service to the world, materials, also customers will come from all over the world, they will have to work in international companies, compete and collaborate with people from other countries, they will have to

deal with global, complex, often unpredictable problems. The activity of prospective engineer in food science is influenced by the business environment in which the company operates. Knowing his/her environment of professional activities, the nature of the changes, responding skilfully to these changes, i.e., being able to adapt to them, failure can become a business success. Food production business environment is characterized by a continuous, rapid entry of new technologies, products and services into the market, it forces prospective specialists to constantly follow and try to understand which service/ product the consumer prefers and for which he/she is willing to pay for (Liao, Wu, 2010) because: 1) the development of information technology; 2) increase in international and local travel allow consumer to compare and strategically evaluate the relative costs and benefits of food products in the wider world, make the business environment even more transparent thus creating both opportunities and different risks in this environment (Verma, 2010). An engineer with entrepreneurial competence and entrepreneurial mindset will be better prepared for competitive action in a rapidly changing professional environment (Duval-Couetil, Shartrand, Reed, 2016). The prospective engineer should be ready to take the lead of his/her own business, based on the creation of creative projects, new technical samples, models and its implementation in the production. In other words, the entrepreneurial competence of a prospective specialist is his/her ability to turn ideas and opportunities into action (Komarkova et al., 2015; Strauti, Dumitrache, Taucean, 2018), his / her active life position manifestation, a willingness to address societal challenges by creating new products (Liventsova, Rumyantseva, Syriamkina, 2016). Thus, the willingness to start up and manage own business is linked not only to the knowledge and skills acquired during studies and the level of prospective specialist's entrepreneurial competence, but, first of all, to the motivation that, despite the various obstacles encountered during the achieving of the goal, allows the subject to maintain high level of activity. According to British psychologist J. Raven (Raven, 2001), the decisive factor in the expression of functional competences, incl. entrepreneurial competence is the motivation of the prospective specialist, its intensity to work in the particular field, i.e. the significance of the purpose for which the person works. The scientist puts motivation as a priority for personality. It is therefore essential nowadays to identify the factors that are the basis for the readiness to start and do own business, since the acquired knowledge, skills and competence in the entrepreneurship and management of the prospective engineers in food sciences do not yet guarantee their practical applicability in the future.

The *methodology* for the *entrepreneurial competence self-evaluation* of the prospective engineers in food science consisted of 32 indicators based on:

- the theoretical and empirical study carried out by the authors of the article, incl. studies on the competitiveness evaluation of prospective hospitality business managers, as well as reflection of experiences in the development and approbation of the competence of environment of professional activity self-evaluation methodology;
- Decision No. 88 (June 5, 2018) on the accredited study direction Production and Processing according to which the academic education bachelor (undergraduate) study programme Food Quality and Innovation of Latvia University of Life Sciences and Technologies, Faculty of Food Technology (according to the Academic Information Centre opinion, 13 June 2018) (Ziņojums par…, 2018) - changes in the study programme have been approved, the title of the programme has been changed from Food Science to Food Quality and Innovation and academic education master (graduate) study programme Food Science is implemented. In accordance with the study plan of the study programme Food Quality and Innovation students acquire 6 study courses (12 CP) in the field of entrepreneurship;
- Regulation of the Cabinet of Ministers No. 240 (May 16, 2014) on the State Academic Education Standard (Noteikumi par valsts…, 2014).

The eighteen students were invited to participate in the experiment: 1) the eight 4th year undergraduate students of the academic education study programme *Food Quality and Innovation* (engineering bachelor degree in Food Science), who formed experimental group A and 2) the ten 1st year graduate students of the academic education study programme *Food Science* (engineering master degree in Food Science), who formed experimental group B. The reasons for selecting the study participants are as follows: 4th year undergraduate students have already completed all the study courses in Economics and Management field intended for the study programme, while 1st year graduate students have recently started their studies at the master programme, therefore their studies at master level could not have a significant impact on their level of entrepreneurial competence.

Methods used in the study: 1) *data obtaining methods*: survey (questionnaires) of students (prospective engineers in food science), which comprised the system of indicators for entrepreneurial competence self-evaluation methodology developed by the authors; reflection of authors' experience; 2) *data processing methods*: primary data mathematical processing methods (for obtaining the descriptive statistics: Min, Max, A, Me, Mo, $\sum$ values); secondary data mathematical processing methods (for obtaining the conclusive statistics): *Mann – Whitney U test*, *Kolmogorov-Smirnov Test* SPSS 21.0 software.

In February 2019, the participants of the study completed the entrepreneurial competence of prospective engineers in food science self-evaluation questionnaire. The completion of the questionnaire took 20 minutes at the presence of the authors. Before completing the questionnaire, respondents were instructed how to do it, namely:

- the projective method: the line scale or the projective cut-off was used to determine the self-evaluation of the entrepreneurial competence; opposite statements are given at both ends of the line scale: I disagree and I agree;
- without long thinking, it should be noted with a cross-stripe of the cut-off to the extent that the student agrees or disagrees with the statement, purely intuitively evaluating his/her entrepreneurial competence within the given line.

In the second phase of the study, the collected data were processed; the results of the study were analysed, evaluated and interpreted.

Results and Discussion

Self-evaluation questionnaires received from students were collected, compiled and mathematically processed according to the group A and B participants (Table 1; Table 2), as well as to the 32 indicators of experimentally approbated methodology (Table 3; Table 4).

Table 1

Results of the entrepreneurial competence self- evaluation of Group A participants: Descriptive Statistics (n=8)

Indicators of Descriptive Statistics Students N	Min	Max	A	Me	Mo	$\sum$	Proportion Coefficient
1	1	7	6	3.5	4	105	0.33
2	0	9	9	4	1a; 5b	139	0.43
3	2	10	8	5.5	4	173	0.54
4	2	8	6	4.5	2	148	0.46
5	1	8	7	4.5	5	138	0.43
6	2	9	7	6	5	188	0.59
7	2	6	4	4	3	130	0.41
8	3	10	7	5	5	156	0.49
					Min	105	0.33
					Max	188	0.59

The results of the descriptive statistics show that the minimum (Min) value of the group A proportion coefficient of entrepreneurial competence (Table 1) is 0.33, and the maximum (Max) value - 0.59. This means that the maximum value of the group A student with the highest self-evaluation proportion coefficient is only slightly above the possible average value of the coefficient (0.59 > 0.50), which does not indicate a high self- evaluation. Minimum value of group B proportion coefficient of entrepreneurial competence is Min = 0.12 (Table 2). This means that group B lowest student self-evaluation proportion coefficient is closer to 0 rather than 0.5. Maximum value of group B proportion coefficient is Max = 0.80. This means that the student's highest proportion coefficient 0.80 is closer to 1 than 0.5.

From the descriptive statistics it can be concluded that the 4th year undergraduate students have lower amplitude in self-evaluation of entrepreneurial competence compared to 1st year graduate students, which indicates the high amplitude of self-evaluation in the indicators of entrepreneurial competence in the graduate students' group. At the next stage of the descriptive statistics' analysis, the work with the indicators of the entrepreneurial competence was carried out.

Table 2

Results of the Entrepreneurial Competence Self- Evaluation of Group B Participants:
Descriptive Statistics (n=10)

Indicators of Descriptive Statistics Students N	Min	Max	A	Me	Mo	∑	Proportion Coefficient
1	3	8	5	5	5	174	0.54
2	3	9	6	7	6a; 7b	218	0.68
3	3	8	5	5	4	162	0.51
4	0	10	10	9	10	249	0.78
5	2	8	6	6	6	173	0.54
6	0	10	10	3	3	106	0.33
7	0	4	4	1	1	49	0.15
8	0	3	3	1	1	37	0.12
9	5	10	5	8	8	256	0.80
10	4	9	5	6	5a; 7b	197	0.62
					Min	37	0.12
					Max	256	0.80

The TOP10 of the entrepreneurial competence self-evaluation indicators was set up and analysed within group A (Table 3) and group B representative samples (Table 4). The sums of the TOP10 entrepreneurial competence self-evaluation indicators were ranked.

Table 3

10 Indicators of Entrepreneurial Competence with the Highest Self-Evaluation Sums in the
Group A: Descriptive Statistics

Indicator N	Indicator formulations	Self-evaluation Sum ∑	R∑
6	Basic knowledge of business theory and practice with specialization in food production	55	1
7	Ability to link business with food production technology and science	53	2
2	Knowledge of human resource management processes in the company	50	3.5
24	Knowledge of costs and profit, its analysis	50	3.5
28	Ability to work independently with financial statements to determine the actual situation and position of enterprise and give recommendations	46	5
1	Comprehensive knowledge of human resource management functions, methods and trends	45	6
5	Ability to use the acquired theoretical foundations and skills, to take the necessary actions in the management of human resources	44	7.5
26	Knowledge of analysing and evaluating performance of enterprise	44	7.5
4	Ability to define and provide solutions to human resources management problems, to argue solutions and to identify the causes of problems	41	9.5
18	Knowledge of consumers motivation, market segmentation, marketing mix interactions	41	9.5

⬜ *Indicators that coincide with the first ten of group B*

The highest ranking of TOP10 is held by the 6th entrepreneurial competence indicator (Table 3), which shows the basic knowledge of 4th year undergraduate students in business theory and practice with specialization in food production. Students also highly evaluated their ability to link entrepreneurship with food production technology and science. Several indicators (2, 1, 5, 4) indicate that group A respondents are able to successfully manage human resources.

Compared to group A students, only 2 human resource management indicators (Table 4) of group B were ranked in the TOP10 of entrepreneurial competence self-evaluation indicators, and ranked 4th and 9th respectively. In turn, in the group B students' representative sample high self-evaluation have

indicators about knowledge on analysing and evaluating performance of enterprise, on its costs and profit, on latest food marketing trends and investment in production.

Table 4

10 Indicators of Entrepreneurial Competence with the Highest Self-Evaluation Sums in the Group B: Descriptive Statistics

Indicator N	Indicator formulations	Self-evaluation Sum ∑	R∑
24	Knowledge of costs and profit, its analysis	66	1
19	Knowledge of food marketing trends	62	2
25	Ability to evaluate the efficiency of investments and the use of production resources	59	3
2	Knowledge of human resource management processes in the company	58	4
7	Ability to link business with food production technology and science	57	5.5
20	Knowledge of product promotion principles in different markets	57	5.5
10	Knowledge of major economic scientific and practical principles and regularities	56	7.5
26	Knowledge of analysing and evaluating performance of enterprise	56	7.5
1	Comprehensive knowledge of human resource management functions, methods and trends	54	9
8	Knowledge of basic theoretical principles and regularities at microeconomic level	53	10

☐ *Indicators that coincide with the first ten of group A*

The results of the study (Tables 3, 4) show that, according to the rankings of the self-evaluation sums, there are 5 indicators of the TOP10 that match in both groups only their ranks vary depending on the sum of self-evaluation. Tables 3 and 4 show that group A students are eager to manage a business, i.e. work with human resources in food companies, while group B students would prefer to do business, build and invest in new food businesses.

The ability to think critically, analyse and evaluate available information, use creatively their comprehensive knowledge of a particular situation in problem solving should be developed already in secondary education, based on the transdisciplinary approach and the constructivist approach that other researchers have pointed out in their research publications (Jurgena, Cēdere, Keviša, 2018).

Results of conclusive statistics of the study conducted

After analysis and evaluation of descriptive statistic, the authors of the article carried out secondary processing of the data in order to obtain conclusive statistics. *Kolmogorov – Smirnov test* was used for the determination of the correspondence to the normal distribution of the obtained values (Table 5) in the self-evaluation sums within group A and group B representative samples.

The results obtained lead to the conclusions that the empirical distribution of the self-evaluations of both groups corresponds to the normal distribution.

Table 5

Results of One=Sample Kolmogorov-Smirnov Test: Conclusive Statistics

Groups	Kolmogorov-Smirnov Z	p-value
A	0.631	0.821
B	0.362	0.999

In the next stage of the data processing Mann – Whitney U test SPSS 21.0 (21.0) software was used for comparing sums of the entrepreneurial competence self-evaluation between group A and group B students.

Hypotheses of data secondary mathematical processing:
    H0: self-evaluation of group A students = self-evaluation of group B.
    H1: self-evaluation of group A students ≠ self-evaluation of group B.

The results of the conclusive statistics are summarised in Table 6.

Table 6

Results of Mann-Whitney U Test: Conclusive Statistics

Comparative groups	Number of students (NS)	Mean Rank	Sum of Ranks	Mann-Whitney U	p-value
A	8	7.94	63.50	27.5	0.266
B	10	10.75	107.50		

Since p-value $= 0.266 > \alpha = 0.05$, the sums of entrepreneurial competence self-evaluation between group A and group B students do not differ significantly (there are no statistically significant differences). This means that there is no significant difference in the entrepreneurial competences proportion coefficients of the group A and group B students, although some differences between the results of the descriptive statistics of the two groups' self-evaluation were found.

Conclusions

- The results of the descriptive statistics analysis show that, according to the rankings of the self-evaluation sums, there are 5 indicators in the list of the TOP10 indicators that coincide in both groups – in the 4th year undergraduate students group of the academic education study programme Food Quality and Innovation and 1st year graduate students group of the academic education study programme Food Science, only their ranks vary depending on the sums of self-evaluation. The TOP10 of self-evaluation of entrepreneurial competence indicators shows that: 1) students' group of study programme Food Quality and Innovation would readily to manage the food company, dealing with human resource management; 2) while the students' group of study programme Food Science would prefer to do business by creating and investing in new food companies.

- The sums of entrepreneurial competence self-evaluation between undergraduate and graduate students group do not differ significantly since p-value $= 0.266 > \alpha = 0.05$.

- As the entrepreneurial competence within competitiveness context is important for any industry specialist, including engineers in food science, the study carried out by the authors showed that decision of Latvia University of Life Sciences and Technologies, Faculty of Food Technology to make changes to the study programme Food Science (implemented until 12 June 2018), now Food Quality and Innovations, proved to be correct, namely, it was improved according to recommendations of Academic Information Centre experts and labour market requirements, increasing the amount of study courses in business from 4 CP to 12 CP.

- The high amplitude of self-evaluation in the indicators of entrepreneurial competence in the 1st year graduate students of academic education study programme Food Science indicate the necessity to respect the differentiated approach in the process of promoting student entrepreneurial competence development in order to increase the prospective engineers competitiveness in the labour market.

- The self-evaluation methodology of the entrepreneurial competence developed by the authors is valid and can be applied not only for the evaluation of prospective engineers in food science competitiveness, but also for its promotion.

Bibliography

1. Boyatzis R.E. (1982). *The Competent Manager: A Model for Effective Performance*. New York: Wiley & Sons.
2. Briede B., Pēks L. (2014). A constructivist approach in teaching in higher education for getting methodological and reflection competences. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 7. Jelgava*: LLU, 84-89. Retrieved from https://llufb.llu.lv/conference/REEP/2014/Latvia-Univ-Agricult-REEP-2014proceedings-84-89.pdf
3. Capra F. (1996). *The web of life: A New Scientific Understanding of Living System*s. New York: Anchor Books.
4. De Jong F. (2015). *The difference that makes the difference*. Wageningen: Stoas Vilentum University of applied sciences and teacher education for vocational education.
5. Delamare Le Deist F.D., Winterton J. (2005). What is Competence? *Human Resource Development International*, *8*(1), 27-46. doi: 10.1080/1367886042000338227

6. Duval-Couetil N., Shartrand A., Reed T. (2016). The Role of Entrepreneurship Program Models and Experiential Activities on Engineering Student Outcomes. *Advances in Engineering Education*, *5*(1), 1-27. Retrieved from https://advances.asee.org/wp-content/uploads/vol05/issue01/Papers/AEE-17-E-ship-Couetil.pdf

7. Fredholm S., Krejcarek J., Krumholz S., Lindquist D., Munson S., Schiffman S., Bourne J. (2002). *Designing an Engineering Entrepreneurship Curriculum for Olin College. In The Proceedings of the* American Society of Engineering Education *Annual Conference and Exhibition.* Montreal: American Society of Engineering Education, 1-13. Retrieved from https://www.smunson.com/portfolio/projects/fredholmetalasee.pdf

8. Herrington J., Oliver R. (2000). An instructional design framework for authentic learning environments. *Educational Research and Development*, *48*(3), 23-48. doi: 10.1007/BF02319856

9. Iriste S. (2018). *Prospective Managers' of Hospitality Business Competitiveness Evaluation and Development promotion in the Dual Study Environment of Higher Education Institution.* (Summary of Doctoral Thesis. Jelgava, LLU), 48-97. Retrieved from https://llufb.llu.lv/dissertation-summary/pedagogics/Sandra_Iriste_prom_darba_kopsavilkums2018_LLU_IMI.pdf

10. Jurgena I., Cēdere D., Keviša I. (2018). The Prospects of Transdisciplinary Approach to Promote Learners' Cognitive Interest in Natural Science for Sustainable Development. *Journal of Teacher Education for Sustainability*, *20*(1), 5-19. doi: 10.2478/jtes-2018-0001

11. Katane I., Baltusite R., Katans E. (2017). Theoretical background for investigation and promotion of engineers competitiveness in education. In A. Aboltins (Ed.), The Proceedings of the International Scientific Conference *Engineering for Rural Development*, *16*. Jelgava: LLU, 824-831. Retrieved from http://www.tf.llu.lv/conference/proceedings2017/Papers/N169.pdf

12. Komarkova I., Galiardi D., Conrads J., Collado A. (2015). Entrepreneurship competence: An Overview of Existing Concepts, Policies and Initiatives. Final Report of European Commission. Luxembourg: Publications Office of the European Union. Retrieved from http://publications.jrc.ec.europa.eu/repository/bitstream/JRC96531/jrc96531_final.pdf

13. Liao S.H., Wu C.C. (2010). System perspective of knowledge management, organizational learning and organizational innovation. *Expert System with Applications*, *37*(2), 1096-1103. doi: 10.1016/j.eswa.2009.06.109

14. Liventsova E., Rumyantseva T., Syriamkina E. (2016). Development of Social and Entrepreneurial Skills of Students of Engineering and Technical Specialties in the Modern University. In VII Scientific Conference with International Participation *Information-Measuring Equipment and Technologies*, *79*. Tomsk: National Research Tomsk State University, 1-9. doi: 10.1051/matecconf/20167901018

15. Llopis F., Guerrero F.G. (2018). Introducing competitiveness and industry involvement as learning tool. In The Proceeding of the IEEE Global Engineering Education Conference *Emerging Trends and Challenges of Engineering Education*. Tenerife: IEEE, 298-307. doi: 10.1109/EDUCON.2018.8363243

16. *Noteikumi par valsts akadēmiskās izglītības standartu Nr. 240* [Regulations on the State Academic Education Standard N 240]. (2014). Retrieved from https://likumi.lv/ta/id/266187 (in Latvian)

17. *Paris Communiqué, 2018.* (2018). Communiqué of the Conference of European Ministers Responsible for Higher Education Empowering EHEA Paris 2018 Europe's Youth. Retrieved from http://www.ehea.info/Upload/document/ministerial_declarations/EHEAParis2018_Communique_final_952771.pdf

18. Raven J. (2001). The Conceptualisation of Competence. In J. Raven, J. Stephenson (Eds.), *Competence in the Learning Society*. New York: Peter Lang, 253-274. Retrieved from https://www.researchgate.net/publication/238793092_The_Conceptualisation_of_Competence

19. Strauti G., Dumitrache V.M., Taucean I.M. (2018). Entrepreneurial competences in economical engineering curriculum in Romania. *Procedia – Social and Behavioral Sciences*, *238*, 737-742. doi: 10.1016/j.sbspro.2018.04.057

20. *Sustainable development goals. 17 goals to transform our world. (2015).* Retrieved from https://www.un.org/sustainabledevelopment/

21. Verma R. (2010). Choice Models and the Hospitality Business Environment. In C.A. Enz (Ed.), *The Cornell School of Hotel Administration handbook of applied hospitality strategy*. California: Thousand Oaks, 96-107. Retrieved from https://scholarship.sha.cornell.edu/articles/137/

22. *Young* D. (2016). *What do Globally Competent Students Look Like?* Retrieved from http://www.gettingsmart.com/2016/02/what-do-globally-competent-students-look-like/

23. *Ziņojums par izmaiņām studiju programmā no 04.05.2018.* [Report on changes in the study program from 04.05.2018.]. (2018). Dokumenti. Retrieved from http://svr.aic.lv/Forms/Programme.aspx?proid=d4a3dbfc-ceed-4615-a4ca-fb2594ed29ac (in Latvian)

Professional Motives as a Leading Factor of last Year University Students' Learning Motivation

Jelena Jermolajeva[1] Dr.paed.; **Svetlana Silchenkova**[2] PhD; **Larissa Turusheva**[3] Dr.paed.
EKA University of Applied Sciences, Latvia[1,3]
Smolensk State University, Russia[2]
jjerm@latnet.lv[1], sil-sv@mail.ru[2], larisa.turuseva@eka.edu.lv[3]

Abstract: Much pedagogical research is focused on students' academic performance. However, students' motivation aspect is of no less importance; it allows academic staff to look at the results of their work with students from another point of view, and reflect on possible changes in teaching. In this article the learning motivation of last year students is studied. The aim of the study is to analyse learning motivation of last year students at the universities of Riga (EKA University of Applied Sciences) and Smolensk (Smolensk State University), identify and compare the prevailing groups of motives. For data collection, a survey was used; data processing methods were descriptive statistics, analysis of statistical indicators, and Spearman correlation analysis. The international survey was carried out in December 2018 (Smolensk) and June 2019 (Riga), with participation of 101 student (56+45, correspondingly). The analysis of the data shows that in both samples, the group of the professional motives plays the leading role in the learning motivation of students. The strongest professional motive is "I want to become a specialist". The data reveal that the learning motivation of the Latvian participants is slightly higher, than that of the Russian participants. The study is the first step in the Latvian-Russian research project on students' motivation at higher education institutions. Its results can be used by university teachers and study programme directors for improving the management of education and raising the quality of the pedagogical process.

Keywords: university education, learning motivation, professional motives of learning.

Introduction

In a modern higher school the student-centred paradigm is recognised as one of the main principles of the effectiveness of the educational process. This explains the increased interest of researchers in the personality of the student, in particular, studying the variety of academic motivation of students (Zhanguzhinova et al., 2018; Purdie, Hattie, 2002; Illeris, 2009). Working with students, there is always a situation when some students have better academic outcomes, while others do not have very good results. Then a question arises, what makes them differ? It is obvious that young people come to the university to study, to develop their professional and academic skills, to receive a diploma at least. Though, it appears that their motivation is different, which influences their results of learning.

Many authors indicate the importance of academic motivation for the outcome of learning process (Boekaerts, 2010; Lamb, 2017), argue the necessity of improving motivation. Studying motivation is necessary for understanding the ways of promoting its quality (Safronova, Klyukina, 2019; Fleisher, 2009).

Motivation theories appeared long ago, as scholars paid attention on the importance of it for the performance of people at work, as well as of students in the studying process. One of the most famous and widely used theories is that of A.H. Maslow's Need Hierarchy Theory, where he classified human needs in a hierarchical order from the lowest to the highest: a) Physiological, basic needs; b) Safety needs; c) Love and belongingness needs (social needs); d) Esteem needs; e) Self-actualisation needs; as he was sure that a human can be motivated with some need only when the previous, lower needs are achieved (Maslow, 1943, 375). A.H. Maslow's theory was accepted as a revolutionary one, because it was easy to explain a human motivation with such a simple hierarchy. Though, looking deeper into the human nature, as well as taking into account the cases from history, it can be proved that even hungry people (as an example) can dream about high ideals; at war heroes saved the life of kids or other people, sacrificing themselves. Thus, it seems that "a person may be motivated by higher growth needs at the same time as lower level deficiency needs" (McLeod, 2018).

Psychologists nowadays see motivation "as a pluralistic behaviour, whereby needs can operate on many levels simultaneously" (McLeod, 2018), or, as A.H. Maslow himself formulated developing his earlier theory: "any behaviour tends to be determined by several or all of the basic needs simultaneously rather than by only one of them" (Maslow, 1954).

Analysing different theories on motivation, D.C. McClelland's Need Theory (McClelland, 1961) looks more appropriate and useful for deeper understanding motivation of learners, as he was sure that needs are acquired (learned) by the experience. Based on three needs (achievement, power and affiliation), it proves that people having a particular need behave differently from those who do not have any. According to D.C. McClelland's, a need for achievement "is a behaviour directed toward competition with a standard of excellence" (McClelland, 1961). D.C. McClelland found that people with a high need for achievement perform better than those with a moderate or low need for achievement, and noted regional/national/cultural differences in achievement motivation, which in current research may partly explain different results of Smolensk and Riga students.

Research on motivation immediately addresses the separate issue of the motivation diagnostics, that is, qualitative or/and quantitative assessment of motivation, its elements and their systemic unity. Priorities hierarchy, conscious and unconscious components, stabile and changing parts, situational peculiarities, dynamics of motivation can be detected using either questionnaires based on different systems of empirical indicators and criteria, or psychosemantic, projective and semi-projective tools (Strizhova, Gusev, 2013; Van Roy, Zaman, 2019). Since the academic motivation of last year university students is the subject of the research, the emphasis in this study is on conscious motivation. Last year students are almost professionals with well-developed self-reflection, therefore the diagnostics of their conscious motivation is of the special interest to teachers (whereas, for example, in the case of children and teenagers much more attention should be paid to unconscious motivation). Usually, focus on students' academic outcome is predominant; however, motivation diagnostics data allow academic staff to look at the results of several years of their work with students from another point of view, and reflect on possible changes in their teaching.

The aim of the study is to analyse learning motivation of last year students at the universities of Riga (EKA University of Applied Studies) and Smolensk (Smolensk State University), identify and compare the prevailing groups of motives.

Methodology

The method of data collection is a survey; data processing methods are a table method, descriptive statistics, an analysis of statistical indicators, and Spearman correlation analysis. Studying conscious motivation, the method of direct survey is often used, in which a questionnaire contains a certain number of motives (closed-type items) for evaluating by respondents. (Guiffrida et al., 2013; Nadler, Lawler III, 2007). For this study, a motivation diagnostics technique was required, which makes it possible to identify the main groups of learning motives, compare them with each other and highlight the strongest group. The most appropriate appeared to be the N.Ts. Badmayeva technique "Diagnostics of educational motivation of students" (Badmayeva, 2004). This technique is well-balanced, regarding the completeness of the presented groups of motives and, at the same time, a relatively small number of these groups (seven); it allows one to determine the level of motivation for learning and the prevailing motives.

The learning motives are divided into the following groups.
- Scale 1: communication motives that show how motivated students are to communicate with their fellow students and in the future with colleagues.
- Scale 2: motives of avoidance, demonstrating how the respondents are forced to learn in order not to lag behind their fellow students and avoid condemnation.
- Scale 3: motives of prestige, showing the desire to be the best in everything.
- Scale 4: professional motives that demonstrate a focus on acquiring a profession.
- Scale 5: motives of creative self-realisation, which show how much the interviewers want to be realised as a creative personality.
- Scale 6: educational and cognitive motives that show the desire to gain knowledge.
- Scale 7: social motives that demonstrate the desire to be successful in the society.

The questionnaire has a total of 34 statements (items), which are offered for respondents' evaluation in a 5-point system: 1 point means the minimum value of the motive, 5 points – the maximum. Each scale includes several items (from 2 to 7); the scale rate is calculated as the average of the indicators of the statements related to the scale. Items of the questionnaire are not arranged by scales, i.e. statements of the same scale do not follow each other, but are scattered throughout the questionnaire.

Participation of two national groups of respondents allows researchers to look at the subject of the study more stereoscopically. The international survey was carried out in December 2018 (Smolensk) and June 2019 (Riga). The study involved 101 last year university students of graduation in 2019. They represented two universities of Latvia and Russia: EKA University of Applied Sciences (EKA) – 45 students, and Smolensk State University (SmolSU) – 56 students. The graduates of SmolSU were trained in economics and management; the graduates of EKA, in addition to the named areas, – in law and translation. The average age of the respondents in Riga is 25 years, the maximum age is 31 years; the average age of respondents in Smolensk is 22 years, the maximum age is 23 years. The number of female students in the Riga and Smolensk samples exceeds the number of males: in Riga sample the number of females is 35, or 77.8 %, in Smolensk sample - 33, or 58.9 %.

The questionnaire was tested by Cronbach's Alfa method. The corresponding coefficient is 0.985 for Riga data and 0.947 for Smolensk. The high value of the coefficient shows a high internal coherence of characteristics describing the samples and testifies the reliability of the technique.

Results and Discussions

For each of the two national samples, the following descriptive statistics was calculated for 34 statements and seven scales: mean value, mode, dispersion, and coefficient of variation (*CoV*), showing the fluctuation of answers. Table 1 presents the indicators of the seven motivation scales for EKA and SmolSU students.

Table 1

Learning motivation of Riga and Smolensk last year students

Scale of learning motivation	EKA				SmolSU			
	Mean	Mode	Dispersion	*CoV* (%)	Mean	Mode	Dispersion	*CoV* (%)
Communicative motives	3.32	4	1.01	30.31	3.02	3	1.56	41.27
Motives for avoidance	2.06	1	1.48	59.02	2.14	1	1.38	54.99
Motives for prestige	2.62	3	0.92	36.52	2.43	1	1.53	50.85
Professional motives	**4.07**	**4**	**0.54**	**18.03**	**3.44**	**4**	**1.50**	**35.57**
Motives for creative self-realisation	3.3	3	0.68	25.07	2.53	3	1.30	45.06
Educational motives	3.27	3	0.96	29.89	2.73	3	1.58	46.05
Social motives	2.82	3	0.79	31.51	3.12	3	1.88	43.98
Mean for all statements	3.08	3	1.3	37.01	2.81	3	1.73	46.95

The mean value of all statements of the questionnaire is 3.08 in Riga sample and 2.81 in Smolensk sample; the difference is 0.27. The most often score in the questionnaire is 3 in both samples. These results show that in general, Latvian and Russian last year university students have a relatively good educational motivation. However, a high discrepancy of respondents' answers, especially in the Smolensk sample, indicates a great diversity of personal approaches, dependent on respondents' personal circumstances and hierarchies of values. In the data of SmolSU sample, *CoV* for all motivation scales exceeds 33 %, which means that the average values are not reliable enough to make strong generalizations based on them. In the Latvian sample, only 2 of 7 scales exceed 33 %. Nevertheless, certain conclusions can still be made by a closer examination of the data.

As seen from Table 1, in both samples the highest rating is obtained for the scale of the professional motives. In Riga sample, the average for professional motives is 4.07, in Smolensk – 3.44. In both universities, at the same time, this scale has also a minimum *CoV*: 18.03 % and 35.57 %,

correspondingly. Since professional motivation is the most important for graduates, and students have shown the highest score on it and the greatest unanimity, a closer look at this block is necessary. Professional motivation scale consists of 6 statements. The formulations of the motives and the main descriptive statistics of the data obtained are shown in Table 2.

Table 2

Professional motivation of last year students in Riga and Smolensk

Scale "Professional motives"	University	Mean	Mode	Dispersion	CoV (%)
1. I study because I like the chosen profession	EKA	4.13	4	0.30	13.25
	SmolSU	3.43	4	1.27	32.84
2. To ensure the success of future professional activities	EKA	4.20	5	0.66	19.40
	SmolSU	3.46	4	1.38	33.92
3. I want to become a specialist	EKA	4.29	5	0.57	17.66
	SmolSU	4.00	5	1.13	26.54
4. To propose a solution to the most pressing problems related to the future profession	EKA	3.76	4	0.46	18.09
	SmolSU	2.80	3	1.51	43.77
5. I want to make full use of my skills, abilities and inclinations for my chosen profession	EKA	3.98	4	0.48	17.36
	SmolSU	3.25	4	1.57	38.59
6. To become a highly qualified professional	EKA	4.04	4	0.63	19.69
	SmolSU	3.71	4	1.44	32.35
Mean for the scale	EKA	4.07	4	0.54	18.03
	SmolSU	3.44	4	1.50	35.57

In both samples, the 3rd motive "I want to become a specialist" takes the first place as the most important motive for students' learning not only among the statements of this scale, but throughout whole questionnaire. In the sample of Riga, the mean rate of this motive is 4.29 points, Smolensk indicator is 4.00 (at this item there is a minimum difference of results between the samples). Most students in Riga and Smolensk rate the 3rd statement with 5-points (mode 5). In both samples, *CoV* of answers to this statement is less than 33 %, which testifies that the mean and mode can be considered typical and reliable.

The 6th statement ("To become a highly qualified professional") of this block somewhat bewilders students; some of them are thinking it is enough to become a specialist, being highly qualified is optional. The mean for this statement is 4.04 for Riga last year students and 3.71 for Smolensk ones; although the rates are relatively high, they are 6–7 % lower than the scores for the 3rd statement. This result can be interpreted in different ways: perhaps some students are afraid of professional responsibility; possibly, they are unsure in the choice of future profession, or do not want to pay much importance to their future work.

As can be seen in Table 2, the students of Riga give higher scores than Smolensk ones to all the statements of the scale. Compared to SmolSU, EKA students find the 2nd motive ("To ensure the success of future professional activities") more important: mean rates are 4.20 vs. 3.46. The same, with a slight decrease in ratings, is observed in the answers to the 5th statement ("I want to make full use of my skills, abilities and inclinations for my chosen profession"): 3.98 vs. 3.25. It should be noted in addition that at these items *CoV* in Russian sample are too large: 33.92 % and 38.59 %, whereas the discrepancy of Latvian answers here (as well as in all other items of the scale) does not exceed the critical limit of 33 %.

The scores given by the Smolensk students to the 1st statement ("I study because I like the chosen profession") have been unexpected. Usually, young people choose a university study programme, because they like a future profession. However, there are 10 SmolSU students (18% of respondents), who rate this statement by 1-2 points. This explains the lower general motivation to learn observed in the Smolensk sample. All Riga students rated the 1st statement above 2 points, even the number of "threes" is small – 4 (9 %). This may indicate a more conscious choice of profession by young people in Riga, which is probably the result of a better organisation of professional orientation at Latvian schools.

In both samples, the lowest score is observed in the 4th statement ("To propose a solution to the most pressing problems related to the future profession"). The low score for this item suggests that the graduates do not really believe in themselves, do not hope (may be do not want) to become leading professionals and offer

innovative approaches to problems, are not ready to research in the professional field. The Smolensk data show the highest discrepancy of answers in this item (inside the professional scale): $CoV = 43.77\,\%$. Despite the fact that the mode is 3 (which is, generally speaking, not such a low score), 22 Smolensk students (39.3 %) rated their motivation for this statement by 1 or 2 points; the mean value is 2.80. The Latvian indicators are higher and more consistent: the mean is 3.76, mode is 4, $CoV = 18.09\,\%$. Among the professional motives, the highest difference between mean rates of the samples is observed at this item: 0.96.

The analysis of the survey results requires an additional research. Preliminarily, several factors may be suggested responsible for the lag of the Latvian students' academic motivation behind the motivation of Russian graduates. The first possible reason is the above-mentioned effective professional orientation at Latvian schools. Probably, professional guidance at Russian schools should be strengthened, taking into account the Latvian experience in this field.

Secondly, the difference in age could affect how consciously the choice of profession was made and, accordingly, how much further learning is motivated. Separately in each sample, the Spearman rank correlation analysis did not reveal a statistically significant connection between students' age and their average motivation. However, the age difference between Russian and Latvian samples is quite large. The average and maximum age of the respondents are 25 and 31 years for EKA students, 22 and 23 for SmolSU graduates. Education at a Latvian school lasts a year longer than at a Russian one; in addition, it seems that Latvian teenagers more often than their peers in Russia do not immediately enter the college or university but go to work and take some time to think in what direction to develop their career. Besides, a younger age of Smolensk students and, accordingly, less conscious choice of profession may be explained (at least partly) by the system of the compulsory military service in Russia. If a young man does not want to join the army, he enters a university and gets postponement.

Thirdly, an atmosphere in the student group may influence the students' academic motivation. The authors plan to study the influence of the atmosphere in student team on the student's learning motivation at the next stage of the research project. Here it can be noted that the atmosphere in the group may affect students' learning motivation in different directions. For example, students with high socialising on campus, who place a high priority on meeting and interacting with peers, are sometimes less interested in successful learning compared with fellow students who are not so keen on such a pastime (Guiffrida et al., 2013). Perhaps this factor affected, to some extent, the learning motivation of Smolensk students, many of whom live on campus (whereas Riga students generally do not live in a student hostel).

Conclusions

- In general, EKA and SmolSU last year students have relatively good educational motivation. However, a high discrepancy of respondents' answers, especially in the Smolensk sample, indicates a great diversity of personal approaches dependent on respondents' personal circumstances and hierarchies of values.

- In both samples, the leading scale in the learning motivation of the last year students is the scale of the professional motives. Thus, the universities that participated in the research mostly fulfil their role in training of highly qualified professionals.

- Among the professional motives, the motive "I want to become a specialist" takes the first place as the most important motive for students' learning, not only among the statements of the professional scale, but throughout the questionnaire. Most students give it the highest score; their answers are well-agreed in both samples.

- In both samples, the least popular professional motive is the motive "I learn to propose a solution to the most pressing problems related to the future profession". In the Smolensk data there is a large proportion of low scores in this item, which indicates that the graduates do not really believe in themselves, do not hope (may be do not want) to become leading professionals and offer innovative approaches to problems, are not ready to research in the professional field.

- In general, the EKA students gave slightly higher scores to learning motives, than the SmolSU students did; the data of Riga students are also more consistent. This shows a higher learning motivation of the Latvian participants of the research, compared with the Russian participants.

The detailed analysis requires an additional research; some considerations in this regard are made in the text of the article.

- The study is the first step in the Latvian-Russian research project on students' motivation at higher education institutions. University teachers and study programme directors can use its results for improving the management of education and raising the quality of the pedagogical process. Diagnostics data allow the academic staff to look at the results of several years of their work with students from a different point of view, and reflect on possible changes in their teaching.

Bibliography

1. Badmayeva N.T. (2004). *Vliyanie motivacionnogo faktora na razvitie umstvennyx sposobnostej* [The influence of motivational factor on the development of mental abilities]. UlanUde: Publishing Hous VSGTU. (in Russian)
2. Boekaerts M. (2010). The Crucial Role of Motivation and Emotion in Classroom Learning. In H. Dumont, D. Istance, F. Benavides (Eds.), *The Nature of Learning: Using Research to Inspire Practice*. OECD: Centre for Educational Research and Innovation, 91-111. doi: 10.1787/9789264086487-6-en
3. Fleisher S. (2009). Book review: Motivation and Self-Regulated Learning: Theory, Research, and Applications. *International Journal Scholarship of Teaching and Learning, 3*(1), Article 37, 4-26.
4. Guiffrida D.A., Lynch M.F., Wall A.F., Abel D.S. (2013). Do Reasons for Attending College Affect Academic Outcomes? A Test of a Motivational Model From a Self-Determination Theory Perspective. *Journal of College Student Development*, *54*(2), 121-139. doi: 10.1353/csd.2013.0019
5. Illeris K. (2009). A Comprehensive Understanding of Human Learning. In K. Illeris (Ed.), *Contemporary Theories of Learning: Learning Theorists - in Their Own Words*. London, New York: Routledge, 7-20.
6. Lamb M. (2017). The Motivational Dimension of Language Teaching. *Language Teaching, 50(3),* 301-346. doi: 10.1017/S0261444817000088
7. Maslow A.H. (1943). A theory of human motivation. *Psychological Review*, *50*(4), 370-396. doi: 10.1037/h0054346
8. Maslow A.H. (1954). *Motivation and personality*. New York: Harper and Row Publishers, Inc. Retrieved from http://s-f-walker.org.uk/pubsebooks/pdfs/Motivation_and_Personality-Maslow.pdf
9. McClelland D.C. (1961). *The Achieving Society*. Princeton, New York: Van Nostrand.
10. McLeod S.A. (2018). *Maslow's hierarchy of needs*. Retrieved from https://www.simplypsychology.org/maslow.html
11. Nadler D.A., Lawler III E.E. (2007). Motivation: A Diagnostic Approach. In J.S. Osland, M.E. Turner, D.A. Kolb, I.M. Rubin (Eds.), *The Organizational Behavior Reader* (8th ed.). Upper Saddle River: Pearson Prentice Hall, 171-180.
12. Purdie N., Hattie J. (2002). Assessing Students' Conceptions of Learning. *Australian Journal of Educational & Developmental Psychology, 2,* 17-32. Retrieved from https://www.newcastle.edu.au/__data/assets/pdf_file/0017/100493/v2-purdie-hattie.pdf
13. Safronova V., Klyukina E. (2019). Some Aspects of Motivating Tertiary Students in Learning Oriental and European Languages. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *12*. Jelgava: Latvia University of Life Sciences and Technologies, 158-164. doi: 10.22616/REEP.2019.020
14. Strizhova E., Gusev A. (2013). Motivational Task: Methodology and Method of Work Motivation Diagnostics. Procedia - *Social and Behavioral Sciences, 86*, 551-556. doi: 10.1016/j.sbspro.2013.08.612
15. Van Roy R., Zaman B. (2019). Unravelling the ambivalent motivational power of gamification: A basic psychological needs perspective. *International Journal of Human-Computer Studies,127* 38-50. doi: 10.1016/j.ijhcs.2018.04.009
16. Zhanguzhinova M., Magauova A., Satova A., Mamanova A. (2018). The Study of Student's Motivation for Future Professional Activity. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *11*. Jelgava: Latvia University of Life Sciences and Technologies, 162-169. doi: 10.22616/REEP.2018.019

Self-Evaluation of Programmers' Competitiveness in an IT Company as Learning Organisation

Edgars Katans[1] Mg.paed.; **Irena Katane**[2] Dr.paed.; **Regina Baltusite**[3] Dr.paed.
IT Company "Autentica", Latvia[1]; Latvia University of Life Sciences and Technologies, Latvia[2;3]
edgars.katans@autentica.lv[1]; irena.katane@inbox.lv[2]; regina.baltusite@llu.lv[3]

Abstract: Professional development of programmers is a lifelong process that takes place both within and outside the IT company. There are several types of knowledge management in the IT company as a learning organisation. Within the framework of knowledge management, the professional development of the company's specialists, career guidance, and learning-facilitation take place at IT company environment. The result of successful professional development is the programmer's competitiveness. The aim of the research: to conduct a pedagogical experiment to promote the development of adequate self-evaluation of programmers' competitiveness using the developed methodology in learning/knowledge IT organisations. A methodology for evaluating programmers' competitiveness was developed. Within the framework of an empirical research, programmers assessed their competitiveness in two ways: 1) using self-assessing methodology with 28 indicators of the programmers' competitiveness as a *pedagogical tool* of influence of self-evaluation performed by the research participants; 2) both before and after approbation of this developed self-assessing methodology using a modified projective linear scale to obtain an express-assessment of programmers' competitiveness in a holistic view. A survey was organized among programmers working in various IT companies: 1) Latvian enterprises without representations abroad, 2) Latvian enterprises with foreign representations; 3) foreign companies with representations in Latvia. This survey was by nature a kind of pedagogical experiment. The results of the research testify that developed competitiveness assessment methodology influenced programmers' self-evaluation during pedagogical experiment. There are three types of trends, namely, after approbation of the competitiveness self-assessing methodology the programmers self-evaluations: 1) remained unchanged; 2) increased, the respondents, thanks to the methodology, identified their strengths, which had not been properly evaluated so far; 3) decreased, because respondents, thanks to the methodology, found out about their weaknesses, which until now have not been identified.

Keywords: IT company, knowledge management, learning organisation, methodology of self-evaluating, pedagogical experiment, programmers' competitiveness.

Introduction

Mutually complementing transdisciplinary paradigms of information and knowledge society became a part of social sciences. In order the society could ensure its sustainable development, it must be able to make constant changes and it must learn to adapt to the changes happening around. This is possible if the society in general, various organisations within the society and each individual person of the society is constantly learning, accumulating and creating new knowledge and sharing it. In its turn, an important aspect of the process of knowledge acquisition and development is the access to the required information, its critical selection, fast exchange and storing of important information. It is all ensured by the introduction of modern information and communications technologies not only in science and education, but also in the professional activity and everyday life of each individual person. In the knowledge society, everyone is learning and teaching, acquiring a self-directed learning competency and also a pedagogical competency in teaching others in order to acquire newer experience and to share it at an individual level, at the level of a social group, enterprise (as organisation) and the whole society. Consequently, the role of lifelong education becomes more topical in the information and knowledge society, so to be able to sustain constantly changing conditions (Cerroni, 2018; Katane, Katans, 2018; Katane, Katans, Vāvere, 2012). The information and knowledge society as the system of correlation in the exchange of information and knowledge should be more considered as a continuing process and a result of this correlation and development.

To ensure its competitiveness and sustainability in the constantly changing information and knowledge society, many IT companies become learning/knowledge organisations. The activity of learning/knowledge organisations has a number of specific characters or indicating elements that help to distinguish them from

common organisations. Researches of learning/knowledge enterprises, including IT companies, are the topical subjects of the 21ˢᵗ century (Alipour, Karimi, 2018; Argote, 2013; Argote, Hora, 2017; Suleimankadieva, Pilipenko, Sági, 2019).

To be able to sustain competition continuously, an enterprise must not only focus on the quality of its activity, provided services, products and their marketability, but also it must promote continuous professional development of its specialists, ensuring professional training and re-training within the enterprise, which has a strong effect on the corporate culture of the enterprise. For this purpose, the enterprise must ensure all possible types of knowledge management. Nowadays knowledge is the prerequisite and the basis for high quality and high-performance business of any company. Knowledge management is a complex of certain methods of HR and education management, as well as a complex of technological methods that help to improve the quality of specialists' work in a company. The system of knowledge management in a company as learning/knowledge organisation is oriented at the exchange and increasing of knowledge resources, which ensures intellectual capital of the company. Considering that the notion of knowledge management arose in close connection with the development of information and communications technologies, many scientific researches are related to knowledge management in IT companies. Knowledge management in IT companies not only includes sharing of current knowledge or ensuring of obtaining missing knowledge, it also involves an integrated approach used for identifying, evaluating, retrieving and sharing all of an enterprise's information assets.These assets can include databases, documents, procedures, various information and communications technologies, electronic environment of a company etc. Moreover, the knowledge management is closely connected to the change management within companies (Giannetto, Wheeler, 2000; Lipowsky, 2017; Little, 2014; Pinto et al., 2017; Socking, 2018).

At a learning/knowledge organisation, one of the basic functions that ensure its development is the diagnostics and investigation of problems existing in the company: analysis and evaluation, which makes it possible to eliminate or to solve such problems. Within the knowledge management context, the same can be done in relation to the investigation of the expertise and the professional activity of the existing specialists, in other words, companies must investigate the needs of professional development, career growth and education of their specialists in order to be able to give them necessary support. One of the methods for such investigation is reflection-based self-evaluation methodologies (Katane et al., 2015).

The process of constructing, exchanging and learning as obtaining of new knowledge is not only a competitive advantage of a company but also a guarantee of professional development and further progress for a company's specialists, following new tendencies in a respective field, acquiring and implementing the newest (innovative) trends in the professional activity of its specialists. ***The increase of competitiveness of employees results in the increase of competitiveness of the company, and vice versa.*** Therefore, one of the tasks of the knowledge management in a company is to elaborate and implement the methodology of self-evaluating of the professional development of specialists, including the self-evaluating of its result: programmers' competitiveness. The indicators of the self-evaluating methodology in the reflection process allow the specialists to evaluate their own competitivenes, including various competences, various qualities (strengths and weaknesses) and professional activity (advantages and disadvantages). The knowledge about themselves as professionals becomes a basis for professional self-development, career self-management, self-directed continuous learning of specialists, as well as acquiring and sharing new experience. This is an important precondition for the learning company to be able to ensure the knowledge management for its development, competitiveness and sustainability (Katans, 2019). It is important to point out that specialist's competitiveness is a complex totality of a person's qualities that ensure the viability, development, professional self-realization, his/her competitive actions in the changeable environment, including specialist's marketability and employability in the modern labor market (Katane, 2010).

During the last years, several studies both in Latvia and abroad (Belenov et al., 2017; Emelyanova, Voronina, 2018; Evplova, 2019; Iriste, 2018) show that research on the competitiveness of specialists in various industries is topical in the modern social sciences, including educational sciences.

The aim of the research: to conduct a pedagogical experiment to promote the development of adequate self-evaluation of programmers' competitiveness using the developed methodology in learning/knowledge IT organisations.

Methodology

There were three stages of the research: 1) preparation stage; 2) pedagogical experiment performed by approbation of the developed methodology for self-assessment of programmers' competitiveness; 3) summarizing and processing of data, analysis and evaluation of the results obtained.

Methods of research: 1) data obtaining methods: survey (questionnaires); 2) data processing methods: primary mathematical processing of data to produce descriptive statistics; secondary mathematical processing of data to produce conclusive statistics using Wilcoxon Test (SPSS software 21.0, 2019).

During the *preparation stage*, the methodology for the assessment of programmers' competitiveness was elaborated with 28 assessment indicators. Previous researches in the respective field were used as a theoretical basis of the elaborated system of indicators for the assessment of programmers' competitiveness, including their competences.

The results of previous theoretical studies show that there are three methodological approaches to the scientific substantiation of personality/specialist competitiveness in pedagogy (Iriste, 2018; Kalniņa, Katane, 2010; Katane, 2010): 1) functional approach; 2) qualitative approach; 3) structural approach (Figure 1).
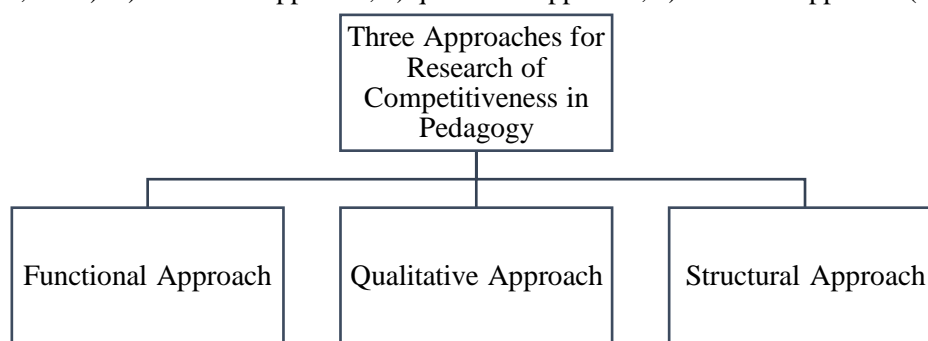
Figure 1. Methodological Approaches to Specialist's Competitiveness Research in Pedagogy (created by authors).

These approaches are evident in the research of engineers'/programmers' competitiveness as well (Katane, Baltusite, Katans, 2017).

Functional approach: competitiveness is substantiated by describing the manifestations of personality's competitiveness, as well as readiness for various actions, including interaction with the external environment. For example, the scientists L.V. Suyazova, D.A. Mustafina, I.V. Rebro, G.A. Rahmankulova (Suyazova et al., 2013) point out that a competitive engineer is: 1) a professional who can find the most appropriate solution for a problem; 2) a specialist who has various special abilities for professional activity in the changeable professional environment and in the society as social environment; 3) a personality who has qualities, including abilities, for self-development. In turn, A. Laaksonen (Laaksonen, 2018) and J. Sijin (Sijin, 2018) show the programmer's competitiveness including professional competence as manifestations of competitive professional activity during the programming process.

Qualitative approach: competitiveness is characterized as a totality of personality's several qualities, where these qualities serve as the indicators of competitiveness. For example, a number of various competences and personal qualities is pointed out, ensuring the competitive activity of an engineer and his competitiveness in general: motives and value orientations; the desire and ability to self-development, self-realization; civil qualities; high professional competence; leadership qualities; corporate competence; cultural humanitarian competence; socio-economic competence; creativity abilities; communicative competence; adaptability (Khairullina et al., 2015).

Structural approach: there is a structural model of competitiveness provided, emphasizing several components. For example, L. Mitina (Mitina, 2003) developed the model of the personality competitiveness structure with three components: personality direction, competence and flexibility. In turn, I. Katane (Katane, 2011) worked out and scientifically substantiated the model of specialist's competitiveness structure, where five components are present: the component of personality progression (including professional progression); the component of self-regulation (including volition, emotions and personality's

flexibility); the component of self-conception (including self-evaluation and professional self-identity); the component of individual qualities (including purposefulness, intelligence, charisma, decision making, responsibility, sense of humor, creativity, ability to persuade, captivate, inspire; ability to dare and to take reasonable risks; ability to change and self-develop); the component of competence (including various professional competencies). The base of specialist's competitiveness is the accumulated expierience.

In the developed system of competitiveness self-assessment indicators, the authors of this article included those 28 indicators, which are most often found in the justification of competitiveness of personality/specialist/programmer given by different authors.

A ***pedagogical experiment*** was performed with the participation of 75 programmers from various Latvian IT companies, mostly located in Riga or nearby, and some of the participants specified that they are working for an IT company located in other cities of Latvia.

All the participants of the research represented IT companies of three types: 1) Latvian enterprises without representations abroad, 2) Latvian enterprises with foreign representations; 3) foreign companies with representations in Latvia. There were 7 women among 75 research participants. The youngest participant was 20 years old, but the age of the oldest participant was 50 years old. The participants had also a bit different overall work experience and the experience in programming as well: Min = 1 year; Max = 25 years.

Within the framework of the experimental research, programmers assessed their competitiveness in two ways: 1) using self-assessing methodology with 28 indicators as a *pedagogical tool* for self-evaluation influence performed by the research participants; 2) both before and after approbation of this developed self-assessing methodology using a modified projective linear scale to obtain an express-assessment of programmers' competitiveness in holistic view (Figure 2).
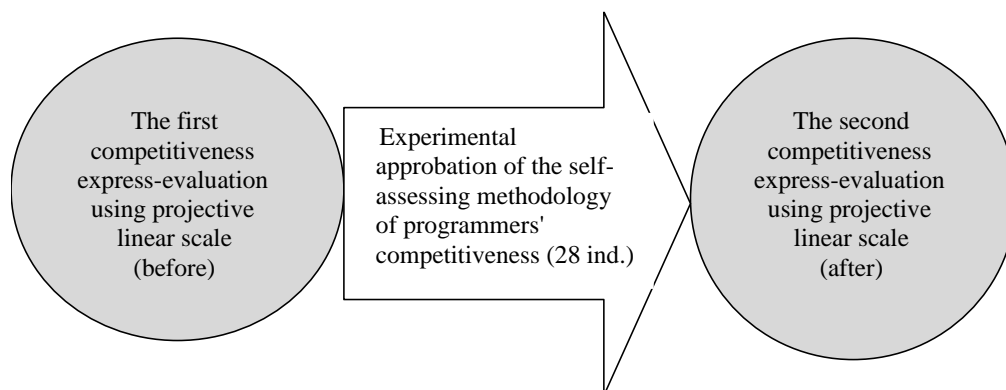
Figure 2. Design of pedagogical experiment (created by authors).

All the 75 participants performed an express-evaluation of their competitiveness at the beginning and at the end of the experiment, using a projective linear scale especially elaborated for this purpose by the research authors, which represents one of the types of modified projective tests. The theoretical aspects of the elaboration of the linear scale as a method of data acquisition were based on the projective method of Dembo-Rubinstein (Katane, Katans, Vītols, 2019; Katans, 2019), which has been also used as a basis for modification and approbation of the authors' proprietary methodologies. The upper end of the modified projective linear scale specified: *The highest level of competitiveness*, which reflected the highest possible self-assessment of competitiveness, while the bottom end: *the lowest level of competitiveness*, which reflected the lowest possible self-assessment of competitiveness. The participants of the research had to mark the linear scale with a cross without thinking long, based more on intuition rather than on critical thinking. The linear scale allowed acquiring the assessment from 1 to 10.

Results and Discussion
The results of the experimental approbation of the system of indicators for programmers' competitiveness evaluation

On the first stage of summarizing and processing of data obtained during the research, it was important to answer the first research question: *What are the self-evaluations of competitiveness by the participants in the experimental group in accordance with 28 indicators of the developed evaluation methodology?*

During the pedagogical experiment, the system of indicators for evaluation of programmers' competitiveness elaborated by the research authors was used as a pedagogical tool of influence of self-evaluation performed by the research participants. The system of indicators consisted of two relative subsections that were not highlighted in the questionnaire: 1) 11 indicators for evaluation of competitiveness of a programmer as a personality; 2) 17 indicators for evaluation of competitiveness of a programmer as a professional. The participants of the research had to assess, which of the attributes of competitiveness are and are not typical for them: 1 of 4 answers could be chosen in accordance with each indicator (yes; more likely yes than no; more likely no than yes; no). Processing the data, the dichotomous scoring scales were created, which included both positive answers ("yes" and "more likely yes than no") and both negative answers ("more likely no than yes" and "no"). Each indicator was ranked according to the positive responses' coefficient values.

Descriptive statistics of the answers provided by the research participants according to the 11 indicators of *personality competitiveness* are summarized in Table 1.

Table 1

Results of programmers' personality competitiveness self-assessment (n=75)

N	Indicators of Self-Assessment	Positive self-assessments		Rank
		n	Coefficient of specific weight	
1.	Ind.8. Ability to learn from their own and others' experience, including form their own and others' achievements and mistakes.	74	0,99	1
2.	Ind.1. Clear future plans and aims of activity for the near and far future.	70	0,93	2,5
3.	Ind.11. Psychological readiness for continuous learning during the whole life in order to ensure personal development and lifelong education.	70	0,93	2,5
4.	Ind.7. Ability to plan and self-manage their time and activity.	69	0,92	4
5.	Ind.9. The ability to dare and risk, including not being afraid of mistakes, difficulties, changes: openness to new challenges.	68	0,91	5
6.	Ind.23. Flexibility in thinking and acting, including the ability to change plans if required by current situation or changing environment.	66	0.88	6
7.	Ind.15. High-level self-competence, including the reflexive competence, self-study, self-management, self-evaluation and self-development.	65	0,87	7
8.	Ind.3. The ability to provide adequate evaluation of their knowledge, skills, competencies, experience: strengths and weaknesses.	62	0,83	8,5
9.	Ind.4. Knowledge of how to learn and develop in future, which is already being done.	62	0,83	8,5
10.	Ind.5. Pronounced will power, ability of self-mobilisation for activities, including for those which are disliked or are performed with troubles.	61	0,81	10
11.	Ind.6. High working capacity.	58	0,77	11

The obtained results of *programmers' personality competitiveness self-assessment* testify that the highest value of positive responses (coefficients of specific weight) was obtained according to the following indicators (Table 1):
- Indicator 8: Coefficient of specific weight: 0,99; Rank: 1;
- Indicator 1: Coefficient of specific weight: 0,93; Rank: 2,5;
- Indicator 11: Coefficient of specific weight: 0,93; Rank: 2,5.

The lowest values of positive responses (coefficients of specific weight) were obtained according to the following indicators (Table 1):
- Indicator 5: Coefficient of specific weight: 0,81; Rank: 10;
- Indicator 6: Coefficient of specific weight: 0,77; Rank: 11.

The results of *programmers' professional competitiveness self-assessment* allow to conclude that the highest values of positive responses (coefficients of specific weight) were obtained according to the following three indicators (Table 2):
- Indicator 24: Coefficient of specific weight: 1,00; Rank: 1;

- Indicator 17: Coefficient of specific weight: 0,99; Rank: 3;
- Indicator 21: Coefficient of specific weight: 0,99; Rank: 3;
- Indicator 25: Coefficient of specific weight: 0,99; Rank: 3.

Table 2

Results of programmers' professional competitiveness self-assessment (n=75)

N	Indicators of Self-Assessment	Positive self-assessments		Rank
		n	Coefficient of specific weight	
1.	Ind.24. Ability to solve complicated professional tasks independently, competently and creatively.	75	1,00	1
2.	Ind.17. Ability to work in a programmers' team.	74	0,99	3
3.	Ind.21. Responsible, timely (within the defined time limits) and high-quality professional activity of a programmer.	74	0,99	3
4.	Ind.25. Efficiency of the professional activity in performing both urgent short-term tasks and large volume long-term projects.	74	0,99	3
5.	Ind.10. Logically analytical, symbolically abstract, critical, systematic and creative thinking.	73	0,97	5,5
6.	Ind.20. Respecting of the activity policy, development strategy and business interests of IT company he works for.	73	0,97	5,5
7.	Ind.18. Pleasure and ability to work according to Agile methodologies, incl. Scrum.	69	0,92	7
8.	Ind.12. High-level professional competence in IT field.	65	0,87	8
9.	Ind.26. Professional specialization in various fields.	64	0,85	9
10.	Ind.2. Readiness and ability to arrange their career goals in line with the goals of development and activity of IT company.	63	0,84	10,5
11.	Ind. 19. A sense of belonging to the IT company I work for.	63	0,84	10,5
12.	Ind.16. Tracking and investigating of new trends in IT field related to his professional activity.	62	0,83	12
13.	Ind.28. If necessary, readiness to re-specialization in programming or even in a completely different field of professional activity, creating successful personal career and ensuring personal competitiveness in a job market.	61	0,81	13
14.	Ind.22. Close and efficient cooperation with the client(s) of an IT company he works for.	58	0,77	14
15.	Ind.27. Absence of professional burnout symptoms.	50	0,67	15
16.	Ind.14. High-level social competence, including communication.	44	0,59	16
17.	Ind.13. High-level economical and business competence.	42	0,56	17

The lowest values of positive responses (coefficients of specific weight) were obtained according to the following indicators (Table 2):
- Indicator 27: Coefficient of specific weight: 0,67; Rank: 15;
- Indicator 14: Coefficient of specific weight: 0,59; Rank: 16;
- Indicator 13: Coefficient of specific weight: 0,56; Rank: 17.

Analyzing and comparing the obtained results of descriptive statistics (Table 1; Table 2), it can be concluded that the competitiveness of a *programmer as a professional* is evaluated more critically than the competitiveness of a *programmer as personality*.

The results of approbation of the methodology for evaluation of competitiveness of programmers as a pedagogical experiment

During the following stage of mathematical data processing using SPSS software (21.0), we obtained descriptive statistics of the programmers' competitiveness express-assessments before and after the pedagogical experiment (Table 3), answered the second research question: *Do programmers' self-*

evaluations differ before and after a pedagogical experiment using projective linear scale? The results show that there are differences between values of some indicators of descriptive statistics (Table 3).

Table 3

Descriptive statistics of competitiveness express-assessments by participants obtained at the beginning and end of the pedagogical experiment using projective linear scale (n=75)

Values	Results of the pedagogical experiment	
	Before	**After**
Min	3	4
Max	9	9
A	6	5
Me	7	7
Mo	8	7
$\sum$	530	504

The results have been compared with the aim: *to establish how significant the differences are?* For a mathematical data processing for the obtaining conclusive statistics, the Wilcoxon Test has been used in a SPSS 21.0 software in order to define the difference between the two correlated samples obtained at the beginning and at the end of the experiment. The conclusive statistics results are demonstrated in Table 4.

Table 4

Results of Conclusive Statistics (n=75)

N	Wilcoxon Test	The obtained results of conclusive statistics
1.	**Hypotheses for data processing**	
	H_0: $PCEA_1 = PCEA_2$ H_1: $PCEA_1 \neq PCEA_2$	p-value = 0,000 < α = 0,001
2.	**Differences**	
	Positive differences:	33
	Negative differences:	7
	Ties:	35

$PCEA_1$ - The first programmers' competitiveness express-assessment in the beginning of the experiment.
$PCEA_2$ - The second programmers' competitiveness express-assessment in the end of the experiment.

The results of conclusive statistics allow for the following ***conclusions***.

- There are three types of trends, namely, after approbation of the competitiveness self-assessing methodology the programmers self-evaluations: 1) remained unchanged; 2) increased, as the respondents, thanks to the methodology, identified their strengths, which had not been properly evaluated so far; 3) decreased, because respondents, thanks to the methodology, found out about their weaknesses, which have not been identified until now.
- The differences between programmers' expres-evaluations before and after the approbation of the developed competitive assessing methodology are statistically important.

Conclusions

1. One of the tasks of the knowledge management in an IT company is to elaborate and implement the methodology of self-evaluating of the professional development and competitiveness of programmers. This is an important precondition for the learning company to be able to ensure its development, competitiveness and sustainability.

2. During the experimental research changes were noticed in the self-assessments of experimental group participants' competitiveness. Self-assessments of competitiveness provided by the participants at the end of the experiment differed from the self-assessment of competitiveness at the beginning of the experiment, which is confirmed by the results of descriptive statistics. The results of conclusive statistics show that these changes were statistically important.

3. It is very important to know the indicators of programmers' competitiveness evaluation, as this knowledge affects the self-perception of programmers as a competitive personality and

a competitive professional, changing the self-assessment of competitiveness, allowing for self-management of personal development and self-realising in various ways, including the formal and non-formal education in the learning IT company and out of it.

4. Thanks to the approbation of the methodology for programmers' competitiveness evaluation consisting of 28 indicator system, the self-assessment of competitiveness of research participants at the end of the research: 1) increased, as the strengths that could be related to the attributes of competitiveness have not been fully understood; 2) decreased, as the assessment indicators have been evaluated based on many such aspects which have not been possibly considered before, therefore, more weak points have been taken into account; 3) did not change, as the assessment was relatively adequate at the beginning of the experiment (neither increased nor decreased).

5. The developed system of programmers' competitiveness indicators includes many such indicators that allow making self-assessment of various competences: self-competence, professional competence in programming, economic and business competence; social competence. The indicators of the self-evaluation methodology in the reflection process not only allow the programmers to evaluate their own various competences and professional activity, but also allow for assessing of various other qualities (strengths and weaknesses). The knowledge about themselves as professionals, including the advantages and disadvantages of their professional activity, becomes a basis for professional self-development, career self-management, self-directed continuous learning of specialists, as well as acquiring and exchanging new experience in the learning IT companies.

6. The participants acquired new experience of reflection during the experiment, which can serve as a basis for the adequate self-evaluation of competitiveness and for its development.

7. The experimentally approved methodology for self-evaluation of programmers' competitiveness is valid and can be used in further researches.

Bibliography

1. Alipour F., Karimi R. (2018). Creating and Developing Learning Organization Dimensions in Educational Settings; Role of Human Resource Development Practitioners. *International Journal of Management, Accounting and Economics*, *5*(4), 197-213. Retrieved from http://www.ijmae.com/files/accepted/857_final.pdf

2. Argote L. (2013). *Organizational Learning: Creating, Retaining and Transferring Knowledge*. New-York: Springer US. doi: 10.1007/978-1-4614-5251-5

3. Argote L., Hora M. (2017). Organizational Learning and Management of Technology. *Production and Operations Management*, *26*(4), 579-590. doi: 10.1111/poms.12667

4. Belenov O.N., Zvezdinskaya A.V., Kolesnikova O.A., Maslova E.V. (2017). *Konkurentosposobnost' kak faktor uspeshnosti molodogo specialista na rinke truda* [Competitiveness as a factor of young specialists' success in labor market]. Voronezh: Izdatelskiy dom VGU. Retrieved from http://cced-complete.com/deliverables/wp5_articles_employability_in_the_labour_market_ru.pdf (in Russian)

5. Cerroni A. (2018). Steps Towards a Theory of the Knowledge-Society. *Social Science Information*, *57*(2), 322-343. doi: 10.1177/0539018418767069

6. Emelyanova N.A., Voronina E.A. (2018). Competitiveness of a Specialist: Undergraduates' Expectations and Strategies. *Psychological-Educational Studies*, *10*(4), 53-64. doi: 10.17759/psyedu.2018100406 (in Russian)

7. Evplova E.V. (2019). Social Charasteristics of Personal and Corporate Competitiveness of Future Specialsists: Results of Sociological Research. *Educational and Science Journal*, *21*(2), 132-154. doi: 10.17853/1994-5639-2019-2-132-154 (in Russian)

8. Giannetto K., Wheeler A. (2000). *Knowledge Management Toolkit*. Swansea: Gower Published Co Limited.

9. Iriste S. (2018). *Prospective Managers' of Hospitality Business Competitiveness Evaluation and Development promotion in the Dual Study Environment of Higher Education Institution.* (Summary of Doctoral Thesis. Jelgava, LLU), 48-97. Retrieved from https://llufb.llu.lv/dissertation-summary/pedagogics/Sandra_Iriste_prom_darba_kopsavilkums2018_LLU_IMI.pdf

10. Kalniņa I., Katane I. (2010). Personality Competitiveness: Structure and Indications in Pedagogy. *LLU Raksti, 24*(319), 65-75. Retrieved from https://llufb.llu.lv/proceedings/n24/8/LLU_raksti_Nr24-65-75.pdf

11. Katane I. (2010). Competitiveness of Personality as a New Concept in Modern Education and Pedagogy Science. In L. Malinovska, V. Osadcuks (Eds.), The Proceedings of the 9th Interational

scientific Conference *Engineering for Rural Development*, *9*. Jelgava: LLU, 327-334. Retrieved from http://www.tf.llu.lv/conference/proceedings2010/Papers/62_Katane_Irena.pdf

12. Katane I. (2011). Methodological Bases for Evaluation of Specialist Competitiveness. In L. Malinovska, V. Osadcuks (Eds.), The Proceedings of the 10th International Scientific Conference *Engineering for Rural Development*, *10*. Jelgava: LLU, 524-529. Retrieved from http://www.tf.llu.lv/conference/proceedings2011/Papers/097_Katane.pdf

13. Katane I., Baltusite R., Katans E. (2017). Theoretical Background for Investigation and Promotion of Engineers Competitiveness in Education. In A. Aboltins (Ed.), The Proceedings of the International Scientific Conference *Engineering for Rural Development*, *16*. Jelgava: LLU, 824-831. Retrieved from http://www.tf.llu.lv/conference/proceedings2017/Papers/N169.pdf

14. Katane I., Katans E. (2018). Environmental Contexts of Programmer's Professional Self-Development Through Learning: Ecological and Synergetic Approach. In A. Aboltins (Ed.), The Proceedings of the 17th International Scientific Conference *Engineering for Rural Development, 17*. Jelgava: LLU, 1055 - 1064. doi: 10.22616/ERDev2018.17.N057

15. Katane I., Katans E., Vāvere G. (2012). Environment of Distance Learning for Humanization and Democratization of Education: the historical aspect. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *5*. Jelgava: LLU, 35-42. Retrieved from https://llufb.llu.lv/conference/REEP/2012/REEP-2012-proceedings-E-ISSN-2255-808X.pdf

16. Katane I., Katans E., Vītols G. (2019). Programmētāju konkurētspējas pašnovērtēšanas metodika mūžizglītības un profesionālās pašattīstības kontekstā [Self-Evaluation Methodology of Programmers' Competitiveness in the Context of Lifelong Education and Professional Self-Development]. In the Proceedings of the International Scientific Conference *Society. Intagration. Education, 5*. Rezekne: RTA, 169-185. doi: 10.17770/sie2019vol5.3861 (in Latvian)

17. Katane I., Kristovska I., Vjatere G., Katans E. (2015). Evaluation, Support and Promotion of specialists' competitiveness development in Modern Enterprise as Learning Organization. *Discourse and Communication for Sustainable Education*, *6*(1), 50 - 71. doi: 10.1515/dcse-2015-0004

18. Katans E. (2019). *Programmētāja profesionālās attīstības veicināšana mācīties spējīgā IT uzņēmumā zināšanu pārvaldības skatījumā* [Promoting the Professional Development of Programmers in a Learning IT Company from the Perspective of Knowledge Management]. Jelgava: LLU (in Latvian).

19. Khairullina E.R., Pochinova T.V., Khisamiyeva L.G., Sakhipova Z.M., Fedorova L.V., Ablyasova A.G., Aksenova N.N. (2015). The Competences Model of Competitive Process Engineer. *Journal of Sustainable Development, 8*(3), 250 - 255. doi: 10.5539/jsd.v8n3p250

20. Laaksonen A. (2018). *Competitive Programmer's Handbook.* Retrieved from https://cses.fi/book/book.pdf

21. Lipowsky S.F.J. (2017). *Pedagogical Means for Improvement of Self-Regulation in Self-organizing IT Group.* Summary of PhD Thesis. Riga: RPIVA, 26-52. Retrieved from https://dspace.lu.lv/dspace/bitstream/handle/7/38372/sl_kopsavilkums.pdf

22. Little J. (2014). *Lean Change Management: Innovative Practices For Managing Organizational Change.* Happy Melly Express.

23. Mitina L.M. (2003). *Psihologiya razvitiya konkurentosposobnosti lichnosti* [Developmental Psychology of the Competitive Personality]. Moskva: MPSI (in Russian).

24. Pinto D., Bortolozzi F., Sartori R., Tenório N. (2017). Investigating Knowledge Management within Software Industry: A Systematic Literature Review. *International Journal of Development Research 7*(12), 7672-17679. Retrieved from https://www.journalijdr.com/sites/default/files/issue-pdf/11469.pdf

25. Sijin J. (2018). Programmer Competency Matrix. In *Perspectives on Software, Technology and Business.* Retrieved from http://sijinjoseph.com/programmer-competency-matrix/

26. Socking M. (2018). *Managing Knowledge for Sustainable Future*. Scientific and Technical Advisory Panel to the Global Environment Facility. Washington: STAP. Retrieved from http://stapgef.org/sites/default/files/publications/STAP%20Report%20on%20KM.pdf

27. Suleimankadieva A.E., Pilipenko V.I., Sági J. (2019). Knowledge Company: Approaches to Assessing New Knowledge and Representation it to Society. *Procedia Computer Science*, *150*, 730-736. doi: 10.1016/j.procs.2019.02.011

28. Suyazova L.V., Mustafina D.A., Rebro I.V., Rahmankulova G.A. (2013). Struktura konkurentosposobnosti budushchego inzhenera v mashinostroyenii [The Structure of Competitiveness of a Prospective Engineer in Mechanical Engineering]. *European Student Scientific Journal, 2*. Retrieved from http://sjes.esrae.ru/ru/article/view?id=70 (in Russian)

Communicative Approach in Learning the Latvian Language as a Foreign Language

Inga Laizāne Dr.philol.
Riga Stradins University, Latvia
inga.laizane7@inbox.lv

Abstract: In accordance to increase in the number of foreigners in Latvia, the issue of learning the Latvian language as a foreign language *(LATS)* is also raised, as well as the appropriate teaching tools and teaching methods for learning the language. There are relatively many learning tools (approximately 40 textbooks, without textbooks there are also dictionaries, dictionary, grammar and task stocks), which are based on different approaches and methods. Thinking about foreigners in Latvia highlights the needs of language learners, so the process of learning a language based on the communicative approach seems more appropriate. The purpose of the article is therefore to describe the communicative approach and its implementation in the acquisition of the Latvian language as a foreign language, which is revealed in both teaching resources and teaching work. This article is based on studies of scientific literature and analysis of *LATS* textbooks. Major studies of foreign authors on the communicative approach were selected. To justify the use of the communicative approach in the acquisition of the Latvian language as a foreign language, teaching means of learning the *LATS* have been analysed. Insufficient understanding of the communicative approach makes think that it is not suitable for the acquisition of Latvian language as a foreign language. It is falsely believed that the communicative approach does not work in the learning of grammatical languages, including the acquisition of Latvian. The communicative approach does not exclude grammar learning and grammar explanations, but must be closely associated with the communicative goal. Translation exercises in the communicative approach are also preferable and even recommended. These findings could be useful for practitioners who teach Latvian as a foreign language but do not feel safe in implementing the communicative approach.

Keywords: communicative approach, foreign language, Latvian language, grammar, translation.

Introduction

Teachers and textbook authors are often questioning the best ways to teach a language, especially a foreign language. What approaches and methods would be most appropriate in learning a specific language? Can the same methods be used for learning the native and foreign language? Can the methods of learning the same language be applied to all foreign languages? These issues are topical in the acquisition of different foreign languages, for example in the acquisition of English different forms of organization of the learning process are being sought (Bojare, Ignatjeva, 2014, 42-49). In the last 50 years these issues are also topical in the learning of Latvian as a foreign language, and they are being addressed by theorists and practitioners who are engaged in the development of the linguistic direction – Latvian as a foreign language.

In recent years, the number of aliens in Latvia who learn Latvian is increasing, so there is an issue about teaching tools, as well as what approach or method in the learning process would be best. The latest study on the development of Latvian as a foreign language, including teaching tools and methodological issues, is the PhD thesis of I. Laizāne defended in 2019 (Laizāne, 2019), summarizing both researches of Latvian scientists: I. Druviete (2003), V. Kalnbērziņa (2012), I. Vasiļjeva (2008) and researches of foreign authors: H.D. Brown (2007), G. Ellis (1996), D. Crystal (2003), D. Larsen-Freeman (2002), C. Baker, W.E. Wrigh (2017), G. Cook (2003), S. Gass, L. Selinker (2008), C. Kramsch (2016), R. Mitchell, F. Myles (2004), T.S. Rodgers (2011), L. White (2003) in the field of language acquisition. The analysis of textbooks and the insights of practitioners and theorists in the sector have been used in this article. The article focuses on learning Latvian as a foreign language from both pedagogical and philological aspects.

The idea of a quality learning process that is determined and focused on the needs of the learner is very topical. Curriculum development, including educational content and teaching methods, has been written about in relation to the education in school practice (Andersone, 2014, 15-21), and currently this issue is very relevant in the field of education in the context of the development of new educational content School 2030: National Reforms in School Education (National Reforms in School…, 2019), National Reforms in Early Childhood Education and Care (National Reforms in Early…, 2019). It influences also adult learning National Reforms in Vocational Education and Training and Adult Learning (National

Reforms in Vocational…, 2019). Foreign language acquisition can also be considered in the development of the curriculum. For a long time, the formal approach to learning the language system prevailed in the foreign language acquisition, which was also relevant in the Latvian linguo-didactics. Over time, the practice of foreign language acquisition, including LATS, developed the notion that language was necessary for the ability to communicate. Accordingly, language acquisition requires new teaching methods and educational content that meet the needs of the learner.

By studying the impact of the linguistics theories on the development of the Latvian language as a foreign language and linking it to the teaching tools of *LATS*, you can see the development of ideas, from a structural approach and a grammatical translation method to a functional and communicative approach today (Laizāne, 2019, 63). The communicative approach in learning both Latvian and other foreign languages has been lauded and criticized. However, despite criticism, the communicative approach relies on several teaching tools for learning the Latvian language as a foreign language, and some elements of this approach appear in many teaching tools intended for the acquisition of the *LATS*.

The learning of any language also includes scientific ideas of a certain era. It is important to look at how linguistic theories are integrated in the LATS learning. The teaching practice of LATS can also be linked to the acquisition of other foreign languages because the approaches and methods prevailing at different times are similar. However, it should be highlighted that comparing Latvia's situation with the experience of European countries and the USA, there is a time gap approximately 100 years (Laizāne, 2019, 45-47) in the use of specific approaches and methods. In the early stages of development, the linguistics – Latvian as a foreign language – was dominated by a structuralism approach, which was mainly practiced in the use of grammatical translation methods and audio-lingual techniques. Over time, in the practice of learning foreign languages, the structural approach to learning languages is replaced by a communication and function approach, which influences the fact that the idea of a communicative approach to learning the language is also being implemented in the teaching tools for learning the LATS.

The communicative approach in language learning starts to take place in the 70's of the 20th century, in terms of the functioning of the English linguistics and the development of sociolinguistics and pragmatics, which greatly increases awareness of the language and its nature.

The theory of the socio- linguist and anthropologist D.H. Hymes (1972) communicative competency theory I. Druviete (2003) extends the understanding of the language and its relationship with the conditions of communication. The theory of D.H. Hymes contributes to the emergence of a communicative approach to foreign language learning, which aims to develop the language learner's ability to use the language effectively. But the idea of natural language acquisition isn't new. An intuitive idea that language is needed has employed linguists and theorists since the end of the 19thcentury when the natural method was created. Later, it results in the use of a direct method that is a new view of the old ideas. The principles of the direct method provide the basis for a communicative approach to language learning, which emphasizes natural language learning. The works of many authors were used to summarize the theoretical literature on the communicative approach:

- monographs (Widdowson, 1994; Larsen-Freeman, 2002; Cook, 2003, 35-39; Rai Vishnu, 2003; Nunan, 2004; Richards, 2006; Brown, 2007, 244-248),
- works created in co-authorship (Finocchiaro, Brumfit, 1983; Richards, Platt, Platt, 1992, 65-66; Benson, Voller, 1997; Johnson, Johnson, 1999, 68-73; Richards, Schmidt, 2002, 90; Norland, Pruett-Said, 2006; Willis, Willis, 2007; Arnold, Dörnyei, Pugliese, 2015),
- academic articles and abstracts (Canale, Swain, 1980, 1-47; Hutchinson, Waters, 1984, 108-113; Swan, 1985, 2-12; Ellis, 1996, 213-218; Chen, 2003, 29-43; Belchamber, 2007; Demirezen, 2011, 57-71 Al Asmari, 2015, 976-984; Newby, 2015, 13-34; Znotiņa, Laizāne, 2019, 650; Kachmarchyk, Khrystiuk, Shanaieva-Tsymbal , 2019, 84-99).

The aim of the study is to describe the communicative approach and its implementation in the acquisition of the Latvian language as a foreign language, which is revealed in both teaching resources and teaching work.

Methodology

When studying the theoretical literature and educational materials of LATS, two practical research questions are raised, which are set out in the article.

1. Can a communicative approach be used in the acquisition of grammatical languages?
2. What language teaching techniques, based on the communicative approach, can be used in the foreign language acquisition?

This article is part of a broader study (Laizāne, 2019) on the development of Latvian as a foreign language in Latvia and beyond. One of the theoretical parts of the study is related to pedagogical issues and looks at the impact of linguistic theories on the development of the *LATS*. In turn, in the practical part, *LATS* teaching products are analysed, the content of which reveals a specific method or approach in learning the language.

This article is based on studies of scientific literature and analysis of *LATS* textbooks. The main research methods are the descriptive method, which was used in the research of theoretical literature, and the content analysis, which was used for the analysis of the content of LATS educational materials. Major studies of foreign authors R. Belchamber (2007), H.D. Brown (2007), M. Canale, M. Swain (1980), A. Carreres (2006), S.C. Chan (2011), M. Demirezen (2011), D. Larsen-Freeman (2002), G. Ellis (1996) on the communicative approach were selected. To justify the use of the communicative approach in the acquisition of the Latvian language as a foreign language, teaching means of learning the *LATS* have been analysed.

Results and Discussion

Henceforward the article will describe and explain the communicative approach and demonstrate the use of this approach in learning the Latvian language as a foreign language.

Studies of theoretical literature have shown that the views on the communicative approach are similar; however, authors do not always emphasize the same aspects. Three principles have been identified in order to structure these views: the language proficiency, the purpose of language acquisition, and language techniques. These principles help to structure opinions by emphasizing the most relevant information. They can also help to compare other approaches and methods for learning languages demonstrating the way in which language learning is being implemented through a specific approach or method.

Language skills
Speaking is the most highlighted of language skills, so there are many exercises in learning that develop speaking skills. But other language skills are also being developed, and this can happen in parallel.

Purpose of language learning
Develop the ability to communicate in different every day, working or learning situations, namely, the ability to use language in practical situations.

Language teaching techniques
Although the process of foreign language acquisition based on a communicative approach is aimed at the ability to communicate, researchers emphasize that this goal cannot be achieved without grammar acquisition (Nurmukhanova et al., 2014, 116-122). However, in the process of grammar acquisition certain principles must be followed.

Firstly, grammar is not distinguished as a separate part of the language in textbooks.

Secondly, grammar teaching takes place indirectly, because grammar is included in any language use situation. Thus, the language learner itself can create tables inferring grammar rules. It is believed that grammar skills are developed by using language, but this does not necessarily ensure the correct use of language, which often creates errors in the learning process.

Thirdly, more difficult grammatical forms are regularly practiced and repeated, avoiding a description of their use. This means that multiple repetition exercises can be used as an aid in the learning process, but they do not have a desirable key role.

Fourthly, grammar learning is closely associated with the text material. The language learner must notice the specific grammatical form in the text, because only by the meaning of this form can you work further with learning this form. This idea is in line with the principles of the functional approach.

High importance is attached also to the textual material. The topics in the lessons must relate to the everyday needs and interests of language learners. The sequence of the study materials in the learning

process is not very strict. It may be altered for substantive, functional or meaningful reasons, according to the interests of the students.

The range of exercises used for the acquisition of the educational content can be diverse, but they must be approximated to real language situations. The lessons use exercises close to natural communication so that you can use the language in real every day conditions. To ensure communication during lessons, the classroom may use group and pair work, impromptu dialogues, role games, situation playing. Dialogues may be used in the learning process, but this should be done to highlight the communication function, not memorizing, as is the use of the audio-lingual method. Translation can be used and is even preferable and significant if it helps in the learning process.

In order to improve the learner's vocabulary and grammar skills, A. Jurčenko (2015, 423-428) recommends using an exercise-based language learning approach in the foreign language acquisition rooted in the communicative approach and strongly underlines the importance of teaching a language in the context of the use intended by the communicative approach. This indicates that much attention has been focused on the textual material and exercises for the acquisition of this material in the communicative approach.

Continuing the discussion on language teaching techniques in the communicative approach, it should be emphasized that the teaching process shall allow the use of the native or intermediate language, if necessary but within reasonable limits. The pronunciation of the language learner must be understandable and not identical to the pronunciation of the mother tongue user. Errors are allowed in the language learning process. They are positive because of the natural interest of the language learner in the learning process.

The end of the 20th century and the beginning of the 21st century are characterized by a wide debate on the meaning and role of the communicative approach in learning the language. One of the most pressing issues is the role of grammar in learning the language. It is considered that when implementing the communicative approach, grammar is not taught, but the nature of the communicative approach also includes grammar learning, but it cannot be a separate section in the textbook. Grammar teaching should be associated with real language situations. However, it raises the debate that there is too little to do with the indirect way of grammar teaching. Practitioners believe that the learning of grammatical languages, which is also Latvian, is not enough to teach grammar for only communicative purposes, so several *LATS* teachers are unable to work with the teaching tools implemented in the communicative approach (Laizāne, 2019, 114-118). However, in this case, it should be discussed as to the wrong understanding of the communicate approach, or too narrow point of view of the nature of the communicative approach, because during the implementation of the communicative approach grammar can also be interpreted and taught directly, and grammatical forms analysed, but this must be linked to the communicable objective. Grammar cannot be taught as a separate section that is completely unrelated to the purpose of communication, as is typical of the grammatical translation method. Consequently, the ambiguity that the communicative approach cannot be used in the learning of grammatical languages should be avoided.

An insufficient understanding of the communicative approach also shows that the translation exercises cannot be carried out when working on this approach, as it relates to the long-term grammatical translation method prevailing in the learning of foreign languages. However, in this case, too, a more complete understanding of translation exercises and their inclusion in the communicative approach would be needed.

Although on the second half of the 19th century, the method of grammatical translation was questioned and the translation was renounced from the process of learning foreign languages, at the end of the 20the century, a number of linguists in France and Canada began to deny total renunciation of the translation by emphasizing the usefulness of the translation in the process of learning foreign languages.

A. Mutore (2013) emphasizes that in the context of learning a foreign language the activity of translation is viewed from the didactical or pedagogical not professional point of view. Didactical translation should be understood as usage of various exercises which in the process of learning a foreign language requires transfer of a linguistic unit from one language to another. On the other hand, didactical and professional translation encompasses exercises included in interpreter training programmes with the goal of obtaining intra lingual communication skills which are based on the reflection of the idea expressed in the source language. Didactical translation is used as one of the activities to learn a foreign language; its purpose is to understand the culture of the language as well as the contextual nuances of using it. Due to globalization and increasing

use of international relations in our modern society we embark on a quest to find a compromise that would bring together translation and language didactics. They should go hand in hand in the process of learning a foreign language; however, this process should concentrate on communication aspects, not translation.

Other industry professionals (Sibbard, 1994, 9; Benson, Voller, 1997; Bialystok, 1998, 47-60; Eadie, 1999, 2-9; Seidlhofer, 1999, 233-244; Larsen-Freeman, 2002, 132; Bygate, Skehan, Swain, 2001; Richards, Rodgers, 2001; Carreres, 2006, 5; Pariente-Beltran, 2006, 30; Chan, 2011, 13-24; Leonardi, 2010; European Union, 2013; Artar, 2017; Karousou, Nerantzaki, 2020) speak in favour of the translation into foreign language learning. The translation is considered to be a useful exercise in improving the communicative approach. The importance of translation in the exercise of communication competence is also highlighted in the regulatory documents (Common European Framework…, 2001).

In the newly defended PhD thesis (Laizāne, 2019), the learning means for the acquisition of *LATS* were analysed in detail. The 60's of the 20th century has been selected as the reference point when the first textbook for the acquisition of *LATS* (Laizāne, 2019, 7)) is published outside of Latvia. The thesis analyses the textbooks that have been produced both in Latvia and outside Latvia, thus producing reliable results included in this article.

In analysing *LATS* textbooks (Laizāne, 2019, 65-124), it can be concluded that certain elements of the communicative approach are found in many *LATS* textbooks. There are textbooks (Šalme, Ūdris, 1996) in which the communicative approach is incorporated alongside other approaches and methods, but the real communication-based *LATS* learning tools have been produced relatively recently. The first only communication-based learning tool for *LATS* learning is the *Latvian Language Textbook for Students* (Klēvere-Velhli, Naua, 2012). Training kits *Laipa A1* (Auziņa et al., 2014), *Laipa A2* (Auziņa et al., 2016) and *Laipa B1* (Auziņa et al., 2019) are then created. The textbook worked out by I. Kaija and I. Laizāne *Latvian Language for Dental Students* is currently in publishing house, which is a textbook for learning the professional language, based on the communicative approach. Manuscript is available for students and colleagues in Riga Stradins University e-studies platform MOODLE in Latvian and in English. Consequently, it is concluded that learning tools based on the communicative approach for the acquisition of *LATS* have only come out in the last 10 years.

In further analysis of the above-mentioned communication-based learning tools, it should be highlighted that they are in line with the principles of communicative approach in terms of both the structure of the book and the textual material, the variety of tasks and the presentation of grammar. The exercises in the books develop all language skills, but the focus is on speaking and listening skills. In turn, in terms of grammar learning, students base themselves on examples and gradually come to terms with legalities and the use of structures. For a visual grammar perception tables that practitioners do not necessarily link to the nature of the communicative approach, are also used. Several practitioners teaching Latvian as a foreign language admit that the textbooks based on the communicative approach lack a systemic grammar set that is very important in the learning of Latvian language, making it difficult to use such textbooks with beginners, particularly when assessing *Latvian Language Textbook for Students* (Laizāne, 2019, 114-117).

Conclusions

The views of teachers, the vision of authors of textbooks and the information contained in theoretical guidelines for learning foreign languages suggest that the substance of the communicative approach has not been sufficiently understood, so perhaps not all educators can accept it and implement it in the lessons. Several *LATS* teachers point out that different types of linguistic activities are used during classes and attempts to develop all language skills, so they are not sure that it is a communicative approach or sometimes a specific approach cannot be defined, because the lesson includes different tasks, including tasks that develop grammar skills and translation, as well as reading and text analysis. This shows an incomplete understanding of the communicable approach since it includes a very rich teaching system, including grammar explanations and translation exercises, but it must certainly be linked to the communicative objective.

Thus, both research questions can be answered:
1. Communicative approach can be used in the acquisition of grammatical languages. Latvian language is also rich in grammatical forms, and it is impossible to communicate properly

without learning them, therefore it is also a concern for teachers and textbook authors who work in the field of linguo-didactics Latvian language as a foreign language. The answer is definitely 'yes' – the communicative approach can be used in the acquisition of grammatical languages, as evidenced by the LATS textbooks published in recent years. This issue has mainly arisen due to a poorly understood communicative approach.

2. The following techniques of language teaching can be used in communicative approach to foreign languages: translation, usage of different tasks, well-considered textual material, work in pairs and groups etc. When working with a communicative approach, high importance is attached to the textual material, which must meet the needs of the learner. The acquisition of grammatical forms is closely linked to the textual material, since the learner must recognize this form in the use of language so that it could be later produced in similar situations. The exercises that help to learn a specific educational content can be very diverse, including translation, as long as they are approximated to natural communication and related to the communicative purpose. Therefore, it can be concluded that in order to take a communicative approach to language acquisition, there must be a specific language learning objective. The educational content and the exercises involved in implementing this content should be carefully considered. Acquisition of the grammar content must be subordinated to the textual material. This means that the communicative approach can be used for the acquisition of different languages, but great attention must be paid to the educational content and its implementation.

Bibliography

1. Al Asmari A. (2015). Communicative Language Teaching in EFL University Context: Challenges for Teachers. *Journal of Language Teaching and Research*, 6(5), 976-984. doi: 10.17507/jltr.0605.09

2. Andersone R. (2014). Curriculum as an instrument in developing teaching and learning. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 7. Jelgava*: LLU, 15-21. Retrieved from https://llufb.llu.lv/conference/REEP/2014/Latvia-Univ-Agricult-REEP-2014proceedings-15-21.pdf

3. Arnold J., Dörnyei Z., Pugliese C. (2015). *The Principled Communicative Approach: Seven Criteria for Success*. Germany: Helbling Verlag GmbH.

4. Artar P. (2017). *The Role of Translation in Foreign-Language Teaching*. (Doctoral Thesis, Universitat RoviraI Virgili. Tarragona) Retrieved from https://www.tdx.cat/bitstream/handle/10803/461885/TESI.pdf?sequence=1&isAllowed=y

5. Auziņa I., Berķe M., Lazareva A., Šalme A. (2014). *Laipa A1. Latviešu valoda* [Plank A1. Latvian language]. Rīga: LVA, 2014. (in Latvian)

6. Auziņa I., Berķe M., Lazareva A., Šalme A. (2016). *Laipa A2. Latviešu valoda* [Plank A2. Latvian language]. Rīga: LVA, 2016. (in Latvian)

7. Auziņa I., Berķe M., Lazareva A., Šalme A., Vaivade V. (2019). *Laipa B1. Latviešu valoda* [Plank B1. Latvian language]. Rīga: LVA, 2019. (in Latvian)

8. Baker C., Wrigh W.E. (2017). *Foundations of Bilingual Education and Bilingualism* (6th ed.). Bristol, UK: Multilingual Matters

9. Belchamber R. (2007). The Advantages of Communicative Language Teaching. *The Internet TESL Journal*, *13*(2). Retrieved from http://iteslj.org/Articles/Belchamber-CLT.html

10. Benson P., Voller P. (Eds.). (1997). *Autonomy and independence in language learning*. London: Longman.

11. Bialystok E. (1998). Beyond binary options: Effects of two languages on the bilingual mind. *Studia Anglica Posnaniensia*, *33*, 47-60.

12. Bojāre I., Ignatjeva S. (2014). Autonomous English Acquisition in Blended e-studies for Adults for Sustainable Development: Quantitative research. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 7*. Jelgava: LLU, 42-49. Retrieved from https://llufb.llu.lv/conference/REEP/2014/Latvia-Univ-Agricult-REEP-2014proceedings-42-49.pdf

13. Brown H.D. (2007). *Principles of Language Learning and Teaching*. (5th ed.) White Plains: Pearson Longman.

14. Bygate M., Skehan P., Swain M. (2001). *Researching pedagogic tasks: Second language learning, teaching and testing*. London, UK: Longman.

15. Canale M., Swain M. (1980). Theoretical bases of communicative approaches to second language teaching and testing. *Applied Linguistics*, *1*(1), 1-47. doi: 10.1093/applin/I.1.1

16. Carreres A. (2006). *Strange bedfellows: Translation and Language Teaching: The teaching of Translation intoL2 in modern languages degree; uses and limitations*. University of Cambridge: UK, 1-21. Retrieved from http://www.cttic.org/ACTI/2006/papers/Carreres.pdf

17. Chan S.C. (2011). A Contrastive Study of Grammar Translation Method and Communicative Approach in Teaching English Grammar. *English Language Teaching*, *4*(2), 13-24. doi: 10.5539/elt.v4n2p13

18. Chen S.H.L. (2003). Searching the online catalog and the World Wide Web. *Journal of Educational Media and Library Sciences*, *41*(1). 29-43. Retrieved from http://joemls.dils.tku.edu.tw/fulltext/41/41-1/29-43.pdf

19. *Common European Framework of Reference for Languages: Learning, Teaching, Assessment*. (2001). Council of Europe Cambridge, UK: Cambridge University Press. Retrieved from https://rm.coe.int/16802fc1bf

20. Cook G. (2003). *Applied Linguistics* (2nd ed.). Oxford UK: Oxford University Press

21. Crystal D. (2003). *English as a global language (*2nd ed.). Cambridge: Cambridge University Press. doi: 10.1017/CBO9780511486999

22. Demirezen M. (2011). The Foundations of the Communicative Approach and Three of Its Applications. *Journal of Language and Linguistics Studies*, *7*(1), 57-71. Retrieved from https://www.jlls.org/index.php/jlls/article/view/104

23. Druviete I. (2003). Dells Haimzs un komunikatīvās kompetences teorija. *Kentaurs XXI*(30). Rīga: Minerva, 28.-30. (in Latvian)

24. Eadie J. (1999). A translation technique, *ELT Forum*. *37*(1), 2-9.

25. Ellis G. (1996). How culturally appropriate is the communicative approach? *ELT Journal*, *50*(3), 213-218.doi: 10.1093/elt/50.3.213

26. European Union. (2013). *Studies on Translation and Multilingualism*. Luxembourg: Publications Office of the European Union. doi: 10.2782/13783

27. Finocchiaro M., Brumfit C. (1983). *The functional-notional approach: From Theory to Practice*. Oxford: Oxford University Press.

28. Gass S., Selinker L. (2008). *Second Language Acquisition:* an introductory course. New York: Routledge. doi: 10.4324/9780203932841

29. Hutchinson T., Waters A. (1984). How communicative is ESP? *ELT Journal, 38*(2), 108-113. doi: 10.1093/elt/38.2.108

30. Hymes D.H. (1972). On Communicative Competence. In J.B. Pride and J. Holmes (Eds.), *Sociolinguistics. Selected Readings*. (Part 2) Harmondsworth: Penguin, 269-293. Retrieved from http://wwwhomes.uni-bielefeld.de/sgramley/Hymes-2.pdf

31. Johnson K., Johnson H. (Eds.). (1999). Encyclopedic Dictionary of Applied Linguistics: A Handbook for Language Teaching. Massachusetts: Blackwell Publishers.

32. Jurčenko A. (2015). Applying Task-based Language Learning Method for Teaching Vocabulary. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality* (*REEP)*, *8.* Jelgava: LLU, 423-428. Retrieved from https://llufb.llu.lv/conference/REEP/2015/Latvia-Univ-Agricult-REEP-2015proceedings-423-428.pdf

33. Kachmarchyk S., Khrystiuk S., Shanaieva-Tsymbal L. (2019). Using Blended Learning Technology in Foreign Language Communicative Competence Forming of Future International Relations Specialists. *Revista Romaneasca pentru Educatie Multidimensionala*, *11*(4), 84-99. doi: 10.18662/rrem/159

34. Kalnbērziņa V. (2012). *Language acquisition models*. Rīga: LU Akadēmiskais apgāds.

35. Karousou A., Nerantzaki T. (2020). Phonological memory training and its effect on second language vocabulary development. *Second Language Research*. Article Number: 0267658319898514 doi: 10.1177/0267658319898514

36. Klēvere-Velhli I., Naua N. (2012). *Latviešu valoda studentiem: mācību līdzeklis latviešu valodas kā svešvalodas apguvei* [Latvian language for students: Educational tool for acquiring Latvian as a foreign language]. Rīga: LVA. (in Latvian)

37. Kramsch C. (2016). Applied linguistic theory and second / foreign language education. In N. Van Deusen-Scholl, N.H. Hornberger (Eds.), *Second and foreign language education*. New York: Springer, 3-15.

38. Laizāne I. (2019). *Latviešu valoda kā svešvaloda: lingvodidaktikas virziena attīstība Latvijā un ārpus tās* [*Latvian language as a foreign language: the development of the linguo-didactic direction in Latvia and abroad*]. (Doctoral Thesis. Liepajas Universitate, Liepaja). Retrieved from https://www.liepu.lv/uploads/dokumenti/prom/Disertacija_Laizane_2019.pdf (in Latvian)

39. Larsen-Freeman D. (2002). Techniques and principles in language teaching. *Journal of English Studies, 3*(2), 277-281. doi: 10.18172/jes.83

40. Leonardi V. (2010). *The Role of Pedagogical Translation in Second Language Acquisition: From Theory to Practise.* Bern: Peter Lang AB. doi: 10.3726/978-3-0351-0071-6

41. Mitchell R., Myles F. (2004). *Second Language Learning Theories* (2nd ed.). London: Hodder Arnold.

42. Mutore A. (2013). Tulkošanas aktualizēšana svešvalodas apguvē: frankofono valodnieku skatījums [Updating Translation in Foreign Language Learning: A View of Francophone Linguists]. In D. Laiveniece (Ed.), Zinātnisko rakstu krājumā *Valodu apguve: problēmas un perspektīva*, *IX*. Liepāja: LiePA, 94-100. Retrieved from https://dom.lndb.lv/data/obj/765990.html (in Latvian)

43. *National Reforms in Early Childhood Education and Care*. (2019). Retrieved from https://eacea.ec.europa.eu/national-policies/eurydice/content/national-reforms-early-childhood-education-and-care-34_en

44. *National Reforms in School Education.* (2019). Retrieved from https://eacea.ec.europa.eu/national-policies/eurydice/content/national-reforms-school-education-34_en

45. *National Reforms in Vocational Education and Training and Adult Learning*. (2019). Retrieved from https://eacea.ec.europa.eu/national-policies/eurydice/content/national-reforms-vocational-education-and-training-and-adult-learning-34_en

46. Newby D. (2015). The role of theory in pedagogical grammar: A Cognitive + Communicative approach. *Eurasian Journal of Applied Linguistics*, *1*(2), 13-34. doi: 10.32601/ejal.460614

47. Norland D.L., Pruett-Said T. (2006). *A Kaleidoscope of Models and Strategies for Teaching English to Speakers of Other Languages*. Westport, CT: Libraries Unlimited/Teacher Ideas Press.

48. Nunan D. (2004). *Task-Based Language teaching.* Cambridge University Press. Retrieved from https://sites.educ.ualberta.ca/staff/olenka.bilash/Best%20of%20Bilash/Task-based%20Language%20Teaching.pdf

49. Nurmukhanova D., Sagyndykova Zh., Līce I., Pāvulēns J. (2014). Competency – based approach to teaching foreign languages in Kazakhstan. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *7*. Jelgava: LLU, 116-122. Retrieved from https://llufb.llu.lv/conference/REEP/2014/Latvia-Univ-Agricult-REEP-2014proceedings-116-122.pdf

50. Pariente-Beltran B. (2006). *Rethinking translation in the second language classroom: Teaching discourse and text analysis through translation to advanced students*. (Master Thesis, University of

51. Rai Vishnu S. (2003). *A descriptive grammar of Chamling*. (PhD Thesis, University of Leiden).

52. Richards J., Platt J., Platt H. (1992). *Dictionary of language teaching and applied linguistics*. London: Longman.

53. Richards J., Schmidt R. (2002). *Longman Dictionary of Language Teaching and Applied Linguistics* (3rd ed.). London: Pearson Education.

54. Richards J.C. (2006). *Communicative Language Teaching Today*. USA: Cambridge University Press. Retrieved from https://www.professorjackrichards.com/wp-content/uploads/Richards-Communicative-Language.pdf

55. Richards J.C., Rodgers T.S. (2001). *Approaches, Methods in Language Teaching: A Description and Analysis* (2nd ed.). Cambridge: Cambridge University Press.

56. Rodgers T.S. (2011). The methodology of foreign language teaching: Methods, approaches, principles. In K. Knapp, B. Seidlhofer (Eds.) *Handbook of Foreign Language Communication and Learning*. Berlin: De Gruyter Mouton, 340.-372.

57. Seidlhofer B. (1999). Double standards: teacher education in the Expanding Circle. *World Englishes*. *18*(2), 233-245. doi: 10.1111/1467-971X.00136

58. Sibbard R. (1994). The Use of Translation in Foreign Language Teaching. *Perspectives: Studies in Translation Theory and Practice*. *2*(1), 9-18.doi:10.1080/0907676X.1994.9961218

59. Swan M. (1985). A critical look at the communicative approach (1). *ELT Journal*, *39*(1), 2-12. doi: 10.1093/elt/39.1.2

60. Šalme A., Ūdris P. (1996). *Do it in Latvian!* Rīga: SI.

61. Vasiļjeva I. (Ed.). (2008). *Acquisition of Latvian as a foreign language at European institutions of higher education*. Riga: State Language Agency. Retrieved from https://valoda.lv/wp-content/uploads/docs/Augstskolas_ACQUISITION%20OF%20LATVIAN%20AS%20FOREIGN%20LANGUAGE%20AT%20EUROPEAN%20INSTITUTIONS%20OF%20HIGHER%20EDUCATION.pdf

62. White L. (2003). *Second Language Acquisition and Universal Grammar*. Cambridge U.K.: Cambridge University Press. doi: 10.1017/CBO9780511815065

63. Widdowson H.G. (1994). Aspects of language teaching. *Applied Linguistics,* *15*(1), 105--107.doi: 10.1093/applin/15.1.105

64. Willis D., Willis J. (2007). *Doing task-based teaching*. Oxford: Oxford University Press.

65. Znotiņa I., Laizāne I. (2019). Communicative Approach in Latvian as a Foreign Language: Case of the Textbook „Latvian in Dentistry". In International Conference on Medical and Health Care Sciences *Knowledge for Use in Practice*. Abstracts. Rīga: RSU, 650. Retrieved from http://conference2019.rsu.lv/sites/default/files/documents/knowledge_for_use_in_practice_abstracts_rev.pdf

Case Study: Transversal Skills in Secondary School Mathematics

Gatis Lāma Mg.math.
University of Latvia, Latvia
gatis.lama@gmail.com

Abstract: Today's labor market requires specialists with advanced transversal skills who are able to adapt and develop themselves according to the needs of the workplace. Unlike technical skills, transversal skills are more sustainable than knowledge, because they are less influenced by technology development. Technology advancement requires the development of transversal skills not only at higher education but also in schools. The aim of the study is to assess pupils' transversal skills in secondary school. For this purpose, a classroom survey was conducted using pupils' self-assessment questionnaires as well as participant observation. The study was conducted at a secondary school in Riga during a lesson of calculus where the whole class of 26 pupils was participating in group work activities. This study deals with transversal skills such as collaboration, decision-making and self-discipline. The results show that there is a significant difference in development between studied transversal skills. The level of collaborative and self-discipline skills is significantly higher than the level of decision-making skills. The study also shows the positive role of setting criteria in the decision-making process.

Keywords: secondary education, transversal skills, collaboration, decision-making, self-discipline.

Introduction

Non-routinized and interactive tasks are increasingly identifying professions, thereby also increasing the importance of transversal skills (Direito, Pereira, de Oliveira Duarte, 2014) as key quality criteria for the employee. These processes have led to the need for a global movement that ensures that education goes beyond the acquisition of knowledge, literacy and computing skills, which has been the dominant goal of education in the economic discourse of official education since the nineteen sixties. This movement, also known as the 21st century movement, is appropriate in an era in which we move away from an economic model based solely on production (UNESCO, 2015).

Although the importance of transversal skills for today's pupils or future professionals is well known, there is still a lot of discussion about which of these skills are most important. In addition, a number of related terms such as general skills, cross-curriculum skills, 21st century skills and soft skills can be used both as synonyms and include a special meaning in certain contexts (Karapetjana et al., 2017) P21 (Partnership for 21st…, 2019) theoretical framework of 21st century skills, stresses that the acquisition of traditional subjects (mathematics, science, language, arts and social studies) should not be ignored, but recommends that broad and modern themes be identified and linked to acquisition of transversal skills.

In education, transversal skills allow students to see connection between the knowledge and skills of different school subjects in the pedagogical process. This is envisaged in the new project devoted to the development of the new teaching/learning content School 2030 (Skola 2030, 2016) which anticipates focusing on the following transversal skills in the curriculum: self-cognition and self-management; thinking and creativity; cooperation and participation; digital literacy (Andersone, Helmane, 2018).

Based on analysis of the 21st century skill frameworks the National Research Council offered to categorize them in three broad categories (Pellegrino, Hilton, 2012):

- **The Cognitive Domain**
  Includes cognitive processes and creativity.
  Characteristic transversal skills: critical thinking, information literacy, reasoning and argumentation, and innovation.
- **The Intrapersonal Domain**
  Includes intellectual openness, work ethic and conscientiousness, and positive core self-evaluation.
  Characteristic transversal skills: flexibility, initiative, appreciation for diversity, and metacognition
- **The Interpersonal Domain**
  Includes teamwork, collaboration and leadership.

Characteristic transversal skills: communication, collaboration, responsibility, and conflict resolution.

However, E. Care and R. Luo (2016) categorize the transversal skill in six broad domains and characterize each domain with intrinsic transversal skills:
- **critical and innovative thinking -** creativity, entrepreneurship, resourcefulness, application skills, reflective thinking, reasoned decision-making;
- **interpersonal skills -** communication skills, organizational skills, teamwork, collaboration, sociability, collegiality, empathy, compassion;
- **intrapersonal skills -** self-discipline, ability to learn independently, flexibility and adaptability, self-awareness, perseverance, self-motivation, compassion, integrity, self-respect;
- **global citizenship -** awareness, tolerance, openness, responsibility, respect for diversity, ethical understanding, intercultural understanding, ability to resolve conflicts, democratic participation, conflict resolution, respect for the environment, national identity, sense of belonging;
- **media and information literacy -** ability to obtain and analyze information through ICT, ability to critically evaluate information and media content, ethical use of ICT;
- **other (physical health, religious values) -** appreciation of healthy lifestyle, respect for religious values.

The development of transversal skills requires a flexible learning environment that helps pupils to develop a range of skills simultaneously leaving room for basic skills (Wahlström, 2016). Development of transversal competences is stimulated through active training methods that are used in group work. Active training methods used in group work are best suited for developing transversal skills (Díaz Pareja et al., 2018). On the basis of a theoretical analysis of the 21st century skills or transversal skills the following transversal skills were selected for further research: collaboration, decision-making and self-discipline.

Collaboration skills

For collaboration to take place, there is a need for motivation and space for its development. The organization of the process should ensure collaboration commitments and structure necessary to adopt, recognize and promote the collaboration process (Newell, Bain, 2018). K. van de Oudeweetering and J. Voogt (2017) defines collaboration skill as the ability to achieve a goal as a team, as well as the ability to complement and support each other. Collaboration is characterized by joint objectives and capacity of participants to operate at a similar level of development (Oliveira, Tinoca, Pereira, 2011). The ability to cooperate, including the ability to make joint team decisions, is seen as an important skill for the individual in order to be prepared for the challenges of the 21st century. This type of collaborative skills is considered to be an important learning outcome (Khlaisang, Mingsiritham, 2016).

Collaboration skills can be developed in the traditional learning environment, using different methods. One of the most appropriate methods to develop collaboration skills is group work. Collaboration through intensive interaction and communication (Khlaisang, Mingsiritham, 2016; Stramkale, 2018) as well as the ability to organize work, and to take responsibility for the duties to be carried out, is an important element of group work. C. Newell and A. Bain (2018) considers that a successful collaboration is based on mutual relations.

Mutual respect helps common communication as well as the assessment and acceptance of the diversity of views and solutions proposed, as respect for one another helps partners assess their role in achieving the common objectives. However, it should be noted that the social, cultural, political and philosophical background of each group member also plays an important role. The members of the group should be flexible, able to compromise in order to achieve a common objective and to assume mutual responsibility for a common task. The personal contribution of each member should be valued by each member of the group (Gkemisi et al., 2016). However, collaboration should not only be used to achieve individual learning objectives. Important collaborative tasks should be to exchange new ideas, sharing thoughts and information (Khlaisang, Mingsiritham, 2016).

Although collaboration skills are best developed through long-term projects, particularly projects that are fully structured by students themselves (Moore, 2016), day-to-day learning environments also provides the opportunity to cooperate with each other with a greater variety of pupils and challenges.

Group work as a learning method is effective in improving collaboration skills, learning in small groups is particularly important. However, in addition to the experience of working in well-resource groups, some members do not change attitudes to group work and they continue to prefer individual work (Bernier, Stenstrom, 2016).

Decision-making

Making a decision is a choice between multiple options and is considered a cognitive process. While decision-making skills can be developed at different ages, independent decision-making skills can be developed during adolescence (Truong, Hallinger, Sanga, 2017). Decision-making is related to the way learner responds to specific incentives (Aarskog, Barker, Borgen, 2019). Decision-making can also be conceptualized as a set of habits (Aarskog, Barker, Borgen, 2019) which is often an essential factor in the selection process. When looking at decision-making from such a perspective knowledge and previous experience is most important decision-making characteristics.

Decision-making is complex and is not possible without well-developed problem solving and critical thinking skills. A key prerequisite for decision-making skills is the ability to judge the causes, consequences, benefits and disadvantages of the problem, and the ability to seek different alternatives to the problem (Nicolaou et al., 2009). T.D. Truong, P. Hallinger and K. Sanga (2017) believes that the factors most affecting decision-making are an individual's role, skills, knowledge, experience and character qualities. The decision-making situation itself often consists of a variety of options that can be identified before decisions are taken (Gresch, Hasselhorn, Bögeholz, 2013). The variety of decision-making styles – from habit-based to complex problem-solving outcome – makes this skill versatile and difficult to measure. V. Duran, H. Mertol (2019) highlights key decision-making styles such as: rational, intuitive, spontaneous, and decision-making and regulating processes: dependent and evasive.

In this research rational decision-making style is emphasized, which is characterized by information searching and evaluation of logical alternatives. The ability to make a decision is particularly important and complex in non-routine and unpredictable situations.

Self-discipline

The concept of self-discipline is closely associated with self-control. The synthesis of self-discipline and self-control is a prerequisite for the creation of a harmonized learning environment (Brundrett, Lungka, 2019). Self-discipline and self-control help reduce stress in the classroom for both pupils and teachers. Self-discipline is perceived as socially and morally responsible behavior motivated mainly by internal factors, not just external positive inducements or fear of punishment (Brundrett, Lungka, 2019).

An individual with high levels of self-discipline is able to effectively address impulse-driven conflicts and focus on long-term objectives that require greater effort and resilience (Flowers et al., 2011). Self-discipline is an essential skill for successful collaboration, particularly in groups. Students with high self-discipline are able to control impulse-driven answers (Hagger, Hamilton, 2018) and focus on task. Pupils with well-developed self-discipline are characterized by reliability, hard-working, the ability to complete the task (Jung, Zhou, Lee, 2017). The development of pupils' self-discipline should be a primary objective in the pupils' development process. Self-discipline also contributes to thinking discipline (Brundrett, Lungka, 2019) and the ability to implement a previously designed plan. Low self-discipline not only limits the individual, but also creates complex behavioral problems for surrounding pupils at class level (Brundrett, Lungka, 2019). Self-discipline is one of the most desirable qualities that pupils can develop regardless of their age as it positively affects the level of learning and personal growth (Hagger, Hamilton, 2018).

The aim of the study is to assess pupils' transversal skills in secondary school.

Methodology

As previously stated, group work is well suited for the development of transversal skills, therefore, the study took place in a calculus lesson where pupils were engaged in group work activities. The level of pupils' transversal skills was determined using self-assessment questionnaires and conducting participant observation. The study took place in Riga X Secondary School and involved 26 secondary school pupils.

The task given to pupils divided in equal the groups of four people, chosen by the pupils themselves, was to create a poster, summarizing function limits. The group work lasted 80 minutes and consisted of three phases.

- Introduction phase during which participants were presented with the tasks to be performed and evaluation criteria. It was noted that the results achieved were going to be evaluated as well as the process and transversal skills - decision-making, collaboration and self-discipline.
- Operational phase. During the operational phase the pupils performed a joint task - creating a poster, as well as jointly formulated their views on the selection of work content and selection criteria.
- Closing phase. In the closing phase, pupils commented on decision-making skills, collaboration and self-discipline by filling out a self-assessment questionnaire, assessing seven statements using Likert scale.

The whole process was also assessed by a researcher with observation method.

Results and Discussion

As part of group work, collaboration skills were measured with three statements. The statements examined three dimensions of collaboration skills:

- organization of a work characterized by the ability to jointly agree on the division of the task;
- final result, perceived as a result of joint group collaboration;
- contribution of each member of the group.

The results show a significant difference between these dimensions, 88 % of respondents strongly agree and 12 % agree that ideas of other members of the group were helpful in carrying out the task (Figure 1). 73 % of respondents strongly agree and 27 % agree that the group succeeded in quickly distributing job tasks. The results indicate that pupils believe that the process of the work organization and the process of generating ideas was successful. However, only 42 % of respondents strongly agree and 58 % of respondents agree with the statement that they are "fully satisfied with the created poster". It shows that there was difficulties with organization and design processes.
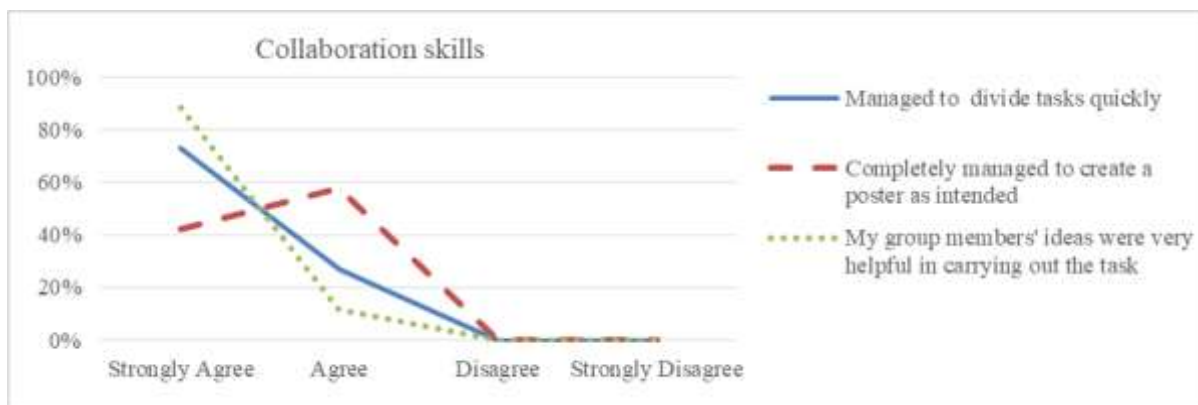
Figure 1. Collaboration skills.

The different results regarding these statements may be explained by difficulties in the decision-making process, which led to a lack of time to complete the task, but, more importantly, were influenced by the organization of the work. It was observed that all groups approached the task with a conventional group work strategy: three of the members of the group were involved in generating ideas and planning content, but only one was occupied with the realization of these ideas in drawing up a poster. This choice of strategy led to a lack of time. Only two groups (8 participants) out of seven were able to react to the problem at hand and managed to change their strategy at in an attempt to adapt.

By dividing the responses to this statement "fully satisfied with the created poster" into two parts: groups who were able to change the strategy and those who continued to work the same way, showed a significant difference in results. In the groups that changed the strategy no one strongly agreed and 100 % respondents agreed that they were fully successful in carrying out the task. In groups where students were unable to change their strategies, the results of this statement were higher: 58 % of respondents strongly agreed and 42 % agreed (Figure 2). An evaluation of the completed posters found

that for both groups that changed their strategy, the outcomes more complete than the outcome of groups that did not change their work strategy. Consequently, the question of this discrepancy between the outcome and the views of the pupils remains open. This could be explained by the difference in the assessment capacity of these groups, but also by the fact that only pupils who were able to understand the inadequacy of their strategies were able to assess the outcome more objectively.
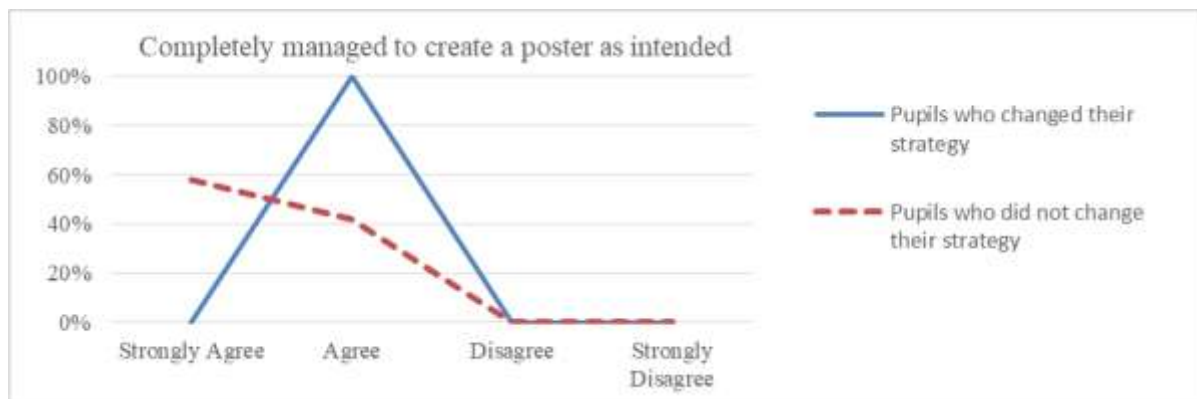
Figure 2. Statement "Completely managed to create a poster as intended".

One segment of the questionnaire was designed to address the decision-making process, which was measured with a question with the Likert scale and one open-ended question. There were no restrictions to the organization of decision-making process and pupils were allowed to divide the spheres of responsibility, make individual decisions, or discuss each decision as they pleased, it was observed that all groups chose to make all their decisions jointly. The majority (73 % of respondents) strongly agreed and the rest (27 % of respondents) agreed that they had decided quickly on the topics and examples to be included in the poster. The results indicate that decision-making skills, although generally rated as positive, are rated lower than collaboration skills and self-discipline.

In an open-ended question, participants had to formulate a single group view on the principles of how they selected the content for the poster. The answers to this question clearly indicated the criteria that were used as a basis for decision-making. The analysis of results revealed the following criteria that pupils used to determine the contents and design of their poster:
- topics that the participants are best acquainted with;
- content which is clear and easily explained;
- content that may be easily visualized;
- subjectively most relevant topics;
- topics that are applicable and usable in class.

At least one criterion for decision-making was raised in each of the groups. Dividing pupils according to the number of criteria set out in their group (one criterion or at least two criteria) shows that the number of criteria correlates positively with the results of the statement regarding decision-making. Of first group (pupils who had only one criterion) no one strongly agreed with the according statement and 100 % chose the response "agree". While participants in the second group (at least two criteria) 39 % of respondents strongly agreed and 61 % agreed (Figure 3). It should be noted that the criterion of including content on the basis of the knowledge of the participants may be considered as a requirement and could be restrictive in decision-making, so that it shouldn't be fully regarded as a criterion.

Three statements were used to assess self-discipline, which included:
- concentration capacity to perform the task;
- the ability to avoid conflict situations,
- the ability to perform the tasks assigned.
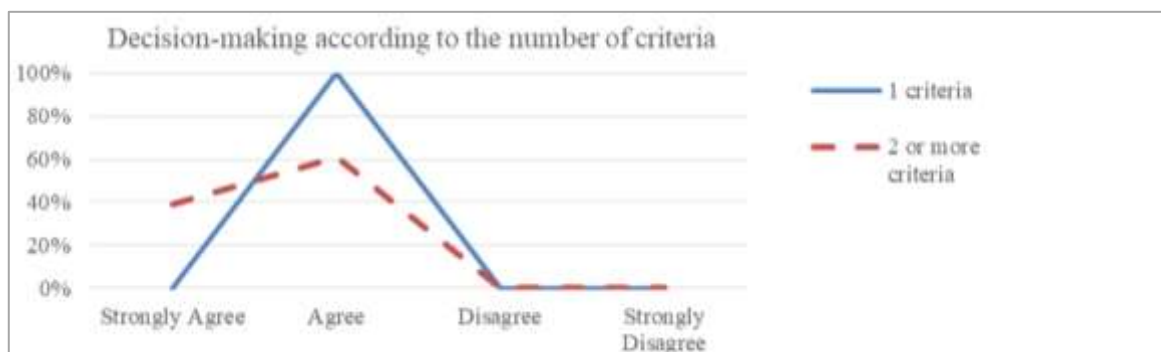
Figure 3. Decision-making according to the number of criteria.

The most of respondents (73 %) strongly agreed, 15 % agreed and 12 % did not agree with the statement "it was easy to focus on fulfilling the task". The majority (69 %) strongly agreed, 23 % agreed and 8 % did not agree that there were no significant conflicts in the decision-making. These were the only statements where answer "disagree" appeared, which may be due to a difficulties with the harmonization of different opinions. However, there were no major conflicts observed, which could indicate that they were small and pupils were capable to quickly resolve them (Figure 4).
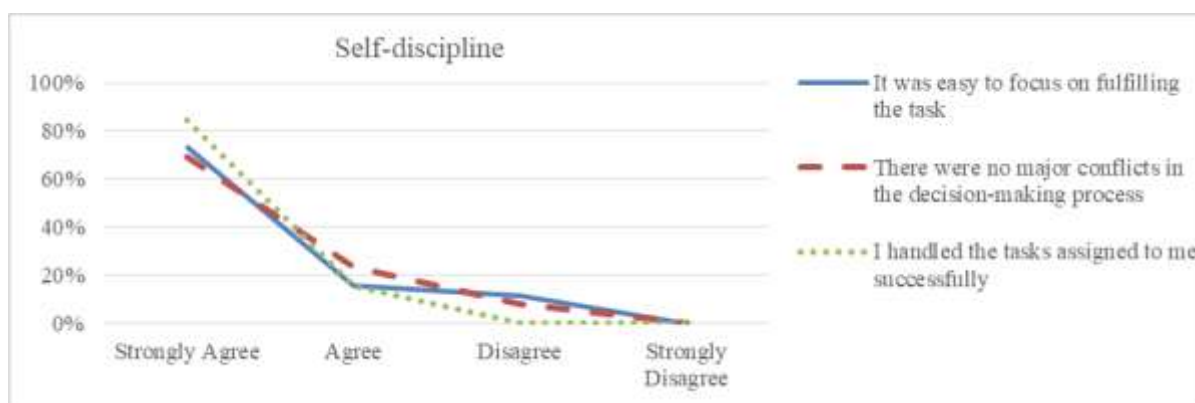
Figure 4. Self-discipline.

More than 4/5 of respondents (85 %) strongly agreed and the other 15 % agreed that they had done "a great job with the assigned tasks". The survey shows that the pupils' self-discipline has been the most evenly assessed. It was assumed that each transversal skill is characterized by the mean value of the each skills corresponding statements. It can be concluded that pupils have similarly valued collaboration and self-discipline, but the result for decision-making is significantly lower. This shows that decision-making seems more difficult for pupils (Figure 5).
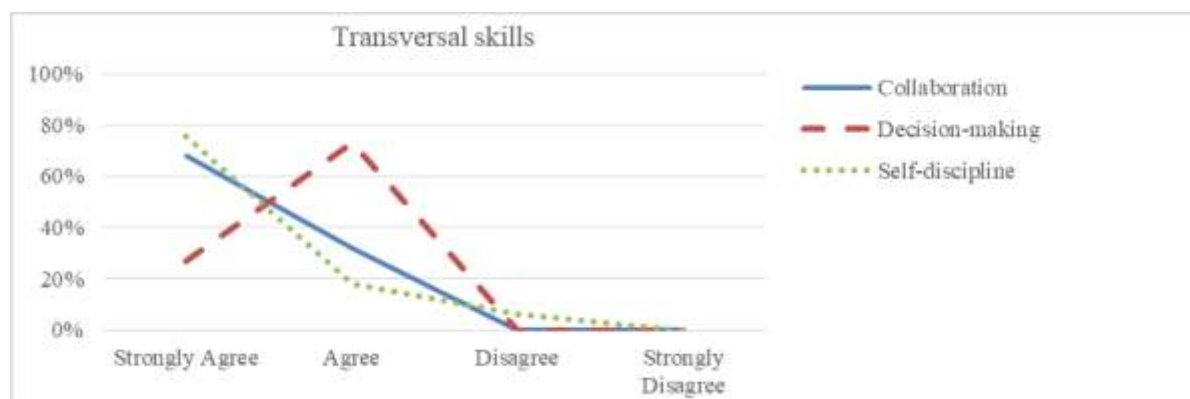
Figure 5. Transversal skills.

Conclusions

The rapid development of technology changes not only the work environment, it also makes it necessary to change the learning process. It is essential to adjust the content and learning methods to promote the development of transversal skills. Research focused on three transversal skills: collaboration, decision-making and self-discipline. The results of the research show that the collaboration, decision-making skills studied in performing the task are well developed for the studied pupils.

Collaboration skills were measured by three components: 1) ability to organize tasks and processes among each other, 2) the final result as a joint group effort, 3) division of responsibilities. More than 2/3 of participants assessed their ability to organize tasks and division of responsibilities with highest grade. Self-discipline was divided into three components: 1) ability to focus on the task, 2) self-control, 3) organization of individual tasks. Self-discipline was measured even higher than collaboration skills, as more than ¾ of respondents assessed all three components with highest grade. However, assessment of decision-making is significantly lower as only ¼ of all participants strongly agreed to the statements that measured this skill, leading to believe that this particular skill may be underdeveloped.

There have been a number of challenges and relations that need to be analyzed in the further studies.

Members of groups who were able to change the strategy in order to better execute the group's task underestimated their collaboration skills. This assessment is contrary to the researcher's observation and indicates that pupils are able to assess their skills according to their understanding and their comparison could be subjective.

The establishment of appropriate criteria greatly facilitates the decision-making process. Members whose group had at least two selection criteria have valued their decision-making skills significantly higher than members of groups with only one criterion. It was observed that the group work was performed better in those groups which members had better mutual relations.

The self-discipline of pupils in the group work process is very high. These results indicate that the given pupils have the capacity to implement self-guided learning processes.

Bibliography

1. Aarskog E., Barker D., Borgen J.S. (2019). What were you thinking? A methodological approach for exploring decision-making and learning in physical education. *Sport, Education and Society*, *24*(8), 828-840. doi: 10.1080/13573322.2018.1491836

2. Andersone R., Helmane I. (2018). Interdisciplinary Education in Multicultural Environment. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality. (REEP)*, *11*. Jelgava: Latvia University of Life Sciences and Technologies, 25-32. doi: 10.22616/REEP.2018.002

3. Bernier A., Stenstrom C. (2016). Moving from chance and "chemistry" to skills: Improving online student learning outcomes in small group collaboration. *Education for Information*, *32*(1), 55-69. doi: 10.3233/EFI-150960

4. Brundrett M., Lungka P. (2019). The development of teachers' knowledge and behaviour in promoting self-discipline: a study of early years teachers in Thailand. *International Journal of Primary, Elementary and Early Years Education*, *47*(4), 462-474. doi: 10.1080/03004279.2018.1498996

5. Care E., Luo R. (2016). *Assessment of transversal competiencies: Policy and the practice in the Asia-Pasific Region*. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000246590

6. Direito I., Pereira A., de Oliveira Duarte A.M. (2014). The development of skills in the ICT sector: Analysis of engineering students' perceptions about transversal skills. *International Journal of Engineering Education*, *30*(6), 1556-1561. Retrieved from https://www.researchgate.net/publication/269335775_The_Development_of_Skills_in_the_ICT_Sector_Analysis_of_Engineering_Students'_Perceptions_about_Transversal_Skills

7. Díaz Pareja E.M., Cámara Estrella Á.M., Muñoz Galiano I. M., Ortega-Tudela J.M. (2018). Group work: Prospective teachers' acquisition of transversal competences. *Educational Studies*, *44*(1), 45-56. doi: 10.1080/03055698.2017.1331841

8. Duran V., Mertol H. (2019). Investigation of the Reasoning Styles of the Teacher Candidates in terms of Decision Making Styles, Learning Modalities and Gender (Süleyman Demirel University Education

Faculty Case). *European Journal of Contemporary Education. 8*(3), 489-505. doi: 10.13187/ejced.2019.3.489

9. Flowers L.A., Moore J.L., Flowers L.O., Clarke M.J. (2011). Chapter 4 The Relationship Between Academic Self-Concept and Career Self-Efficacy Among African-American Males in STEM Disciplines at Two Historically Black Colleges and Universities: An Exploratory Study. In H.T. Frierson, W.F Tate, H.T. Friwrson (Eds.), *Beyond Stock Stories and Folktales: African Americans' Paths to STEM Fields (Diversity in Higher Education, 11).* Emerald Group Publishing Limited, Bingley, 73-83.

10. Gkemisi S., Paraskeva F., Alexiou A., Bouta H. (2016). Strengthening collaboration and communication skills in an online TPD program for 21st-century educators. *International Journal of Learning Technology*, *11*(4), 340-363. doi: 10.1504/IJLT.2016.081710

11. Gresch H., Hasselhorn M., Bögeholz S. (2013). Training in Decision-making Strategies: An approach to enhance students' competence to deal with socio-scientific issues. *International Journal of Science Education*, *35*(15), 2587-2607. doi: 10.1080/09500693.2011.617789

12. Hagger M.S., Hamilton K. (2018). Grit and self-discipline as predictors of effort and academic attainment. *British Journal of Educational Psychology*, *89*(2), 324-342. doi: 10.1111/bjep.12241

13. Jung K.R., Zhou A.Q., Lee R.M. (2017). Self-efficacy, self-discipline and academic performance: Testing a context-specific mediation model. *Learning and Individual Differences*, *60*, 33-39. doi: 10.1016/j.lindif.2017.10.004

14. Karapetjana I., Roziņa G., Henkuzena I., Zaura E., Ribeiro S., Sarmento C. (2017). Transversal Skills in the World of Work: Applied Linguistics' Approach. *Baltic Journal of English Language, Literature & Culture*, *7*, 87-105. Retrieved from https://www.lu.lv/fileadmin/user_upload/lu_portal/apgads/PDF/BJELLC-VII.pdf

15. Khlaisang J., Mingsiritham K. (2016). Engaging virtual learning environment system to enhance communication and collaboration skills among ASEAN higher education learners. *International Journal of Emerging Technologies in Learning*, *11*(4), 103-113. doi: 10.3991/ijet.v11i04.5503

16. Moore C. (2016). The Future of Work: What Google Shows Us About the Present and Future of Online Collaboration. *TechTrends*, *60*(3), 233-244. doi: 10.1007/s11528-016-0044-5

17. Newell C., Bain A. (2018). Team-Based Structures, Protocols and Problem-Solving Skills for Effective Collaboration. In *Team-Based Collaboration in Higher Education Learning and Teaching*. Singapore: Springer, 35-41. doi: 10.1007/978-981-13-1855-9_4

18. Nicolaou C.T., Korfiatis K., Evagorou M., Constantinou C. (2009). Development of decision-making skills and environmental concern through computer-based, scaffolded learning activities. *Environmental Education Research*, *15*(1), 39-54. doi: 10.1080/13504620802567007

19. Oliveira I., Tinoca L., Pereira A. (2011). Online group work patterns: How to promote a successful collaboration. *Computers and Education*, *57*(1), 1348-1357. doi: 10.1016/j.compedu.2011.01.017

20. Partnership for 21st Century Skills. (2019). *Framework for 21st Century Learning Definitions*. Retrieved from http://static.battelleforkids.org/documents/p21/P21_Framework_DefinitionsBFK.pdf

21. Pellegrino J.W., Hilton M.L. (Eds.). (2012). *Education for Life and Work: Developing Transferable Knowledge and Skills in the 21st Century.* Washington D.C.: The National Academies Press. Retrieved from https://hewlett.org/wp-content/uploads/2016/08/Education_for_Life_and_Work.pdf

22. Skola 2030. (2016). *Par Projektu Atbalsts Mācību Pieejas Maiņai* [School 2030: About the Project Supporting a Change of Learning Approach]. Retrieved from https://www.skola2030.lv/lv/par-projektu (in Latvian*)*

23. Stramkale L. (2018). Student's Communication Activity in Small Group Learning. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality. (REEP), 11.* Jelgava: Latvia University of Life Sciences and Technologies, 25-32. doi: 10.22616/REEP.2018.029

24. Truong T. D., Hallinger P., Sanga K. (2017). Confucian values and school leadership in Vietnam: Exploring the influence of culture on principal decision making. *Educational Management Administration and Leadership*, *45*(1), 77-100. doi: 10.1177/1741143215607877

25. UNESCO. (2015). *2013 Asia-Pacific Education Research Institutes Network (ERI-Net) regional study on: transversal competencies in education policy and practice (Phase I): regional synthesis report*. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000231907

26. van de Oudeweetering K., Voogt J. (2017). Teachers' conceptualization and enactment of twenty-first century competences: exploring dimensions for new curricula. *Curriculum Journal*, *29*(1), 116-133. doi: 10.1080/09585176.2017.1369136

27. Wahlström N. (2016). A third wave of European education policy: Transnational and national conceptions of knowledge in Swedish curricula. *European Educational Research Journal*, *15*(3), 298-313. doi: 10.1177/1474904116643329

Communicative Space of Educational Classes
as a Condition for Successful Adult Education

Svetlana Nevdakh PhD
Belorussian State Pedagogical University named after Maksim Tank, Republic of Belarus
nevdah_s@tut.by

Abstract: Currently, adult education is a diverse and mobile system of educational services. Given the current situation, adult education is designed to fill the list of missing competencies of a modern specialist, among which soft skills are important. Soft skills are personal qualities that allow you to interact effectively and harmoniously with other people and are equally necessary for both everyday life and professional activities. One way to solve the problem of forming soft skills of adult learners is to create an appropriate communication space in the educational classes. The purpose of the study is to substantiate theoretically, create and evaluate the communicative space of educational classes in adult education and develop guidelines for its modelling. The experimental work on modelling of the communicative space of training was carried out in the educational process of the Institute of Advanced Training and Retraining of the Maxim Tank Belarusian State Pedagogical University. Forty-two adult learners (people, who decided to receive additional qualification) of the retraining course "Educational activity of experts" studying the didactics participated in the experimental work. The assessment of the communicative space of studies was carried out according to three criteria: "*Assessment of the process*", "*Assessment of satisfaction*" and "*Assessment of the outcome*". The empirical results of testing the communicative space of educational classes were obtained by observing the work of adult learners in the educational classes, analysing the products of their activity, questioning, and polling. According to the results obtained, the communicative space of educational classes in adult education allows you to create the optimal educational environment that contributes to the effective assimilation of the content of the discipline by adult learners, improving their soft skills. These results made it possible to formulate guidelines for modelling the communicative space of educational classes in adult education. The suggested guidelines can be used by teachers in organizing formal and informal adult education.

Keywords: communicative space, educational classes, adult education, adult learners.

Introduction

The ongoing transformations in various spheres of life in many countries, the commonality of global issues, have led to the emergence of fundamentally new issues in the field of education. For people and society, the importance of continuing education throughout life has increased (Nevdakh, 2015).

Not long ago, man existed in the framework of only one professional activity. Professional education received at a university, technical school or vocational school has served him all his life. A change of profession was rare. In modern society, the change of specialty, profession, work, is increasingly happening several times throughout the life of a particular person. This actualizes the importance of adult education.

Currently, adult education is a diverse and mobile system of educational services. In pedagogical theory, adult education is considered as auxiliary, supplementing basic education, as one of the forms of social activity of a person. According to the current situation, adult education is designed to fill the list of missing competencies of a modern specialist (Morris, 2019; Rubenson, 2019; Schreiber-Barsch, Mauch, 2019; Gedvilienė et al., 2018). As noted in a number of studies (Attila, Enikő, 2018; Volger et al., 2018; Cronin, Cronin, 1992), for employers it is important not only the hard skills formed by learners, but also additional knowledge and skills that cannot be obtained at the university: creativity, responsibility, courtesy. They are called "soft skills". The results of a study conducted at Harvard University and Stanford Research Institute show that the contribution of hard skills to the professional success of an employee is only 15 %, while soft skills determine the remaining 85 % (Madsen, 2018).

The Boston Consulting Group also conducted a study of the importance of soft skills for modern employers. It turned out that communication skills are most in demand: 79 % of respondents put them in

the first place. The following ones are active life position - 78 %, analytical thinking - 77 %, endurance - 75 %, ability to work in a team - 74 %, desire to achieve goals - 70 %, ability to resolve conflicts - 54 %, ability to be inspired by new ideas - 54 %, creativity - 43 %, reliability - 42 % (Nicholson, Nairn, 2006).

Thus, soft skills are personal qualities that allow you to interact effectively and harmoniously with other people and are equally necessary for both everyday life and professional activities. Significant soft skills include communication skills, critical thinking, problem solving skills, creativity, teamwork, negotiation skills, self-organization, time management, conflict resolution skills, respect for the culture of other nations, general knowledge, responsibility, etiquette and good manners, courtesy, self-esteem, sociability, honesty, sympathy, work ethic. And this is not the whole list. Conventionally, "soft skills" can be divided into three groups: personal qualities, interpersonal skills and additional knowledge (McGowan, 2015).

One way to solve the problem of forming soft skills of adult learners is to create an appropriate communication space in the educational classes.

The purpose of the study is to substantiate theoretically, create and evaluate the communicative space of educational classes in adult education and develop guidelines for its modelling.

Methodology

In the theoretical basis of the study there are the conceptual ideas of subject-actional, competency-based, andragogical and communicative (dialogical) approaches.

Research tasks:
1. To reveal the essential characteristics of the communicative space of educational classes.
2. To determine the goals, functions and logic of modelling the communicative space of educational classes in adult education.
3. To test in the course of experimental work and evaluate the communicative space of educational classes in adult education.
4. To develop the guidelines for modelling of the communicative space of educational classes in adult education on the basis of the obtained empirical results.

On the basis of the methodological approaches the essential characteristics of modelling the communicative space of educational classes were revealed and the goals, functions and logic of the communicative space of educational classes were determined.

The experimental work on modelling of the communicative space of training was carried out in the educational process of the Institute of Advanced Training and Retraining of the Maxim Tank Belarusian State Pedagogical University in 2016. Forty-two adult learners (people, who decided to receive additional qualification) of the retraining course "Educational activity of experts" studying the didactics participated in the experimental work.

The assessment of the communicative space of studies was carried out according to three criteria:

"*Assessment of the process*" is the assessment of the methods of organizing educational classes (lectures and seminars) to ensure the dialogical interaction of the educational process subjects in the communicative space.

"*Assessment of satisfaction*" is the assessment of the communicative space of educational classes in terms of interest and learner's satisfaction referring to participation in the educational process.

"*Assessment of the outcome*" is the qualitative assessment and self-assessment of changes in the level of formation of soft skills among learners as a result of interaction in the communicative space.

The empirical results of testing the communicative space of educational classes were obtained by observing the work of adult learners in the educational classes, analysing the products of their activity, questioning, and polling. These results made it possible to formulate guidelines for modelling the communicative space of educational classes in adult education.

Results and Discussion

The problem of communicative space is one of the modern and relevant in pedagogical science. This is due to the need to attract various subjective communities to solve educational problems in the socio-cultural plan, which is essential for adult education. The communicative space of educational classes is the totality of the subjects of interaction, communicative-educational objects and means, between which logical relationships are established. These relationships are determined by their functional specificity in the educational process.

The goals of the communicative space of educational classes are oriented at creating a system of interconnected learning situations aimed, on the one hand, at mastering the material studied by adult learners, and on the other hand, at developing soft skills, as well as satisfying cognitive, moral, aesthetic, creative and other human needs, to expand and strengthen empathic interaction, to establish trusting relationships with other people and social groups. The communicative space of educational classes should be aimed at organizing a multi-subjective interaction that ensures the development of professional activities, business communication and creativity by adult learners, which contributes to the successful professional and personal formation of future specialists.

The functions of the communicative space of educational classes have their own distinctive features.

1. The information function is to transmit through communication certain information of everyday, educational, methodical, search, research and another plan. The implementation of this function contributes to the transformation of accumulated life experience, scientific knowledge and it also provides the process of introducing the person to the material and spiritual values of society.

2. The socializing function contributes to the assimilation of sociocultural experience, cultural, moral and professional values, to the development of the ability to hear your interlocutor, to interact empathically, to participate in joint activities.

3. The motivational function encourages adult learners to fulfil the need for contact with another person, exchange personal spiritual values, improve their own communicative experience, remove psychological clamps, and increase self-esteem and self-confidence.

4. The reflective function allows adult learners to assess adequately their communication skills, the ability to build interaction with other people, the ability to work in a team.
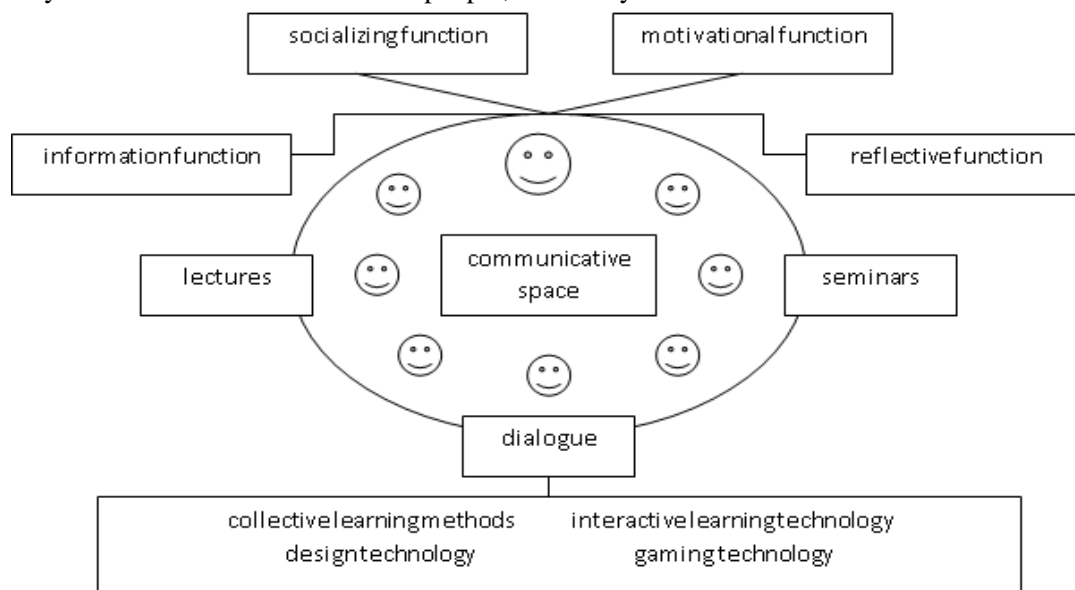
Figure 1. Communication space of educational classes.

The general logic of modelling the communicative space of educational classes involves the creation of conditions for the dissemination of educational information, the emergence of dialogue, which can lead to the transformation of subjective knowledge of an adult learner, the formation of attitudes for subsequent productive interaction (Figure 1). The quality of the communicative space of educational

classes is determined by the quality of the content of the educational program for adult education, a list of information and communication tools, social relations, as well as the links between the spatial-subject and social components. Depending on the form of organization of the educational process, the modelling of the communicative space will have its own specifics.

One of the common forms of conducting educational classes in adult education is a lecture. It performs scientific, educational, and worldview functions, and sometimes serves as the main source of information in case of having no textbooks. Despite the strengthening of the practice-oriented educational process in the curriculum, lectures are given a certain number of hours. Currently, this form is undergoing significant changes. The lecture should meet modern requirements and educational standards and also be informative. The way of presenting the material is changing, as well as the nature of the interaction with learners.

The typology of lectures is considered by R.S. Pionova (2005). The author describes such types as classical or traditional lecture, problem lecture, discussion lecture, lecture - audio visualization, expert invitation lecture. All of these types of lectures can be used in adult education. However, they have different potential in the formation of soft skills of leaners. Focusing on the indicated typology, the potential of different types of lectures in the formation of soft skills are presented in table 1.

Table 1

The lectures potential in soft skills formation

The types of lectures	Brief characteristic	The lecture potential in soft skills formation
Classical or traditional lecture	Contains the latest scientific information, highlights unresolved issues in a specific field of science	Should arouse interest in the discipline being studied, give an orientation to independent work, analysis and educational research, general knowledge
Problem lecture	Includes a series of problematic questions. Learners get involved in thinking and answering them	Activates students, promotes the development of analytical thinking, revitalizes the lecture
Discussion lecture	Conducted on complex hypothetical topics, having an ambiguous interpretation or decision	Promotes the development of critical thinking, analysis, communication skills, the ability to stand for their position, respect for others
Lecture-Audio visualization	Conducted using audio-visual materials, involves their extensive commenting, creating problem situations or the inclusion of problematic issues	Activates visual, auditory analysers, contributes to the development of critical thinking
Expert invitation lecture	In addition to the teacher, another 2-3 specialists participate in the lecture: the experts on the topic of the lesson, who present different points of view on the topic of the lesson. This leads to a problematic situation, dialogue	Promotes the development of communication skills, critical thinking, etiquette and good manners, self-esteem

The productivity of any type of lecture depends on a number of factors:
- depth and scientific content;
- clear structure;
- evidence and persuasion of the position of the teacher;
- teacher's contact with the audience, the degree of interaction;
- teacher's speech culture, lecture manners;
- use of visual and audio-visual media.

In adult education, any lecture should be dialogical in nature. Adult learners get educational information and transform it through the prism of accumulated life experience. The teacher should be prepared to meet the educational needs of adult learners and build a dialogue during the lecture based on their experience.

The modelling of the communicative space in the seminars is based on approaches to understanding the essence of interpersonal communication and its functions. Interpersonal communication is a process of speech interaction both between adult learners and the teacher, adult learners among themselves and their impact on each other. Here, the emotional factor plays an important role. The productivity of the interaction is ensured by the ability of adult learners to perceive emotionally each other – the empathy. The complexity of modelling is explained by the fact that interpersonal communication is implemented in various forms (direct, indirect, interviews, debates, public speeches), each of which has its own characteristics, due to the communicative situation.

At seminars, the effectiveness of communication in particular situations (the presence of other members of the group, their number, spatial and temporal characteristics) are of great importance. Moreover, it should be borne in mind that for each adult learner, effectiveness has its own assessment. The teacher should pay special attention to interpersonal communication as a process, the main components of which are mechanisms related to the perception, understanding, reproduction, processing of information by the subjects of interaction.

Feedback allows you to get information about the real interests and the current state of the adult learner at the time of interaction. The variability of the methods used in the classroom ensures the implementation of a dialogical approach in the interaction of subjects, where each participant in the communicative space has the right to an individual opinion, the change of which is possible during the dialogue. It is necessary to intensify constantly the mental and speech activity of adult learners - subjects of the communicative space, emotionally reflecting all aspects of communicative activity through the assimilation of the concepts studied.

The organization of the communicative space in the educational classes is also ensured by the use of a variety of author's pedagogical technologies, the characteristic features of which are: dialogism, cooperation, co-creation, and focus on the formation of an individual style of professional activity. In this case, conditions are created for the development of educational activities, the formation of adult learners' activity, their awareness of cognitive actions and the assimilation of the content of educational material. The use of teaching technologies that involve work in small groups will help to increase the productivity of the communicative space in the educational classes. This may be the technology of collective learning methods, design technology, interactive learning technology, gaming technology (Nevdakh, 2019).

Let us present the results of modelling the communicative space in educational classes with adult learners of the specialty retraining "Pedagogical activity of specialists" in the study of didactics. The assessment of the communicative space of educational classes was carried out according to three criteria: "Assessment of the process", "Assessment of satisfaction", "Assessment of the outcome".

"Assessment of the process"

Educational classes with adult learners were organized in the logic of modelling described above. According to the curriculum, 36 hours are allocated for the study of didactics. Of these, 20 hours of lecture, 16 hours of seminars. Four lectures were held in the traditional way using multimedia accompaniment, two - problem lectures, two - lectures-discussions, two - lectures in which students assisted the teacher. All seminars were conducted using interactive teaching methods and technologies, collective teaching methods, project training, and games. Using of these methods and technologies supposed to involve all learners in active cognitive activity and communication.

In the course of organized interaction, adult learners get to know each other. The comfortable state of the listener largely depends on the colleagues around him, so it is necessary to create conditions so that learners can get to know each other better. This will allow building relationships during training, taking into account the characteristics of temperament, character, value orientations of the subjects of interaction. Therefore, at the initial stage of interaction, it is important to assess the readiness of a group of learners to participate in joint tasks and cooperation.

According to the results of a survey of listeners, 74 % of respondents were interested in joint creative activity in the classroom, 60 % highly appreciated the ability to cooperate, 62 % - the ability to resolve conflicts creatively. The data obtained indicate that most listeners are serious about joint activities. This

was a positive moment in mastering the content of the discipline and allowed the teacher to involve learners (individually and in groups) into performing learning tasks without additional preparatory exercises.

Assessing the possibilities of organizing training sessions to ensure dialogue interaction, 64 % of listeners noted the importance and necessity of holding classical lectures. Studying in conditions of time pressure, listeners appreciate the proposed information on the discipline. But at the same time, they note that conducting lectures in an unconventional form to a greater extent encourages reflection, the formulation of own conclusions and judgments, and the need for discussion in a group. 100 % of respondents praised the interactive nature of the seminars.

As experience shows, for listeners who do not have a pedagogical education, the study of didactics causes some difficulties associated with ambiguous definitions of concepts, the approaches of various authors to the consideration of pedagogical phenomena, and the comparison of pedagogical knowledge with real practice. When the educational information is hard to understand it may cause the formation of bad attitude towards the discipline being studied. And the situation when the learner isn't aware enough of the pedagogical terms and categories may cause difficulties in organizing interpersonal communication. In this case, motivation plays an important role. The teacher needs in the process of updating the knowledge of listeners to encourage them to actively engage in discussion of issues and the implementation of practical tasks. It is important to create a success situation conducive to a change in attitudes toward learning.

"Assessment of satisfaction"

The content of the communicative space in the didactic classes performed the dialogue, during which the ability to hear and understand each other was determined. Comfortability of interaction in the communicative space was noted by 91 % of listeners. Of these, 79 % indicated the importance of allowing all members of the group to express their own opinions; 64 % - encourage strong arguments and valuable suggestions; 57 % - noted the importance of constructive criticism in the classroom; 64 % - drew attention to the need to achieve accuracy and objectivity when presenting information for discussion in a group; 95 % - respect the opinions of other groups and participants in the interaction.

If we consider the communicative space of educational classes from the point of view of the educational opportunities provided by it, then the integrative quality criterion is the ability to provide all subjects of the educational process with a system of opportunities for full-fledged personal and professional development in the process of multi-subjective interaction, satisfying the complex of needs of adult learners, thus creating appropriate motivation for their activity. Therefore, the use of soft skills is possible only when there is the ability of appropriate usage of various behaviour models, understanding of common and personal interests, priorities ranking and making a choice. The development of these skills is aimed at forming the ability of an adult learner to see and distinguish many options for the development of the situation, make adequate decisions, thereby ensuring his professional and personal viability.

"Assessment of the outcome"

Upon completion of the study of didactics, adult learners took an exam. Formally, all learners passed the exam and received fairly high scores. However, it should be noted that due to the use of technologies that activate the learner's independent work on searching the necessary information to perform educational tasks, organize constructive interaction in the classroom, the answers to theoretical questions were informative. The adult learners tried to explain the didactic phenomena and processes using the terminology of pedagogy.

The practical part of the exam included the performance of practice-oriented tasks (individual and in groups). This part of the exam seemed to adult learners no less difficult than theoretical. The learners who were less experienced in teaching felt more anxiety. In these situations, the effective experience of interaction in the conditions of the communicative space of educational classes was used. When learner's reference group persons (teachers, colleagues) highly value his abilities and assure him that he is able to overcome difficulties, the degree of self-realization increases, thereby ensuring qualitative changes in learner's personality. Observing how others act in difficult situations changes the learners' judgment about their own abilities, helps to acquire useful skills, creates the basis for revealing the self-

fulfilling potential of a person, reflecting the degree of satisfaction or dissatisfaction with oneself, expressed in critical assessments on one's own activities.

The leaners were asked to carry out self-estimation and indicate those soft skills that, in their opinion, they were able to improve in the process of interaction in the conditions of the communicative space of educational classes. The first ten soft skills in terms of the number of choices were presented in the following order: communication skills (88 %), teamwork (83 %), problem solving skills (81 %), general knowledge (76 %), critical thinking (74 %), sympathy (71 %), self-organization (67 %), respect other people (62 %), responsibility (60 %), self-esteem (57 %).

Thus, according to the results obtained, the communicative space of educational classes in adult education allows you to create the optimal educational environment that contributes to the effective assimilation of the content of the discipline by adult learners, improving their communication skills, constructive interaction experience and other soft skills.

Conclusions

The communicative space of educational classes involves the active interaction of all subjects of the training process in adult education. Creating a system of interconnected learning situations, on the one hand, is aimed at mastering the material studied by adult learners, and on the other hand, it is aimed at developing soft skills. The functions of the communicative space of educational classes (informational, socializing, motivational, reflective) contribute to the assimilation of social and cultural experience by adult learners, the exchange of personal spiritual values, the improvement of their own communicative experience, the development of the ability to build interaction with other people, to work in a team.

Modelling of the communicative space of lectures, seminars and workshops involves creating the conditions for the dissemination of educational information, the emergence of dialogue, the organization of multi-subject interaction and promotes the development of soft skills of adult learners. This has been confirmed in the empirical study.

The results of theoretical generalization and empirical study made it possible to formulate guidelines, which are inherently presented in the text. In the process of modelling the communicative space of educational classes in adult education, the teacher should:
- to know the features of adult learning, the requirements of educational standards and be able to plan their activities to achieve the planned learning outcomes, be able to assess the readiness of a group of learners to participate in joint tasks and cooperation;
- to know and be able to apply various methods of conducting lectures and seminars, to determine their potential in the formation of certain soft skills; to take into account the specifics of modelling the communicative space, depending on the choice of the form of organization of the educational process;
- to apply the means (didactic materials, sets of multilevel tasks, technical training tools), methods, technologies for organizing the interaction of adult learners and select them in accordance with the objectives of the training.

In educational classes the teacher should:
- to pay special attention to interpersonal communication (the specifics of the perception, understanding, reproduction, processing of information by the subjects of interaction);
- to ensure the implementation of a dialogical approach in the interaction of subjects, where each participant in the communicative space has the right to an individual opinion, the change of which is possible during the dialogue;
- to intensify constantly the mental and speech activity of adult learners, emotionally reflecting all aspects of communicative activity through the assimilation of the concepts studied;
- to create a success situation to a change in attitudes toward learning.

The level, effectiveness and safety of the communicative space of educational classes depend on the professionalism of the teacher, on his ability to organize multi-subjective interaction in the communicative space, to ensure the motivated inclusion of all subjects in educational activities.

Bibliography

1. Attila M., Enikő B. (2018). Designing an FR-Soft-Skill measurement system to be used in Adult- or Higher Education. In J. Kantola, T. Barath, S. Nazir (Eds.), *Advances in Human Factors, Business Management and Leadership. AHFE 2017. Advances in Intelligent Systems and Computing, 594*. Springer, Cham, 406-417. doi: 10.1007/978-3-319-60372-8_39

2. Cronin M.W., Cronin K.A. (1992). Recent empirical studies of the pedagogical effects of interactive video instruction in "soft skill" areas. Journal of Computing in Higher Education, 3(2). doi: 10.1007/BF02942356

3. Gedvilienė G., Tūtlys V., Lukošūnienė V., Zuzevičiūtė V. (2018). Development of the profession and qualifications of adult educators in Lithuania in the context of reforms of adult education. International Review of Education, 64, 465-487.doi: 10.1007/s11159-018-9704-3

4. Madsen T.B. (2018). *The soft skills gap: ignoring stats for 100 years.* Retrieved from https://bookboon.com/blog/2018/07/47430/

5. McGowan M.J. (2015). *The Case for Soft-Skills*. National Business and Disability Council at The Viscardy Center. Retrieved from https://www.viscardicenter.org/case-for-soft-skills/

6. Morris T.H. (2019). Self-directed learning: a fundamental competence in a rapidly changing world. International Review of Education, 65(4), 633-653. doi: 10.1007/s11159-019-09793-2

7. Nevdakh S. (2015). *Podgotovka pedagogov v sisteme dopolnitel'nogo obrazovaniya vzroslykh v usloviyakh integratsionnykh protsessov* [Teacher training in the system of additional adult education in the context of integration processes]. Minsk: Bestprint. (in Russian)

8. Nevdakh S. (2019). Organization of student-centered training in the system of additional education of adults. In V. Lubkina, K. Laganovska, S. Usca (Eds.), The proceedings of the International Scientific Conference *Society. Integration. Education. 5.* Rezekne: Rezekne Academy of Technologies, 244-253. doi: 10.17770/sie2019vol5.3774

9. Nicholson J., Nairn A. (2006). *The manager of the 21st century. Vision 2020.* Sydney: Innovation and Business Skills Australia Ltd. Retrieved from https://www.bcg.com/documents/file14724.pdf

10. Pionova R.S. (2005). *Pedagogika vysshey shkoly* [Higher Education Pedagogy]. Minsk: Vysheyshaya shkola. (in Russian)

11. Rubenson K. (2019). Assessing the status of lifelong learning: Issues with composite indexes and surveys on participation. *International Review of Education, 65*(2), 295-317. doi: 10.1007/s11159-019-09768-3

12. Schreiber-Barsch S., Mauch W. (2019). Adult learning and education as a response to global challenges: Fostering agents of social transformation and sustainability. *International Review of Education, 65*(4), 515-536. doi: 10.1007/s11159-019-09781-6

13. Volger J.S., Thompson P., Davis D.W., Mayfield B.E., Finley P.M., Yasseri D. (2018). The hard work of soft skills: augmenting the project-based learning experience with interdisciplinary teamwork. *Instructional Science, 46*(3), 457-488. doi: 10.1007/s11251-017-9438-9

Preschool and Primary School Teacher Program Students' Opinion on Science Subjects Necessity for the Profession

Juris Porozovs Dr.biol.
University of Latvia, Latvia
juris.porozovs@lu.lv

Abstract: An important educational task is to encourage preschool and primary school teachers to engage children in scientific activities in a way that will nurture their natural curiosity. The aim of the study was to clear out preschool and primary school teacher program students' attitude to science subjects and their opinion on the necessity of science subjects' topics in the acquisition of the preschool and primary school teacher profession. The electronic survey of the 1st and 2nd course preschool and primary school teacher study programs full time (FT) and part time (PT) students from the University of Latvia was carried out. Altogether 120 students were surveyed. The results of the research showed that most of the surveyed preschool and primary school teacher program students consider that different topics of science subjects must be taught in one common science course for preschool and primary school teacher study programs students and the most appropriate course title might be *Basics of natural sciences*. Many preschool and primary school teacher program students are very interested in such topics as child's health and factors affecting it, stress management, child's behaviour disorders, child's learning disabilities and physiology of child's development. Surveyed FT students as the most important science subjects in the acquisition of the profession of preschool and primary school teacher consider *Physiology of human development* but part time students *Child's behaviour disorders*. Most of the surveyed preschool and primary school teacher program students consider that organizing more outdoor activities outside the classroom, the involvement of children in observation of natural processes and enabling students to do more practical work in nature are the most important ways how to raise pupils' interest in science subjects.

Keywords: university education, students, science subjects, preschool and primary school teacher profession.

Introduction

Preschool and primary school teachers have a significant influence on the development of children and the formation of children interests. An important role in the preparation of a professional teacher plays the professional competence of the teacher. The content of the teacher professional competence consists of knowledge, skills and attitudes necessary for the professional activity of a teacher (Andersone, 2010). Thus, the content of the teacher programs plays a crucial role in developing the competence of prospective teachers. Prospective teachers need knowledge on promoting purposefulness to be able to choose their life goals and be aware of the possibilities to achieve them. Regarding the formation of purposefulness, prospective students need to perceive studies as a process personally significant for them. In such a way, they develop their self-experience where learning becomes personally relevant for them (Jurgena, Cedere, Katane, 2019). Therefore, teachers must be satisfied with the chosen study content.

The economic growth of a country on a great extent depends on science and engineering education and the scientific literacy of young people. The lack of knowledge and skills in science and mathematics can be considered a threat to modern science and technologies - driven economy. Key competences for lifelong learning in knowledge, skills and attitudes were defined at European Union level. They are communication in the mother tongue; communication in foreign languages; mathematical competence and basic competences in science and technology; digital competence; social and civic competences; the sense of initiative and entrepreneurship; learning to learn; cultural awareness and expression (Developing Key Competences…, 2012). Successful studies of young people in science-related professions and the development of interest in these disciplines are closely connected with their primary school experience and interest in science subjects (Bottia et al., 2018). A primary school teacher must be competent in a variety of science subjects in order to generate interest in science among students. Generating meaningful causal explanations of scientific phenomena lies at the heart of both the scientific endeavour itself and of effective classroom teaching. To focus on knowledge acquisition in teacher

education, however, obscures the critical issue of subject-related pedagogical knowledge that ultimately influences classroom practice (Parker, 2004). Therefore, important are the development of both subject knowledge and subject-related pedagogical knowledge in science education.

Studies have shown that Latvia students' cognitive interest in science subjects and mathematics can be assessed as a medium; still, it is very different and is paced in a wide range as regards particular students. The attention is drawn by the fact, that relatively many students have explicitly low interest in the science subjects included in the study. Boys display higher interest in chemistry, physics and mathematics, while girls have a higher interest in biology (Cēdere et al., 2015). Students have a relatively high interest in science in the context with real-life and processes in the surrounding environment. Students' inquiry interest is equally high, and it is expressed as making the experiments, analysis, evaluation, finding out the causes, the solution of real-life problems (Cēdere, Jurgena, Targamadze, 2018; Andersone, 2017). The most important factors that cause students to interest in the subject are the opportunity to acquire an interesting profession related to the subject, possibility to apply obtained knowledge in life and influence of teachers. Especially high the influence of teachers is evaluated by pedagogical specialities students. Students highly appreciate the ability of the teacher to teach the subject simply and comprehensibly and attract students to the subject (Porozovs, 2019).

During the past decade, early childhood teachers have been faced with new needs to develop their content knowledge and pedagogical content knowledge for different science subject areas. To meet these challenges, there is a strong need for professional learning programmes for early childhood teachers that focus on the development of knowledge, and skills to work with science activities in their context (Nilsson, Elm, 2017). The curricula reforms at the levels of preschool and primary school in Sweden have caused new demands on the teachers. In particular, numerous teachers lack educational training in science subjects. In terms of the groups of 1-3 and 4-6 grades teachers, the needs relating to scientific literacy were revealed, with a focus on engaging students in socio-scientific problems (Walan, Rundgren, 2014). Teachers' attitudes and conceptions toward the science subject domain and science education influence their ways of teaching and engagement (Spektor-Levy, Baruch, Mevarech, 2013). An important educational task is to encourage preschool and primary school teachers to engage children in scientific activities in a way that will nurture their natural curiosity. To accomplish this task, teachers themselves must be interested in science subjects.

The aim of the study was to clear out preschool and primary school teacher program students' attitude to science subjects and their opinion on the necessity of science subjects' topics in the acquisition of the preschool and primary school teacher profession.

Methodology

The electronic survey of the 1st and 2nd course preschool and primary school teacher study programs full time (FT) and part time (PT) students from the University of Latvia was carried out. Altogether 120 students were questioned (32 FT students and 88 PT students). The survey was worked out to clarify opinion of students on necessity of science subjects and science subjects' topics in preschool and primary school teacher study programs, the interest of students in different science subject topics and opinion of students about the possibility to increase the interest of children in science subjects. The Likert scale was used in some of the survey questions. The answers of FT and PT students were compared.

The research question was: how much preschool and primary school teacher program students are interested in science subjects and whether they believe, that the science subjects' topics are necessary for the acquisition of the preschool and primary school teacher profession?

Results and Discussion

The results of the investigation showed that the majority of the surveyed preschool and primary school teacher program students consider that different topics of science subjects should be taught in one common science course for preschool and primary school teacher study programs students. Seventy-one percent of FT students and 53 % of PT students support this point of view. Many students share the view that different science subjects must be included in the content of preschool and primary school teacher study programs (29 % of FT students and 45 % of PT students). Only 2% of PT students believe that science subjects are not required for the preschool and primary school teacher education.

Most of the surveyed preschool and primary school teacher program students consider that if a joint course on science subjects will be developed in preschool and primary school teacher study programs, the most appropriate course title might be *Basics of natural sciences* (Figure 1). There are also many other opinions about science course title. FT students are more interested in the study course *Health education* in comparison with PT students, PT students are more interested in *Child's behaviour disorders* and *Environmental science* in comparison with PT students. Some students used the other answer, for example, suggested a course on *Children and behavioural disorders*.
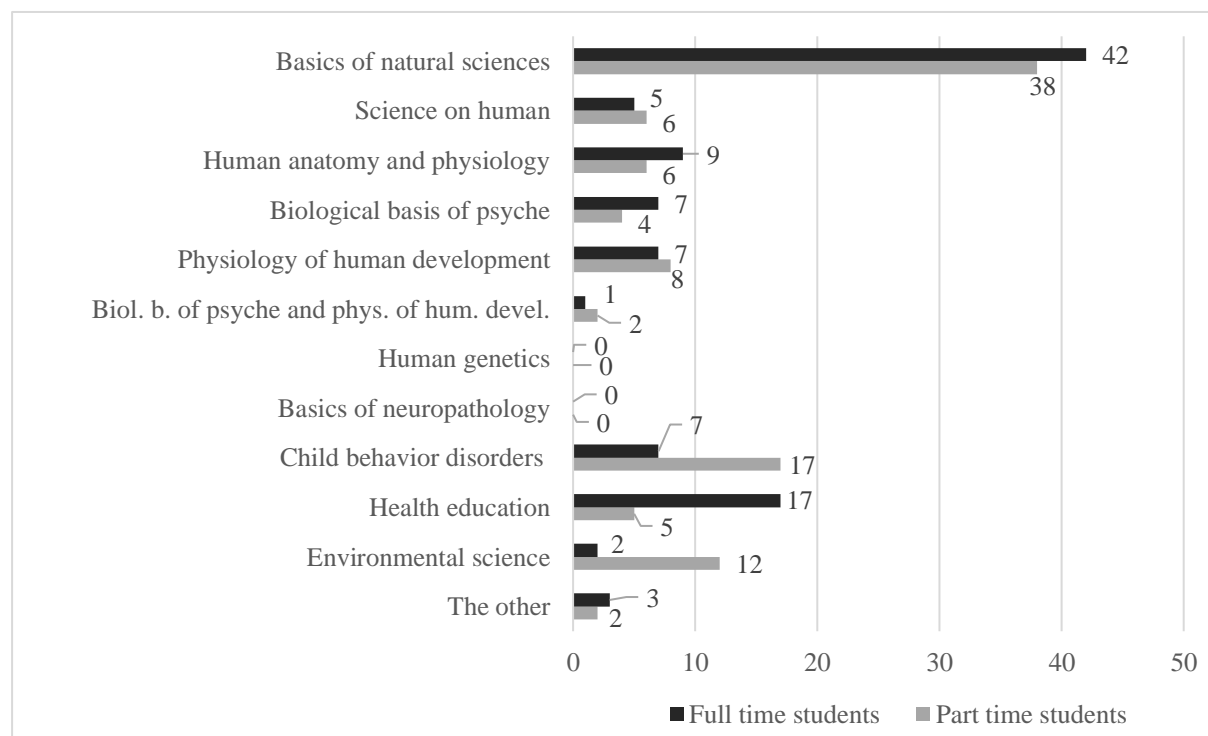
Figure 1. The opinion of preschool and primary school students on the title of science course in the preschool and primary school teacher study programs (in % of respondents). (Biol. b. of psyche and phys. of hum. devel. – Biological basis of psyche and physiology of human development).

Preschool and primary school teacher program students have interest in different topics of the science subjects (Table 1).

Table 1

Interest of the preschool and primary school teacher program students in topics of different science subjects (in % of respondents)

Topics of the science subjects	Full time students					Part time students				
	1	2	3	4	5	1	2	3	4	5
Physiology of child's development	36	43	21	0	0	63	34	3	0	0
Child's behaviour disorders	43	36	14	0	7	68	30	2	0	0
Child's learning disabilities	41	38	14	0	7	56	42	2	0	0
Child's health and factors affecting it	44	40	16	0	0	39	46	15	0	0
Stress management	46	33	21	0	0	61	29	7	3	0
Teacher psycho-hygiene	24	26	43	7	0	36	27	27	10	0
Structure and functioning of human body	11	19	48	22	0	15	41	32	7	5
Human psychic activity and its disorders	17	34	37	12	0	29	32	34	5	0
Human heredity and hereditary diseases	14	34	38	14	0	15	36	39	7	3
Environmental problems	22	24	38	9	7	27	37	24	10	2

1 - very great interest; 2 - great interest; 3 - medium interest; 4 - slight interest; 5 - no interest.

FT students are especially interested in such topics as child's health and factors affecting it (84 % of FT students are very interested or interested in these topics), stress management (81 % of FT students are very interested or interested in these topics), child's behaviour disorders (79 % of FT students are very interested or interested in these topics), child's learning disabilities (79 % of FT students are very interested or interested in these topics) and physiology of child's development (79 % of FT students are very interested or interested in these topics). PT students are especially interested in similar topics: child's behaviour disorders (98 % of PT students are very interested or interested in these topics), child's learning disabilities (98 % of PT students are very interested or interested in these topics), physiology of child's development (97 % of PT students are very interested or interested in these topics), stress management (90 % of PT students are very interested or interested in these topics), child's health and factors affecting it (85 % of PT students are very interested or interested in these topics. Many students are also interested in other science subject topics: 51 % of FT students and 61 % of PT students are very interested or interested in human psychic activity and its disorders, 50 % of FT students and 63 % of PT students are very interested in teacher psycho-hygiene, 64% of PT students are very interested or interested in environmental problems. The results of the research show that most of preschool and primary school teacher students are interested in different science subject topics, especially in those, which are closely connected with child's behaviour, health and development. Fewer students are very interested in topics like structure and functioning of human body (30 % of FT students and 46 % of PT students are very interested or interested in these topics) and human heredity and hereditary diseases (44 % of FT students and 51 % of PT students are very interested or interested in these topics).

Most of the preschool and primary school teacher program students consider that different science subject topics are necessary for obtaining teacher profession (Table 2).

Table 2

The opinion of the preschool and primary school teacher program students about the necessity of including different topics of the science subjects in the preschool and primary school teacher study programs curriculum (in % of respondents)

Topics of the science subjects	Full time students				Part time students			
	1	2	3	4	1	2	3	4
Peculiarities of child development	85	15	0	0	93	7	0	0
Child's behaviour disorders	71	29	0	0	88	12	0	0
Child's learning disabilities	79	21	0	0	88	12	0	0
Child's health and factors affecting it	79	21	0	0	78	17	5	0
Stress management	86	14	0	0	88	10	2	0
Teacher psycho-hygiene	79	14	7	0	71	29	0	0
Structure and functioning of the human body	21	65	14	0	29	61	7	3
Human psychic activity and its disorders	43	43	14	0	64	32	2	2
Human heredity and hereditary diseases	36	50	7	7	44	42	12	2
Environmental problems	36	36	28	0	74	22	2	2

1 - fully agree; 2 - partially agree; 3 - partially disagree; 4 - fully disagree.

The majority of surveyed students fully agree that such topics as peculiarities of child development (85 % of FT students and 93 % of PT students), stress management (86 % of FT students and 88 % of PT students), child's learning disabilities (79 % of FT students and 88 % of PT students), child's health and factors affecting it (79 % of FT students and 78 % of PT students), child's behaviour disorders (71 % of FT students and 88 % of PT students) and teacher psycho-hygiene (79 % of FT students and 71 % of PT students) must be included in preschool and primary school teacher study programs curriculum. The majority of students also fully or partly agree that topics like human psychic activity and its disorders, structure and functioning of the human body and human heredity and hereditary diseases must be included in preschool and primary school teacher study programs curriculum. More PT students in comparison with FT students fully agree that topics of environmental problems must be included in the teacher study programs curriculum. Surveyed students support the point of view that mastering of these topics must be ensured for the preschool and primary school teacher study programs.

Surveyed FT students as the most important science subject in the acquisition of the profession of preschool and primary school teacher consider *Physiology of human development* but part time students *Child's behaviour disorders* (Table 3).

Table 3

The opinion of the preschool and primary school teacher students about the importance of different science subjects in the acquisition of the profession of preschool and primary school teacher (typing in numbers: 1-for the most important; 10-for the least important)

Subjects	Full time students (the sequence of the subjects from the most important to the less important)	Part time students (the sequence of the subjects from the most important to the less important)
Basics of natural sciences	3	2
Science on human	4	3
Human anatomy and physiology	6	7
The biological basis of the psyche	7	5
Physiology of human development	1	4
Human genetics	8	9
Basics of neuropathology	9	10
Child's behaviour disorders	5	1
Health education	2	6
Environmental science	10	7

FT students as important science subjects consider *Health education, Basics of natural sciences, Science on human* and *Child's behaviour disorders* but PT students *Basics of natural sciences, Science on human, Physiology of human development* and the *biological basis of psyche* as well.

An important task of preschool and primary school teachers is to raise pupils' interest in science subjects. Most of the surveyed preschool and primary school teacher program students consider that organizing more outdoor activities outside the classroom and involvement of children in observation of natural processes are the most important ways how to raise pupils' interest in science subjects (Table 4). Eighty-six percent of FT students and 93 % of PT students fully agree that organizing more outdoor activities outside the classroom could increase interest of children in science subjects and 82 % of FT students and 95 % of PT students fully agree that involvement of children in observation of natural processes could increase interest of children in science subjects. Many surveyed students (79 % of FT students and 91 % of PT students fully agree that enabling students to do more practical work in nature could increase the interest of children in science subjects as well.

Table 4

The opinion of the preschool and primary school teacher program students about opportunities to increase the interest of children in science subjects (in % of respondents)

Measures to increase children's interest in science subjects	Full time students				Part time students			
	1	2	3	4	1	2	3	4
To devote more lessons to science subjects	29	64	7	0	39	59	2	0
Organize more outdoor activities outside the classroom	86	14	0	0	93	7	0	0
Teach more about global environ-mental issues	29	64	0	7	29	61	10	0
Enable students to do more practical work in nature	79	21	0	0	91	7	2	0
Involve children in observation of natural processes	82	18	0	0	95	5	0	0
More often organize class tours	57	36	7	0	81	19	0	0
More often visit museums	29	64	7	0	42	58	0	0

1 - fully agree; 2 - partially agree; 3 - partially disagree; 4 - fully disagree.

Conclusions

- Most of the surveyed preschool and primary school teacher program students consider that different topics of science subjects must be taught in one common science course for preschool and primary school teacher study programs students.

- Most of the surveyed preschool and primary school teacher program students consider that if a joint course on science subjects will be developed in preschool and primary school teacher study programs, the most appropriate course title might be *Basics of natural sciences*.

- Many preschool and primary school teacher study program students are very interested in such topics as child's health and factors affecting it, stress management, child's behaviour disorders, child's learning disabilities and physiology of child's development.

- Most of the surveyed preschool and primary school teacher program students consider that organizing more outdoor activities outside the classroom, the involvement of children in observation of natural processes and enabling students to do more practical work in nature are the most important ways how to raise pupils' interest in science subjects.

Bibliography

1. Andersone R. (2010). Skolotāju profesionālā kompetence sabiedrības ilgtspējīgai attīstībai [Professional Competence of Teachers for Sustainable Education]. In I. Žogla and I. Kangro (Eds.). *Pedagogy and Teachers' Education. Scientific Papers University of Latvia, 747.* Riga: Latvijas Universitate, 8-19. Retrieved from https://www.lu.lv/fileadmin/user_upload/lu_portal/materiali/apgads/raksti/747.pdf (in Latvian)

2. Andersone R. (2017). The Learning Environment in Today's School in the Context of Content Reform of Curriculum. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 10.* Jelgava: LLU, 17-22. Retrieved from https://llufb.llu.lv/conference/REEP/2017/Latvia-Univ-Agricult-REEP-2017_proceedings-17-22.pdf

3. Bottia M.C., Stearns E., Mickelson R.A., Moller S. (2018). Boosting the numbers of STEM majors? The role of high schools with a STEM program. *Science Education, 102(1*), 85-107. doi: 10.1002/sce.21318

4. Cēdere D., Jurgena I., Helmane I., Tiltiņa-Kapele I., Praulīte G. (2015). Cognitive Interest: Problems and Solutions in the Acquisition of Science and Mathematics in Schools of Latvia. *Journal of Baltic Science Education, 14*(4), 424-434. Retrieved from http://www.scientiasocialis.lt/jbse/?q=node/443

5. Cēdere D., Jurgena I., Targamadze V. (2018). Interest of Latvian and Lithuanian Students in Science and Mathematics. *Journal of Baltic Science Education*, *17*(1), 31-42. Retrieved from http://oaji.net/articles/2017/987-1519059864.pdf

6. Developing Key Competences at School in Europe: Challenges and Opportunities for Policy. (2012). European Commission, EACEA, Eurydice. Eurydice Report. Luxembourg: Publications Office of the European Union. Retrieved from https://eacea.ec.europa.eu/national-policies/eurydice/content/developing-key-competences-school-europe-challenges-and-opportunities-policy_en

7. Jurgena I., Cedere D., Katane I. (2019). A Multi-Aspect View on the Purposefulness of University Students as Prospective Teachers. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 12.* Jelgava: Latvia University of Life Sciences and Technologies, 263-272. doi: 10.22616/REEP.2019.034

8. Nilsson P., Elm A. (2017). Capturing and Developing Early Childhood Teachers' Science Pedagogical Content Knowledge through CoRes. *Journal of Science Teacher Education*, *28*(5), 406-424. doi: 10.1080/1046560X.2017.1347980

9. Parker J. (2004). The synthesis of subject and pedagogy for effective learning and teaching in primary science education. *British Educational Research Journal*, *30*(6), 819-839. doi: 10.1080/0141192042000279521

10. Porozovs J. (2019). Latvia Students' Interest in Science Technology, Engineering and Mathematics Subjects. In the proceedings *International Conference of Education, Research and Innovation (ICERI2019), 12.* Seville, Spain: IATED, 2749-2758. doi: 10.21125/iceri.2019.0707

11. Spektor-Levy O., Baruch Y.K., Mevarech Z. (2013). Science and Scientific Curiosity in Pre-School--The Teacher's Point of View. *International Journal of Science Education*, *35*(13), 2226-2253. doi: 10.1080/09500693.2011.631608

12. Walan S., Rundgren, S.C. (2014). Investigating Preschool and Primary School Teachers' Self-Efficacy and Needs in Teaching Science: A Pilot Study. *Center for Educational Policy Studies Journal, 4*(1), 51-67. Retrieved from https://www.cepsj.si/index.php/cepsj/article/view/212

Prospective Music Teacher Training: Factors Contributing to Creation of Positive State in the Process of Vocal Education

Asta Rauduvaitė[1] Dr.paed.; **Zhiyu Yao**[2]
Vytautas Magnus University, Education Academy, Vilnius
asta.rauduvaite@vdu.lt[1]; zhiyu.yao@stud.vdu.lt[2]

Abstract: In their study process prospective music teachers have to acquire core knowledge, abilities and skills of vocal education as well as to develop not only subject-specific but also general competences. A future music teacher links her/his identity with the role of both a teacher and a music performer, seeking a harmony between these roles. Thus, while pursuing full-fledged education, emotional experiences of prospective teachers and their positive emotional state in the process of vocal education become of utmost importance. The aim of the study is to reveal the factors contributing to creation of positive state in the process of vocal education. Theoretical research methods: analysis of scholarly literature sources. Empirical research methods: quantitative (prospective teachers' written questionnaire consisting of close-ended questions) and qualitative (prospective teachers' written questionnaire consisting of open-ended questions, semi-structured interview). The collected research data were processed employing quantitative (calculation of percentage frequencies) and qualitative (content analysis of responses) analysis. The research results reveal that preparation for classes, students' mood, physical condition, quality of repertoire and teacher's guidance are seen as the factors that have the strongest impact on future music teachers' positive state during their vocal education. Striving for a positive state of future music teachers in the process of vocal education, it is necessary to identify and analyse these factors to find the best ways to improve this state in vocal education.

Keywords: creation of positive state, teacher training, music education, university education.

Introduction

Under the influence of social and cultural progress, the subject of vocal music has become diversified (European Commission…, 2013). Therefore, now it can be analysed from different perspectives and is considered a very special art subject (Girdzijauskienė, Jankevičienė, Jankuvienė-Rimkutė, 2017; Jucevičiūtė-Bartkevičienė, 2017; Franco et al., 2014; Hunter, Schellenberg, Schimmack, 2010). Learning vocal music, students are required to master the basic vocal methods, to have rich expressive force in singing and a healthy psychological state of mind. R. Kirliauskienė (2018) claims that performing for an audience is one of the most widely spread forms of social anxiety which affects many people. Fear was revealed to be one of the most common causes of unsuccessful performance. This, added to the fact that prospective music teachers also need to be the performers of a very wide range (vocalists, instrumentalists, conductors, managers of non-professional singers or members of an orchestra), means that the possibility of experiencing negative emotions becomes all the more likely.

Perception, mastering and conveyance of change in senses, emotions and moods encoded in poetic and music texts, evoking of emotional experiences and their deepening make up an integral part of emotional music education (Jucevičiūtė-Bartkevičienė, 2017; Pečeliūnas, 2003;). A particular emphasis is laid on evoking positive emotions and experiences and developing empathy through emotional experience of vocal music. According to R. Vasiliauskas (2005), emotions make up an important component in the value structure and the values are frequently determined as immediate emotional reactions of an individual. Thus, emotional experiences, positive emotional state acquire utmost importance to a learner in the process of vocal education. Meaningful comprehension of the text of vocal composition, the analysis of poetic action and linking of these two processes with the musical context as well as living through them are reflected in emotional esthetical vocal expression and a positive state of a learner.

The direct, strong and entertaining function of music art itself is also directly related to university students. The improvement of the spiritual world and the sublimation of the soul are the functions of their spiritual cultivation. Having experienced or still experiencing more intense mental pressure, having a peaceful harmony of body and mind is still an important and realistic need for them (Hallam, 2010). Furthermore, when prospective music teachers attach too much importance to vocal music practice, they

develop a certain dependence, fear of stage performances and inability to perform at the level they are usually able to. In this regard, teachers are required to intensify the stage practice teaching, to enrich students' stage experience and to help improve learners' comprehensive ability. Secondly, teachers can organize school celebrations, concerts and other activities to provide students with a chance to perform on the real stage, which is conducive to cultivating their psychological quality and stage experience, thereby improving the quality and efficiency of their teaching (Girgin, 2017). What is more, according to E. Panadero, J. Alonso-Tapia, E. Reche (2013), psychology is an interdisciplinary subject in vocal education. It is imperative for vocal music teachers to master this knowledge of the subject.

Teaching practice and artistic practice have proved that the psychological teaching method of vocal music should be used in both group and individual classes. Psychology aims to broaden the knowledge, enhance the depth of knowledge, improve the structure of knowledge, and provide material basis and spiritual means for the education and development of talented vocal music students. It is known that singers have to master many abilities. The first is the basic ability, which includes the feeling of sound level, sound intensity, sound length and sound loudness. The second is advanced ability, which embraces the sense of rhythm, timbre, volume, harmonious control and timbre control. The third is the ability of imagination and memory, which comprises auditory imagery, muscular motor imagery, creative imagery and learning ability. The fourth ability includes association, reflection, musical intelligence and talent. The fifth is the ability to express emotions, including aesthetic, emotional response, emotional expression and such. After the careful analysis, it can be claimed that all these abilities have strong psychological characteristics. This shows that singing contains complex and various psychological qualities and confirms the important role psychology plays in the process of vocal education.

Based on the research of scientists who study the subjects of vocal education and singing psychology (Wang, 2018; Wu, 2018), the further understanding of the importance of singing psychology and making of the proper and reasonable use of it in vocal education, will undoubtedly improve vocal music classroom teaching. Therefore, attention should be paid to the following aspects: the importance of singing psychology and application of singing psychology in vocal education as well as to ways to create a positive state in the process of learning and teaching vocal music.

On the basis of the aforesaid, the problem question is raised: what factors allow and contribute to improvement of prospective music teachers' positive state in the process of vocal education.

The aim of the study is to disclose the factors contributing to creation of positive state in the process of vocal education.

Methodology

The objectives of the research: to determine certain factors of creating positive state in the process of prospective music teachers' vocal education; to reveal the attitude of prospective music teachers towards meaningfulness of vocal education from the perspective of positive state creation. Theoretical research methods: analysis of scholarly literature sources. Empirical research methods: quantitative (prospective teachers' written questionnaire consisting of close-ended questions) and qualitative (prospective teachers' written questionnaire consisting of open-ended questions, semi-structured interview). The collected research data were processed employing quantitative (calculation of percentage frequencies) and qualitative (content analysis of responses) analysis.

A specially designed questionnaire was used in the research, which consisted of the questions about the significance of factors influencing creation of positive state in the process of vocal education. The questionnaire consisted of 12 statements (factors) and 12 analogous grading scales. The respondents were requested to respond to the statements indicating whether the factor was highly significant, significant or not highly significant. To reveal the attitude of prospective music teachers towards development of positive state, a semi-structured interview was applied. The interview consisted of open-ended questions on peculiarities of positive state creation. Open-ended questions encouraged students to provide more-detailed responses, which were not restricted by the specific variants for answers. The interview focused on the subjective opinion of research participants. The sample of written questionnaire included 245 respondents; 10 students of music education were interviewed.

Results and Discussion

The analysis of the data on students' experience in the process of vocal education. The interviewees were asked questions about their own experience in the process of vocal education. The purpose of the interview was to find out what problems the students face in singing classes, what factors influencing their emotional state during these classes they can identify and what solutions to the existing problems they can point out.

To begin with, Table 1 reveals the students' responses regarding the challenges they have faced (or may be still facing) during the process of singing.

Table 1

Problems encountered in the process of vocal education

Category	Subcategories	Example of quotes
Problems in the process of vocal education	Technical problems	*I can't find the singing position. Generally, I know that my position is correct only when the teacher tells me so. There are also some problems of pronunciation and word-biting. These are my biggest problems at present. I can't tell if I am singing well or not.* *Lack of relaxation and unstable breathing tend to affect the integrity of my performance of a song.* *My biggest problem is learning the lyrics of a foreign song.*
	Psychological problems	*In singing classes, I experience too much psychological pressure.* *I have issues with stage-fright. I feel tensed and nervous before going on stage, although when I start performing, I usually tend to find my pace and my nervousness dissipates.* *I overanalyse things and tend to focus on certain aspects of my vocal performance that I feel are not good enough. I think these psychological problems often lead to technical problems.*

The results show that many prospective music teachers have different degrees of psychological problems as well as issues related to the lack of certain musical skills. Many interviewees listed technical problems as the reason for their poor state of wellbeing in vocal education. Not being able to find the correct singing position without explicit help from the teacher, unstable breathing during singing and inability to learn the lyrics of a foreign song were among the main reasons pointed out by the students. The psychological problems included too much pressure, stage-fright, overanalysing things and focusing on their own weaknesses.

The responses revealed that sometimes psychological problems arose from the existing skill problem: for instance, the student had certain technical issues, which led to negative emotions, such as frustration with himself or herself or fear of disappointing the teachers. Consequently, skill problems arose from the existing psychological problems: prospective music teachers were in a poor emotional state or if they suffered from stage-fright, their musical skills were also affected in a bad sense. This allowed concluding that psychological problems and technical problems coexist in many cases (Hedden, 2017).

Table 2 shows examples of the responses regarding the factors that influence the respondents' state during singing classes.

The results revealed that the students' state in the process of vocal education can be affected by various factors. The first one is physical health and living habits. It is well-known that people who learn singing should give up bad habits in order to protect their voice (Hedden, 2019).

The teacher's mood was the major factor affecting the state of the students. If the teacher is angry, the students tend to feel scared, pressured, and inadequate. While it is understandable that teachers have their own emotions, some of which can actually be related to the way the students act in class, their level of preparation for it, and more. All this can trigger a normal psychological reaction from the teacher such as anger, as well as happiness and excitement if that is what they are feeling that day. Nonetheless, the important thing to consider is that the way the teacher expresses their emotions affects the prospective music teachers and their well-being during the classes and they should consider all that. In other words, to create a positive learning environment and cultivate positive states it is necessary for the teachers to control their emotions and deal with prospective music teachers in a calm and professional manner (Powell, Parker, 2017).

Table 2

The factors influencing the students' state in class

Category	Subcategories	Example of quotes
Factors influencing the students' state in class	Lifestyle	*If I haven't slept well or haven't been eating well and haven't been drinking enough water, or if I recently drank alcohol, smoked… that would cause some problems with my singing voice.*
		The things that influence how I feel during vocal music classes are mostly sleep quality, eating peppers, and drinking.
	Teacher's mood	*Of course, if the teacher is very enthusiastic and relaxed, I will dare to sing, but if the teacher is in a bad mood today, I will be nervous, I fear that the teacher will be angry.*
		I think the teacher's mood has the greatest impact on me. If the teacher's mood is good, my mood will be good, too. If the teacher's mood is not good that day, I will be very afraid. And under great pressure.
	Environment	*When the classroom or even the halls are too loud, it's difficult to concentrate in class and it affects how I feel.*
		My voice gets strongly affected by the changes in nature and weather, so when I experience these physical problems, I don't feel well during vocal music class.

Understanding that vocal music requires rigorous practice in and outside the classroom, students frequently experienced fear or shame if they came unprepared to the class, which hindered their overall positive state (Abramauskienė, Kirliauskienė, 2018; Pallavicino, 2015). There are environmental factors, which are twofold: the classroom environment and the natural environment. Some prospective music teachers pointed out that because of the shift of seasons, their voices often experienced various problems, which, in return, resulted in their bad feeling in the classroom. This factor obviously cannot be changed and students can only learn to deal with it and prepare for it accordingly. As for the classroom environment, because of the particularity of the specialty, the classroom and further surroundings need to be quiet in order for the students to concentrate on the subject and if there is too much noise and disruption, the students' emotional state may suffer. This may be changed in various ways, for example, locating music classrooms in more reclusive parts of the university, scheduling classes in times when there is not a lot of activity from students of different fields, or soundproofing the classrooms.

The research (Table 3) showed that the solutions to the problems experienced by prospective music teachers in the process of vocal music education are different for each interviewed individual. Some participants tried to eliminate negative factors influencing their state in class using various means, such as drinking water, doing breathing exercises and following teacher's guidance.

Table 3

Suggestions for creating positive states in the process of vocal education

Category	Subcategories	Example of quotes
Creating positive states in the process of vocal education	In the class	*I think the first step to feeling better in class is drinking plenty of water and doing breathing exercises.*
		I feel less pressure when I listen carefully to the teacher and do my tasks as good as possible.
	After the class	*I think resting after the class and clearing my mind helps.*
		For me, self-motivation and reflection are most helpful. I try to identify the reasons for any negative feelings that I experience in class and try to eliminate the1 problem. I also try to keep enthusiastic and tell myself not to give up.
		If I experience negative emotions in class, I try to calm down after it, re-think what I may have done wrong or where I misunderstood my teacher and try to correct my mistakes.

However, the majority of them deal with their problems after class: they either try to relax and clear their mind in a safe environment, or dedicate some time to think and reflect on what happened, what caused negative emotions or experiences and what could be done to improve the situation. According to

A. Rauduvaite (2018), it is particularly relevant to consider and choose a repertory, which is as if the bridge between the teacher and the learner. This is important because music provides inspiration, joy, helps to relax, evokes previous experiences, appeals to cultural values, stimulates mind and encourages creativity.

The prospective music teachers, who indicated that they feel negative emotions due to misunderstandings with their teacher, also added that that trying to analyse their interactions with the teacher, re-thinking and attempting to understand what the teacher meant or wanted from them in class also helped them not to repeat mistakes and feel better in the following singing classes. Teacher's guidance was distinguished as one more very important factor, which influences the students' positive state in vocal education (Sakadolskienė, 2017; Juslin, Laukka, 2003).

All in all, it can be concluded that while students deal with negative emotions in the classroom in different ways, most of them have their own coping mechanisms to be employed when the need arises. However, it also seems that not all of the efforts are effective or as effective as they could be. Therefore, it is crucial for the students and the teachers to correctly identify all the factors influencing negative states in the process of vocal education in order to change the situation and find appropriate and efficient ways to cope with negative aspects (Johnsos, Matteheus, 2017; Wright, Finney, 2010).

The prospective music teachers made suggestions for the improvement of the process of vocal education based on their own experience (Table 4).

Table 4

Suggestions for improving the learning process of vocal education

Category	Subcategories	Example of quotes
Improving the process of vocal education	Mentality	*The first point is not to be impatient or too eager to achieve goals; it is necessary to concentrate on practice.*
		I think the most important thing is not to give up. Continuous efforts. Perseverance. That's all.
		I don't think there are any geniuses in the world. As long as we study hard and constantly, even little progress every day is still progress. Diligence will make up for ignorance - the world is for those who are prepared.
	Study methods	*Learning vocal music is not just singing, you need to understand what the composer experienced in that era, what kind of mentality created this song, and then you need to understand the meaning of the lyrics, express certain emotions. I think that all of these should be considered, as well as respect for composers and responsibility for works.*
		Listen more, practice more, see more, learn more about singing, listen to more good concerts, broaden your horizons, improve self-cultivation.
		In the classroom, you must employ self-regulation, and actively cooperate with teachers.
		Reflecting after class, analysing mistakes, also gaining some theoretical knowledge.
		Listening to different kinds of music. Listening is very important in music. More practice. More expression of emotion.

The analysis of the data of the questionnaire survey on students' opinion about process of vocal education

The prospective music teachers were asked if they think that it was important to reflect on the problems in teaching: 47 % of the respondents thought it to be very important, 29 % of them considered it to be important, 16 % claimed importance of the matter in general and 8 % of the respondents did not give any importance to the matter. The students were asked to evaluate the importance of self-assessment: 41 % and 35 % of the prospective music teachers believed that self-assessment is a valuable addition to the positive state in the class. 16 % of the respondents did not give the utmost importance to self-assessment skills and only 8 % of them answered that it was not important at all.

One of the methods often used is listening to the recording of prospective music teachers' singing as a means of self-assessment. The data revealed that 46 % of prospective music teachers agree that this

method is important for the positive state of learning. However, only 38 % of the respondents thought that the method was also useful for self-assessment. 37 % of prospective music teachers pointed out that it was important and 30 % stated that it was slightly more important for the self-assessment. There was a bigger contradiction in the opinion about general importance, as 11 % of the respondents found listening to the recording of general importance to the positive state during classes. However, about one fourth (23 %) of the respondents stated that it was not that important for self-assessment. Lastly, only a small proportion (7 % and 9 %) believed that it was unimportant for the positive state and self-assessment at all.

The students were also asked whether they thought that preparation for singing classes was important in order for them to get a positive state during the actual classes. The majority of the prospective music teachers (43 %) indicated that this was a very important factor for their self-reflection, and 39 % stated that it was more important in general sense than for self-reflection. 15 % and 11 % of the respondents thought it to be of general importance to the positive state and self-reflection, while only a small number of respondents (8 %) and (10 %) pointed out that it was not important at all. This allows assuming that positive state of music education students in the process of vocal education is greatly influenced by the level of their preparation before the class. This makes the preparation for vocal music classes an important factor.

One more important factor mentioned by the respondents was their mood, which they were coming into the classroom in. Half of the students (50 %) answered that their mood at that very moment influenced how they felt during the singing classes. Similarly, the prospective music teachers stressed that their physiological state also had a major influence on their general state during vocal classes, with 40 % and 33 % respectively claiming that their physical health was very important or had a higher level of importance than general and strongly affected their state in the process of vocal education.

As the survey showed, not only the mood but also the general mental state of the students may have a tremendous impact on their positive state. About half of the respondents (45 %) assure that this is a very important factor, while only 7 % of the respondents put no value in a general mental state of the singer.

Furthermore, the respondents highlighted the importance of the quality of the songs they were given to sing during singing classes as an impact on their positive state. That is to say, if the students understand the piece they are singing, if they emotionally connect with it and find it enjoyable to sing, they are likely to be in a positive state while learning, and vice versa. About half of the respondents (45 %) stated that the liking of the song is very important for a positive state during the class, one third of students (29 %) claimed that it was important, and only a small number of respondents (8 %) did not give any importance to this factor.

Most of the questioned students stated that the way their teachers conducted the class, explained the tasks and helped them with arising problems significantly affected their state in the process of vocal education: 39 % and 34 % of the respondents stated that this factor was either very important or had an importance and only 11 % claimed that teacher's actions during the class are of no importance to their positive state. This also complied with the results gathered from the interview, in which students claimed that their teacher's mood and guidance were directly related to how they felt in class.

According to the survey data, the respondents distinguished six compound music professional skills that music teachers should develop. The skills include: singing, instrumental performance, music score reading, creativity, conduction, ability to use media. As can be seen, prospective music teachers must take into account many different factors, therefore it is crucial for them to develop in an all-round way and always be open for the innovations.

Apart from skills, the respondents emphasised the importance of qualities that must be present in every music teacher. From the responses, two sub-categories were identified: qualities of personal accomplishment and qualities of professional ethics. Personal accomplishments involve patience, seriousness, responsibility and the psychological knowledge of students' strengths and weaknesses. Professional ethics encompass an attitude towards music, commitment to development and improvement of students, proper feeling of the musical compositions and striving for knowledge and innovations instead of being focused on one method of teaching.

To further delve into the problems that occur during music classes and can hinder the positive state of students, the question about their skills was asked. The main problem for females was their weak abdomen and inability to relax while singing. Males stated that they were not able to control their throat position, which

often resulted in the pitch not being able to go high enough. Also, a third subcategory, which included the rhythm and was common for both females and males, was identified. The problems embraced their inability to catch up with the rhythm of music, unstable singing atmosphere, inability to evoke and express the correct feeling of musical composition and having an incorrect pronunciation of lyrics in foreign languages. In summary, the positive state is also influenced by physiological factors that differ between genders.

One more aspect highlighted by the respondents embraced problems encountered during actual teaching. In this category four subcategories were distinguished. The subcategories were as follows: communication, coordination, natural personal conditions and teacher's personal problems. Communication problems mainly include the understanding of the theoretical parts without having the actual experience. Learners of different age and different experiences interpret the same musical compositions differently. So the understanding that can be shared by everyone is not easily acquired. Also, some psychological and physiological factors can influence the students' ability or willingness to cooperate with the teacher's guidance and tasks. Personal conditions encompass the inherent physiological state of the student's voice, hearing and other factors that are required for singing and learning music. Finally, teacher's personal problems can involve lack of experience to deal with particular situations or inability to properly guide the student through learning process with their natural characteristics. The respondents were asked about the possible solutions, which can facilitate achievement of positive state. Three main subcategories were identified: students' own condition management, external factors and learning methods. Students should try to regulate themselves. Being in a good mood, having a healthy physiological state and being relaxed enable them to achieve a higher singing desire. Also, having a better knowledge of musical composition helps the learners to do better in their performance, thus enforcing a positive state. External factors involve teacher's guidance and coordination as well as providing a suitable singing environment. Finally, positive state cannot be achieved without proper learning methods, such as listening to critiques and having some self-reflection, as well as seeing and learning from other people's performances at the concerts.

Adequate preparation for classes, overall mood of students, their physical and mental health, the quality and enjoyment of the repertoire and the teacher's guidance were distinguished as the most significant factors influencing positive state of prospective music teachers in the process of their vocal education.

Conclusions

The prospective music teachers revealed that they experience a variety of technical and psychological problems in the process of vocal education. What is more, it became evident from the respondents' answers that these problems are interrelated: technical problems create psychological ones, and vice versa.

The interviewed prospective music teachers disclosed the internal and external factors which negatively influence their state during singing classes. The internal factors included physical health, while the external factors embraced the teacher's mood, voice problems related to certain weather conditions, and disruptive environment in and around the classroom. The solutions to internal issues proposed by the interviewees included propagating healthy living, drinking plenty of water and getting enough rest. Suggestions for eliminating external problems included promotion of self-motivation, taking time to reflect and analyse the arising issues and trying to correct mistakes or poor patterns of behaviour. Moreover, prospective music teachers should see the link between technical and psychological problems which are enforcing negative emotions in the process of vocal education in order to create positive states. The interviewees also provided some suggestions for improving the learning process of vocal education, putting emphasis on adjustments in students' mentality and employing certain learning methods.

The research shows that the following factors which have the strongest impact on future music teachers' positive state during singing learning: preparation for class; students' mood; physical condition; quality of repertoire; teacher's guidance. Based on these findings, it can be concluded that in order to create a positive state in the process of vocal education, the participants in this process should be able to identify and analyse these factors to find ways to improve the state of prospective music teachers in vocal education.

Bibliography

1. Abramauskienė J., Kirliauskienė R. (2018). Analysis of some aspects of music education: approach of school principals. *Music science today: the permanent and the changeable.* Daugavpils: Daugavpils university academic press "Saule", *2*(10), 149-154.
2. European Commission/EACEA/Eurydice. (2013). Education and Training in Europe 2020: Responses from the EU Member States. Eurydice Report. Brussels: Eurydice. Retrieved from http://abdigm.meb.gov.tr/projeler/ois/009.pdf
3. Franco F., Swaine J.S., Israni S., Zaborowska K.A., Kaloko F., Kasevarajan I., Majek J.A. (2014). Affect-matching music improves cognitive performance in adults and young children for both positive and negative emotions. *Psychology of music*, *42*(6), 869-887. doi: 10.1177/0305735614548500
4. Girdzijauskienė R., Jankevičienė Ž., Jankuvienė-Rimkutė S. (2017). *Dainavimas be sienų. Vokalinio ugdymo tradicijos ir inovacijos* [Singing without Borders. Traditions and Innovations of Vocal Education]. Klaipėda: Klaipėdos universiteto leidykla. Retrieved from http://www.lmma.eu/wp-content/uploads/2018/11/Dainavimas-be-sien%C5%B3.pdf (in Lithuanian)
5. Girgin D. (2017). The relations among musical instrument performance self-efficacy, self-esteem and music performance anxiety in pre-service music teachers. *Educational Research and Reviews*, *12*(11), 611-616. doi: 10.5897/ERR2017.3251
6. Hallam S. (2010). The power of music: its impact on the intellectual, social and personal development of children and young people. *International Journal of Music Education*, 2*8*(3), 269-289. doi: 10.1177/0255761410370658
7. Hedden D.G. (2017). Lessons from Lithuania: A pedagogical approach in teaching improvisation. *International Journal of Music Education*, *35*(2), 289-301. doi: 10.1177/0255761416667462
8. Hedden D.G. (2019). Lessons from Lithuania: Teacher beliefs and behaviors in teaching young children to sing. *International Journal of Music Education*. doi: 10.1177/0255761419888015
9. Hunter P.G., Schellenberg G.E., Schimmack U. (2010). Feelings and Perceptions of Happiness and Sadness Induced by Music: Similarities, Differences, and Mixed Emotions. *Psychology of Aesthetics, Creativity, and the Arts*, *4*(1), 47-56. doi: 10.1037/a0016873
10. Johnsos C.D., Mattheus W.K. (2017). Experienced general music teachers' instructional decision making. *Interpersonal Journal of music education*, *35*(2), 189-201. doi: 10.1177/0255761415620531
11. Jucevičiūtė-Bartkevičienė V. (2017). The importance of vocal education in preschool institutions. *CFMAE: The changing face of music and art education, interdisciplinary journal for music and art pedagogy*, *9*, 9-17.
12. Juslin N.P., Laukka P. (2003). Communication of Emotions in Vocal Expression and Music Performance: Different Channels, Same Code? *Psychological Bulletin*, *129*(5), 770-814. doi: 10.1037/0033-2909.129.5.770
13. Kirliauskienė R. (2018). The peculiarities of self-regulation of future music teachers during the practice. In E.P. Sheehan (Ed.), The Proceeding of the International Conference on *Education*, *4*, 69-78. doi: 10.17501/icedu.2018.4108
14. Pallavicino A.Z. (2015). Musical play and emotional (self-)regulation a Maieutic-formative teaching method. *Procedia – Social and Behavioral sciences*, *191*, 1629-1633. doi: 10.1016/j.sbspro.2015.04.659
15. Panadero E., Alonso-Tapia J., Reche E. (2013). Rubrics vs. self-assessment scripts effect on self-regulation, performance and self-efficacy in pre-service teachers. *Studies in Educational Evaluation*, *39*(3), 125-132. doi: 10.1016/j.stueduc.2013.04.001
16. Pečeliūnas R. (2003). *Vaikų vokalinės kultūros ugdymas chore*. [Development of Children's Vocal Culture in Choir]. Šiauliai: ŠU leidykla.
17. Powell S.R., Parker E.C. (2017). Preservice music teachers' descriptions of successful and unsuccessful teachers. *Journal of Music Teachers Education*, *26*(3), 27-37. doi: 10.1177/1057083716662689
18. Rauduvaite A. (2018). The Educational Aspects of Integrating Popular Music into Lessons. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 11*. Jelgava: Latvia University of Life Science and technologies, 94-100. doi: 10.22616/REEP.2018.011
19. Sakadolskienė E. (2017). Ne vien žinios ir gebėjimai: transformacijos per mokytojo socializaciją ir tapatybės ugdymą [Not Just Knowledge and Skills: Transformations in Teacher Socialization and Identity]. *Acta Paedagogica Vilnensia*, *38*, 42-57. Retrieved from https://www.zurnalai.vu.lt/acta-paedagogica-vilnensia/article/view/10790/8885 (in Lithuanian)
20. Vasiliauskas R. (2005). *Vertybių pedagogika: įžvalgos į vertybių ugdymo teoriją ir praktiką*. [Pedagogy of Values: Insights into Theory and Practice of Value Education]. Vilnius: VPU leidykla.
21. Wang X.L. (2018). Research on the cultivation of stage expression in vocal music singing. *China: China National Expo*, *34*(10), 143-154.
22. Wright R., Finney J. (2010). Culture, Society and Music Education. In R. Wright (Ed.). *Sociology and Music Education*. London: Routledge, 223-241. doi: 10.4324/9781315087856
23. Wu X. B. (2018). Analysis of Vocal Music Learning in Secondary Vocational Schools: Problems and Solutions. *Voice of the Yellow River*, *35*(17), 127-138.

Investigating Students' Perceptions of their University's Brand

Antra Roskosa[1] Dr.sc.admin.; **Yulia Stukalina**[2] Dr.sc.admin.
Riga Technical University, Latvia[1]; Transport and Telecommunication Institute, Latvia[2]
Antra.Roskosa@rtu.lv[1]; Stukalina.J@tsi.lv[2]

Abstract: The role of branding in higher education is increasing, as the requirements of the target audience (university stakeholders) are constantly changing. Modern universities have to meet complex needs and expectations. This calls for reviewing branding strategies designed by senior education managers, which are aimed at building and maintaining a strong institutional brand. Brand, being a complex phenomenon, includes various aspects, or "building blocks". A holistic approach to the development of a marketing strategy (integrating various marketing activities) presupposes that different brand-building elements have to be considered. Through brand responses managers will obtain necessary information about what customers think and feel about the brand. Brand responses can be obtained in the frame of the customer-based brand equity model, through exploring customers' perceptions of a particular brand. The obtained information will later be applied in the agenda of updating branding strategies created by senior education managers. The aim of the study conducted in two higher education institutions of Latvia was to investigate students' perceptions of different aspects of their university's brand from a customer-based brand equity perspective. The paper is based on 1) literature review on branding, including branding in the higher education sector; 2) a survey conducted in two technical universities of Latvia – state (Riga Technical University) and private (Transport and Telecommunication Institute). The results of the empirical study demonstrate that in general, the students of both state and private higher education institution perceive their university's brand similarly; besides, it is of a high importance of every institution brand's service to pay more attention to their students' needs and expectations in order to prove having a highly efficient communication process with the students.

Keywords: brand-building blocks, branding strategy, customer-based brand equity model, higher education.

Introduction

Today, ensuring the quality and competitiveness of education are considered as one of the most topical concerns (Jurgena, Cedere, Katane, 2019). In the context of intensified competition in the global higher education sector, senior educational management must design effective marketing strategies aimed at creating a trustworthy university brand based on high quality of educational services and programmes (Roskosa, Stukalina, 2019). The increased competition for students and academic staff makes universities to focus on branding in higher education (Hemsley-Brown, Oplatka, 2006; Hemsley-Brown, Goonawardana, 2007; Woyo, Obert, Frank, 2014; Hemsley-Brown et al., 2016). The role of branding in higher education is growing, as the requirements of the university stakeholders are continuously changing. Contemporary universities are becoming more concerned with the requirements and expectations of their stakeholders, which results in enhanced marketing orientation (Hall, Witek, 2015). In this context, it is necessary to build and sustain positive relationships with applicants and students, as primary stakeholders (or "customers") in the higher education sector. Students are regarded as the most interested party concerning educational outcomes, as they will determine their competitiveness in the global labour market (Roskosa, Stukalina, 2018). So, the way prospective students select and assess a higher education institution and their attitude towards the university's brand deserve close attention of higher education managers.

According to K.L. Keller (2009), marketing managers are now using more diverse marketing communication options and models. One of the brand-equity models aimed at better understanding of the role of marketing communications is the Customer-Based Brand Equity (CBBE) model (Keller, 2001; Keller, 2008), which presumes that brand equity is basically determined by the "brand knowledge" that is generated in consumers' memory through different marketing activities (Keller, 2009). Brand, being a complex phenomenon, includes various aspects, or "building blocks". A holistic approach to developing a marketing strategy (integrating various marketing activities) presupposes that different brand-building elements have to be considered. Through brand responses managers will obtain necessary

information about what customers think and feel about the brand, which in turn, will be used for interpreting and evaluating marketing activities aimed at building a strong institutional brand. Brand responses can be obtained in the frame of the above customer-based brand equity model, through exploring customers' perceptions of a particular brand. The obtained information will later be applied in the agenda of revising and updating branding strategies created by senior education managers.

The aim of the study conducted in two higher education institutions of Latvia was to investigate students' perceptions of different aspects of their university's brand from a customer-based brand equity perspective.

Methodology and theoretical framework

The paper is based on 1) the analysis of research papers on branding, including branding in the higher education sector; 2) a survey conducted in two higher education institutions of Latvia – Riga Technical University (RTU) and Transport and Telecommunication Institute (TSI). The research population involves 125 RTU students and 126 TSI students of the following programmes: Transport and Engineering, Economics and Management, and IT.

An original questionnaire was developed by the authors on the basis of the Customer-Based Brand Equity (CBBE) model proposed by K.L. Keller (2001; 2007; 2008; 2009). According to K.L. Keller (2007), from a customer-based brand equity viewpoint, marketing communications activities may contribute to brand equity in a variety of ways. This can be done through creating awareness of the brand, connecting the right associations to the brand image in consumers' minds, stimulating positive brand judgments or feelings, as well as enabling a long-lasting "consumer-brand connection" (Keller, 2009); these elements represent main brand-building blocks (Keller, 2001).

The questionnaire was designed around the five (out of six) brand-building blocks integrated in the CBBE model – brand performance, brand imagery, consumer judgements (quality, credibility, consideration and superiority of the brand), consumer feelings and consumer brand resonance (loyalty and attachment, community, engagement). The sixth element (brand salience – the first phase of building brand equity) was excluded from the questionnaire; because it was accepted by default that the students are aware of the brand, and the extent to which the brand is recognized is quite large. The purpose of the questionnaire was to identify the students' opinions on their university's brand with regard to the above brand-building blocks. This information is supposed to be later used by marketing managers for their brand tracking and assessing their brand-building efforts in the agenda of updating their marketing strategy.

The questionnaire includes twenty multiple-choice questions. The obtained data were then processed using SPSS software package.

Results and Discussion

Literature review

The literature review results indicate that many researchers recognize the importance of discussing the use of market-oriented approach in higher education (Hemsley-Brown, Oplatka, 2006; Stensaker, D'Andrea, 2007; Shattock, 2009; Woyo, Obert, Frank, 2014; Hemsley-Brown et al., 2016; Mihajlovic, Ljubenović, Milosavljević, 2016). A marketing strategy of the university is developed based on the analysis of current trends in the international higher education market (Białoń, 2015; Wu, Naidoo, 2016; Muhcina, Moraru, 2016; Stukalina, 2019).

The research performed by H. Hall and L. Witek (2015) goes to prove that the importance of marketing in higher education is growing; this is associated with the changing stakeholders, and calls for reconsidering marketing strategies and tools to be applied in this sector. According to Ph. Kotler and K. Fox (1995), the main university stakeholders today include current and potential students, alumni, staff, community, government agencies and accreditation bodies. In this context, universities develop and promote their brands to evoke positive associations with different stakeholder groups, prospective and current students being regarded as its primary "customers". The changing global environment has transformed the way higher education stakeholders choose and evaluate a university, their behaviours and attitudes, and their perception of educational quality (Lo, 2014).

The brand status "matters" to its stakeholders (Williams, Omar, 2014), so positive brand image may directly influence consumer behaviour. Developing a robust brand is a goal of many organizations (Keller, 2001). A strong brand can confirm the university's credibility in the global education market (Kotler, Keller, 2016).

In higher education, branding is linked with institutional image and reputation based on a constructed brand, so strong promotion and communication towards potential students (aimed at increasing enrolment) is now regarded as one of the most important marketing activities in a university (Nicolescu, 2009). Brand being a complex phenomenon, brand elements may come in many different forms (Kotler, Keller, 2012); the same holds for business enterprises and higher education institutions. There are different brand aspects that constitute the brand: brand identity; brand meaning, brand responses, brand relationships (Keller, 2001). Brand identity is associated with uniqueness of a particular brand, which is then communicated with all stakeholders (Tarnovskaya, 2017). So, appropriate brand identity presupposes building brand salience, which results in the stakeholders' ability to recognize this brand – that is brand awareness (Keller, 2001).

Brand meaning is composed of two types of brand associations – brand performance (tangible brand attributes aimed at meeting some functional needs) and imagery (intangible brand attributes); brand responses (emotional reactions) are associated with what stakeholders (customers) "think and feel" about a particular brand; ultimate brand relationships refer to the consumers' level of identification with this brand (Keller, 2001).

According to the Customer-Based Brand Equity model, the process of developing a strong institutional brand is associated with the four above aspects; a sequence of steps, through which active loyalty relationship between consumers and the brand is accomplished, are listed below:
- creating appropriate brand identity;
- building appropriate brand meaning;
- stimulating right brand responses;
- developing strong relationship between customers and the brand.

The elements integrated in the Customer-Based Brand Equity model are presented in Table 1.

Table 1

Elements integrated in the Customer-Based Brand Equity (CBBE) model (based on Keller, 2001)

Brand aspects	Brand-building blocks	
Brand identity	Brand salience	
Brand meaning	Brand performance	Brand imagery
Brand responses	Consumer judgements	Consumer feelings
Brand relationships	Consumer brand resonance	

The above model can be very helpful in the agenda of planning and implementing a marketing strategy, as it puts emphasis on appealing to both rational and emotional concerns; rational concerns meet practical needs while emotional concerns meet psychological needs (Keller, 2001). So, the model provides a holistic approach to understanding the brand. It can be used for interpreting and evaluating marketing activities aimed at building a strong institutional brand (Keller, 2001). Accepting such key conceptual tool as customer-based brand equity model and the related brand resonance pyramid can help marketers understand marketing communications from diverse perspectives, and design and implement more impactful communication programs in the frame of a competitive marketing strategy (Keller, 2009). The CBBE model seems to be quite flexible for applying it in various situations. However, some customization is recommended (Keller, 2001).

Analysis of the empirical study results

The empirical research was aimed at exploring students' perceptions of their university's brand based on the CBBE model. The research findings are presented in Figures 1, 2, 3, 4 and 5.

Figure 1 shows the students' perceptions of their brand's performance. According to the first criterion – this brand is unique in terms of educational programmes and services compared to other universities in Latvia – the data of the research prove that, in general, students of RTU and TSI express a quite similar opinion agreeing that the brand of their university and its programmes and services in comparison with other universities in Latvia are unique. Most of students of TSI and RTU answer positively: 71,4 % (TSI)

and 65,6 % (RTU). However, it should be noted that there are rather many students in both institutions who do not have a strong opinion: 29,6 % of RTU and 23% of TSI students neither agree nor disagree with this statement. The number of students who disagree with this statement is small in both groups: 5,6 % (TSI), and 4,8 % (RTU). The reason why students are of a high opinion of their university brand could be explained by the students' motivation and expectations to choose the most qualitative and professional institution for their studies both in terms of its programmes and services. Therefore, most of students consider the brand of their university to be unique.
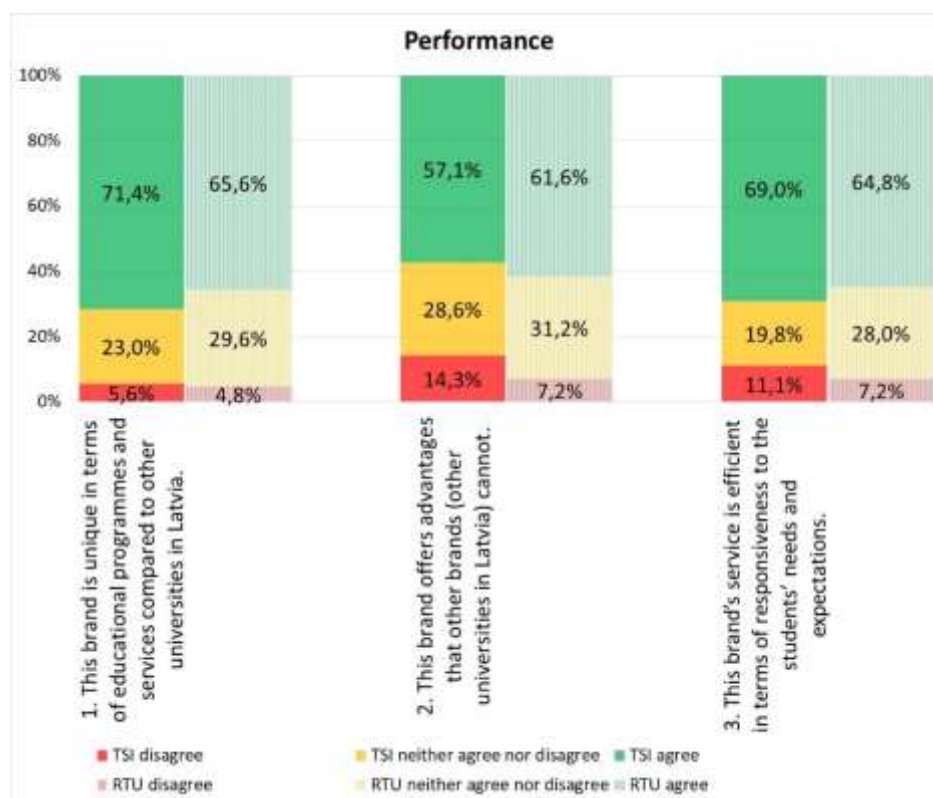
Figure 1. Students' perceptions of their brand's performance.

The second criterion – this brand offers advantages that other brands (other universities in Latvia) cannot. The students' point of view is also similar. Most of RTU (61,6 %) and TSI (57,1 %) students believe that their university brand has such quality. However, 28,6 % of TSI students and 31,2 % of RTU students neither approve nor disapprove this statement. The number of students who disagree with this statement is a little higher among TSI students – 14,3 %. The amount of RTU students expressing a negative opinion is 7,2 %. The cause why RTU students think a little more positively could be explained by the wider range of study programmes RTU can offer for its students compared to other universities.

The third criterion showing the performance of the university was as follows: this brand's service is efficient in terms of responsiveness to the students' needs and expectations. Most of TSI students (69,0 %) and RTU students (64,8 %) agree positively with this statement. However, there are more students belonging to RTU who neither agree nor disagree with this answer – 28,0 %. There are also 19, 8 % of TSI students who do not have a strong opinion. The number of students who disagree with this statement is more characteristic for TSI students (11,1 %). Students of RTU having a negative answer make 7,2 %. The recommendation for both institutions could be to be more responsive and pay more attention to students' needs and expectations to prove having a highly efficient service.

Another aspect characterizing the brand of the university was judgements (Figure 2). There were three criteria taken into account to describe these judgements. The first criterion was the following: the providers of this brand's service are knowledgeable and helpful. The students of TSI assess the providers of their institute brand's service a little more positively in comparison with the students of RTU – 81,0 % and 69,6 %. However, it is important to admit that a larger number of RTU students do not have a strong opinion about this statement. If there are only 11,9 % of TSI students who neither agree nor disagree with

this statement, then the number of RTU students is higher - 25,6 %. Moreover,7,1 % of TSI students and 4,8 % of RTU students disagree that the providers of their institution brand's service are knowledgeable and helpful. The results of the research prove that it is of a high importance of every institution brand's service to have a professional and positive communication process with its students. The number of students who are in doubt or evaluate the knowledge and help of their institution service negatively is still high therefore the universities have to take actions to improve the situation.
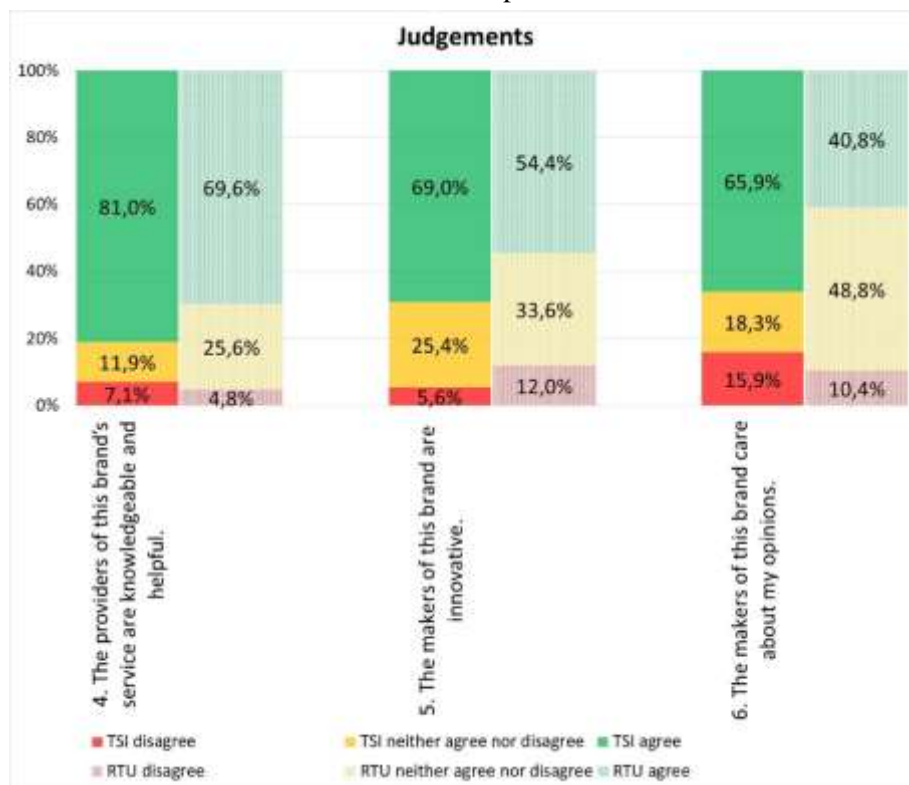
Figure 2. Brand judgements - customers' personal opinions.

The second criterion characterizing the judgements is dealing with a statement if the makers of this brand are innovative. The students of TSI evaluate their institute brand makers in a more positive way. 69,0 % of them agree with this statement. Accordingly, the students of RTU are a little less positive – 54,4 %. Moreover, many RTU students cannot decide if their neither agree nor disagree with this statement – 33,6 %. TSI students having such opinion are less – 25,4 %. There are also more students of RTU who disagree with this statement in comparison with TSI students – 12,0 % and 5,6 %. Innovations include different spheres – not only technologies but also creativity of the institution and its teaching staff, learning, social and psychological environment of the institution and many others. All these spheres have to be considered to be important and equal in their contribution. The data of the research prove that this criterion is one of the most significant to pay attention to. An assessment of students is more negative and uncertain as positive.

One more criterion which expresses the attitude of the brand makers of the institution to their students is as follows – "the makers of this brand care of my opinions." The students of RTU are more critical about their university brand makers. Only 40,8 % agree with this statement. TSI students are more positive – 65,9 %. The number of RTU students who neither agree nor disagree with this statement is also very high – 48,8 %. Whereas, there are only 18,3 % students of TSI who belong to this group and do not have a strong opinion. However, the number of students who disagree with this statement is higher for TSI students – 15,9 %. Accordingly, the number of students of RTU expressing disagreement is a little smaller – 10,4 %. The data of the research prove that many students, especially students of RTU, are of opinion that their point of view are not taken into account by the makers of the brand of their institution. Students are a big and important part of the university. University and students have common goals. They can achieve them only in the united cooperation and communication process. Therefore, students' opinion is of a high importance.

The other aspect dealing with the brand of the university is an imagery of it (Figure 3). This aspect includes four most important criteria. The first one describes the design of the brand – if the design aspects of this brand are attractive and memorable. Most of TSI students evaluate positively the design of their institution – 77 %. RTU students are more critical – a favourable assessment of their university design is given by 64,8 % of students. Moreover, there are also more students of RTU who neither agree nor disagree about this statement – 27,2 %. Students of TSI could be characterized to be stronger in their opinion – only 17,5 % of them have chosen the answer – "I neither agree nor disagree with this statement." The number of students who disagree with this statement is also higher for RTU students – 8,0 %. There are only 5,6 % of TSI students who have a negative opinion about the design of their institute brand. The design of the brand includes the message and motto of the institution. It may make people be interested, indifferent or taken dislike to it. The design has a symbolic meaning. The institutions have to be aware of the importance what kind of message is being transferred by the design of their brand.
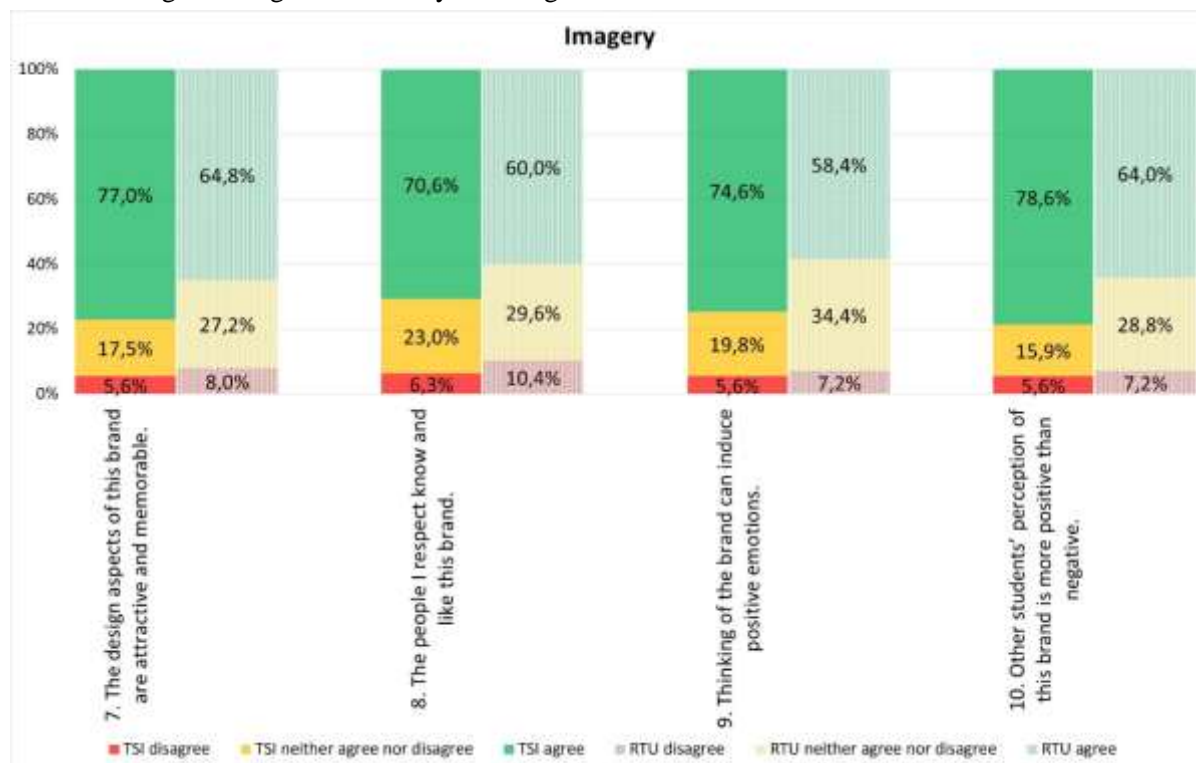
Figure 3. Brand imagery from the students' point of view.

Another criterion which shows the imagery of the brand is the following – "if the people I respect know and like this brand." TSI students in comparison with RTU students express a little stronger agreement with this statement – 70,6 % and 60,0 %. Moreover, RTU students still keep a little more critical approach to this statement – 29. 6 % of them neither agree nor disagree if the people they respect know and like this brand. A little less TSI students - 23,0 % express the same opinion. Students who show a disagreement with this statement also tend to belong to RTU – 10,4 %. The number of TSI students disagreeing with this statement is relatively small – 6,3 %. The data of the research prove that a rather high number of students belonging to both institutions - TSI and RTU do not have a strong opinion if the people students respect know and like the brand of their institution. It may be that these people could not be well informed about the brand of these institutions. The recommendation is to improve the marketing strategies of RTU and TSI.

One more criterion characterizing the imagery of the brand is as follows – "if other students' perception of this brand is more positive than negative." Most of TSI students agree with this statement – 78,6 %. The students of RTU are less positive – 64,0 %. There are also more RTU students who neither agree nor disagree with this statement – 28,8 % in comparison with TSI students who make 15,9 %. The number of students who disagree with the statement is relatively small for both institutions – RTU – 7,2 % and TSI – 5,6 %. The data shows that most of students of TSI and RTU think that other students' perception of this brand tends to

be more positive, however, a quite large group of RTU students do not have a strong opinion or they are not certain about other students' perception. There are many students at RTU and there are many opinions.

The imagery of the university is also closely connected with the next criterion – if thinking of the brand can induce positive emotions. Most of TSI students express a positive agreement – 74,6 %, whereas RTU students are more critical – 58,4 %. There are also more students belonging to RTU who neither agree nor disagree with the statement – 34,4 %. TSI students who do not have a strong opinion are much less – 19,8 %. Only 7,2 % of RTU students and 5,6 % of TSI students disagree with the statement. The data of research prove that students of RTU are more critical about the imagery of their university brand.
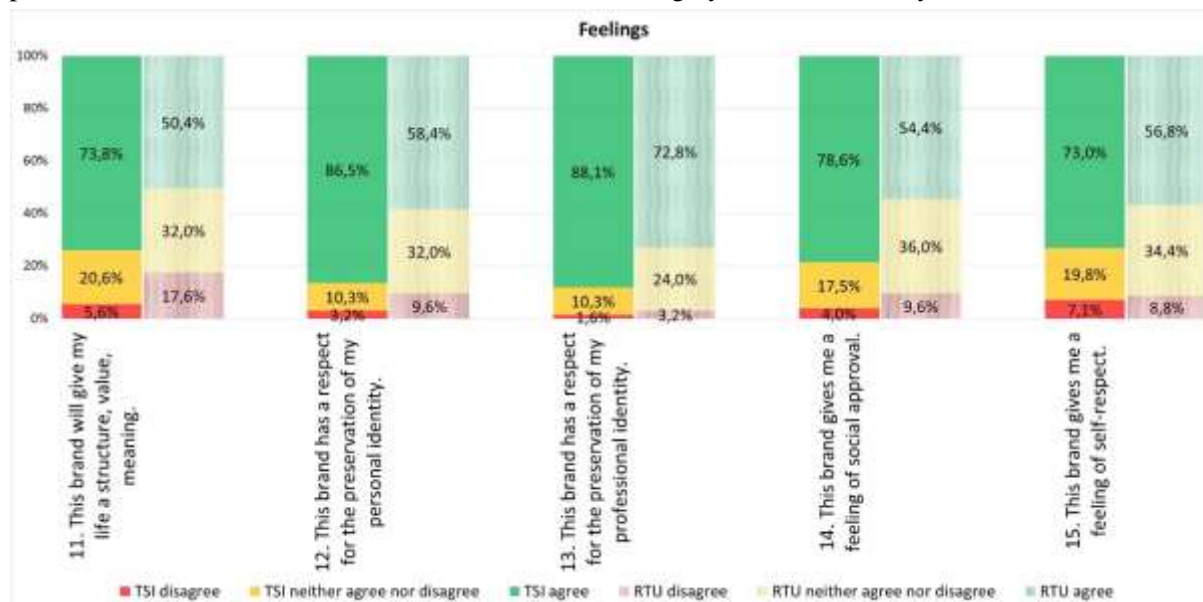
Figure 4. Feelings that the students have about the brand.

An important aspect connected with the brand of the university is feelings the students have towards their institution (Figure 4). There were four criteria developed to research students' feelings. The first one was the following – "if this brand gives my life a structure, value, meaning." TSI students are more certain about this feeling – 73,8 % of them agree with this statement. Students of RTU still keep their critical approach – only 50,4 % gave a positive answer. The students who neither agree nor disagree with this statement are also more at RTU – 32 %. The students of TSI who do not have a strong opinion are less – 20,6 %. There are also more students belonging to RTU who disagree with the statement – 17,6 %, whereas only 5,6 % students of TSI have a negative answer. The data prove that students of RTU are less certain if their university gives their life a structure, value, meaning. The qualities mentioned in this criterion – to have a structure of life, value, meaning is more connected with students' personal life and their personality. The data show that the personal life of RTU students may be less connected with their studies at university. The university should develop strategies how to connect the students' personal aims with their professional aims. Both personal and professional sphere are very important spheres in every person's life. They should be connected.

Another criterion characterizing students' feeling about their university is as follows – "if this brand has a respect for the preservation of my personal identity." The opinion of both groups researched considerably differs – 86,5 % of TSI students and only 58,4 % of RTU students agree with this statement. Moreover, only 10,3 % of TSI students and 32 % of RTU students neither agree nor disagree with this statement. The ones who disagree with this statement also more belong to RTU group – 9,6 % and 3,2 % to TSI group. The data confirm the above-mentioned fact – for a large group of RTU students' their personal life and personality stay apart from their university. Students do not feel a respect of their university towards their personal identity. It could be explained with the intense and hard efforts students have to make to succeed in their studies. The criterion showing students' feelings about their professional life at the university is the following – "this brand has a respect for the preservation of my professional identity." Most of students of both institutions have given a positive answer – 88,1 % of TSI students and 72,8 % of RTU students agree with the statement. However, there were more students of RTU who

neither agree nor disagree with the statement – 24 %. Students of TSI not having a strong opinion were less – 10,3 %. The number of students who disagree with the statement was small in both groups – 1,6 % of TSI students and 3,2 % of RTU students. The data prove that most of students of both groups are satisfied with the preservation of their professional identity. The aim of the universities and the aim of the students is the same – to develop professionally.

The last criterion characterizing the feelings of students is as follows – "this brand gives me a feeling of social approval." The data show the difference in students' opinion. Most of TSI students feel socially approved – 78,6 %, whereas only 54,4 % of RTU have the same feeling. Moreover, 36 % of RTU students express neither agreement nor disagreement with this statement. Besides, 9,6 % of RTU students and 4 % of TSI students show disagreement with this statement. The data prove that RTU students feel less socially approved than TSI students. It could be explained by the more competitive atmosphere at the state university, whereas the environment at the private university is more supportive and encouraging.
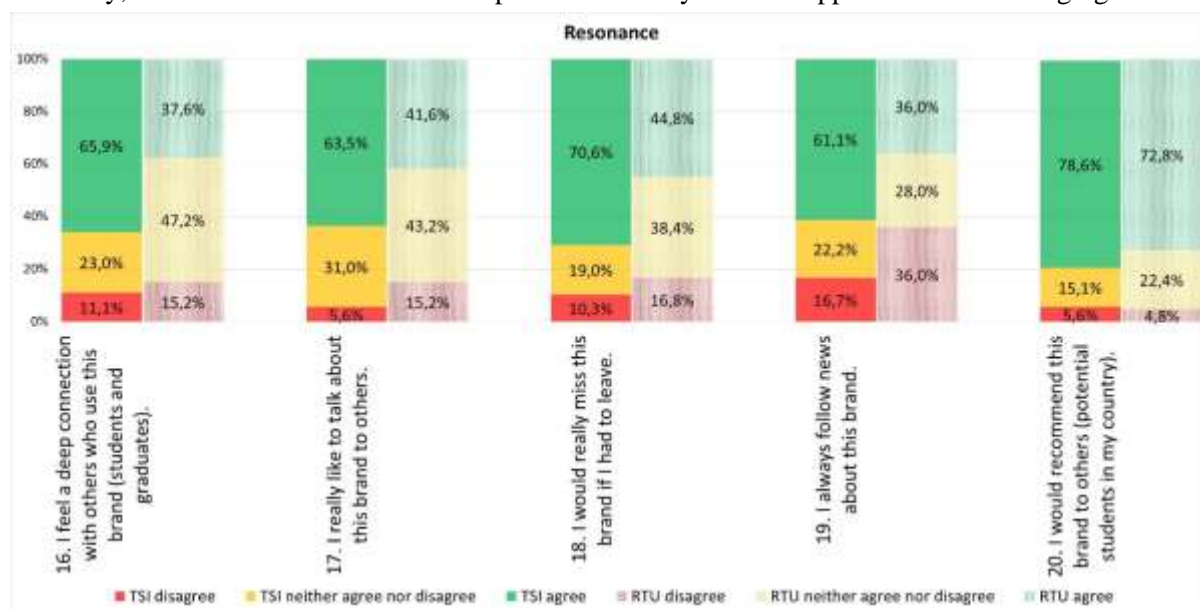
Figure 5. Relationship between the students and the brand.

Resonance (relationship between the students and the brand) was the last aspect the students had to express characterizing the brand of their university (Figure 5). The first criterion students had to follow was to think if they feel a deep connection with others who use this brand (students and graduates). 65,9 % of TSI students and only 37,6 % of RTU students answered positively. There were also a high percentage of RTU students who neither disagreed nor agreed with the statement – 47,2 %. The number of TSI students who did not have a strong opinion was smaller – 23 %. The students who disagreed with the statement were more among RTU students – 15,2 %, whereas, those students of TSI who gave a negative answer were less - 11,1 %. The data show that RTU students are less united with other members of their university in comparison with TSI students. It could be explained by the status of the university. RTU is one of the largest universities in Latvia. The number of students is high. The aims, motivation and background of students are different. The demands of the university are high. Therefore, the competition keeps developing. In such circumstances students tend to be more concentrated on their individual needs and aims. As a result, their connection with other members of the university is getting weaker. The recommendation for the university is to develop the strategies to make a stronger bond among students, the teaching staff and graduates.

The other criterion students had to take into consideration was as follows: "I really like to talk about this brand to others". 63,5 % of TSI students and only 41,6 % of RTU students have answered positively. The number of students who neither agree nor disagree with the statement is also rather high – 43,2 % of RTU students and 31,0 % of TSI students. The ones who disagree with the statement are 15,2 % among RTU students and 5,6 % among TSI students. When people speak about something, they may have a positive attitude or also a negative one. However, there is one more kind of attitude – neutral. A neutral attitude is quite often expressed without words. The data prove that students, especially RTU students have a tendency to be neutral or indifferent and do not like to talk about their university.

One of the last criteria showing students' attitude towards the brand of their university was the following – "I would miss this brand if I had to leave". Most of TSI students – 70,6 % and much less of RTU students – 44,8 % agreed with this statement. There were also more RTU students who neither agreed nor disagreed with the statement – 38,4 %. Students of TSI not having a strong opinion were less – 19 %, whereas, those ones who disagreed with the statement were 10,3 % among TSI students and 16,8 % among RTU students. The data prove that RTU students are less united with their university in comparison with TSI students. It could be explained that many of RTU students start working already at early years of their studies. They devote more time and make strong efforts to succeed in their professional career. Therefore, their unity with the university gets weaker. The last criterion characterizing the resonance of the university is connected with news: "I always follow the news about this brand". 61,1 % of TSI students and only 36% of RTU students agree with this statement. The number of students who neither agree nor disagree with the statement are quite similar among both groups of students – 28,0 % of RTU students and 22,2 % of TSI students had such opinion. However, there are many more students of RTU who disagree with this statement – 36 %. The number of TSI students expressing disagreement is smaller – 16,7 %. The data prove that students are quite honest in their answers, especially RTU students. Studies and work take a lot of time from students' life. But the news change and develop very fast. It is almost impossible always follow them.

Conclusions

The theoretical literature analysis and the empirical research performed by the authors have allowed to drawing the following conclusions.

- A brand is made of a set of perceptions associated with the main brand-building blocks; these perceptions create the relationships between consumers and the brand.
- Marketing directly influence consumers' perceptions; for improving brand perceptions, marketers can use various tools and models including the CBBE model that may be customized to serve different purposes.
- In the higher education sector, the CBBE model can be applied by senior education managers for measuring their brand-building efforts in the agenda of enhancing their marketing communications and improving their marketing strategy.
- The results of the empirical study demonstrate that in general, the students of both state and private higher education institution perceive their university's brand similarly
- Most of students consider the brand of their university to be unique both in terms of its programmes and services.
- It is of a high importance of every institution brand's service to be more responsive and pay more attention to their students' needs and expectations in order to prove having a highly efficient communication process with the students.
- Students' opinion is of a high importance to reach the goals, which are common for both – students and universities.
- Innovation is insufficient and could be developed for the brand of the institutions.
- The institutions have to be aware of the importance of the message, which is being transferred by the design of their brand.
- The universities should develop strategies how to connect students' personal aims with their professional aims showing a respect towards students' personal identity.
- Universities and students have the same aim – to develop professionally.
- Universities should develop the strategies to make a stronger bond among students, the teaching staff and graduates.
- However, there are some differences between how students of the state and private universities assess their brands; there is one very important fact that merits mention – the data proves that students of the state university (RTU) are more critical about the brand of their university in all aspects having researched – performance, judgements, imagery, feelings and resonance. It conveys the suggestion that the private university puts more emphasis on enhancing their marketing communications in the agenda of creating a strong institutional brand.

Bibliography

1. Białoń L. (2015). Creating Marketing Strategies for Higher Education Institutions. *MINIB*, *18*(4), 129-146. doi: 10.14611/minib.18.04.2015.13

2. Hall H., Witek L. (2015). Conditions, Contemporary Importance and Prospects of Higher Education Marketing on the Example of Polish Universities. *Procedia Economics and Finance*, *39*, 206-211. doi: 10.1016/S2212-5671(16)30314-8

3. Hemsley-Brown J., Goonawardana Sh. (2007). Brand Harmonization in the International Higher Education Market. *Journal of Business Research 60*(9), 942-948. doi: 10.1016/j.jbusres.2007.01.019

4. Hemsley-Brown J., Melewar T.C., Nguyen B., Wilson E.J. (2016). Exploring Brand Identity, Meaning, Image, and Reputation (BIMIR) in Higher Education: A Special Section. *Journal of Business Research*, *69*(8), 3019-3022. doi: 10.1016/j.jbusres.2016.01.016

5. Hemsley-Brown J., Oplatka I. (2006). Universities in a Competitive Global Marketplace. *International Journal of Public Sector Management*, *19*(4), 316-338. doi: 10.1108/09513550610669176

6. Jurgena I., Cedere D., Katane I. (2019). A Multi-Aspect View on the Purposefulness of University Students as Prospective Teachers. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 12*. Jelgava: Latvia University of Life Sciences and Technologies, 263-272. doi: 10.22616/REEP.2019.034

7. Keller K.L. (2001). *Building Customer-Based Brand Equity: A Blueprint for Creating Strong Brands*. Cambridge, MA, USA: Marketing Science Institute. Retrieved from https://pdfs.semanticscholar.org/2f1d/660f9f3f98ec6f28c893255b6f68e2ad7ce9.pdf?_ga=2.1434 57845.1292935536.1573921090-1367033674.1573921090

8. Keller K.L. (2007). Advertising and brand equity. In G.J. Tellis, T. Ambler (Eds.), *Handbook of Advertising*, London: Sage Publications, 54-70. doi: 10.4135/9781848607897.n4

9. Keller K.L. (2008). *Strategic Brand Management: Building, Measuring, and Managing Brand Equity* (3rd ed.). Upper Saddle River, NJ: Prentice Hall.

10. Keller K.L. (2009). Building Strong Brands in a Modern Marketing Communications Environment. *Journal of Marketing Communications*, *15*(2-3), 139-155. doi: 10.1080/13527260902757530

11. Kotler Ph., Fox K.F.A. (1995). *Strategic Marketing for Educational Institutions* (2nd ed.). N.J.: Prentice-Hall.

12. Kotler Ph., Keller K.L. (2012). *Marketing Management* (14th ed.). UK: Pearson.

13. Kotler Ph., Keller K.L. (2016). *A Framework for Marketing Management* (6th ed.). UK: Pearson.

14. Lo W.Y.W. (2014). University Rankings: Implications for Higher Education in Taiwan. Singapore: Springer. doi: 10.1007/978-981-4560-35-1

15. Mihajlovic I., Ljubenović M., Milosavljević T.Č. (2016). Entrepreneurial University as Contemporary Paradigm of 21st Century. In Volume of *Management, Enterprise and Benchmarking in the 21st century III*, Óbuda University, Keleti Faculty of Business and Management, 215-226. Retrieved from https://ideas.repec.org/h/pkk/meb016/215-226.html

16. Muhcina S., Moraru A.D. (2016). Educational Marketing Challenges - Universities and Graduates' Employment: A Case Study. *Annales Universitatis Apulensis Series Oeconomica*, *18*(1), 27-34. Retrieved from http://www.oeconomica.uab.ro/upload/lucrari/1820161/02.pdf

17. Nicolescu L. (2009). Applying Marketing to Higher Education: Scope and Limits. *Management and Marketing*, *4*(2), 35-44. Retrieved from https://core.ac.uk/download/pdf/6334021.pdf

18. Roskosa A., Stukalina Y. (2018). Management of a Study Programme in the Context of Quality Assurance in Higher Education. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 11*. Jelgava: Latvia University of Life Sciences and Technologies, 118-127. doi: 10.22616/REEP.2018.014

19. Roskosa A., Stukalina Y. (2019). Marketing in Higher Education in the Agenda of Increasing International Enrolment. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 12*. Jelgava: Latvia University of Life Sciences and Technologies, 119-125. doi: 10.22616/REEP.2019.015

20. Shattock M. (2009). Entrepreneurialism and organizational change in higher education. In M. Shattock (Ed.), *Entrepreneurialism in Universities and the Knowledge Economy: Diversification and Organisational Change in European Higher Education*, 1-8. UK: Society for Research into Higher Education & Open University Press.

21. Stensaker B., D'Andrea V. (2007). Branding – the Why, What and How. In B. Stensaker, V. D'Andrea (Eds.), *Branding in Higher Education. Exploring an Emerging Phenomenon*, 6-13.
22. Stukalina Y. (2019). Marketing in higher education: promoting educational services and programmes. In V. Skvarciany, J. Stankevičienė (Eds.), The Proceedings of the International Scientific Conference *Contemporary Issues in Business, Management and Economics Engineering*. Vilnius: VGTU, 616-624. doi: 10.3846/cibmee.2019.062
23. Tarnovskaya V. (2017). Corporate Brand Identity and Image: to Align or Separate - This is the Question. In V. Tarnovskaya, J. Bertilsson (Eds.), *Brand Theories. Perspectives on Brands and Branding*. Lund: Studentlitteratur AB, 45-61.
24. Williams R.L. Jr., Omar M. (2014). How Branding Process Activities Impact Brand Equity within Higher Education. *Journal of Marketing for Higher Education*, *24*(1), 1-10. doi: 10.1080/08841241.2014.920567
25. Woyo E., Obert H.H., Frank G. (2014). Brand Reputation Management within the Higher Education Sector: A Review of the Literature on Higher Education Brand Reputation Management. *International Research Journal of Marketing 2*(1), 1-8.
26. Wu T., Naidoo V. (2016). The Role of International Marketing in Higher Education. In T. Wu, V. Naidoo (Eds.), *International Marketing of Higher Education*, NY: Palgrave Macmillan, 3-9. doi: 10.1057/978-1-137-54291-5_1

The Image of Modern University Teacher: Studying the Student Perceptions

Victoria Safronova[1] PhD; **Evgeniya Klyukina**[2]
Lomonosov Moscow State University, Russia
vika-avril@yandex.ru[1]; eugenialex@mail.ru[2]

Abstract: The article analyses and describes the results of studying how the students perceive the image of a modern university teacher. Tertiary education in the 21st century requires changes in teacher attitudes and behaviours. The perception of the teacher's image by students is one of the most important factors affecting their attitude to the academic process. Several criteria assessed by the students anonymously are singled out: professional, personality-related and social ones. It seems reasonable to look for the peculiarities of teacher image perception by the students of different universities, namely the College of Asian and African Studies (CAAS of MSU) and the Russian Economic University (REU). The aim of the study was to identify and analyse the specific features of the image of teacher perceived by various groups of students. The empirical part of the study was conducted at the chair of West European languages of CAAS. The participants were: 45 students of CAAS, majoring in one of the four specialties: philology, history, economics or political science, and 31 students of the REU, studying economics or IT. The students of CAAS learn oriental or African languages and European languages, while REU students learn only English. The methodology of the study was to design a questionnaire in order to reveal the teacher personality traits, social and professional qualities. The analysis showed that the students' perceptions of the teacher image undergo some transformation over years of study, though not very dramatic. The professional component proves to be the most crucial for undergraduate students of both universities. Most students agree that the content knowledge is more important than general erudition or command of contemporary teaching methods. The most important personality traits turned out to be communication skills - the ability to listen and hear and respect for students. As for the teacher type, there is a distinct mismatch between expectations and reality.

Keywords: tertiary education**,** teacher image, professional component, personality traits.

Introduction

Rapid changes in society, their unstable nature, digital revolution with its serious impact on environment and human behaviour prove it necessary to give a profound overhaul to the educational space. If the tertiary education in general and the teacher in particular want to solve a complex task of avoiding uberization – the exclusion of universities from the educational process as mediators - they need to accept the realities of the modern world, which is chaotic, full of uncertainties and different from the previous one by its incredible, catastrophic pace (Kochetova, 2011).

The academic system of education developed for the industrial era has run into the contemporary problems of the digital epoch: abundant information, war for attention, the emergence of new professions. This system can no longer rely on outdated standards and is in need of serious qualitative changes, which will affect first and foremost the teachers. Today we need to realize that teachers can no longer boast of being the sole providers of information, they no longer possess "the keys to the kingdom of knowledge" (Johnson, McElroy, 2010). *Google Play* and *Apple store* are overflowing with apps, information is accessible to anyone anywhere any time. Young people with a Smartphone have information at their fingertips, they can exchange it, and they can study. And if contemporary teachers hope to preserve their "fields of knowledge" and "transfer of information" (Lewin, 1951), they risk losing this battle quite fast.

The second serious problem for the modern teacher is the students' changed behavioural standards. Current students behave differently; attention in class is a rare sign of efficiency which must be competed for (Johnson, McElroy, 2010). *Microsoft* research of 2017 showed the students' average attention span of 8 seconds.

The young generation's attitude to time is also different. Almost 80% of young people under 25, being used to digital reactions of about 1 second, find it difficult to be idle for longer than 1 minute in

comparison with 10 % of people over 65. In short, we are facing a generation who are difficult to interest but quick to bore.

The above problems require that the teachers reconsider their academic approaches and to offer students an academic plan developing creative approach, critical thinking and, above all, interest. Otherwise, we risk staying behind in the old world and following the outdated standards of thinking, unadopted to today's digitized world. According to G. Hamel and C.K. Prahalad (Hamel, Prahalad, 1996), only those who possess intuition, systemic thinking, high pace and a high level of process organization will survive in the world of the future.

California's think-tank "The Institute for the future" published its research which shows that 85 % of professions which will be in demand in the labour market in 2030 do not even exist today.

In the light of these new trends the question of the university teacher's competencies, professional qualities and personality traits arises. Works by I. Zimnyaya (Zimnyaya, 2004) are devoted to the problem of competency-based approach. It is important to take into account that the job of teacher belongs to the type of professions in which not everyone can achieve efficiency. There is vast psychological pedagogical literature on professional suitability of school teacher (Gurevich, 2008), but practically no works on the same issue related to university teachers. Most research papers mainly consider the professional competencies of university instructors, as they are deemed to be suitable for their job a priori.

As R. Baltusite and I. Katane put it: "As a result of education, anyone can become a teacher, but not everybody can be a teacher - EXPERT. The evaluation of the results of theoretical studies enables to identify common conclusions drawn in the works of many scientists and teachers, which characterize the personality of a teacher and his or her professional activities: love towards people; understanding, development and maintaining of pupils' individuality; a teacher's professional development, self-cognition and self-analysis; love towards one's own work; learning of a pupil; creating of favourable environment; responsibility for one's own result of work; understanding of one's own mission within the context of time; serving to the nation and mankind" (Baltusite, Katane, 2017, 36-37).

According to E. Klimov's classification (Klimov, 1993), the pedagogical profession refers to the type "man-man" and is characterized by the following: ability to manage, teach and educate people; broad mind; listening skills; speech culture; "soul-searching" inclinations, keenness of observation and sensitivity to people's feelings and characters, ability to imagine, model their inner world instead of attributing your own or the one known to you by experience; projective approach to people based on the assumption that they can always become better; empathy; ability to solve non-standard situations; a high degree of self-regulation. Besides, according to E. Klimov, there is an essential list of counter indications against working in a man-man profession: serious speech defects; self-absorption; incommunicability; excessive slowness; indifference to people; absence of unselfish interest. Earlier J. Holland created a theory of vocational choice, singling among others the social type, characterized by a specific set of typical preferences, interests and individual peculiarities such as tending to seek close relationships, being averse to isolative environments and possessing social skills (Holland, 1959).

Currently it is rather a teacher-student partnership that is required, particularly in a university setting. It has been repeatedly stressed lately that it is the student who should bear the responsibility for learning and achievement rather than the teacher. The teacher can certainly help by selecting an engaging material and activities, by creating a classroom climate that would contribute to successful and productive learning. Nevertheless, the main skill that should be taught and developed is the skill to learn, as the main teacher's task is to equip the students with competencies and skills for their future professional life. Going further, J. Barnett theorizes about the role of tertiary education in an age of uncertainty and super complexity. Without rejecting the importance of knowledge and skills, he argues that the main role of universities is to sustain students' will to learn and not only in a current university or course, but to go on learning throughout their lives (Barnett, 2007).

What kind of teacher can be more effective in that? Researchers repeatedly stress that only teachers who are keen on building relationships with students are successful. That is why teacher class management style acquires a particular importance.

The class management style theories are largely based on leadership styles theory by K. Lewin (Lewin, Lippitt, White, 1939) and on later works on parenting styles by D. Baumrind (Baumrind, 1971). The modern understanding of class management includes many aspects such as space and time management, students' behaviour management, activities they perform in class. This concept embraces teacher personality traits, abilities and professional behaviour. A number of studies emphasize the direct connection between the class management style and students' achievements (Wang, Haerted, Wallberg, 1993). B. Johnson and T. McElroy in their book "Edutainment" quoted Katie Cox, former state superintendent of Georgia, who explained, "Nothing is more important to the student's success than a positive relationship with the teacher regardless of interferences to their education such as a tough home life, limited parental support or socioeconomic level" (McElroy, Johnson, 2010).

There are several classifications of class management styles. Some researchers distinguish three approaches – non-interventionist, interventionist and interactionist (Walfgang, Glickman, 1980).

The non-interventionist approach bases on the assumption that everyone has their own needs which will find their ways to achievement. That is why the teacher exercises minimal control.

On the opposite end of the spectrum is the interventionist approach which bases on the conviction that personal development mainly happens under the pressure of external circumstances (people and institutions). So, the teacher exercises full control over the situation in the classroom.

Between these two extremes one can find the interactionist approach which focuses on the two-way influence of the environment and a person. Thus, control over the situation in the classroom is shared between the teacher and the students.

Another classification distinguishes between authoritarian, authoritative, democratic and laissez-faire approaches (Djigic, Stojiljkovic, 2011).

The authoritarian style is characterized by strict control, clear restrictions, practically non-existent verbal exchange, rare praise and reward. The students are to do what they are told without questioning and initiative. This style does not encourage the achievement of individual goals by the students.

The authoritative style is characterized by some restrictions and control, but they are set with explanations from the teacher who is open to verbal exchange, is firm but polite, and demonstrates warmth towards the students, genuine interest, frequent praise and reward. An authoritative teacher encourages self-reliance and autonomy of his learners, motivates them to independently reach results; he is seen as a fair teacher, because he understands that students cannot be perfect. They know they can talk to him without humiliation or embarrassment.

A democratic teacher is characterized by few restrictions, inconsistent disciplinary measures, orientation towards students' feelings rather than academic success or behaviour. He wants to be a friend. However, this style is associated with a lack of social skills and self-control among students, they have difficulty mastering socially acceptable behaviour when the teacher is so permissive, they are less motivated to achieve. Nevertheless, they like such a teacher as they do not need to be too serious in class. Sometimes, though, the situation gets out of hand and they do not learn anything at all.

A laissez-faire teacher is practically uninvolved, he is characterized by low demands towards his students, lack of interest, usage of the same old materials and plans. Such a teacher may lack necessary competencies or self-confidence or courage to discipline his class, as a result, students learn little, and they have low self-control and low motivation towards result.

More often than not teachers combine some elements of these styles. Nevertheless, they probably adhere to one particular style most of the time.

The term "democratic" is somewhat ambiguous; some experts equate it with being indulgent. Other scholars understand it as a teacher who shares some aspects of class management and decision-making with students and supports their autonomy (Harmer, 2007).

As for how students' achievements correlate with a class management styles, some experts believe that it is the authoritative style - the combination of demand and friendliness - that yields the best results in

terms of students' self-reliance, self-respect and productivity and, as a consequence, their satisfaction from studying.

Z. Dornyei also writes about the best results of different class management styles. Interestingly, autocratic teachers often get good results, but the quality of results is much higher with democratic teachers, who also produce longer-term results than autocratic teachers. All in all, it is easier to be a good authoritarian teacher than a good democratic teacher (Dornyei, Malderez, 1999; Dörnyei, Murphy, 2003).

The teacher role in this case is not to transfer knowledge but to aid in acquiring knowledge. More and more researchers and practitioners speak about the role of a facilitator, i.e. a mediator between knowledge and student. It develops student autonomy, when they are not just able to study independently but also to assume responsibility for their learning.

More than that, a new term of "edutainment" has appeared, meaning education through entertainment. Some researchers seriously state that a good teacher must be an edutainer, i.e. to perform both an educational and an entertaining role (McElroy, Johnson, 2010).

The aim of this study is to identify and analyse the peculiarities of how students of different groups and universities perceive teacher personality, as well as compare these perceptions.

Methodology

In accordance with the aim of the study the following objectives were set:
- to identify the content and the structure of personal and professional characteristics of university teacher in students' perceptions coming from different groups;
- to analyse the indicators of teacher image on different stages of education (year 1 vs year 4);
- to study and compare specifics of teacher image of students in universities of different types (the academic MSU and the economic REU).

In order to solve these tasks, the following methods were used: the questionnaire of 12 questions (11 close-ended multi-choice questions and 1 open-ended question) drew up by the authors in the students' native language (Russian), ranking personality traits and comparative analysis of the data. The questions in the questionnaire were aimed at obtaining a complex characteristic of the modern teacher image across a number of parameters and were ranked accordingly. One open-ended question was included into the questionnaire with an aim to obtain qualitative data about the modern teacher and to provide the students with an opportunity to comprehend the modern teacher image independently and deeply. It also allowed them to include personal ideas, which was not presupposed by the close-ended questions. The questionnaires were designed in *Google* forms and sent via email, which allowed students to answer them online, anonymously at their leisure. The informants were 45 undergraduate students of years 1-4 from the College of African and Asian Studies, among them female 33, male 12, aged between 17 and 20, also the 1st and 2d year students of the Plekhanov Economics University - 31 people, female 26, male 5 aged 17-19.

Results and discussion

The number of completed questionnaires was 76.

The question *"Which teacher qualities do you consider to be the most important?"* had a list of several options to choose from, but more than three. As the graph demonstrates (Figure 1), the option "content knowledge" received the highest number of responses (82.7 %), which is quite understandable from the university student perspective - they enter a higher education institution to gain knowledge.

In the global information space where one can access resources for any field, students can compare their teachers' expertise with that of the best lecturers, and so, naturally, this indicator is extremely valuable for them. The second place was taken by "respect for students" (62.7 %), while abilities to hear and listen and to find a common language with all the students shared the fourth place (40 % each) following a slightly more prominent percentage of command of modern methods of teaching (41.3 %). It supports the thesis that students want to deal with a teacher as a partner who they want to respect and be respected by. These abilities suggest a student-teacher partnership.
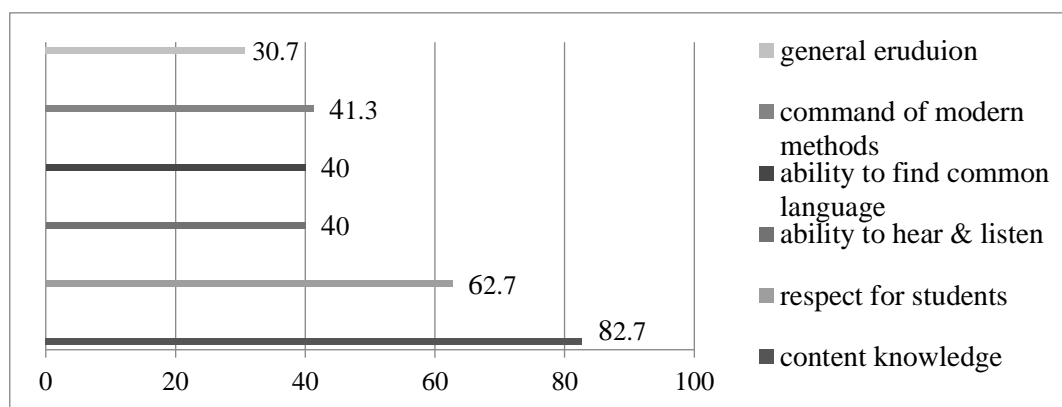
Figure 1. The most important teacher qualities (in % of respondents).

Responding to the question "*Which kind of teacher have you encountered most often*?", almost equal numbers of students answered "the teacher possessing these qualities" (34.7 %) and "unsure" (38 %).

Another question concerned teacher appearance. Most students pay attention to it (rather yes than no - 62 %), 77.5 % are satisfied with it, while some students think that people have the right to look different or the way they want to look.

The question "*Do you think modern teachers must have an excellent or good command of modern technologies?*" divided the students into groups. One might assume that, having grown up in the digital era, modern students would agree that this is an obligatory condition of the teacher success. In fact, slightly more than a half thinks so (52.1 %), while 18.3 % do not agree and 29.5 % consider that a teacher can be successful without this skill.

One more question was aimed at finding out the level of student satisfaction with the academic process. On the whole the students are quite satisfied with its quality, 29.6 % - completely, 64.8 % - rather yes than no. The majority of the respondents think that most teachers motivate them to gain new knowledge (45.1 % + 47.9 % "rather yes than no").

The most interesting responses were received in answer to the open-ended question, "*What do you think the modern teacher must be like?*" The comments can be divided into two groups: those which refer to professional qualities and those, which concern personality. The most common answer was "*interested and able to interest the students*", as variants "*knowing how to motivate*", "*inspiring*". The second most common response was "*understanding*", and it does not only imply understanding individual students and their problems, "*being on the same wavelength*" with them, but also understanding modern realities and trends, being open to innovations and knowledge, informed about the latest developments in one's field of expertise, in a nutshell -"*modern*". At the same time the students want their teachers to be demanding and firm in case of negligent attitude to the subject. Such qualities as friendliness, patience, empathy what are very important too. It is essential for the students to have the teacher as a friend, but as an "*older friend*", i.e. an authority in both knowledge and general behaviour.

The students were also asked which teacher type they consider to be the most enticing for language learning. Almost half of the respondents (44.7 %) consider the type "*teacher-friend*" to be the most conducive to foreign language learning, while 43.4 % favour the democratic type. Interestingly, types "*teacher-democrat*" and "*teacher-dictator*" were encountered by students almost equally often (38.7 % and 40 % respectively), while the "*teacher-friend*" was encountered most seldom (12 %). These results (Figure 2) correlate with the previous poll conducted last year (Safronova, Klyukina, 2019) when 56.5 % of respondents found "*teacher-friend*" to be the most conducive to language learning.

The democratic teacher was then preferred by 39.5 %. In last year's survey the democratic teacher and the authoritarian teacher were encountered equally often (39.7 % each), whereas the "*teacher-friend*" also turned out to be the rarest type (10.3 % of the respondents met it most frequently). Thus, there is a consistent mismatch between the students' preferences and reality.
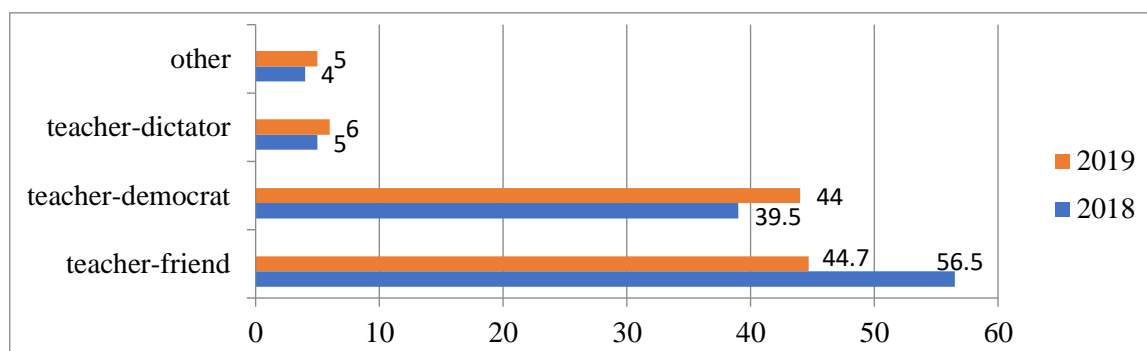
Figure 2. Comparison of preferences of the teacher type most conducive for language learning (in % of respondents).

As far as the comparison of teacher image for different stages of education (Figure 3), the obtained date indicate that the fourth-year students tend to concentrate on the three most important characteristics – content knowledge, respect to the student and the ability to listen and to hear, while the first-year students seem to value all the teacher qualities more equally. A possible explanation is that for the students in their final year of study, who are engaged in writing and defending their final paper and preparing for their qualification exams in order to obtain their bachelor degree, the teacher's content knowledge and interpersonal skills, such as the ability to listen and hear the student as well as respect to the student, become far more important than the command of modern methods of teaching and group communication skills.
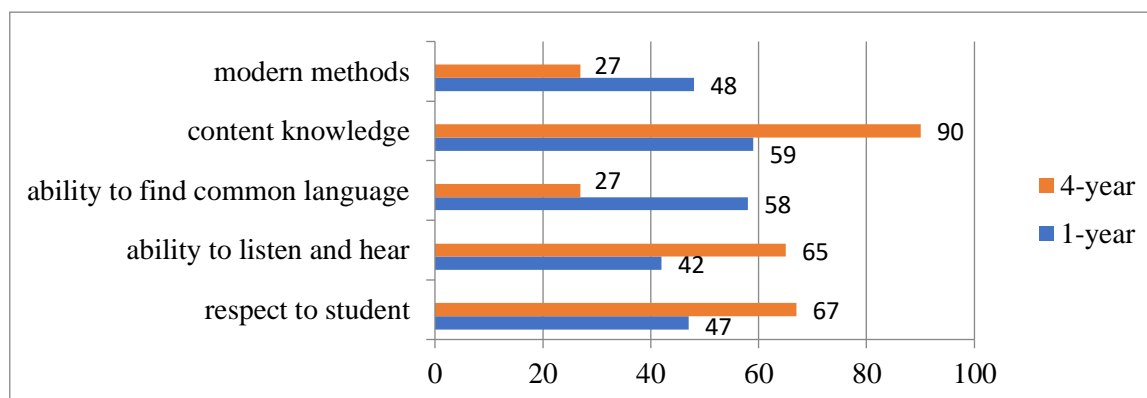
Figure 3. Comparison of teacher image for different stages of education (in % of respondents).

Another difference between the first- and fourth-year students concerned their experience of encountering various teacher types. Thus, the students fresh from school reported that they most frequently encountered dictatorial teachers (61 %), whereas senior students' responses seem to indicate that they mostly communicate with democratic teachers (63 %), which appear to demonstrate that school educational environment tends to be more authoritarian than that of tertiary institutions.

Conclusions

The results of the empirical study show that the image of a modern teacher consists of several components: competencies (professional), personality and social.

The professional component (the content knowledge, general erudition, and command of modern technologies) is the most important for the students. However, the frequency analysis shows a greater significance of such a feature as "content knowledge" which grows in importance over the years of study. It involves not only having fundamental knowledge in a certain field, but improving this knowledge continuously, as it will allow organizing the studying process more efficiently. More than a half of the respondents consider that a modern teacher must have a good command of modern technologies, which provides efficient implementation of the academic process and warrants professional independence of the teacher.

Regarding the other two aspects of the professional components, the respondents are divided: for the students of the College of African and Asian Studies general erudition is more important than the command of modern methodology (13/7), while the students of the Plekhanov Economic University favour the teacher's skill (procedural aspect) over general erudition (15/6).

The most essential components of teacher personality are the ability to listen and hear (14/19) and the respect for students (14/19). These characteristics can be united into the factor of empathy which involves understanding the partner in communication and creating the atmosphere of trust in class, which, in turn, will increase the students' motivation. The results of the frequency analysis show that the students' opinions from both universities coincide.

The social component of the teacher image included a number of questions concerning the appearance. The frequency analysis demonstrates that more than 50 % of the students pay attention to the teacher's appearance which is an important component of the teacher image. The comparative analysis did not reveal any significant differences between the two universities.

There were no significant gender-related differences in perceiving teacher professional or personality features. The only noticeable variation was the following: only 3 out of 17 male respondents preferred a teacher-friend, 10 wanted a democratic teacher, while other 4 wanted various combinations of different types.

While comparing the responses by the first and the fourth-year students, it appears that the latter are more specific in their preferences and tend to focus on three most significant teacher qualities: content knowledge, respect for the student and ability to listen and hear.

As for the teacher type, they most frequently encountered, the students' responses seem to demonstrate another difference: the first-year students have the experience of communicating mostly with the *"teacher-dictator"* (61 % versus 41 %), which can be connected with rudimentary memories of the recent school past. The senior students have encountered the *"teacher-democrat"* most frequently (63 % versus 31 %), which suggests that the universities have a democratic style of communication as prevalent.

Students' perceptions of the teacher personality are an important subjective factor, which largely determines the efficiency of the learning. Not only does this factor influence the teacher-student communication and the organization of all classroom activities, but also students' motivation which at the end of the day will allow the students to achieve the desirable results and self-actualization in the professional area.

The rapid development of digital technologies has its consequence – setting up of a new information and communication culture. Thus, it is not only the student perception of information that changes (attention, concentration), but also perception of the educational context – formats of acquiring knowledge and, as a result, the role model of an educator. The modern teacher is the "presenter" of the studying process. The teacher should reconsider the academic approach. In response to this challenge a new role model can be suggested – that of a lecturer, moderator or mentor. This topic can be a subject of further research.

Bibliography

1. Baltusite R., Katane I. (2017). The Modern Teacher's Career. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *10*. Jelgava: LLU, 30-39. Retrieved from https://llufb.llu.lv/conference/REEP/2017/Latvia-Univ-Agricult-REEP-2017_proceedings-30-39.pdf
2. Barnett R. (2007). *A Will to Learn: Being a Student in an Age of Uncertainty*. New York: McGraw-Hill Education.
3. Baumrind D. (1971). Current Patterns of Parental Authority. *Developmental Psychology Monograph, 4*(1), 1-103. doi: 10.1037/h0030372
4. Djigic G., Stojiljkovic S. (2011). Classroom Management Styles, Classroom Climate and School Achievement. *Procedia - Social and Behavioral Sciences, 29*, 819-828. doi: 10.1016/j.sbspro.2011.11.310

5. Dornyei Z., Malderez A. (1999). The Role of Group Dynamics in Foreign Language Learning and Teaching. In J. Arnold (Ed.), *Affective Language Learning,*155−171. Cambridge: Cambridge University Press.
    https://pdfs.semanticscholar.org/c737/8a9ce17bc050ca9225c9b928e8e2570098ff.pdf
6. Dörnyei Z., Murphy T. (2003). *Group Dynamics in the Language Classroom*. Cambridge University Press. doi: 10.1017/CBO9780511667138
7. Gurevich K.M. (2008). *Differentsial'naya psihologiya I psihodiagnostica* [Differential psychology and psychodiagnostics]. Selected works, St.Petersburg – Piter. (in Russian)
8. Hamel G., Prahalad C.K. (1996). *Competing for the Future*. Boston, Massashusetts: Harvard Business School Press.
9. Harmer J. (2007). *The Practice of English Language Teaching* (4th ed.). Harlow: Longman.
10. Holland J.A. (1959). A Theory of Vocational Choice. *Journal of Counseling Psychology, 6*(1), 35-45.
11. Johnson B., McElroy T.M. (2010). The Changing Role of the Teacher in the 21st Century. *Teachers.net Gazette*, *7*.
12. Klimov E.A. (1993). *Razvivayushchiysya chelovek v mire professiy* [A Developing Man in the World of Professions]. Moscow: Obninsk – Printer. (in Russian)
13. Kochetova A.I. (2011). Kak obmanut' khaos [How to Deceive Chaos]. *Business Journal, 4.* (in Russian)
14. Lewin K. (1951). *Field theory in social science*. New York: Harper.
15. Lewin K., Lippitt R., White R.K. (1939). Patterns of Aggressive Behavior in Experimentally Created Social Climates. *Journal of Social Psychology, 10*(2), 271-299. doi: 10.1080/00224545.1939.9713366
16. McElroy T.M., Johnson B. (2010). *The Edutainer: Connecting the Art and Science of Teaching.* Lanham, MD: Rowman & Littlefield. Retrieved from https://epdf.pub/the-edutainer-connecting-the-art-and-science-of-teaching.html
17. Safronova V., Klyukina E. (2019). Some Aspects of Motivating Tertiary Students in Learning Oriental and European Languages. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *12*. Jelgava: Latvia University of Life Sciences and Technologies, 158-164. doi: 10.22616/REEP.2019.020
18. Walfgang C.H., Glickman C.D. (1980). *Solving Discipline Problems: Strategies for Classroom Teachers.* Boston, MS: Allyn and Bacon, Inc.
19. Wang M.C., Haerted G.D., Wallberg H.J. (1993). Toward a Knowledge Base for School Learning. *Review of Educational Research*, *63*(3), 249-294. doi: 10.2307/1170546
20. Zimnyaya I.A. (2004). *Kluchevye competentnosti kak resultativno-tselevaya osnova competenstnostnogo podhoda v obrazovanii* [Key Competencies as an Effective-Purposeful Basis for Competence-Based Approach in Education]. Moskva: Issledovatelsky Tsentr Problem Kachestva Podgotovki Spetsialistov. (in Russian)

Development of Transversal Competences in Case Study-based Professional English Course in Business Administration Studies

Tatjana Sinkus Dr.paed.
Latvia University of Life Sciences and Technologies, Latvia
tshinkus@yahoo.com

Abstract: Transversal competences are fundamental in the 21st century and necessary for every higher educational institution graduate as they are prerequisites for well-being and success in life, adapting to the changeable and complex world and meeting multiple demands of today's society, being competitive in the labour market, managing profitable business and developing an enterprise. The aim of the study was to describe the process of developing such transversal competences as critical thinking, collaboration and creativity in case study-based professional English course in business administration studies. The results were obtained in a pedagogical experiment involving business administration students in case study modules within the professional English course. The students developed transversal competences during a case study-based course and the article presents ways of how practical acquisition of critical thinking, collaboration and creativity competences was achieved.

Keywords: university education, professional English, transversal competences, case study.

Introduction

The research in the 21st century competences is commonly associated with the increased significance of so called "transversal competences" as they are considered by theorists as crucial indicators for employability, meeting complex demands and competitiveness. Nowadays it is widely accepted that transversal competences should be developed in the higher educational institution (Lima et al., 2017; Ananiadou, Claro, 2009; Gordon et al., 2009; Birjandi, Bagherkazemi, 2010; Bröckling, 2006; Robinson, 2011; Jackson, 2013; Hildebrand, 2008).

Transversal competences provide an opportunity of effective participation and self-realization in a variety of educational, professional, social and personal life contexts. They are multifunctional and span numerous aspects of human life comprising knowledge of various academic disciplines. There is no unified conceptual framework describing transversal competences, every scientist and each initiative introduces complementary ideas to this concept. Though, a large number of studies highlights the importance of developing such transversal competences as critical thinking, collaboration and creativity.

The students of business administration studying professional English require a course which not only provides opportunities to develop foreign language skills but would also help them think independently, rationally, creatively and teach them how to work in teams sharing responsibility for accomplishing a common task. Moreover, teaching English in the higher educational institution the educator should take into account specific features of students' future profession.

The article suggests that the case study method helps the teacher to adapt foreign language teaching process to the needs of future specialists. Case study modules in the professional English course are directed to student cognitive skills' development, they increase motivation, provide active, problem-based, communicative learning, which leads to transversal competences' development. Thus, the aim of the study was to describe the process of developing such transversal competences as critical thinking, collaboration and creativity in case study-based professional English course in business administration studies.

Theoretical background

Critical Thinking

Critical thinking is an important life skill for people today (Mimbs, 2005). Students must be trained critical thinking skills to be able to think critically for their future career (Badri-Gargari, Fathi-Azar, 2007). Students can be transformed in their learning through continued and consistent use and application of critical thinking skills (Adeyemi, 2012).

Canada research (Shifting Minds…, 2012, 10) suggests that thinking critically requires students to "acquire, process, interpret, rationalize, and critically analyze large volumes of often conflicting information to the point of making an informed decision and taking action in a timely fashion. The knowledge and digital era is demanding people with higher order thinking skills; the ability to think logically, and to solve ill-defined problems by identifying and describing the problem, critically analyzing the information available or creating the knowledge required, framing and testing various hypotheses, formulating creative solutions, and taking action".

Critical thinking is the "ability to design and manage projects, solve problems, and make effective decisions using a variety of tools and resources" (Fullan, 2013, 23). It "applies to all sorts of knowledge and implies the true engagement of learners in the process of knowledge construction through reflecting and thinking deeply; curiosity and questioning are necessary characteristics of those who think critically as they always try to find answers for the questions they raise." (Saleh, 2019, 2).

It should be noted that critical thinking is a complex notion and it is difficult to integrate all its components into a common single definition. In many ways, these definitions are similar, repeated in the literature and complementary. However, there are some obvious common elements regarding critical thinking that can be summarized as following:
- an ability to raise vital questions and problems, formulating them clearly and precisely,
- an ability to identify the relevance and importance of ideas,
- an ability to understand the logical connections between ideas,
- an ability to analyze complex issues and situations,
- an ability to gather, compare and assesses relevant information, evaluate arguments,
- an ability to draw conclusions based on reliable information,
- an ability to detect mistakes in reasoning,
- an ability to solve problems systematically,
- an ability to synthesize and make connections between subjects,
- an ability to communicate effectively with others in figuring out solutions to problems,
- an ability to transfer insights to new contexts.

Critical thinking is an essential competence required for success in the 21st century, it is of great importance in modern life, and it should be taught to students, especially adult learners at the higher educational institution. Most traditional lecturers tend to present facts to the students who are passively supposed to acquire these bits of theoretical knowledge. However, educators supporting critical thinking have a different approach and try to involve students in active learning providing situations in which the students can discuss arguments, express their opinion and analyze information.

Collaboration

Since most jobs nowadays require individuals to work in teams where each team member contributes to a finished product or completed service, collaboration is a vital competence that every person should develop in the 21st century. Collaboration enables an individual "to work effectively as a member of a team in order to achieve a common benefit; being active, helpful and bringing a personal contribution to the teamwork; gaining new knowledge from other participants and transferring it to new situations, compromising and resolving conflicts." (Sinkus, 2019a, 178)

Collaboration involves groups working together to solve a problem, complete a task, or create a product, learning from others, listening to different perspectives, presenting opinions and defending them. Working collaboratively, individuals do not solely rely on an expert's opinion but develop their own unique skills and abilities and apply them in diverse situations, roles, groups, in order to construct knowledge and meaning. New skills and knowledge are necessary to enable group members to collaborate in digital age, facing each other or working remotely. As C. Dede (2010, 2) states: "In addition to collaborating face-to-face with colleagues across a conference table, 21st century workers increasingly accomplish tasks through mediated interactions with peers halfway across the world whom they may never meet face-to-face. Thus, even though perennial in nature, collaboration is worthy of inclusion as a 21st century skill because the importance of cooperative interpersonal capabilities is higher and the skills involved are more sophisticated than in the prior industrial era".

In the context of foreign language learning, collaboration is frequently associated with communicative language learning approach as opposed to traditional teacher-oriented studying from books. According to J. Richards and T. Rodgers (Richards, Rodgers, 2001, 193) "collaborative language learning seeks to build naturalistic, elaborate, and motivating language learning environments that, using interactive activities, help learners in taking advantage of different ways of learning and communication".

T. Sinkus (2019b, 171) suggests using the case study method in the professional English course as it can provide students with a wide range of opportunities for valuable collaborative and communicative language practice. The author investigated students' opinion on the case study method's usage in the professional English course and the study showed that the majority of the students considered case studies as an opportunity "to experience and enjoy more creative and engaging way of learning, helped build confidence in speaking English and find new objectives in learning the foreign language. Most students appreciated the opportunity to approach business problems from various perspectives, develop foreign language interactive skills, apply what they learned in practice, reflect on participation in case study, and increased responsibility for learning".

In order to achieve better results in collaborative problem solving students should develop social skills, flexibility and empathy, an ability to compromise, work respectfully with others to make decisions taking into account the needs of the whole group and considering the views of all group members, an ability to accept different roles, and share responsibility for the created common product.

Creativity

According to I. Bojāre and S. Ignatjeva (Bojāre, Ignatjeva, 2014, 43), "nowadays, a paradigm shift leads to facilitation learners to become creative. Such creativity and autonomy is precondition not only of sustainable long term learning during one's life, but also for openness and meeting challenges of changes, creating new knowledge and acquisition unpredictable skills in the future".

In the 21st century creativity has become crucial for economic growth, social development, competition in business. The need for creative problem-solving ideas has arisen as more and more modern issues require creative insights, generating novel ideas, looking at things from a different perspective and freedom of restrictions by rules and norms in order to find suitable solutions.

The Partnership for 21st Century Skills framework (P21 Framework Definitions, 2009, 5) underlines the importance of thinking creatively, working creatively with others and implementing innovations. According to this framework, creativity involves "the ability to turn ideas into action to meet the needs of a community. The capacity to enhance concepts, ideas, or products to contribute new-to-the-world solutions to complex economic, social, and environmental problems involves leadership, taking risks, independent/unconventional thinking and experimenting with new strategies, techniques, or perspectives, through inquiry research".

U. Bröckling (2006, 513) points out to a great necessity of creativity development in 21st century. The researcher states that "The importance of being creative is nowadays connected to the mobilisation of the entrepreneurial self. Entrepreneurial action demands permanent innovation and consequently ceaseless creative exertion. Everybody not only has to be simply creative, but more creative than the others".

N.J. Jackson (2013) views creativity as a versatile term including such characteristics as being imaginative, possessing ability to think generatively, being original, inventive, curious, resourceful, being able to think synthetically and to connect ideas/things in unusual ways, being able to think critically to evaluate ideas, being able to communicate in ways that help people comprehend and being able to see things differently. The theorist presents strategies that higher education teachers should use to facilitate students' creativity. They can be summarized as following:
- giving students permission to be creative, encouraging and valuing creativity,
- providing time and safe spaces for students where they can try new things out,
- developing students' self-confidence in dealing with unpredictable situations,
- promoting the development of self-awareness and reflective learning,
- providing activities that are meaningful to learners,
- providing opportunities to develop autonomy and independence, personal choice,

- providing students with challenging real-world situations where there are no right answers,
- demonstrating their own creativity and providing a role model,
- acting as guides and facilitators, being responsive to students as a group and as individuals,
- being prepared to take risks and reveal something of themselves in the teaching process,
- creating opportunities for problem or enquiry-based approaches to learning, for collaborative working, discussion, negotiation and experience-rich learning,
- focusing on learning for understanding not content mastery.

Thus, in order to develop student abilities to think creatively educators should make higher education more experiential and linked to the world of real problem solving. A 21st century competent individual should 'think outside the box', sometimes risking, looking at things from different angles, being unique and original.

Methodology

One hundred and seven 1st year students of Baltic International Academy studying in business administration programme during three consecutive study years, six groups of students: 2015-2016 study year − 37 students (2 groups), 2016-2017 study year − 48 students (2 groups), 2017-2018 study year − 22 students (2 groups) took part in the experiment: they were involved in case study modules within the professional English course with the aim to develop such transversal competences as critical thinking, collaboration and creativity.

The professional English course was divided into three modules titled Negotiations, Meetings and Presentations where the students were assigned a case, which they studied individually, discussed in pairs and small groups, studied vocabulary and professional terminology, were involved in various activities related to a case: discussions, roleplays, simulations; then they were assessed, reflected on their work and the work of their peers, and presented their self-evaluation. Following is the description of the ways of how the author of the article approached transversal competences' development by involving the students of business administration in case study modules in the professional English course.

Results and Discussion

Critical thinking competence development in case study modules

To foster critical thinking in the context of business problems, the author used case study modules comprising cases and case-based activities (role-plays, simulations, discussions and presentations) from business settings. The students were exposed to business problems that helped them relate the material learned in business administration studies to the foreign language learning.

The students were actively involved in cases that were based on a business situation as decision makers and were asked to examine the problem from a variety of perspectives, to reason their way to a solution and to arrive at conclusions. All the cases involved a question or problem that was not evident or obvious to the students who had to take up the role of decision makers. In all the cases, more than one answer was possible and the students could suggest any solution of the problem they wanted on the purpose that their ideas were supported with credible arguments, sources, knowledge and information.

The case study process enabled the teacher to emphasize business administration subject matter and focus on both the foreign language knowledge development and critical thinking enhancement within a reality-based context. The author used realistic problem-based scenarios of cases to lead students to understand business administration concepts deeper and apply foreign language communication into the analysis of business situations.

Case study modules provided the students with the opportunity to enhance critical thinking through such case study phases as individual work, group work and the whole class activities where they acquired new knowledge and applied it in discussion and analysis of a case/problem. In different phases of the case, students developed critical thinking competence through involvement in high order thinking processes. Critical thinking levels involved knowledge and comprehension, application, analysis and evaluation, synthesis, creation and reflection. The summarized and listed in Table 1 below procedures

describe how the case study phases involved the students in application of critical thinking competence's components development on various levels.

The students were also engaged in common whole class result creation based on the synthesis of all information and knowledge derived from several small groups, as well as in reflection about their work. All these processes lead to critical thinking competence development.

Table 1

Critical thinking competence development

Case study phases	Critical thinking levels	Procedures of critical thinking competence application in case study
Individual work	Knowledge and comprehension	- reading the case scenario and defining the central problem of the case; - identifying underlying facts and assumptions; - learning new vocabulary and expressions; - gathering relevant information, knowledge and formulating questions; - identifying business concepts involved in the case; - breaking down the case into constituent parts; - filling in the missing information; - retelling case information into one's own words; - problem situation comprehension;
Group work	Application, analysis and evaluation	- discussing/analyzing the problem with other students in small groups; - questioning, interpreting and explaining the problem; - differentiating similarities and differences in opinions on the case; - establishing criteria to evaluate alternate solutions and evaluating information from multiple perspectives; - assessing the validity and relevance of information, knowledge, sources; - criticizing perspectives and assumptions; - defending arguments, using evidence to support arguments; - assessing strength and weaknesses of options; - drawing conclusions;
Whole-class activities	Synthesis, creation and reflection	- developing strategies or action plan; - linking data, knowledge, and insight together from various disciplines; - presenting the results of the case obtained in small groups and discussing the case as a whole-class activity; - putting the results of all small groups together to form a common result; - constructing new knowledge or perspectives; - engagement in self-reflection; - engagement in self- and peer assessment; - applying decisions and conclusions; - transferring newly acquired knowledge into new situations.

Collaboration competence development in case study modules

The necessity of collaboration in the case study arose from the fact the tasks were too complex and rigorous to complete individually. Working on a case involved students in active interaction and collaboration with others to achieve a common goal – to learn together and to solve a problem.

Collaborative learning involved small groups of students mutually searching for understanding, solutions or meanings through discussions. The students participated in small group work and in whole class discussion, exchanged ideas and shared responsibilities. They were required to work actively as a member of a team bringing personal contribution.

The teacher formed small groups of 4-5 people to avoid student non-participation. By assessing students both individually and as a group the teacher ensured individual accountability of the group members. Also, the students had to evaluate their own participation as well as that of their peers. Assigning meaningful roles such as a manager, a monitor or a leader for each case-based task gave students ownership of the case study process and allowed the teacher to assess students based on accomplishing of these roles.

Before beginning group work, the teacher explained the students the principles of collaboration: what makes a good team member versus what makes a difficult one, as well as strategies for working with others, sharing the load responsibly, and overcoming disagreements. Teaching collaboration explicitly, the teacher provided the students with opportunities for its practice, and provided continuous feedback to ensure further development and progress of collaboration competence. Collaboration competence development process is summarised in Figure 1 below.

Collaboration competence indicators	Case study modules' activities promoting collaboration
• gaining new knowledge from other participants, exchange of views and experience with other team members;	• discussion of case introductory questions in small groups and sharing with experience in negotiating, taking part meetings and giving presentations; • defining business concepts and terms' in small groups; • brainstorming about the secrets of success in negotiations, meetings and presentations;
• working toward a team's common mutual goal; defending opinions; • clarifying understanding; • ability to negotiate; • synthesizing information;	• discussion in small groups about the rules on how to prepare to negotiate, to take part in a meeting and give a presentation; • drawing up a list of rules (students write questions to ask themselves to prepare thoroughly), compare the results with other groups;
• reliability and accountability; • being active and helpful, bringing personal contribution to the group work;	• in small groups, students study the case dividing the task of each member of the group, conducting an individual study, share with the findings obtained, offer a solution to the problem; • all group members comment, agree or disagree with it, synthesize all information and negotiate the final result;
• being able to resolve conflicts; • nurturing positive relationships; • supporting others to achieve a common goal, understanding mutual dependence;	• students read their instructional cards and act out a role-play with different goals (negotiating pay rise, a discount, a day off) using new vocabulary; • students use polite phrases, listen patiently, seek a mutually acceptable agreement and find a compromise;
• encouraging team members to contribute their perspectives, skills or knowledge.	• students assess their small group work and the work of peers, giving positive feedback, criticizing, encouraging to work actively.

Figure 1. Collaboration competence development.

Creativity competence development in case study modules

Case study modules presented the students with a wide range of opportunities and freedom to express their unique creative identity. The teacher assigned cases where there was no single possible answer and the students were encouraged to think differently, use their imagination and resourcefulness and come up with original ideas for the purpose of solving problems.

Various methods and activities aimed to develop student creative thinking were used in the professional English language course. The students participated in brainstorming and brainwriting, acting out situations, roleplays, simulations, delivering presentations, creating advertisements and videos, answering open-ended questions, predicting, etc. In order to demonstrate their presentations, videos and advertisements the students used visuals, technology and multimedia.

The students used the foreign language in a creative way in communication during the lessons. Interactivity was an important element of case study modules which stimulated the student ability to be flexible, use creative and imaginative ways of expression. To use new language constructions, vocabulary and expressions, the students had to overcome language problems in order to make the message intelligible and to adjust their language to different situations and purposes.

The students also used various strategies to make up for the lack of language in communicative situations, for example, using humour, miming, paraphrasing, giving examples to get meaning across. The learners had to combine ideas, materials and resources in an original way to create a common product and present their group's unique way to solve the problem. Creativity competence development process in the professional English course is depicted in Figure 2 below.

Creativity competence indicators	Case study modules' activities promoting creativity
• seeking new unobvious perspectives and opportunities in business environment; • solving problems in an innovative, non-traditional, original way; • combining materials or resources in order to create something new;	• brainstorming and brainwriting ways how to solve a case; • predicting the outcome of the case; • discussion: how to stay ahead of competitors; • discussing factors of a successful presentation, meeting, negotiations; • presenting multiple solutions of the case;
• experimenting with new ideas and roles; • being flexible in communication with different people in various circumstances;	• acting out new situations, trying out new roles in roleplays, simulations; • using new language;
• coming up with original ideas to improve business procedures;	• answering open-ended questions about the case: What if…? Is there a better way….? How could you improve…?
• exploring multiple perspectives; • ability to create new ideas in collaboration; • evaluating and adjusting ideas or innovations to suit the goal of the case study;	• interacting in groups on the case;
• combining ideas, materials and resources in an original way to create a common product; • the ability to adjust the foreign language to different purposes, addressees, and situations; • presenting ideas and demonstrating the confidence to implement innovative ideas;	• presentation of the results of the group case study to the whole class;
• demonstrating initiative, resourcefulness when transforming ideas into products or services; • search for competitiveness opportunities; • using imagination, experimenting; • using humour.	• creating an innovative product/service and giving a presentation about it; • creating an advertisement to stay ahead of competitors and keep up with latest trends; • video creation: 'successful presentation of the product', followed up by a discussion on what are the effective strategies of the presentation.

Figure 2. Creativity competence development.

Conclusions

To sum up, transversal competences such as critical thinking, collaboration and creativity are regarded as very significant for each higher educational institution graduate in the 21st century regardless of the program they study. The benefits of developing each competence for the students of business administration, prospective entrepreneurs, cannot be underestimated as well. *Critical thinking competence* enables an entrepreneur to think rationally, logically, systematically, analyse issues and make independent judgement. *Collaboration competence* enables an entrepreneur to work effectively as a member of a team in order to achieve a business benefit; being active, helpful and bringing a personal contribution to the teamwork compromising and resolving conflicts. *Creativity competence* enables an entrepreneur to seek new unobvious perspectives and opportunities in business environment, come up with original ideas to improve business procedures, solve problems in an innovative, non-traditional way, keep up with the latest business trends and stay ahead of competitors.

Development of critical thinking, collaboration and creativity was incorporated into the professional English course using the case study modules which presented a wide range of opportunities to develop transversal competences. During the pedagogical expreriment the students were actively involved in cases based on a business situation as critical decision makers, they actively participated in interaction and collaboration with others to achieve a common goal – to learn together and to solve a problem coming up with original ideas to improve business procedures and expressing their unique creative identity.

Bibliography

1. Adeyemi S.D. (2012). Developing Critical Thinking Skills: A Mandate for Higher Education in Nigeria. *European Journal of Educational Research*, *1*(2), 155-161. Retrieved from https://files.eric.ed.gov/fulltext/EJ1086348.pdf

2. Ananiadou K., Claro M. (2009). 21st Century Skills and Competences for New Millennium Learners in OECD Countries. *OECD Education Working Papers*, *41*, OECD Publishing: Paris. doi: 10.1787/218525261154

3. Badri-Gargari R., Fathi-Azar S. (2007). A Comparison of the Effect of the Group Problem Based Learning and Traditional Teaching on Critical Thinking of Teacher Students. *Studies in Educational and Psychology*, *8*(2) 16, 27-42.

4. Birjandi P., Bagherkazemi M. (2010). The Relationship Between Iranian EFL Teachers' Critical Thinking Ability and Their Professional Success. *English Language Teaching*, *3*(2),135-145. Retrieved from https://pdfs.semanticscholar.org/ff71/d780a75b8a3c2e526a68d3f2b82437c38c39.pdf

5. Bojāre I., Ignatjeva S. (2014). Autonomous English Acquisition in Blended e-studies for Adults for Sustainable Development: Quantitative research. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *7*. Jelgava: LLU, 42-49. Retrieved from https://llufb.llu.lv/conference/REEP/2014/Latvia-Univ-Agricult-REEP-2014proceedings-42-49.pdf

6. Bröckling U. (2006). On Creativity: A Brainstorming Session. *Education Philosophy and Theory*, *38*(4), 513-521. doi: 10.1111/j.1469-5812.2006.00208.x

7. Dede C. (2010). Comparing Frameworks for 21st Century Skills. In J. Bellanca, R. Brandt (Eds.). *21st Century Skills: Rethinking How Students Learn*. Bloomington, IN: Solution Tree Press; 2010: 51–75 Retrieved from http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.475.3846

8. Fullan M. (2013). The New Pedagogy: Students and Teachers as Learning Partners. *Learning Landscapes*, *6*(2), 23-29. doi: 10.36510/learnland.v6i2.601

9. Gordon J., Halsz G., Krawczyk M., Leney T., Michel A., Pepper D., Putkiewicz E., Wisniewski J. (2009). *Key Competences in Europe. Opening Doors for Lifelong Learners across the School Curriculum and Teacher Education*. Warsaw: CASE Retrieved from http://www.case-research.eu/upload/publikacja_plik/27191519_CNR_87_final.pdf

10. Hildebrand D. (2008). *The Powerful Benefits of Lifelong Learning*. Winnetka, California, USA: Scientific Research an Academic Publisher.

11. Jackson N.J. (2013). Developing Students' Creativity through a Higher Education. Retrieved from https://www.researchgate.net/publication/321036375_Developing_Students'_Creativity_through_a_Higher_Education

12. Lima R.M., Mesquita D., Rocha C., Rabelo M. (2017). Defining the Industrial and Engineering Management Professional Profile: A Longitudinal Study Based on Job Advertisements. *Production*, *27*, 1-15. Retrieved from http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0103-65132017000200317

13. Mimbs C. (2005). Teaching from the Critical Thinking, Problem Based Curricular Approach: Strategies, Challenges, and Recommendations. *Journal of Family and Consumer Sciences Education*, *23*(2), 7-12. http://w.natefacs.org/Pages/v23no2/v23no2Mimbs.pdf

14. P21 Framework Definitions. (2009). Partnership for 21st Century Skills. Retrieved from https://eric.ed.gov/?id=ED519462

15. Richards J., Rodgers T. (2001). *Approaches and Methods in Language Teaching*. New York: Cambridge University Press. Retrieved from https://www.novaconcursos.com.br/blog/pdf/richards-jack-c.-&-rodgers.pdf

16. Robinson K. (2011). *Out of Our Minds: Learning to be Creative*. Chichester, UK: Capstone Publishing. Retrieved from http://www.fredkemp.com/5365su12/robinsonchpt123.pdf

17. Saleh S.E. (2019). Critical Thinking as a 21st Century Skill: Conceptions, Implementation and Challenges in the EFL Classroom. *European Journal of Foreign Language Teaching*, *4*(1), 1-15. doi: 10.5281/zenodo.2542838

18. Shifting Minds: A 21st Century Vision of Public Education for Canada. (2012). Canada: C21 Canadians for 21st Century: Learning and Innovation. Retrieved from http://www.c21canada.org/wp-content/uploads/2012/05/C21-Canada-Shifting-Version-2.0.pdf

19. Sinkus T. (2019a). The Development of Professional English Language Competence in Business Administration Studies. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 12*. Jelgava: Latvia University of Life Sciences and Technologies, 173-181. doi: 10.22616/REEP.2019.022

20. Sinkus T. (2019b). The Implementation of Transformative Case Study Model for the Development of Professional English Language Competence in Business Administration Studies. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 12*. Jelgava: Latvia University of Life Sciences and Technologies, 165-172. doi: 10.22616/REEP.2019.021

The Relationship between Implicit and Explicit Attitudes towards Criminal Violence and Attachment Styles

Laura Simane-Vigante[1] Mg.psych.; **Irina Plotka**[2] Dr.psych.; **Nina Blumenau**[3] Dr.sc.ing.
Baltic International Academy, Latvia
l.simane@inbox.lv[1]; irinaplotka@inbox.lv[2]; nina.blum@gmail.com[3]

Abstract: Attachment system is an emotion regulation device that helps to regulate the emotions and the expression of it. In forensic psychology attachment security/insecurity is studied, because it tends to be a predictive moderator of violent offenses. Attitudes towards violence are important predictors of violent behaviour. The aim of the study is to research the relationship between the results of implicit and explicit measurements of attitudes towards criminal violence and attachment styles of violent sentenced male offenders and non-offenders. Five research questions have been set. 88 males took part in the research. The whole sample consisted of two groups: "Sentenced" (N = 49) and "Not Sentenced" (N = 39). A specially designed Violence Self-concept IAT was used as well as self-report measures (Criminal Attitudes towards Violence Scale and Vulnerable Attachment Style Questionnaire). The results showed a partial correspondence between the results of implicit and explicit measurements of attitudes towards violence. The difference of the strength of explicit criminal attitude towards violence between the groups "Not Sentenced" and "Sentenced" was not revealed, but implicit associations of oneself with non-violence are more pronounced in the "Not Sentenced" group. In the "Not Sentenced" group, the part of participants with the secure attachment style is greater than in the "Sentenced" group. The relationships between measurements of attachment styles (secure, insecure avoidant and insecure anxious) and attitudes towards criminal violence only with explicit attitudes were revealed. Non offenders with secure attachment style have the least pronounced explicit attitudes towards criminal violence, compared with the males with insecure attachment styles. The results can be used for forensic practitioners in order to improve the process of re-socialization.

Keywords: attitude towards violence, attachment style, self-concept implicit test, criminal violence, forensic psychology.

Introduction

The attachment theory is taught in almost every discipline of psychology. It explains psychological and neuropsychological processes starting in childhood and continuing throughout the lifespan. Attachment theory was firstly developed by J. Bowlby (1984, 1988), further expanded by M. Ainsworth (Ainsworth et al., 1978), who, with the help of the experiment "Strange situation" firstly talked about children attachment styles. C. Hazan and P.R. Shaver (1994) explained adult attachment in regard to romantic relationships, identifying three attachment styles (Secure, Insecure Avoidant and Insecure Anxious-ambivalent) and K. Bartholomew and L.M. Horowitz (1991) adapted the original three attachment styles in to four attachment styles (Secure, Preoccupied, Dismissing and Fearful). Attachment is formed in childhood on the basis of an affectionate bond with a caregiver (the "safe base"). Separation anxiety takes place if the caregiver is absent and if he or she is not responsive to the needs of the child insecure attachment is formed. It is analysed that not the quantity, rather the quality of interaction with the caregiver is the most important. If the emotional needs of the child are met, secure attachment style is formed and vice versa, see detailed analysis of the attachment theory in L. Simane-Vigante, I. Plotka, N. Blumenau (2018).

Why is it necessary to study attachment in regard to attitudes towards violence in the sample of violent male offenders? Attitudes towards violence are important, because they may help explain violent actions and invest in predicting violent behaviour (Bowes, McMurran, 2013). M. Ansbro (2008) has stated that attachment theory provides an insight in the regulation of psychological processes of the offenders (for example, mood and empathy), which is beneficial for forensic practitioners. T. Ross and F. Pfäfflin have come to a conclusion that attachment theory "provides the framework for a developmental perspective on violent behaviour" (Ross, Pfäfflin, 2007, 90).

M. Mikulincer and P.R. Shaver state that "(..) attachment system is, in itself, an emotion regulation device" (Mikulincer, Shaver, 2007, 190). Dangerous situations or possible threats activate the system automatically and makes the individual to seek proximity in order to deal with the threatening situation and regain emotional balance. Attachment security provides the ability to develop flexible regulatory processes that help to experience and express emotions in a healthy manner. In contrast, attachment insecurity contributes to misrepresentation of healthy emotional experience, unconscious suppression of emotions and poor coping skills. The results of the research in the field of Neuropsychology show that the release of cortisol (stress hormone) has a relationship with the security of the attachment, thus insecurely attached individuals have chronically high levels of cortisol, but for securely attached individual's cortisol is released and fades off quickly, indicating the ability to deal with anxiety (Spangler, Schieche, 1998).

An important topic in adult attachment research is anger experience and management. J. Bowlby (1973) stated that anger is a normal response of a child to separation from the caregiver. Anger is expressed mostly to gain the attention of the attachment figure and regain the necessary proximity. Analysis showed that for adults, on the basis of attachment security, anger can be constructive or destructive and expressed in functional or dysfunctional ways. Functional forms of anger (expressed mainly by securely attached individuals) are mostly motivated by maintaining relationships and indicating the necessity of change in partner's behaviour. It is expressed mainly as a problem-solving discussion without any hatred or the use of violence. Dysfunctional forms of anger (experienced manly by insecurely attached individuals) include resentment, revenge, hatred and deliberate physical or emotional aggression (Johnson, Makinen, Millikin, 2001). Research show that there is association between attachment security and more constructive and less-aggressive responses to provocations and self-reported aggression (Barrett, Holmes, 2001; Meesters, Muris, 2002). In other words, individuals with insecure attachment style more often use violence as a physical replacement for absent psychological mechanisms designed to moderate expressions of anger and other negative feelings (Parsons, 2009).

Regarding to the sample of offenders, attachment alone does not predict violent attitudes that lead to violent, criminal behaviour, there are many other factors, both situational and personal that could trigger the behaviour. Although, many studies have proven that attachment acts a potential moderator of violent attitudes and violent behaviour starting with J. Bowlby's early work (1944) dedicated to early attachment and later delinquency. He was researching young offenders and concluded that an absence of a secure attachment figure was connected to lack of empathy and inability to form close relationships. The lack of quality of parental care (the child experiencing neglect, abuse or loss) was also found as an important factor for violent behaviour in more recent research (Farrington, 2007; Boswell, 1998). A meta-analysis of studies was concluded aimed at proving the existence of the relationship of criminal behaviour and attachment styles. As a result of the analysis, they found that insecure styles of attachment are largely associated with delinquency in boys and girls (Hoeve et al., 2012).

Many current studies have found that in the sample of offenders the percentage of insecure attachment stiles is significantly higher than the secure attachment stile, when comparing samples of offenders and non-offenders, non-offenders are more securely attached than the offenders (Ross, Pfäfflin, 2007). Researchers debate on the type of offence committed. Some argue that sex offenders mostly are insecurely attached (Simons, Wurtele, Durham, 2008), others state that all types of offenders are likely insecurely attached (Baker, Beech, 2004; Miller, Klockner, 2019). The result in the sample of violent offenders has also been confirmed in our previous research (Simane-Vigante, Plotka, Blumenau, 2018).

The reason, why offenders are usually less securely attached also could be that secure attachment provides an important element for emotional and cognitive development. Children are not born with the ability to manage emotions and, therefore, they need the care of the attachment figure to develop the ability to adequately regulate, control and respond to stressful situations. When these skills do not develop properly in childhood, this leads to difficulties in self-regulation and a tendency to look for inadequate ways to control and overcome negative feelings leading to aggression or self-harming behavior in adulthood (Briere, 1992). The emotional reaction of a caregiver to baby's actions (falling over, smiling, waving) triggers a mechanism, when a baby starts to form the ability to access one's own emotions, thoughts and feelings, thus goes on to enhance a meta-cognitive ability. Insecurely attached individuals find it challenging to reflect (to "think about thinking") and the emotional vocabulary is limited, which is also evident when working with offenders (Fonagy, 2004). If an individual has an

attachment object, who is able and willing to understand one's emotional state, the individual can become an adult, who can do the same for others (understand one's own emotions and the emotions of others and feel empathy). If this is not the case, a different strategies of problem solutions are adopted that do not include the access of one's own or others state of mind. It is evident that offenders lack the empathy for their victims and are not able to reflect on their problems, deal with stress or apply any other method in reducing anxiety or stress apart from violence or substance abuse (Ansbro, 2008).

It is possible to conclude that insecurely attached individuals lack empathy, the ability to regulate and reflect their own emotions and actions, the application for positive coping-mechanisms that does not include violence, and suffer more from anxiety, stress and anger. All these factors can benefit for violent criminal behaviour. That is why it is necessary to study attachment of violent offenders.

The theoretical analysis has shown that in order to study the relationship of attachment styles and attitudes towards violence mostly self-assessment procedures have been used. In order to increase the validity of the psychological construct as attitude towards violence, it is necessary to use behavioural measures as implicit measures combined with self-assessment procedures. In our previous research (Plotka, Simane-Vigante, Blumenau, 2018) the relationship between attitudes (explicit and implicit) towards criminal violence and attachment styles of convicted violent males was investigated. In the current study the self-concept implicit association test has been improved. We implement the model of three attachment styles - Secure, Insecure Avoidant and Insecure Anxious (Hazan, Shaver, 1994). The aim of this study is to research violent attitudes and attachment styles of violent sentenced male offenders and non-offenders.

Methodology

The research questions: (1) Is there correspondence between the results of measuring implicit associations related to criminal violence using Self-Concept IAT and self-assessment criminal attitudes towards violence among sentenced and not sentenced males? (2) Are there differences in implicit and explicit measurements of criminal attitudes between groups of sentenced and not sentenced males? (3) Are there differences in secure, insecure avoidant and insecure anxious attachment styles between groups of sentenced and not sentenced males? (4) Is there a relationship between implicit associations of self with criminal violence measured by Self-Concept IAT and attachment styles? (5) Is there a relationship between self-reported attitudes towards criminal violence and attachment styles?

Participants. 88 males. Group "Sentenced" – 49 sentenced males, 18-57 years ($Mdn = 30$), who were all sentenced for violent crimes (murder, assault, robbery) at least once. Group "Not Sentenced" – 39 previously not sentenced males, 16-60 years ($Mdn = 34$), who have never been sentenced for any criminal offenses and their daily job did not involve violence.

Explicit methods. linguistically adapted in Latvian and Russian:
- Criminal Attitudes towards Violence Scale (CAVS) (Polaschek, Collie, Walkey, 2004). Cronbach`s alpha = 0.89.
- Vulnerable Attachment Style Questionnaire (VASQ) (Bifulco et al., 2003). Cronbach`s alpha = 0.80.

Implicit method. The Violence Self-concept IAT was designed with the aim of measuring associations of self-violent/ peaceful and others-violent/peaceful. The procedure was created in Latvian and Russian languages and it combined verbal target categories (self-others) and pictorial attributes (violence-peace). Cronbach`s alpha = 0.97.

The attributes (Violent-peaceful) was represented by 12 pictures purchased from "Shutter stock" and "Stock Illustrations". The images were 10x15 cm and were black and white silhouettes of either an action involving physical non-sexual violence (strangle, stab, fight, hit, shoot, cut) or an action involving peaceful activity (fishing, holding a sleeping baby (calming), sleeping, playing with children, sailing and swimming). The images of non-sexual physical violence were based on the items of Criminal Attitudes towards Violence scale (CAVS) (Polaschek, Collie, Walkey, 2004) that measures the same variable. Black and white pictures were used, because after viewing countless detailed, graphic, colourful pictures of violent acts, researchers decided that pictures like that are too disturbing for the participants and it would be unethical to expose them.

Peaceful pictures were picked according to actions that are peaceful and do not involve high adrenalin activities (as skiing, parachute jumping), competitive activities (e.g., team sports, racing or boxing) and women (couple activities). All of the pictorial stimuli were specially selected for a male audience.

Apparatus. The Self-concept IAT was designed in Baltic International Academy in the Laboratory of Implicit Measurements on the apparatus: Certified licensed software E-Prime 2®. The categories and attributes were presented on a notebook HP 15-AY002NY with WLED backlight type screen, the size of which is 15.6 inches with 1366 x 768-pixel resolution.

Research design. The Self-Concept IAT was designed using seven trial blocks (Table 1). Performance of the implicit method took on average from 10 to 20 minutes. Participant's reaction time (RT) was registered. Each stage was preceded by a set of instructions concerning the dimensions of the categorization task and the appropriate key responses. Before the start of the research, a participant was given on a computer monitor the general instructions and specific instructions before each of the tasks.

The IAT procedure was shortened as much as possible in order to take in to account the features of the sample of low-educated individuals with limited attention span.

Table 1

The procedure of Violence Self-concept IAT

Block	Trials	Function	Left-key response "Q"	Right- key response "P"
1	10	Practice	Me (v)	Others (v)
2	15	Practice	Peace(w)	Violence(w)
3	40	Test	Me(v)+ Peace(w)	Others(v)+ Violence(w)
4	45	Test	Me(v)+ Peace(w)	Others(v)+ Violence(w)
5	20	Practice	Others(v)	Me(v)
6	40	Test	Others(v)+ Peace(w)	Me(v)+ Violence(w)
7	45	Test	Others(v)+ Peace(w)	Me(v)+ Violence(w)

Note. w – visual category, v – verbal category.

To assure internal validity of the IATs described, all main parameters e.g., intervals between stimulus, stimulus display time, stimulus word count, shrift, chromatic background characteristics remained constant, while changes in independent conditions occurred (during the changes in experimental conditions).

Results and Discussion

Variables

Group: Not Sentenced, Sentenced.

D: the measure of implicit associations of self with criminal violence (Rudman, 2011). $D \geq 0.15$ implicit associations with non-violence, $D \leq -0.15$ – implicit associations with violence, $-0.15 < D < 0.15$ – no effect (that means that implicit associations are either weak or conflicted) (Figure 2).

CAVS: the strength of the self-reported criminal attitude towards violence. Quartiles are $Q_1 = 42$, $Q_3 = 62.75$. If $CAVS \leq 42$ the level of explicit attitude towards violence is low, if $CAVS \geq 62.75$ – high (Figure 3).

Vulnerability: (*Vulnerability* > 57 high, *Vulnerability* $\leq$ 57 low). Two scales: *Insecurity* (*Insecurity* > 30 high, *Insecurity* $\leq$ 30 low) and *Proximity Seeking* – (*Proximity Seeking* > 27 high, *Proximity Seeking* $\leq$ 27 low).

Attachment Styles: *Secure Style* (*Insecurity* $\leq$ 30), *Insecure Anxious Style* (*Insecurity* > 30 and *Proximity Seeking* > 27), *Insecure Avoidant Style* (*Insecurity* > 30 and *Proximity Seeking* $\leq$ 27) (Figures 4-5).

Data Analysis

To select the statistical research methods, the indicators of descriptive statistics, outliers and extremes were analysed, and the normality of the data distribution was checked. It was found that parametric statistics methods can be used for subsets, where the following participant is not present: code n3 (age 37 years old, $D = -0.74$ - high pro-violence, group "Not sentenced", CAVS - medium, secure attachment style). It is also possible to use ANOVA to study the relationship between nominal and ordinal variables. The using of Chi-square test turned out to be impossible, since 67% cells have expected count less than 5.

To answer the first research' question the correlation coefficients Pearson (r) and Spearman (r_S) were calculated (see Table 2). A negative correlation coefficient corresponds to the consistency of measurements results using the self-concept IAT and CAVS.

Table 2

The correspondence of the measurements' results using Self-concept IAT and CAVS: Spearman r_S and Pearson r correlation coefficients for the entire sample and its parts: the groups "*Not sentenced*", "*Sentenced*"

Group	Correlation Coefficient	Effect size
Total	r_S (88) = -0.19, $p = 0.084$	small
Not Sentenced	r_S (39) = -0.13, $p = 0.42$, ns	small
Sentenced	r_S (49) = -0.26, $p = 0.075$	almost medium

To answer the second and third research questions, the Mann-Whitney U-test and φ^* - Fisher's angular transformation test were used (effect size *Cohen's h* interpretation: 0.2-small; 0.5- medium; 0.8-large).

Implicit associations of self, related to criminal violence

To study the differences of the participant's distributions of the implicit associations categories: (with "non-violence", with "pro-violence" and with either weak or conflict implicit association – "no effect"), (Figure 1) in the groups "Not Sentenced" and "Sentenced", the Fisher's angular transformation test was used (Tables 3, 4).
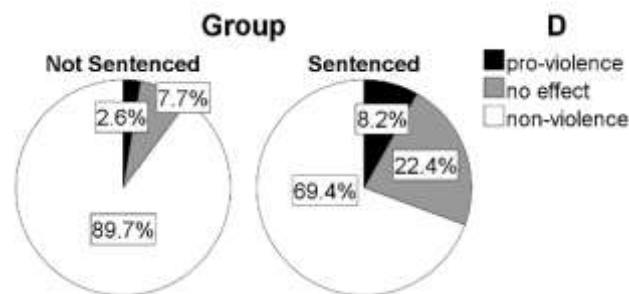
Figure 1. Distributions of participants with different implicit associations towards violence (non-violence, no effect, pro-violence) in two groups: "Not Sentenced" and "Sentenced".

Table 3

Implicit associations self with criminal violence. Comparison of participants' percent between two groups with Fisher's angular transformation test

Implicit associations with self	Not Sentenced	Sentenced	φ^*-statistic, *p*-value, Cohen's *h*	Effect size
pro-violence	2.6 %	8.2 %	$\varphi^* = 1.20$, $p = 0.23$, ns, $h = 0.26$	small
no effect	7.7 %	22.4 %	$\varphi^* = 1.98$, $p = 0.048$, $h = 0.43$	small, near to medium
non-violence	89.7%	69.4 %	$\varphi^* = 2.43$, $p = 0.015$, $h = 0.52$	medium

Table 4

Implicit associations self with criminal violence. Comparison of participants' percent within groups with Fisher's angular transformation test

Group	Implicit associations with self, %		φ^*-statistic, *p*-value, Cohen's *h*	Effect size
Not Sentenced	pro-violence 2.6	no effect 7.7	$\varphi^* = 1.06$, $p = 0.29$, ns, $h = 0.24$	small
	pro-violence 2.6	non-violence 89.7	$\varphi^* = 9.57$, $p < 0.001$, $h = 2.17$	large
	no effect 7.7	non-violence 89.7	$\varphi^* = 8.51$, $p < 0.001$, $h = 1.93$	large
Sentenced	pro-violence 8.2	no effect 22.4	$\varphi^* = 2.02$, $p = 0.044$, $h = 0.41$	small
	pro-violence 8.2	non-violence 69.4	$\varphi^* = 6.88$, $p < 0.001$, $h = 1.39$	large

	no effect 22.4	non-violence 69.4	$\varphi^* = 4.86$, $p < 0.001$, $h = 0.98$	large

Implicit associations of oneself with non-violence are more pronounced in the "Not Sentenced" group (*Mdn = 0.46*) than in the "Sentenced" group (*Mdn = 0.30*): $U = 738.0$, $p = 0.068$, the effect size $r = 0.19$ is small.

Explicit attitudes towards criminal violence

To study the differences in the distributions of participants by CAVS categories: low, high, medium in the groups "*Not Sentenced*" and "*Sentenced*" (Figure 2) the Fisher's angular transformation test was used (Table 5).
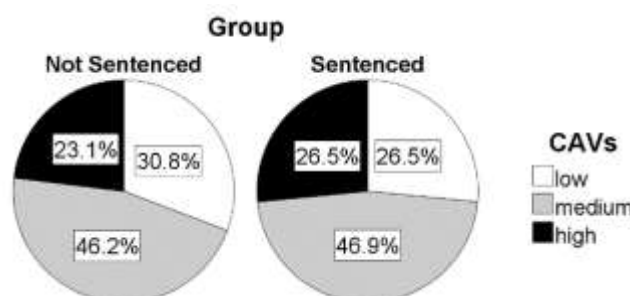
Figure 2. Distributions of participants with different levels of the strength of explicit criminal attitude towards violence (low, medium, high) in two groups: "Not Sentenced" and "Sentenced".

At the corresponding levels of the strength of explicit criminal attitude towards violence (low, medium, high), the percentages of participants in the Sentenced group (23.1 %, 46.2 %, 30.8 %) and the Not Sentenced group (26.5 %, 46.9 %, 26.5 %) have random differences with the size of the Cohen's *h* effect (0.09, 0.02, 0.14) - there is no effect.

Table 5

Explicit attitudes towards criminal violence. Comparison of participants' percent within groups with Fisher's angular transformation test.

Group	Explicit attitudes towards criminal violence, %		φ^*-statistic, *p*-value, Cohen's *h*	Effect size
Not Sentenced	low 30.8	medium 46.2	$\varphi^* = 1.40$, $p = 0.32$, ns, $h = 0.16$	small
	low 30.8	high 23.1	$\varphi^* = 1.40$, $p = 0.16$, ns, $h = 0.32$	small, near to medium
	medium 46.2	high 23.1	$\varphi^* = 2.17$, $p = 0.030$, $h = 0.49$	medium
Sentenced	low 26.5	medium 46.9	$\varphi^* = 2.12$, $p = 0.034$, ns, $h = 0.43$	small, near to medium
	low 26.5	high 26.5	$\varphi^* = 0.00$, $p = 1.00$, $h = 0.00$	no effect
	medium 46.9	high 26.5	$\varphi^* = 2.12$, $p = 0.034$, ns, $h = 0.43$	small, near to medium

Vulnerable, insecure, proximity seeking

The results of differences investigation using the Mann-Whitney *U*-test are shown in the Table 6 Effect size's *r* interpretation is: 0.10 – small, 0.30 – medium, 0.50 – large.

Table 6

The results of differences investigation using the Mann-Whitney U-test

	"Not Sentenced"	"Sentenced"	*U*-statistic, *p*-value, effect size *r*
Vulnerability	*Mdn = 60.0*	*Mdn = 64.0*	$U = 758.0$, $p = 0.097$, $r = 0.18$
Insecurity	*Mdn =32.0*	*Mdn =35.0*	$U = 808.5$, $p = 0.22$, ns, $r = 0.13$
Proximity Seeking	*Mdn =29.0*	*Mdn =31.0*	$U = 768.0$, $p = 0.11$, ns, $r = 0.17$

Secure, Insecure Avoidant and Insecure Anxious attachment styles

To study the differences in the distributions of participants by attachment styles: Secure, Insecure Avoidant and Insecure Anxious (Figures 3,4) in the groups "Not Sentenced" and "Sentenced" the - Fisher's angular transformation test was used (Table 7).
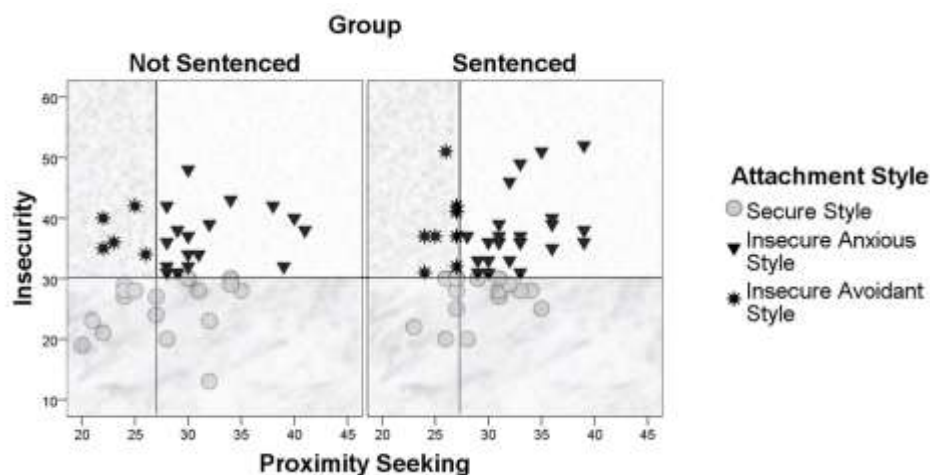
Figure 3. Attachment styles: scatter. Groups: "Not Sentenced" and "Sentenced".
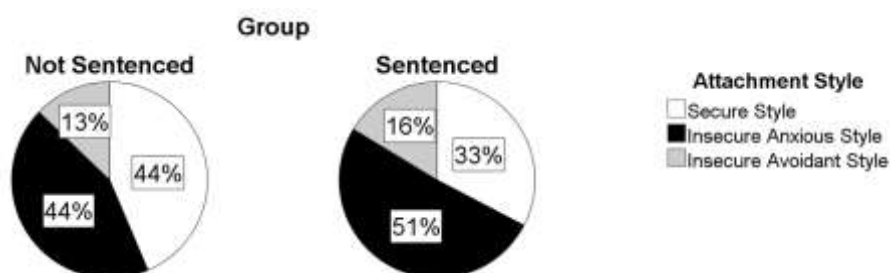
Figure 4. Distribution of participants by Attachment Styles (Secure, Insecure Anxious, Insecure Avoidant) in two groups: "Not Sentenced" and "Sentenced".

The small effect (statistically insignificant) of the fact that in the group "Not Sentenced", the percentage of participants with secure attachment style (44 %) is bigger than in the group "Sentenced" (33 %) was found: $p = 0.29$, ns, $h = 0.23$.

Table 7

Attachment Styles. Comparison of participants' percent within groups with Fisher's angular transformation test. Effect size Cohen's *h* (0.20 – small, 0.50 – medium, 0.80 –large)

Group	Attachment Styles, %		φ^*-statistic, *p*-value, Cohen's *h*
Not Sentenced	Secure 43.6	Insecure Anxious 43.6	$\varphi^* = 0.00$, $p = 1.00$, ns, $h = 0.00$
	Secure 43.6	Insecure Avoidant 12.8	$\varphi^* = 3.13$, $p = 0.002$, $h = 0.71$
	Insecure Anxious 43.6	Insecure Avoidant 12.8	$\varphi^* = 3.13$, $p = 0.002$, $h = 0.71$
Sentenced	Secure 32.7	Insecure Anxious 51.0	$\varphi^* = 1.85$, $p = 0.064$, ns, $h = 0.37$
	Secure 32.7	Insecure Avoidant 16.3	$\varphi^* = 1.90$, $p = 0.057$, $h = 0.38$
	Insecure Anxious 51.0	Insecure Avoidant 16.3	$\varphi^* = 3.76$, $p < 0.001$, $h = 0.76$

To answer the fourth and fifth research questions the correlation coefficients Pearson (*r)* and Spearman (*r*S) were calculated (see Table 8) and one-way ANOVA was used.

The tendency to relationship between the implicit associations of self with criminal violence with proximity seeking for sentenced males was found: $r(49) = 0.24$, $p = 0.10$. Effect size is small, near to medium.

The relationships between self-reported attitudes towards criminal violence (CAVS) with attachment styles only in the group "Not Sentenced" were found: *CAVS - Vulnerability*: $r_s(39) = 0.39$, $p = 0.014$, effect size is between medium and large; *CAVS - Insecurity*: $r_s(39) = 0.48$, $p = 0.002$, effect size is large. The relationships between *CAVS* and the variable *Attachment styles* (*Secure, Insecure Anxious*, *Insecure Avoidant*): $F(2, 36) = 8.64$, $p = 0.001$, $\eta^2 = 0.32$. Effect size is large. Using the Post Hoc Scheffe test it was found, that the not sentenced males with secure style have the smallest CAVS mean value ($M = 40.4$, $SD = 10.9$) compared with the CAVS mean of men with an anxious attachment style

($M = 57.8$, $SD = 15.0$, $p = 0.001$) and compared with the CAVS mean of men with an avoidant attachment style ($M = 55.2$, $SD = 7.12$, $p = 0.082$), (see Figure 5).
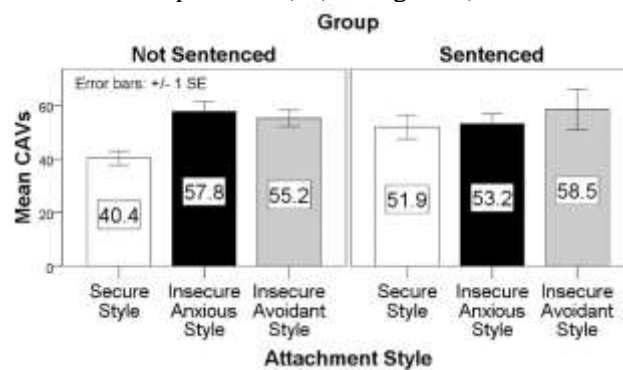
Figure 5. The means of CAVS in dependence on attachment style in two groups: "Not Sentenced" and "Sentenced".

The answer to the first research question. There was a tendency to correspondence between the implicit and explicit measurements of attitudes towards criminal violence revealed for the whole sample as well as the group offenders and non offenders (the effect sizes are small). The results showed compliance with the implicit and explicit measurement of constructs studied, evaluated with the correlation coefficients, the values of which fall within the permissible range of 0.12 to 0.72 (Rudman, 2011). Due to a small enough sample size in this research, the focus was more on the value of correlation coefficients, rather than of their statistical significance. The results are confirmed by laboratory research as well that have shown that there are only weak or medium (but generally positive) correlation between the IAT and explicit measurements of the same construct (Bosson, Swann, Pennebaker, 2000; Greenwald, McGhee, Schwartz, 1998; Karpinski, Hilton, 2001; Ottaway, Hayden, Oakes, 2001).

In previous researches when IAT was used in order to measure violent attitudes of offenders no consistency between the explicit and implicit measurement results were found. In the study of S. Blumenthal and colleagues, there was no correlation between the results of IATs and explicit measures of violence. The researchers hypothised that the lack of correlation could be because of psychometric properties of IATs or poor explicit measurements of violence, although the reliability and consistency of the instruments turned out to be satisfying. The researchers also noted that violence in itself is a very hard topic to measure and participants, even in a prison setting, want to provide more socially desirable results and appear less violent, when completing the self-report procedure (Blumenthal et al., 2019). The main aim of the study of D. Polaschek and colleagues was to compare scores on violence-related IATs with self-report scales. The scores of IAT and self-report scales had no relationship and the authors concluded that in their case explicit and implicit measures of aggressive cognition are not related (Polaschek et al., 2010). In future research it is necessary to take in to account what conditions and variables determine when implicit and explicit attitudes converge (Fazio, Olson, 2003; Rudman, 2011).

The answer to the second research question. For both groups (offenders and non-offenders) implicit non-violence attitudes were mostly revealed, meaning that participants mostly associate themselves with the attribute "peace", rather than "violence". This result is consistent with D. Polaschek and colleagues (Polaschek et al., 2010) findings that the participants (violent male offenders) had preference for the non-violence category on both IATs that they used. Other studies using Implicit Association tests on a sample of violent criminals also found out that most people have an automatic cognitive association that violence is bad (Gray et al., 2003; Plotka, Simane-Vigante, Blumenau, 2018). This effect was considerably less significant in sample of offenders, who had committed murder and were classified as psychopathic (Snowden et al., 2004). The results of the present study indicate that although the implicit associations were mainly non-violent for both groups, there was a statistically significant difference found between groups, meaning that the percentage of the participants with implicit associations of themselves with non-violence is higher among the non-convicted males, but for the offenders. Also, a significant difference between pro-violence attitudes and "no effect" was found in the sample of non-offenders. The percentage of participants with implicit associations of themselves with violence (pro-violence attitude) or with weak or conflicting implicit associations of themselves with violence ("no effect") is greater in the group of

offenders. This is an interesting never-before seen finding, because usually researchers tend to form only a sample of offenders, when using implicit measurement methods measuring violence (Blumenthal et al., 2019, Polaschek et al., 2010). The fact that there is a significant difference of implicit attitudes of violence between the groups, means that it is essential to form a control group in further research.

However, the difference of the strength of explicit criminal attitude towards violence between the groups "Not Sentenced" and "Sentenced" was not revealed. The percentage of participants' distribution by the levels of the strength of explicit criminal attitude within both groups are not much different. In both groups, the percentage of participants with medium strength of explicit criminal attitude towards violence is the largest. In the "Sentenced" group, it is statistically significantly higher than the percentage of participants with high strength of the explicit criminal attitude and the percentage of participants with low strength of the explicit criminal attitude. In the "Not Sentenced" group, it is statistically significantly higher than the percentage of participants with high strength of explicit criminal attitude and statistically slightly higher than the percentage of participants with low strength of explicit criminal attitude.

The answer to the third research question. A small effect was found (although statistically insignificant) that the percentage of participants with the secure attachment style is greater in the "Not-Sentenced" group. These results are similar to the findings of T. Ross and F. Pfäfflin (2007) that non-offenders are more securely attached than the sample of offenders. Also, in the "Not Sentenced" group, the percentages of participants with secure and insecure anxious attachment styles coincide and statistically significantly exceed the percentage of participants with insecure avoidant attachment styles. For the group "Sentenced" insecure Anxious attachment style was the most common, it exceeds the percentage of participants with secure attachment style and the percentage of participants with secure attachment style exceeds the percentage of participants with insecure avoidant attachment style. Similar studies show that violent offenders are insecurely attached (Baker, Beech, 2004; Miller, Klockner, 2019). Anxiously attached individuals have extreme need for love and closeness, fearing that the partner would not support and abandon them in the time of need that is why they experience extreme jealousy at times (Shaver, Balsky, Brennan, 2000). In regard to emotion control, especially to anger control and anxious attachment style, the anger is usually not expressed in a healthy manner and repressed, resulting in to a complex mixture of emotions like resentment, aggression, self-criticism, panic, sorrow and depression. It has been researched that attachment anxiety is linked to relationship violence (Mikulincer, Shaver, 2007).

The tendencies, that vulnerability of attachment and proximity seeking are more pronounced in the "Sentenced" group than in the "Not Sentenced" group, were found. The effect sizes are between small and medium. Also, the small effect size, that *insecurity* in the group "Sentenced" exceeds the *insecurity* in the group "Not Sentenced", was revealed.

The answer to the fourth research question. There was no relationship between implicit associations of self with criminal violence measured by Self-Concept IAT and attachment styles found. Only tendency to positive relationship was found between non-violence and proximity seeking in the sample of sentenced males, meaning that offenders that implicitly associate themselves to non-violence, are prone to more active proximity seeking, but the effect size is too small to tell precisely, extra research is needed.

The answer to the fifth research question. The relationships between self-reported attitudes towards criminal violence (CAVS) with attachment styles were found only in the group "Not Sentenced". Not sentenced males with secure attachment have the least pronounced attitudes towards criminal violence, compared with the insecurely attached males, meaning that non-offenders with a secure attachment style report being less violent than males with insecure attachment styles. It has been stated that secure attachment style has many benefits on an interpersonal level (people are trusting, they engage in clear and open communication, they are able and willing to care for others) and on personal level- a secure sense of self (Mikulincer, Shaver, 2007). As discussed in the introduction about attachment as emotional regulation system, attachment security has a relationship to more constructive and less-aggressive responses to provocations and self-reported aggression (Barrett, Holmes, 2001; Meesters, Muris, 2002) and securely attached individuals less often use violence as a physical replacement for absent psychological mechanisms designed to moderate expressions of anger and other negative feelings (Parsons, 2009).

The limitation of the study: in the present research the sample was non-random.

Conclusions

The aim of the study was achieved and the answers to the research questions were obtained.

The attachment system is an emotion regulation device. It helps to regulate the emotion and expression of it. Many researchers have focused on the experience and regulation of anger that could lead to violence and criminal offenses. Attachment security/ insecurity is one of predictive moderators of criminal behaviour, as the studies show that criminal offenders are mostly insecurely attached. Insecurely attached individuals lack empathy, emotion regulation, the ability to reflect their own actions and suffer from anxiety and the inability to apply positive coping strategies to stressful situations.

Attitudes towards violence, especially implicit attitudes, predict behaviour. It is important to study them in a forensic setting to provide more information for the forensic practitioners.

In order to increase the validity of the psychological construct as attitude towards violence, it is necessary to use behavioural measures as implicit measures combined with self-assessment procedures. Specially designed Violence Self-concept Implicit Association test (Self-concept IAT) is an important indirect research method that assess the automatic associations of self with violence and non-violence. It is important to use indirect measurement methods in the research of sensitive issues as attitudes towards violence, where participants tend to provide socially desirable answers, when using self-report measures, especially, when the sample is violent offenders.

The results showed a partial correspondence between the results of implicit and explicit measurements of attitudes towards violence. The difference of the strength of explicit criminal attitude towards violence between the groups "Not Sentenced" and "Sentenced" was not revealed, but implicit associations of oneself with non-violence are more pronounced in the "Not Sentenced" group. In the "Not Sentenced" group, the part of participants with the secure attachment style is greater than in the "Sentenced" group. The relationships between measurements of attachment styles (secure, insecure avoidant and insecure anxious) and attitudes towards criminal violence only with explicit attitudes were revealed. Non offenders with secure attachment style have the least pronounced explicit attitudes towards criminal violence, compared with the males with insecure attachment styles.

For future directions it is necessary to include the influence of contextual factors on implicit measurements of attitude towards violence and introduce Subliminal Evaluative Priming as implicit measure of violence. It will allow to understand the mechanisms of formation and change of violent attitudes.

Bibliography

1. Ainsworth M.D.S., Blehar M.C., Waters E., Wall S. (1978). *Patterns of Attachment: A Psychological Study of the Strange Situation.* Hillsdale, NJ: Lawrence Erlbaum Associates.
2. Ansbro M. (2008). Using Attachment theory with Offenders. *Probation Journal, 55*(3), 231-244. doi: 10.1177/0264550508092812
3. Baker E., Beech A. R. (2004). Dissociation and Variability of Adult Attachment Dimensions and Early Maladaptive Schemas in Sexual and Violent Offenders. *Journal of Interpersonal Violence, 19*, 1119-1136. doi: 10.1177/0886260504269091
4. Barrett P.M., Holmes J. (2001). Attachment Relationships as Predictors of Cognitive Interpretation and Response Bias in Late Adolescence. *Journal of Child and Family Studies, 10*, 51-64. doi: 10.1023/A:1016677416638
5. Bartholomew K., Horowitz L.M. (1991). Attachment Styles Among Young Adults: A Test of a Four-Category Model. *Journal of Personality and Social Psychology, 61*(2), 226-244. doi: 10.1037/0022-3514.61.2.226
6. Bifulco A., Mahon J., Kwon J.H., Moran P.M., Jacobs C. (2003). The Vulnerable Attachment Style Questionnaire (VASQ): An Interview-based Measure of Attachment Styles that Predict Depressive Disorder. *Psychological Medicine*, *33*(6), 1099-1110. doi: 10.1017/s0033291703008237
7. Blumenthal S., Gray N.S., Shuker R., Wood H., Fonagy P., Allonby M., Flynn A., Takala T., Snowden R.J. (2019). Implicit measurement of violence-related cognitions. *Psychology of Violence, 9*(2), 235-243. doi: 10.1037/vio0000194

8. Bosson J.K., Swann W.B., Pennebaker, J.W. (2000). Stalking the Perfect Measure of Implicit Self-esteem: The Blind Men and The Elephant Revisited. *Journal of Personality and Social Psychology, 79*, 631-643. doi: 10.1037/0022-3514.79.4.631

9. Boswell G. (1998). Research-Minded Practice with Young Offenders Who Commit Grave Crimes. *Probation Journal, 45(*4*)*, 202-297. doi: 10.1177/026455059804500402

10. Bowes N., McMurran M. (2013). Cognitions Supportive of Violence and Violent Behavior. *Aggression and Violent Behavior*, *18(*6), 660-665. doi: 10.1016/j.avb.2013.07.015

11. Bowlby J. (1944). Forty-four Juvenile Thieves: Their Characters and Home Lives. *International Journal of Psycho-Analysis, XXV*, 19-52

12. Bowlby J. (1973). *Attachment and loss: Vol. 2. Separation: Anxiety and anger*. New York: Basic Books. Retrieved from https://www.abebe.org.br/files/John-Bowlby-Separation-Anxiety-And-Anger-Attachment-and-Loss-Vol-2-1976.pdf

13. Bowlby J. (1984). Violence in the Family as a Disorder as the Attachment and Caregiving Systems. *American Journal of Psychology, 44*(1), 9-27. doi: 10.1007/BF01255416

14. Bowlby J. (1988). *A Secure Base: Parent-child Attachment and Healthy Human Development*. New York: Basic Books.

15. Briere J. (1992). Methodological Issues in the Study of Sexual Abuse Effects. *Journal of Consulting and Clinical Psychology, 60*(2), 196-203. Retrieved from https://www.researchgate.net/publication/21562679

16. Farrington D.P. (2007). Childhood risk factors and risk-focused preventions. In M. Maguire, R Morgan, R. Reiner (Eds.), *The Oxford Handbook of Criminology* (4th ed.). Oxford: University Press.

17. Fazio R.H., Olson M.A. (2003). Implicit measures in social cognition research: Their meaning and use. *Annual Review of Psychology, 54*, 297-327. doi: 10.1146/annurev.psych.54.101601.145225

18. Fonagy P. (2004). The Developmental Roots of Violence in the Failure of Mentalization. In F. Pfäfflin, G. Adshead (Eds.), *A Matter of Security: The Application of Attachment Theory to Forensic Psychiatry and Psychotherapy*, 13-56. London and New York: Jessica Kingsley Publishers.

19. Gray N.S., MacCulloch M.J., Smith J., Morris M., Snowden R.J. (2003). Violence Viewed by Psychopathic Murderers. *Nature, 423*, 497-498. doi: 10.1038/423497a

20. Greenwald A.G., McGhee D.E., Schwartz J.L.K. (1998). Measuring Individual Differences in Implicit Cognition: The Implicit Association Test. *Journal of Personality and Social Psychology, 74*(6), 1464-1480. doi: 10.1037/0022-3514.74.6.1464

21. Hazan C., Shaver P.R. (1994). Attachment as an Organizational Framework for Research on Close Relationships. *Psychological Inquiry*, *5*(1), 1-22. Retrieved from http://apegosposibles.com/sites/default/files/hazanandshaver.pdf

22. Hoeve M., Stams G.J.J.M., van der Put C.E., Dubas J.S., van der Laan P.H., Gerris J.R.M. (2012). A Meta-analysis of Attachment to Parents and Delinquency. *Journal of Abnormal Child Psychology, 40*(5), 771-785. doi: 10.1007/s10802-011-9608-1

23. Johnson S.M., Makinen J.A., Millikin J.W. (2001). Attachment Injuries in Couple Relationships: A New Perspective On Impasses in Couples Therapy. *Journal of Marital and Family Therapy,27*(2), 145-155. doi: 10.1111/j.1752-0606.2001.tb01152.x

24. Karpinski A., Hilton J. L. (2001). Attitudes and the Implicit Association Test. *Journal of Personality and Social Psychology, 81*(5), 774-788. doi: 10.1037/0022-3514.81.5.774

25. Meesters C., Muris P. (2002). Attachment Style and Self-reported Aggression. *Psychological Reports, 90*(1), 231-235. doi: 10.2466/pr0.2002.90.1.231

26. Mikulincer M., Shaver P.R. (2007). *Attachment in adulthood: structure, dynamics, and change*. New York: Guilford Press.

27. Miller S., Klockner K. (2019). Attachment Styles and Attachment Based Change in Offenders in a Prison Therapeutic Community. *Journal of Forensic Psychology Research and Practice, 19*(3), 260-277. doi: 10.1080/24732850.2019.1603956

28. Ottaway S.A., Hayden D.C., Oakes M.A. (2001). Implicit Attitudes and Racism: Effects of Word Familiarity and Frequency on the Implicit Association Test. Social Cognition, *19*(2), 97-144. doi: 10.1521/soco.19.2.97.20706

29. Parsons M. (2009). The Roots of Violence. In M. Lanyado, A. Horne (Eds.), *The Handbook of Child and Adolescent Psychotherapy. Psychoanalytic approaches* (2nd ed.). London: Routledge. doi: 10.4324/9780203877616

30. Plotka I., Simane-Vigante L., Blumenau N. (2018). Implicit association Self-concept test in studying of violence-related cognitions. *Social psychology and society, 9*(3), 176-185. doi: 10.17759/sps.2018090317

31. Polaschek D.L.L., Bell R.K., Calvert S.W., Takarangi M.K.T. (2010). Cognitive-behavioural Rehabilitation of High-risk Violent Offenders: Investigating Treatment Change with Explicit and Implicit Measures of Cognition. *Applied Cognitive Psychology*, *24*(3), 437-449. doi: 10.1002/acp.1688

32. Polaschek D.L.L., Collie R.M., Walkey F.H. (2004). Criminal attitudes to violence: Development and preliminary validation of a scale for male prisoners. *Aggressive Behavior, 30*(6), 484-503. doi: 10.1002/ab.20081

33. Ross T., Pfäfflin F. (2007). Attachment and Interpersonal Problems in a Prison Environment. *The Journal of Forensic Psychiatry & Psychology, 18*(1), 90-98. doi: 10.1080/14789940601063345

34. Rudman L. A. (2011). *Implicit measures for social and personality psychology*. Rutgers University, USA: SAGE Publications. doi: 10.4135/9781473914797

35. Shaver P.R., Balsky J., Brennan K.A. (2000). The Adult Attachment Interview and Self- reports of Romantic Attachment: Associations across Domains and Methods. *Personal relationships*, *7*(1), 25-43. doi: 10.1111/j.1475-6811.2000.tb00002.x

36. Simane-Vigante L., Plotka I., Blumenau N. (2018). Research of the Relationship of Criminal Violence, Adult Attachment Styles and Personality Traits of Violent Male Offenders. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment, Education, Personality (REEP), 11*. Jelgava: Latvia University of Life Sciences and Technologies*,* 128-141. doi: 10.22616/REEP.2018.015

37. Simons D. A., Wurtele S. K., Durham R. L. (2008). Developmental Experiences of Child Sexual Abusers and Rapists. *Child Abuse & Neglect, 32*(5), 549-560. doi: 10.1016/j.chiabu.2007.03.027

38. Snowden R., Gray N. Smith J., Morris M., MacCulloch M. (2004). Implicit Affective Associations to Violence In Psychopathic Murderers. *Journal of Forensic Psychiatry and Psychology, 15(*4), 620-641. doi: 10.1080/14789940412331313377

39. Spangler G., Schieche M. (1998). Emotional and Adrenocortical Responses of Infants to the Strange Situation: The Differential Function of Emotional Expression. *International Journal of Behavioral Development*, *22*(4), 681-706. doi: 10.1080/016502598384126

Students' Perceptions about Using Background Music in Music Lessons

Ligita Stramkale Dr.paed.
University of Latvia, Latvia
ligita.stramkale@lu.lv

Abstract: This paper determines students' perceptions about the use of background music in music lessons while performing written tasks. The aim of the study is to demonstrate the perceptions of the students in grades 2-3 about the impact of background music on their well-being while performing written tasks and the quality of their performance in the music lesson. Previous studies on the impact of background music on learning outcomes and behaviours have been analysed, and an empirical study has been conducted to achieve the aim of this study. The empirical study involved 78 primary school students ($N = 78$) in grades 2-3. The study was carried out at X comprehensive school between September and November 2019. To determine the students' perceptions about the impact of background music on well-being and the quality of performance, each student had to complete a written task while playing background music. After completing the task, each student was asked to fulfil self-assessment questionnaire. The study found that the majority of students have a positive attitude towards background music. However, it was also found that the background music creates a very bad mood for some students, which in turn negatively affects their well-being. Background music can help students to feel more comfortable during performing a written task if the music can calm them down and/or stimulate them to work. The study shows that students evaluated the fact that background music can help them performing written task qualitatively was at an average level. Students believe that background music can help them complete the task successfully, if it affects their mood positively, promotes concentration and stimulates them to work. It is also found that some students had a very positive attitude towards background music, and in contrasts, some students had a very negative attitude towards it. Although one student likes background music very much, it could be very disturbing for another one at the same time. This study identified a variety of views, which is to a large extent based on the individual characteristics of each student.

Keywords: background music, music lesson, primary school student, school education.

Introduction

We often hear the background music in different life situations and places, cafes, shopping malls, lounges, Hotel lobbies or on the radio. The music is playing, but, in fact, we are not really listening to it. The background music is music to be played while doing various activities such as shopping, reading, driving, or cleaning home, and it should have a sound level of lesser than 60 decibels. The background music should not interfere with accomplishing the mission, and it must be inconspicuous and imperceptible. Background music can be used in a variety of ways: it could generate a sense of calmness or stimulate a person to do something as well as help to concentrate or to relax.

The educational process at school should be carried out in a safe, motivating and creative environment. Music is one of the tools that help create the appropriate environment. Background music can be played at school during breaks and lessons. For example, in music lessons students acquire some skills in singing and playing percussive instruments, they actively listen to music and learn music theory. Along with creative activities, students perform a variety of written tasks in workbooks. Most of the written tasks are related to increasing the ability to learn rhythm and sheet music. At the same time, there are also some tasks in which students have the opportunity to express themselves by using colours. It is possible to involve background music while performing both written and creative tasks given in music lessons. However, the teachers` attitude towards the use of background music during classes is mixed. This is also proved by a study conducted in South Korea and England in 2017 (Lee, Welch, 2017), which determined the teachers` perspectives on background music as an accompanying element of child`s play. It was found out that 54 % of teachers have a positive attitude towards background music as they believe that background music can create an appropriate environment for learning. But 46 % of teachers think that background music only makes extra noise in the classroom.

Teachers' ambiguous attitude towards the use of background music in the teaching process is also proved by some studies that identified the benefits and disadvantages of background music. Romanian researchers D. Jucan and A. Simion believe that background music can have both positive and negative effect on children. Their study identified the role of background music in the development of social-emotional competence in preschool children. Social-emotional development is determined based on five social-emotional abilities: trust, perseverance, organisation, understanding, and emotional strength. The researchers conclude that background music positively influences the assimilation of new information, the development of children behaviour, and the social interaction among children. It was found out that the background music has negatively affected the activities, which are applied in the study (Jucan, Simion, 2015). However, the positive effect of background music has been identified by several researchers. For example, D.L. Strachan, who carried out a study with Montessori educational institutions for children aged three to six, found that as a result of background music (instrumental, slow and quiet music was played), children smile more, talk, and were more productive (Strachan, 2015). The positive effect of background music is also highlighted by K.N. White, who studied the productivity, motivation and behaviour of primary school students. The study found that implementing classical background music in the classroom, increased students' motivation to learn, improved the ability to concentrate on the task, and developed positive behaviour. K.N. White believes that background music has a positive impact not only on each child but also on the class as a whole (White, 2007).

Two studies proved that background music has a positive impact on the retention and reproduction of information. The first study (Abdolmanafi-Rokni, Ataee, 2014) was conducted with students aged 7 to 11, who learn English as a foreign language. The study found that background music promoted vocabulary recall and retention, positively influenced students' motivation to learn English, and helped them paying attention to the teacher. The second study (Lehmann, Seufert, 2017) involved college students and intended to find out how background music affects learning a visual text. To measure learning outcomes the ability to recall and comprehend the text was examined. The study determined that the higher the working memory capacity, the better students learned with background music. Background music can be used to improve students' skills. For example, A. Sevan' study used the orchestra's performance of Mozart's music to improve the coordination skills of children with emotional and behavioural difficulties. The study concluded that Mozart's music performed by an orchestra was capable of improving the coordination of students, reducing their frustration and anxiety, as well as reducing aggressive behaviour (Savan, 1999).

Many researchers are interested in the influence of background music on students' learning achievement in mathematics and languages. There is no doubt that the results of these studies are contradictory. A study conducted by S.P. Hallam, J. Price and G. Katsarou analysed the influence of soothing and relaxing music on the performance of students aged 10 to 12 in mathematics and found out that this music has a huge impact on the performance of mathematics tasks. Background music creates a mood rather than directly influencing students' cognitive processes (Hallam, Price, Katsarou, 2002). A similar result was obtained by A.S. DeMers, who investigated the effect of background music on reading comprehension. The study involved fifth-grade students, who were divided into an experimental group and a control group. The experimental group performed a reading comprehension test with background music, but the control group without. The experimental group had a better performance than the control group. As a result of the study, it is concluded that performing a test causes anxiety among students and the background music can both reduce the anxiety and increase the test scores (DeMers, 1996).

Background music is sometimes unable to increase the test scores, as revealed by M. Manthei and S.N. Kelly while studying the impact of popular and classical music on the mathematics test scores. The researchers concluded that background music has no statistically significant impact on math test scores (Manthei, Kelly, 1999). On the contrary, H. Cho in 2005 was able to prove that background music had a positive effect. The students participated in the study wrote an argumentative essay with and without background music. It was found that high tempo dance music helped students to concentrate and reduced pauses during writing, which also led to faster essay writing (Cho, 2015).

Many teachers, who decide to use background music in class, may have several questions related to it. What style of music is appropriate to be background music? How loud, fast or rhythmic should the music be? M. Griffin believes that it is better to choose instrumental music. Vocal music with a fast tempo accelerates the heart rate, and music with lyrics requires more cognitive effort. The louder is the music in the background, the more distracting it becomes. When choosing the right music for background, it should be taken into

consideration that the music of a major tonality is happier and more positive than minor music (Griffin, 2015). H.H. Decker-Voigt thinks that it is important to consider the popularity of the background music because that could reduce response to the music or on the contrary increase it (Decker-Voigt, 1991).

Although several studies (Jucan, Simion, 2015; DeMers, 1996; White, 2007) have proved the positive influence of playing classical music in the background on student's achievement and the formation of positive behaviour, popular music may also be a good means of improving student's learning achievement. A. Rauduvaite considers that popular music plays a prominent role on the educational value of music, provides a positive emotional experience and can serve as a meaningful tool for promoting values among primary school students (Rauduvaite, 2018). Furthermore, E.A. Szentgyorgyi's study found that 67 % of students believe that background music did not interfere with concentration, and even positively influenced their achievement in reading. In addition, the study found that playing popular music in the background improved students' reading performance more than classical music (Szentgyorgyi, 2015). It has to be admitted that the music played in the background can be very diverse and even the smallest musical nuance can have a negative impact on the learning process. For example, researchers A.C. Chen and C.S. Wen conducted a study to determine the impact of background music styles on mathematical computation and reading comprehension. College students were involved in this study. Three different styles of music were used as background music: soft music, rock music and heavy metal music, at the same time, mathematical computation and reading comprehension were also tested without background music. The study found that the style of background music had no significant impact on mathematical computation and reading comprehension. However, the study found a different impact of background music styles on men and women. The women performed mathematical computation equally well with all styles of music played in the background, while men performed better with soft music in the background. Furthermore, the study participants pointed out that their concentration was negatively affected by the noisy strong beats in rock and roll and heavy metal (Chen, Wen, 2015).

Although there are several studies have been recently carried out to identify the impact of background music on learning achievement in mathematics and languages, there is still no study to read about the impact of using background music during the music lesson. Someone maybe thinks that there is no need to use background music in the music lesson, as it contains enough musical activities, but it is essential to find out the opinion of the students themselves on this issue. This also determined the aim of the study.

The aim of the study is to demonstrate the perceptions of the students in grades 2-3 about the impact of background music on their well-being while performing written tasks and the quality of their performance in the music lesson.

Methodology

The participants were 78 (N=78) primary school students in grade 2 and 3. The study was conducted within the framework of the music lesson and took place at X general education school from September to November 2019. The study seeks to answer the following three research questions.

- How can the use of background music affect student well-being in the music lesson?
- What are the students' perceptions about the impact of background music on the quality of performing written tasks?
- What is the students' attitude towards listening to background music while completing written tasks in the music lesson?

In order to answer the study questions, 2nd and 3rd grade students were asked to complete a written task from the music workbooks. This task for students in both classes was at the same level of difficulty and related to sheet music learning. The students performed the task in ten minutes, during which the Baroque composer A. Vivaldi's *autumn*, part 1, Allegro from the concert series *"Four seasons"* was played in the background. Vivaldi's concert series *"Four seasons"* is a programmatic piece of music, which spreads happiness among students through representing the peasants' joy during harvest celebrations in autumn, which included dances and songs. The students had previous experience of performing written tasks with background music, in which fragments of Vivaldi's concert series "Four seasons" were also used.

After completing the task, each student was asked to fulfil a self-assessment questionnaire consisting of thirteen statements. Each of the statements had to be evaluated by students using a 4-point Likert scale. The

self-assessment questionnaire was anonymous and there was no time limit for completion. For data processing, the response variants were recoded into digits: 4 – agree, 3 – partially agree, 2 – partially disagree and 1 – disagree. To determine the students' perceptions of the quality of the task, the 4 points on the Likert scale were divided into three levels. Low level if the arithmetic mean is between 1.00 and 2.00, medium level is between 2.01 and 3.00 and high level between 3.01 and 4.00. The statements used in the study were divided into three groups. The first group of statements determined the students' perception of well-being. The second group of statements determined the students' perception of the quality of performing the task. The third group of statements determined the attitude of students towards background music.

The Statistical Package for Social Science was used to analyse the collected data. Arithmetic mean (*M*), standard deviation (*SD*), standard deviation error *(SE)* and median *(Mdn)* are calculated for each statement in the study. The asymmetry factor was used to determine the normality of each variable (Skewness). Skewness between - 0.5 and 0.5 means that the obtained data is fairly symmetrical, between -1 and - 0.5, or 0.5 to 1, means that the data is moderately skewed, and if the data is less than - 1 or greater than 1, then it is highly skewed. The Bivariate (Pearson) correlation analysis was used to examine the reliability of the responses. The correlation coefficient has statistically significant sigma of 0.01 and 0.05.

Results and Discussion

The well-being of a student in a music lesson is very important to develop a sense of satisfaction. Teaching methods and techniques implemented in the classroom must give the student a pleasant feeling. The sounds of music are an integral part of many students' daily life and create an internally good feeling. But what about music in the background when you have to perform written tasks during the music lesson. Does it help to create well-being? Or is it a disturbing factor anyway? The results obtained are shown in Table 1.

Table 1

Student well-being

Statements	*M*	*SD*	*SE*	*Mdn*	*Skewness*	*Skewness SD*
Background music makes me feel positive	3.43	0.74	0.08	4.00	-1.48	0.27
Background music helps me focus	3.08	1.08	0.12	3.00	-0.93	0.27
Background music relaxes me	3.23	1.10	0.12	4.00	-1.12	0.27
Background music calms me down	3.35	0.93	0.10	4.00	-1.36	0.27
Background music stimulates me	2.92	1.11	0.12	3.00	-0.65	0.27

The study found that the majority of students agree with the statement *"Background music makes me feel positive*" (Table 1). At the same time, the scores of median and Skewness *(Mdn = 4.00; Skewness = -1.48)* show that the data obtained is highly skewed, which indicates that playing music in the background severely hindered some students while performing the written task.

Similar results were obtained in the other two statements: *"Background music relaxes me" (M = 3.23; SD = 1.10)* and *"Background music calms me down" (M = 3.35; SD = 0.93).* Most students agree or partially agree with both statements. However, these two statements are also asymmetrical. This indicates that although most students considered that background music was able to relax them and calm them down during the performance of the task, it was clear that some students could not relax *(Mdn = 4.00; Skewness = -1.12),* or calm down *(Mdn = 4.00; Skewness = -1.36).* The study found that the background music, which can calm students down *(r = 0.29; p < 0.01)* or stimulate them to work *(r = 0.29; p < 0.01)* can also make them feel positive.

Most students partially agree that background music helps them focus on performing the task *(M = 3.08; SD = 1.08).* Students may find it difficult to focus on a task if it is too complicated for them. The study found a correlation between the ability to concentrate and the music playing in the background while performing written tasks *(r = 0.52; p < 0.01).* Students think that background music does not hinder their concentration *(r = 0.37; p < 0.01)* and they want the teacher to use background music in the class *(r = 0.33; p < 0.01).* A slightly smaller number of students think that background music can stimulate them *(M = 2.92; SD = 1.11).* The study found that students who believe that background music stimulates them to work also think that it does not interfere with their written tasks *(r = 0.45; p <0.01).* Also, M.V. Zilgalve believes that

background music can have a positive or negative effect on the human nervous system, emotions and thinking. The effect of background music increases if it does not sound all the time and the psychologist recommends choosing instrumental compositions to be played in the background (Zilgalve, 2003).

In almost every music lesson, students perform tasks from the music workbook for a certain period of time. The tasks included in the music workbook enable students to better understand sheet music as well as develop the ability to identify the means of musical expression and musical instruments in the compositions. The students usually do notation-related tasks in silence. But what if the music teacher turned on background music at this time? This study determines the students' perceptions about the impact of background music on the quality of performing written tasks. The results obtained are shown in Table 2.

Table 2

The quality of performing written tasks

Statements	M	SD	SE	Mdn	Skewness	Skewness SD
Background music helps me complete the task	2.79	1.18	.13	3.00	-.44	.27
Background music hinders me from completing the task	1.93	1.15	.13	1.00	.80	.27
Background music has a positive impact on the quality of performing the task	3.07	1.02	.11	3.00	-.89	.27
Background music has a negative impact on the quality of performing the task	1.71	1.00	.11	1.00	1.22	.27
The performance quality of the task is not affected by background music	2.28	1.23	.14	2.00	.24	.27

Most students partially agree with the statement "*Background music helps me complete the task*" *(M = 2.79; SD = 1.18)*. At the same time, quite a lot of students partially disagree with the statement *"Background music hinders me from completing the task" (M = 1.93; SD = 1.15)*. The study determines that background music helps students to complete the task if it can positively affect their mood *(r = 0.32; p < 0.01)*, helps them to concentrate *(r = 0.52; p < 0.01)* and stimulates them to work *(r = 0.37; p < 0.01)*. It is just as important for students that background music not only prevents them from completing written tasks *(r = 0.71; p < 0.01)*, but also it should be able to encourage them to perform the task successfully *(r = 0.38; p < 0.01)*. In general, students evaluated at a medium level the fact that background music can help them perform written tasks in music workbooks. It is possible that students would evaluate the impact of background music on other types of activities at a high level. There are many activities, in which background music could be integrated. For example, C.W. Gillespie and K.R. Glider have found that teachers use background music during learning academic and social skills, as well as arranging their place after some activities or preparing for some new activities (Gillespie, Glider, 2010).

The majority of students partially agree with the statement *"Background music has a positive impact on the quality of performing the task" (M = 3.07; SD = 1.02)*. Students partially disagree with both statements *"Background music has a negative impact on the quality of performing the task" (M = 1.71; SD = 1.00)* and *"The performance quality of the task is not affected by background music" (M = 2.28; SD = 1.23)*. The students believe that background music can influence the quality of performing the task positively if it is positive *(r = 0.34; p < 0.01)* and if it is not disturbing *(r = 0.38; p < 0.01)*. In general, the students evaluated at a medium level the fact that playing background music during music lesson has a positive impact on the quality of performing written tasks. It should be mentioned that the results obtained are only applied to music subject because other school subjects may show a different trend. For example, C.W. Davidson and L.A. Powell studied the impact of background music on task performance and concluded that background music positively influences task performance (Davidson, Powell, 1986).

The study found that the impact of background music on the performance quality of a written task is largely determined by the individuality of each student. The same background music can help one student perform the written task correctly *(r = 0.29; p < 0.01)* but also can disturb another student *(r = 0.34; p < 0.01)*. The role of students' individual characteristics in the influence of background music has also been identified in several studies. For example, G. Cassidy and R. MacDonald investigated how background music affects introverted and extroverted students when they performing a cognitive task and concluded that in the presence of background music, compared to performing tasks in silence, the performance of cognitive tasks decreases for both introverts and extroverts (Cassidy, MacDonald, 2007). A study

conducted by A. Furnham and L. Strbac identified introverted and extroverted reference while performing reading comprehension task, prose recall task and mental arithmetic task. This study also found that the task performance with background music was worse than performing it in silence. Furthermore, this was more noticeable for introverted students than for extroverted students (Furnham, Strbac, 2002).

The third statements group intended to determine students' attitude towards playing background music in music lesson while performing written tasks. The attitude describes the student's ability to evaluate the possibility of integrating background music in the music lesson. The results obtained are shown in Table 3.

The study shows that most students partially agree with the statement *"I want background music to be played while performing written tasks" (M = 3.05; SD = 1.21).* The scores of median and skewness *(Mdn = 4.00; Skewness = -0.76)* indicate that the data obtained are moderately skewed, which give in turn the opportunity to conclude that some students have a very strong positive attitude towards background music. A similar trend was also found regarding the statement *"I do not want background music to be played while performing written tasks" (M = 1.94; SD = 1.22).* The scores of median and skewness *(Mdn = 1.00; Skewness = 0.75)* indicate that the data obtained are moderately skewed, which lead us to conclude that some students have a very strong negative attitude towards background music (Table 3).

Table 3

Attitude towards background music

Statements	*M*	*SD*	*SE*	*Mdn*	*Skewness*	*Skewness SD*
I want background music to be played while performing written tasks	3.05	1.21	.13	4.00	-.76	.27
I do not want background music to be played while performing written tasks	1.94	1.22	.13	1.00	.75	.27
I do not care that background music is played while performing written tasks	2.37	1.24	.14	2.00	.15	.27

The students' attitude towards background music is positive if it affects their mood positively *(r = 0.50; p < 0.01)*, stimulates them to work *(r = 0.29; p < 0.01)* and helps them performing tasks *(r = 0.34; p < 0.01)*. Some students, on the other hand, have a very strong negative attitude towards background music if it hinders them from focusing on work *(r = 0.33; p < 0.01)*.

Conclusions

The analysis of study results found that there are two reasons why teachers might use background music in the classroom. The first one is to improve classroom behaviour and atmosphere. The second one is to improve the quality and/or quantity of work.

One of the study questions was intended to find out how background music influences a student**'s** well-being in the music lesson. The first group of statements identified how background music can influence the well-being of students. The study determined that although background music creates a positive mood for most students, it could create a very negative mood for some students, which in turn negatively affects their well-being. Students feel comfortable while performing written tasks with music played in the background if this music can calm them down and/or stimulate them to work. On the one hand the calming effect of music is important if the student is worried about the task, but on the other hand, if the student is unable to start the task, then background music can be useful to stimulate him or her to perform the task.

The second study question was intended to clarify students' perceptions about the impact of background music on the quality of performing a written task. The study found that students evaluated the fact that background music can help them performing written tasks correctly at a medium level. The students believe that background music helps them performing the tasks if it affects them positively, promotes them to concentrate and stimulates them to work. The study found that the same background music can help one student perform the task correctly, but at the same time can disturb another student.

The third study question identified the students' attitude towards background music. The study found that some students have a very positive attitude towards background music and other students have a very negative attitude towards it. While one student likes to listen to music played in the background, it is very disturbing for another student at the same time. This study identified a variety of views, which is based

largely on the individual characteristics of each student. Based on the results obtained in this study, it would be useful in further studies to investigate the relationship between each student's individual characteristics and the influence of playing background music while performing written tasks in the music lesson.

Bibliography

1. Abdolmanafi-Rokni S.J., Ataee A.J. (2014). The Effect of Background Music on Vocabulary Recall and Retention of Children Learning English as A Foreign Language. *International Journal of Basic Sciences & Applied Research*. *3*(8), 491-495. Retrieved from https://pdfs.semanticscholar.org/e95c/68b6f23b72f0276e43f2b5c76c891c1bea4a.pdf
2. Cassidy G., MacDonald R.A.R. (2007). The effect of background music and background noise on the task performance of introverts and extraverts. *Psychology of Music*, *35*(3), 517-537. doi: 10.1177/0305735607076444
3. Chen A.C., Wen C.S. (2015). The Effects of Background Music Style on Mathematical Computation and Reading Comprehension. *International Journal for Innovation Education and Research, 3*(12), 164-170. Retrieved from https://www.ijier.net/index.php/ijier/article/view/497
4. Cho H. (2015). Is Background Music a Distraction or Facilitator?: An Investigation on the Influence of Background Music in L2 Writing. *Multimedia-Assisted Language Learning*, *18*(2), 37-58.
5. Davidson C.W., Powell L.A. (1986). The Effects of Easy-Listening Background Music on the On-Task-Performance of Fifth-Grade Children. *The Journal of Educational Research, 80*(1), 29-33. doi: 10.1080/00220671.1986.10885717
6. Decker-Voigt H.H. (1991). *Aus der Seele gespielt. Eine Einführung in Musiktherapie*. München: Wilhelm Goldmann.
7. DeMers A.S. (1996). *The Effect of Background Music on Reading Comprehension Test Scores.* (Master's Theses, The College at Brockport State University of New York, Brockport). Retrieved from http://digitalcommons.brockport.edu/ehd_theses/111
8. Furnham A., Strbac L. (2002). Music is as distracting as noise: the differential distraction of background music and noise on the cognitive test performance of introverts and extraverts. *Ergonomics, 45*(3), 203-217. doi: 10.1080/00140130210121932
9. Gillespie C.W., Glider K.R. (2010). Preschool teachers' use of music to scaffold children's learning and behaviour. *Early Child Development and Care*, *180*(6), 799-808. doi: 10.1080/03004430802396530
10. Griffin M. (2015). *Do you play background music in your classroom?* Retrieved from https://mdgriffin63.wordpress.com/2015/02/16/do-you-play-background-music-in-your-classroom/
11. Hallam S.P., Price J., Katsarou G. (2002). The Effects of Background Music on Primary School Pupils' Task Performance. *Educational Studies*, *28*(2), 111-122. doi: 10.1080/03055690220124551
12. Jucan D., Simion A. (2015). Music background in the classroom: its role in the development of social-emotional competence in preschool children. *Procedia - Social and Behavioral Sciences*, *180*, 620-626. doi: 10.1016/j.sbspro.2015.02.169
13. Lee Y., Welch G.F. (2017). Teachers' Perceptions about the Use of Background Music in Preschool Free Play Time. *Asia-Pacific journal of research in early childhood education*, *11*(2), 85-106. doi: 10.17206/apjrece.2017.11.2.85
14. Lehmann J.A.M., Seufert T. (2017). The Influence of Background Music on Learning in the Light of Different Theoretical Perspectives and the Role of Working Memory Capacity. *Frontiers in Psychology. 8*(1902). doi: 10.3389/fpsyg.2017.01902
15. Manthei M., Kelly S.N. (1999). *Effects of Popular and Classical Background Music on the Math Test Scores of Undergraduate Students.* Retrieved from http://music.arts.usf.edu/rpme/effects.htm
16. Rauduvaite A. (2018). The Educational Aspects of Integrating Popular Music into Lessons. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 11*. Jelgava: Latvia University of Life Science and technologies, 94-100. doi: 10.22616/REEP.2018.011
17. Savan A. (1999). The Effect of Background Music on Learning. *Psychology of Music*, *27*(2), 138-146. doi: 10.1177/0305735699272005
18. Strachan D.L. (2015). *The Space between the Notes: The Effects of Background Music on Student Focus.* (Master Thesis, St. Catherine University, Minnesota). Retrieved from https://sophia.stkate.edu/maed/118
19. Szentgyorgyi E.A. (2015). *Impact of music on student achievement.* (Master's Project, State University of New York at Fredonia, New York). Retrieved from http://hdl.handle.net/1951/65757
20. White K.N. (2007). *The Effects of Background Music in the Classroom on the Productivity, Motivation and Behavior of Fourth Grade Students.* (Master Thesis in Education, Columbia College, South Carolina). Retrieved from https://eric.ed.gov/?id=ED522618
21. Zilgalve M.V. (2003). Funkcionālā mūzika dzīves skaistumkopšanā [Functional music in the beauty of life]. *Mūzikas psiholoģija*, *8,* 59-61. (in Latvian)

Problem-Solving – a Key Precondition for Learning Mathematics at Pre-School

Dagnija Vigule Dr.paed.
University of Latvia, Latvia
dagnija.vigule@lu.lv

Abstract: Conventional education provides for a specific division of training subjects, execution of curriculum, and definite information to be acquired – things to be learned and remembered. This leads to a wrong impression that mathematics at pre-school covers only activities with digits, summing, subtraction, learning sizes and forms. However, mathematics is something more than just a specific knowledge. It is a set of various abilities and skills. The research is aimed at theoretical revealing of as a significant requirement for learning mathematics at pre-school and to work out the scheme of formation of mathematical notions of pre-schoolers. Development of a pre-schooler is influenced both by what is thought and by how it is thought. It is worth remembering that the child can learn mathematics by doing handicrafts, moulding, drawing, building sandcastles, taking care of a planted onion. Logically, mathematical skills or reasoning skills are acquired through real objects in the surrounding environment. When solving problem situations, child is engaged in decision-making process and thus not only gets valuable practical experience in solving problems, but also gets teacher's approval for the ability to make decisions. Children who in their childhood have gained experience in not stepping back in case of a failure, the ones who have learned to look critically at a problem and solve it, have learned to learn.

Keywords: pre-schooler, mathematics, problem situation, pre-school education.

Introduction

The article has been intended as a theoretical insight into the problems related to the formation of mathematical notions of pre-schoolers arising when conventional education system and conventional attitude towards learning techniques meet new forms of education requiring "modification of the training process focus" (Buzan, 2011, 30). Conventional or formal education provides for a certain division of training subjects, execution of the curriculum and specific information to be acquired – things that should be learned and remembered. This leads to a wrong impression that mathematics at a pre-school is only activities with digits, summing, subtraction, learning sizes and forms. The child is ready for basic education if he/she can fill in the task sheet. However, mathematics is something more than just a specific knowledge. It is a set of various abilities and skills. To analyse how the new educational content and approach to teaching will change math learning in preschool, it is important to explore previous rules. Regulation on the state pre-school education guidelines of 2012 also introduces not only the expected pre-school education outcomes in mathematics as the child reaches the school age, but also the skills to be developed. Cognitive activity, curiosity, understanding of logical sequences of activities, skills to reason one's opinion, observe and ask questions is what shall be promoted at pre-school age (Noteikumi par valsts…, 2012). Practical observations show that at pre-school more attention is devoted to knowing certain facts, whereas learning of the above skills is left behind.

Teacher - driven and teacher-centred learning at pre-school, vertical relevance (Katz, Chard, Kogan, 2014) which is based on pre-developed plans and materials, do not provide children with the foundations necessary for academic success in future, do not help children to live in a constantly changing world, as children do not have an opportunity to learn needed knowledge, skills and attitudes by themselves. Thus, understanding of what mathematics is as well as the attitude towards the process of - teaching and learning it - and subsequently the attitude towards the child shall be changed.

For pre-schoolers, mathematics is a way to learn about the world, solve problems and build their own experience. At first, the child meets mathematics indirectly, in different everyday situations. By manipulating, being active and playing with objects the child learns about their characteristics, mutual relations and makes their own discoveries. By finding correlations between their own activities and phenomena of the surrounding environment, the child sees the meaning of the world, and the development of his/her thinking is initiated. The key challenge to a pre-school teacher in the process of teaching mathematics lies in facilitation of the inborn mathematical thinking skills (Geist, 2009; Pound,

2008), maintaining child's interest, enthusiasm and curiosity. The pedagogue shall organise teaching and learning process in a way to ensure that children find mathematics interesting (Brewer, 2007). When learning mathematics, the pedagogue should bear in mind that only the things the child has found out are important and have sustainable value. When children are acting on their own initiative, using objects that seem topical and interesting to them, they are more interested in the learning process, and the new knowledge is preserved in their memory better. Children understand and remember experiences better when they have opportunity to research and be engaged practically. Each child learns new things at his/her own pace, therefore pedagogues shall take care to ensure that the child has time and opportunities to engage in activities with new materials or games that have seemed to be interesting until the child has acquired all new skills. Children need time to develop understanding of abstract mathematical ideas (Robertson, 2017). The most valuable learning activity organized by pedagogues is when the child engages in activity and does not even realize that learning is taking place. It is of a major importance that the child can continue the activity without direct guidance or intervention of a teacher.

The study of the pre-school curriculum 2018 developed by the National Centre for Education as a support material for pedagogues implementing the Regulation No 716 "Regulations on State Guidelines for Pre-School Education and Models of Pre-School Education Programme" of the Cabinet of Ministry of 21 November 2018 (Noteikumi par valsts…, 2018) shows significant differences from the previous programme. The curriculum includes both outcomes of learning and transversal skills, as well as points out the habits and virtues to be developed and facilitated at pre–school. The outcomes planned in mathematics, unlike in the previous curriculum, are grouped into three content units (Figure 1).

Mathematical langugage	**Size relations**	**Shape properties, placement and characteristics**
• Quantity, number, numeral; • Composition of number.	• Relations of objects, sets of objects; • Measuring skills.	• Different shapes; • Placement of object in space, on plane.
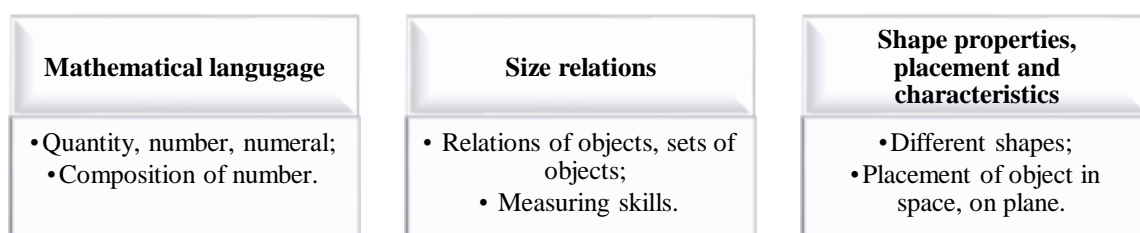
Figure 1. Content units of mathematics curriculum at pre-school.

Domain mathematics is closely related to the transversal skill of critical thinking and problem-solving. It means that the child at the pre-school age should learn also other skills apart from the contents under the curriculum of mathematics. Scientists (Brewer, 2007; Geist, 2009; Bullard, 2017; Cotton, 2019) in their researches point out the importance of pre-school teachers basing their work on the content standards and process standards. Content standards give pedagogues information about the knowledge and skills to be learned at a certain age, e.g., learning numbers, counting, geometry. "The process standards include problem solving, reasoning and proof, communication, connections, and representation" (Geist, 2009, 16). Mathematics is not only a series of facts, isolated skills, it is a sequence of relations, notions and thinking processes, a structure of mutually related notions and sequential activities (Fisher, 2005). The curriculum provides for the development of skills like problem-solving, reasoning, communication, making comparisons, and argumentation. "The process of finding information, analysing data, and reaching conclusion is considered more important than learning facts" (Brewer, 2007, 59). These skills are both developed when acquiring mathematics and help in learning and understanding mathematical notions. At the same time, these habitual skills are necessary throughout the whole life since they contribute to achievements in all fields of life.

Pre-schoolers have a natural desire to overcome obstacles hindering solution, i.e., to solve problem situations faced (Minetola, Ziegenfuss, Chrisman, 2014; Geist, 2009; Fisher, 2005; Tucker, 2014). Problem situations occur when child is willing to find a solution for the current situation, i.e., moment when he/she wants to understand something (Gabova, 2014). Solving problems is a certain form of cognitive processing (Fisher, 2005). Child has to see a problem to solve it, think of a plan, implement the plan and then see if the plan worked (Bullard, 2017; Copley, 2010; Epstein, 2014). Problem situations are solved gradually (Figure 2).

When engaging in problem-solving, the child:
- experiences problem-solving process from the beginning to the end;

- updates their own knowledge, analyses, sees regularities;
- develops skills necessary for each step of the problem-solving.
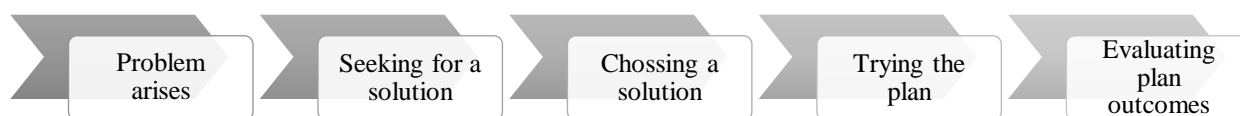
Figure 2. Problem-solving steps (Bullard, 2017).

By observing problem-solving process pedagogues ask exhilarating questions not only to find out how child deals with the problem, but cognizes as a child:

- learns;
- uses acquired knowledge and facts to solve the problem;
- controls emotions;
- makes contact.

The practice shows that pre-schoolers lack experience in problem-solving, they struggle to define a problem, analyse ways to solve it, as well as to reflect on it. Ability to solve problematic situation often is reduced by the teacher's attitude. Child is expected to give one, correct answer. The wrong answer is corrected or rejected directly. Children are not given time to think about the problematic situation. Unlike in the theory, in practice mistakes are not perceived as an important part of the learning process that begins discussion and encourages thinking process. By learning mathematics at pre–school, more attention should be devoted to solving of problematic situations.

The research is aimed at theoretical revealing of as a significant requirement for learning mathematics at pre-school and to work out the scheme of formation of mathematical notions of pre-schoolers.

Methodology

The study is an on theoretical research – the analysis of literature and documents. The tasks of the research are to analyse scientific literature on teaching mathematics in pre – school, to reflection of author' pedagogical experience, to work out the scheme of formation of mathematical notions of pre-schoolers. The research covers the analysis of pre-school education guidelines (Noteikumi par valsts…, 2018) developed by the National Centre for Education within the framework of the project "Competence-Based Approach to Curriculum," pre-school curriculum (Pirmsskolas mācību programma…, 2019) and document Education for modern literacy: description of the teaching/learning content and approach (Skola 2030…, 2017) giving particular attention to thinking and problem-solving skills to be acquired at pre-school. Theoretical approaches are based on the following scientific findings about child-centered learning (Geist, 2009; Brewer, 2007; Katz, Chard, Kogan, 2014; Epstein, 2014), the formation of mathematical notions of pre-schoolers (Copley, 2010; Taylor, Harris, 2014; Chigeza, Sorin, 2016; Helmane, 2017; Robertson, 2017; Cotton, 2019), and problem-solving in pre-school (Fisher, 2005; Greenwood et al., 2006; Geist, 2009; Hughes, 2009; Kostelnik et al., 2014; Haylock, Cockburn, 2017; Bullard, 2017).

The research methods used in the article: 1) study, analysis and evaluation of scientific literature in the field of teaching mathematics in pre-school; 2) reflection of author' pedagogical experience.

Results and Discussion

Along with the placement of child and his/her ideas (defined by the "Regulations on State Guidelines for Pre-School Education and Models of Pre-School Education Programme") in the centre of learning process, vertical relevance loses its topicality. This approach covers only learning of mathematics arranged in a definite order. All needed ideas shall be given to children in a certain sequence. Assuming mathematics consists of chain-linked notions and the following ideas cannot be understood if the previous link is missing, the pedagogue focuses on implementation of the training programme, as the results can be achieved only when all steps are taken in the right order. For this reason, pedagogues like to use pre-developed materials that not always reflect the real life, interests of a child, but prepare children to perform tasks with increasing difficulty. The tasks in workbooks and accomplishment thereof help children to reach the next level, yet they do not show how new skills can be used in everyday life, "textbooks should never be the sole basic for

learning any subject at any age" (Geist, 2009, 110). Practice shows that work with the task sheets allows children to learn how to link count and number, write numbers in a right sequence. However, children in a real-life find it difficult to tell what is more and less when they are comparing sets of objects and answering questions. Scientists (Haylock, Cockburn, 2017; Robertson, 2017; Montague-Smith et al., 2018; Geist, 2009; Copley, 2010) also point out that children face difficulties when speaking about comparisons as well as using more and less. It shows that child has learned facts but does not understand the essence of the sequence of numbers and the fact that sequence of numbers is set and invariable. Moreover, on a daily basis, mathematics does not hide in isolated activities, skills, or in a separate list of knowledge and facts. Knowledge and remembering of facts (2+2=4), the ability to answer in a pre-ready form (What operation is this? This is …) do not help children in real life, do not help in understanding mathematics as a strictly structured network of ideas (Fisher, 2005). Direct teaching, passive accumulation of knowledge in case when child is only repeating, and imitating actions of adults contradicts the things child is learning. Child is learning trough acting, manipulating objects and thinking over the results. Too early acquisition of formal contents of mathematics, manipulation of abstract notions and symbols endangers both academic growth of a child and social, emotional development (Hughes, 2009; Geist, 2009).

Scientists (Fisher, 2005; Geist, 2009) believe that the formation of mathematical apprehensions and skills is not only related to certain knowledge and skills but also to the development of the brain activity, solving of problem situations. Teaching mathematics to a pre-schooler is not only a transfer of specific knowledge or techniques used to solve tasks, but also formation of psychological mechanisms that ensure successful development, independence in further learning and practical application of the mathematical knowledge acquired (Gabova, 2014; Taylor, Harris, 2014). The main task hides in activating and facilitating development of child's thinking: ability to reason, find cause-effect relationships, understand regularities of the surrounding world. Pre-school is where empirical generalization takes place-children are generalizing what they have experienced, what helps them in forming their sensory skills, what is processed by intellectual abilities. Logically, mathematical skills or reasoning skills are acquired through real objects in the surrounding environment.

Development of a pre-schooler is influenced both by what is thought and by how it is thought. The horizontal relevance (Katz, Chard, Kogan, 2014) does not provide for remembering of facts and rules, for solving of artificial and clearly defined problematic situations with one correct answer instead of practical solving of problems related to child's experience and interests that arise in everyday life or created by a pedagogue based on the child's interests. It is worth remembering that the child can learn mathematics by doing handicrafts, moulding, drawing, building sandcastles, taking care of the planted onion. When an adult sees the presence of mathematics in everyday life, it is easy to integrate it into any activity and any field of study. However, adults seeing chances to learn mathematical concepts and regularities via playing and other activities is not enough. Pre-schoolers gain deep and persistent understanding of mathematical relationships by seeing the meaning of what is learned and having ability to apply it in everyday life. Such a view of the problem does not diminish the role of an adult in teaching and learning but changes his perception of both pre–schoolers and the way of learning mathematics (Helmane, 2017; Kostelnik et al., 2014).

Document "School 2030. Education for Modern Literacy: Description of the Teaching/Learning Content and Approach" shows the necessity to improve both learning content and approach. It states that children can solve tasks that are related to remembering facts, acting based on known algorithm in known situations, but finds it difficult to solve non-standard situations, link theoretical knowledge with the real life (Skola 2030…, 2017). Significance of meaningful studies by learning mathematics and ability to use the known is discussed by the scientists (Haylock, Cockburn, 2017; Brewer, 2007; Geist, 2009; Kostelnik et al., 2014) by pointing out that both researches and practice show that understanding-based learning gives more durable knowledge, psychological satisfaction and ensures practical use of knowledge better than repetition-based knowledge.

Meaningful learning, use of understanding in the studies becomes challenges to the pre-school practices. Teacher-child relationships within the learning process as well as learning environment should be changed. Figure 3 has been based on the analysis of the researches (Brewer, 2007; Geist, 2009). It shows the most significant differences between traditional (indicated with grey) and child-centred training process. Three important components of the learning process-child, pedagogue, and environment-were compared by indicating the changes needed in the Latvian pre-school education.

In child-centred learning, acquisition of mathematical concepts at pre-school age shall be based on individual willingness to engage in an activity, self-develop. E. Geist (2009) believes that large part of problems related to learning mathematics at pre-school may be solved if child's interest in the issue discussed during the play lesson would continue. Due to this reason, in planning lessons of mathematics an adult should note the balance between what is provided for in the programme and individual interests of a child. Pedagogues should be flexible in the choice of both curriculum and learning aids and:

- take into account development regularities at a certain age;
- know abilities as well as strengths and weaknesses of each child;
- be aware that any child is a pragmatist who considers his/her best interests first.

Child		
memorises, remembers facts	follows teacher's guidelines, follows an example	obeys authority
engages in activities developing the ability to solve problem situations	becomes independent, as teacher trusts and allows them to choose	engaged in decision-making (co-responsible)
Pedagogue		
expects one right answer	transfers information, own knowledge	precisely follows programme instructions
an observer using acquired information in planning of the future educational work	participant is process of helping to think and make decisions	balancing between promoting self-discovery and direct teaching
Environment		
awards are used	constant, standardized tasks are used	can create a sense of learned helplessness
positive interaction between children and adults	flexible and easy adaptable to changes made by children and pedagogues	arranged in a way to facilitate child's independence

Figure 3. Comparison of child–centred and traditional components in learning process (Brewer, 2007; Geist, 2009).

Pre-schoolers learn mathematics by manipulating objects and finding out their relationships studying, experimenting, making mistakes (Brewer, 2007; Kostelnik et al., 2014). The process of action is where mathematical problem-solving and thinking skills are formed and developed. Each child is a unique individual having their own skills and interests. The pedagogue should remember that the child thinks about things that seem interesting to him/her. It means that a pre-school teacher should seek for and offer problem situations suitable to child's age, interests and experiences, and indirectly encourage the child to seek the answer. A learning problem is topical if it is a problem in child's opinion. Only if child has chosen to take part in solving the problem by himself, teaching and learning can take place naturally and efficiently.

Problem situation arises from controversy, question, surprise or misunderstanding, and it is the beginning of thinking. "Problem solving also provides much of the purpose for other cognitive processes such as perception, language, memory, and conceptual understanding" (Siegler, Alibali, 2005, 341). A. Vorobjov (2000) also refers to the arising of a problem situation as the beginning of the thinking process. The problem situation itself encourages the child to solve it, and the child has to start think about what he/she could do to solve the problem or situation. In respect to the arising of problem situations encouraging thinking processes, A. Vorobjovs (2000) points out the necessity for three pre-conditions simultaneously (Figure 4).

Learning activities in mathematics should be drawn up based on the child's natural ability to reason and solve problems (Geist, 2009). Child's learning is based on a play and solving of problem situations, and the best if problem situations are involved in a play (Chigeza, Sorin, 2016; Moomaw, 2013; Gabova, 2014). M.A. Gabova (2014) mentions a separate method-a problem method which is based on a teacher-created problem situation noting child's experience, thus ensuring that child can solve the problem on its own. By solving problem situations that has risen, the child is playing and experiencing a storyline offered by the teacher together with the main characters trough active cognitive action and in neutral atmosphere. The support given by the pedagogue is indirect. The chid is asked open-ended questions, his/her interest is maintained, and the principles of problem solving are observed:

- mathematic is thinking and not learning the right answers;
- process is more important than the result,
- the answer to the question is logically sequential and not given by the teacher (Geist, 2009).
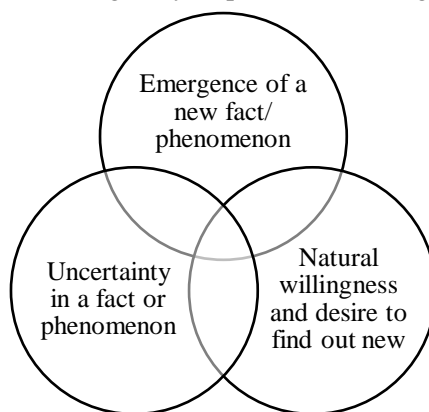
Figure 4. Pre-conditions for problem situation to arise (Vorobjovs, 2000).

Thinking about a problem is important as or even more important than finding the answer or solution. If the child is used to a teacher knowing all the answers, he/she relies on own thinking abilities increasingly less. If the pedagogue does not give the child an opportunity to think and solve problem situation by himself/herself, the child also does not show initiative in doing that. The child quickly understands what is expected from him and is able to adjust. When given the opportunity to find the right answers on his/her own, the child discovers that he can find mistakes within the thinking process quite well. The child has to understand that the right answer does not come from the teacher or book, but it does come from logical conclusions. The pedagogue both initiates and maintains the discussion by asking open-ended questions, encouraging attempts, research, and discovery. The pedagogue accompanies the child and engages un his/her activity when necessary or is asked by a child. Along with the experience gained via discussions, trying and making mistakes, child starts to understand that the right answer is not given by the teacher or book, but it comes as a logical conclusion made based on the own activity.

By working practically, using the knowledge acquired, engaging in a discussion, the child gains experience, gradually building confidence in the own abilities (Bullard, 2017), becomes aware of the own role in solving problem situations and starts expressing activity directed towards achieving a result. Researchers (Greenwood et al., 2006) believe that children who in their childhood have gained experience in not stepping back in case of a failure, the ones who have learned to look critically at a problem and solve it, have learned to learn. Timely development of cognitive skills-ability to solve problems, find necessary information, affect child's further success both at school and in life. Based on the above-mentioned analysis of scientific literature and personal pedagogical experience, the author has developed the scheme of formation of mathematical notions of pre-schoolers (Figure 5).
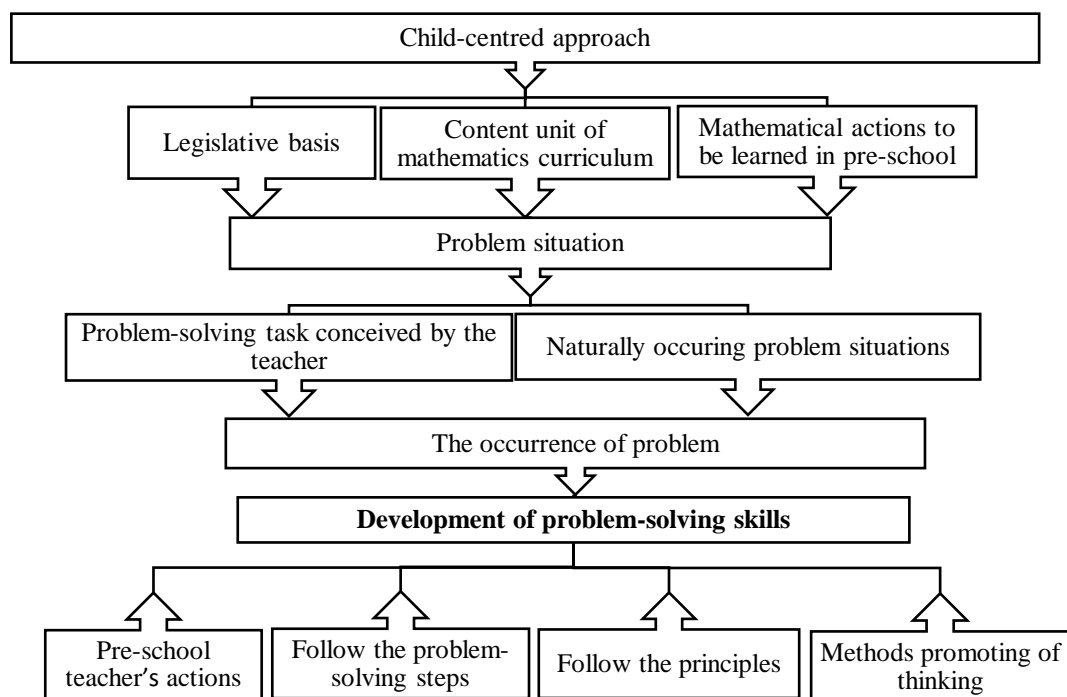
Figure 5. The scheme of formation of mathematical notions of pre-schoolers.

The Figure 5 contains a logical framework for the pre-schoolers' mathematical understanding, including both the content, and the emergence of problem situations, and the set of measures needed to develop pre-schoolers' problem-solving abilities.

Conclusions

When learning mathematics at pre–school, an ability to solve problem situations has to be facilitated, as it also is a part of the mathematics content. At pre–school, mathematics should be thought by observing a balance between the curriculum and child's interests as well as child's natural ability to reason and solve problem situations. In solving problem situations, the result has less importance than the thinking and solving process itself. Support given by the pedagogue is indirect. By acting, trying, experimenting, making mistakes, correcting mistakes, talking to the teacher, reflecting on what they do, child begins to realize himself/herself as a personality that can influence the world. Moreover, when solving problem situations, child is engaged in decision-making, he/she is trusted and is co–responsible for the decision made. What type of blocks should be used to ensure that the tower does not fall apart, what type should be used for big and what type for small houses? At pre–school, decision–making starts with options, initially a choice between two options. In such a way, child not only gets valuable practical experience in solving problems, but also gets approval for his/her abilities to make decisions, which is schematically depicted in Figure 5 by the author.

Bibliography

1. Brewer J.A. (2007). *Introduction to Early Childhood Education: Preschool Through Primary Grades* (6th ed.). Boston, Massachusetts: Pearson Education.
2. Bullard J. (2017). *Creating Environments for Learning: Birth to Age Eight* (3rd ed.). Cambridge: Pearson Education.
3. Buzan T. (2011). *Buzan's Study Skills: Mind Maps, Memory Techniques, Speed Reading.* Harlow: BBC Active.
4. Chigeza P., Sorin R. (2016). Kindergarten Children Demonstrating Numeracy Concepts through Drawings and Explanations: Intentional Teaching within Play-based Learning. *Australian Journal of Teacher Education*, *41*(5), 65-77. Retrieved from https://files.eric.ed.gov/fulltext/EJ1102066.pdf
5. Copley J.V. (2010). *The Young Child and Mathematics* (2nd ed.). Washington: NAEYC.

6. Cotton T. (2019). *How to Develop Confident Mathematicians in the Early Years: A Guide for Practitioners and Parents*. New York: Routledge.

7. Epstein A.S. (2014). *The Intentional Teacher: Choosing the Best Strategies for Young Children's Learning*. Washington: National Association for the Education of Young Children.

8. Fisher R. (2005). *Teaching Children to Think* (2nd ed.). Cheltenham: Nelson Thornes.

9. Gabova M.A. (2014). *Matematicheskoye razvitiye detey doshkol'nogo vozrasta: teoriya i tekhnologii* [Mathematical development of pre-schoolers: theory and methodologies]. Moskva: Direkt-Media. (in Russian)

10. Geist E. (2009). *Children Are Born Mathematicians: Supporting Mathematical Development, Birth to Age, 8.* Upper Saddle River, N.J.: Merrill/Pearson.

11. Greenwood Ch.R., Walker D., Carta J.J., Higgins S.K. (2006). Developing a general outcome measure of growth in the cognitive abilities of children 1 to 4 years old: The Early Problem-Solving Indicator. *School Psychology Review*, *35*(4), 535-551. Retrieved from https://www.questia.com/library/journal/1G1-158306969/developing-a-general-outcome-measure-of-growth-in

12. Haylock D., Cockburn A.D. (2017). *Understanding mathematics for young children: A guide for teachers of children 3-7* (5th ed.). London: SAGE Publications.

13. Helmane I. (2017). Thematic Approach and Mathematics Textbooks in Primary School. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality. (REEP), 10.* Jelgava: LLU, 70- 77. Retrieved from https://llufb.llu.lv/conference/REEP/2017/Latvia-Univ-Agricult-REEP-2017_proceedings-70-77.pdf

14. Hughes A.M. (2009). *Problem solving, reasoning and numeracy in the early years foundation stage.* London and New York: Routledge.

15. Katz L.G., Chard S.C., Kogan Y. (2014). *Engaging children's minds: The project approach* (3rd ed.). Santa Barbara, California: Praeger.

16. Kostelnik M.J., Rupiper M.L., Soderman A.K., Whiren A.P. (2014). *Developmentally Appropriate Curriculum in Action*. Upper Saddle River, N.J.: Pearson.

17. Minetola J.R., Ziegenfuss R.G., Chrisman J.K. (2014). *Teaching Young Children Mathematics*. New York: Routledge.

18. Montague-Smith A., Cotton T., Hansen A., Price A.J. (2018). *Mathematics in Early Years Education* (4th ed.). London and New York: Routledge.

19. Moomaw S. (2013). *Teaching STEM in the Early Years: Activities for Integrating Science, Technology, Engineering, and Mathematics*. St. Paul: Redleaf Press.

20. *Noteikumi par valsts pirmsskolas izglītības vadlīnijām* [Rules on national pre-primary education guidelines]. (2012). Retrieved from https://likumi.lv/ta/id/250854 (in Latvian)

21. *Noteikumi par valsts pirmsskolas izglītības vadlīnijām un pirmsskolas izglītības programmu paraugiem* [Regulations Regarding Guidelines for State Pre-School Education and Samples of Pre-School Education Programmes]. (2018). Retrieved from https://likumi.lv/ta/id/303371 (in Latvian)

22. *Pirmsskolas mācību programma* [Preschool curriculum]. (2019). Skola 2030. Rīga: VISC Retrieved from https://mape.skola2030.lv/resources/10 (in Latvian)

23. Pound L. (2008). *Thinking and Learning About Mathematics in the Early Years*. New York: Routledge.

24. Robertson J. (2017). *Messy maths: A playful, outdoor approach for early years*. Carmarthen: Independent Thinking Press.

25. Siegler R.S., Alibali M.W. (2005). *Children's Thinking* (4th ed.). Upper Saddle River: Pearson Prentice Hall.

26. *Skola 2030. Izglītība mūsdienīgai lietpratībai: mācību satura un pieejas apraksts* [School 2030. Education for modern literacy: description of the teaching/learning content and approach]. (2017). Rīga: VISC. Retrieved from http://www.izm.gov.lv/images/aktualitates/2017/Skola2030Dokuments.pdf (in Latvian)

27. Taylor H., Harris A. (Eds.). (2014). *Learning and Teaching Mathematics 0-8.* London: SAGE Publications. doi: 10.4135/9781526401601

28. Tucker K. (2014). *Mathematics Through play in the early years* (3rd ed.). London: SAGE Publications.

29. Vorobjovs A. (2000). *Vispārīgā psiholoģija* [General psychology]. Rīga: Izglītības soļi. (in Latvian)

Transformative Digital Learning in the Context of Higher Education: Definition and Basic Concepts

Olga Vindaca[1] Mg.paed.; **Velta Lubkina**[2] Dr.paed.
Rezekne Academy of Technologies, Latvia
olgavindacha@inbox.lv[1]; velta.lubkina@rta.lv[2]

Abstract: Transformative digital learning is associated with qualitative changes in educational work. It is important to each individual in order to live and work productively in a changing digitalized world, to continue education throughout life. Despite of the growing interest in the digitalization and transformation phenomenon parties involved are not able to concisely spot the connection and difference between the digital learning, digital transformation and transformative learning, as well as to formulate the definition of transformative digital learning. This article is based on the theoretical research in the field of transformative digital learning in the context of higher education. The aim of this paper to review the literature about the topic and by analysing different explanations and approaches to formulate the definition of transformative digital learning in three dimensions as digital learning, digital transformation and transformative learning. A literature review about the transformative digital learning in the context of higher education was made, basing on the analyses the definition was developed and basic concepts listed. The research results offer theoretical implications for the definition of transformative digital learning in the context of higher education.

Keywords: digital transformation, transformative digital learning, higher education.

Introduction

School year 2019/2020 has been named as the Technology Year in Latvia by Ministry of Education and Science enabling a variety of information technology activities for students, educators and the public (Jauno mācību gadu…, 2019)

Based on multidimensional survey summarized by A. Visvizi, M.D. Lytras, L. Daniela the future perspectives of innovation and technology in education include the idea that the field of education is not immune to advances in sophisticated information and communication technology, hence it can serve as supportive educational tool. Most important, by creating modern learning field, three key elements should be included: pedagogy, environment and technologies. This is a challenging problem for everyone involved into the education process. Today, technology enables a significant expansion of the learning environment, providing learning opportunities at any time and place. Digitalization offers tremendous opportunities for innovation, growth and employment, contributes to the global competitiveness of people and enhances creativity and cultural diversity (Visvizi, Lytras, Daniela, 2018).

It is important to understand the difference between the definitions as digital learning, digital transformation, transformative digital learning, as these are not just the same. Despite of the growing interest in the digitalization and transformation phenomenon parties involved are not able to provide the detailed explanation and connection between the transformative learning and digitalization. After analysing the abstract and citation databases like EBSCO there is no exact matching for the term transformative digital learning. Moreover, there are 11 544 records concerning digital learning and 7 176 records for transformative learning. If to speak about transformative learning the articles were published starting from 1978 year when J. Mezirow's transformative learning theory has been developed. In turn of digital learning the first articles are dated of 1961 year when the adoption and proliferation of digital computer we adopted.

At the same time, as of 12th of November 2019 a Google search returned more than 22 million hits for the term of transformative digital learning, reflecting also changing algorithm of the indicated words by changing word order. Because of this to formulate the definition of transformative digital learning in the context of higher education the concepts of digital learning, digital transformation and transformative learning were analysed.

The aim of this paper to review the literature about the topic and by analysing different explanations and approaches to formulate the definition of transformative digital learning (TDL) in three dimensions as digital learning, digital transformation and transformative learning.

Methodology

The research undertaken for this study is theoretical and based on a study and overview of the existing literature in the topic. Within the scope of the research the literature consulted includes articles specifically on digital learning (Kyndt et al., 2009; Gonçalves, Sousa, Cruz, 2017; Sousa, Rocha, 2019a), digital transformation (Filho et al., 2018; Mergel, Edelmann, Haug, 2019) transformative learning (Boyd, Myers, 1988; Mezirow, 1999; Henderson, 2002; Taylor, 2007; Cranton, 2009; Dirkx, 1997; Howie, Bagnall, 2013; Christie et al., 2015) and transformative digital learning (Mykhailenko et al., 2018) in the context of higher education. Mentioned terms are transdisciplinary fields considering many disciplines such as economics, information technology, philosophy, communication studies, pedagogy, psychology and others. The focus of this article will be on pedagogical and educational aspects.

To review the essence of transformative digital learning using dictionaries overview terms analyses approach has been applied, by separately defining: transformation, digital and learning. Basing on the definition's analyses stated in the vocabularies further research has been applied using the basic three concepts: digital learning; digital transformation; transformative learning.

Results and Discussions

In order to explain the meaning of **transformative digital learning** in the context of higher education it is necessary to divide the term into three separate concepts digital, transformative and learning. As there is no exact definition of transformative digital learning. The aim of this paper to review the literature about the topic and by analysing different explanations and approaches to formulate the definition of transformative digital learning. Three mentioned concepts were characterized in the terms of vocabulary explanations. Based on the definitions from Merriam Webster Thesaurus, Cambridge Dictionary and Pedagogical dictionary (Konjajeva, Pavlova, 2012; Uvarov et al., 2019) summary analyses presented in Table 1.

Table 1

Transformative digital learning – dictionaries overview

	Merriam Webster Thesaurus	**Cambridge Dictionary**	**Pedagogical Dictionary**	**Terms of TDL definition formation**
Transformation	- a marked change in form, appearance or use	- a major change to something or someone, especially in a way that makes it or them better	Digital transformation - updating of planned educational results, content, methods and organizational forms of academic work, as well as evaluation of the achieved results in a quick evolving digital - educational environment with aim to improve the individual educational results of each student.	Change or update of educational results, content, methods and organizational form adopting them to the quickly evolving digital environment
Digital	- (of signals or data) expressed as series of the digits 0 and 1	- regarding or storing information as series of the numbers 1 or 0, to show that a signal is present or absent; using or relating to digital signals and computer technology; - showing information in the form of an electronic image;		Usage of computer technology digitalizing educational process

	Merriam Webster Thesaurus	Cambridge Dictionary	Pedagogical Dictionary	Terms of TDL definition formation
Learning	- the act or experience of one that learns; - knowledge or skill acquired by instruction or study; - modification of a behavioral tendency by experience; - the activity or process of gaining knowledge or skill by studying, practicing, being taught, or experiencing something; - the activity of someone who learns; - knowledge or skill gained from learning.	- the activity of obtaining knowledge	- the process of transfer and active assimilation of knowledge, skills and abilities, as well as ways of meaningful, cognitive activity; - the process of introducing the student to knowledge, assistance in mastering skills, which are purposefully and systematically carried out by lecturers or other specially trained specialists, the key way to get an education.	The process introducing, transferring and activating knowledge, skills and abilities as well as ways of meaningful, cognitive activity

Sources: (Merriam Webster Thesaurus, 2019); (Cambridge Dictionary, 2019); Pedagogical Dictionary (Uvarov et al., 2019); (Konjajeva, Pavlova, 2012).

To summarize the described vocabulary definitions there are common features in each concept: transformation, digital and learning. However, there no separate definition of word digital in the context of education, only in connection with transformation. Because of this the definition of digital transformation in the context of higher education has been analysed.

Among the terms indicated in Table 1 for definition of TDL the basic emphasize is on change and update of planned education results for each individual in context of transformation; quick evolving digital education environment by introducing, transferring and activating knowledge, skills and abilities to meaningful and cognitive ones. For further research another concept method has been used, separately analysing the following: digital learning, digital transformation and transformative learning.

Digital learning (DL) can be a driver for skills development to potentiate organizations digital transformation (Sousa, Rocha, 2019a). The definition given by E. Kyndt, F. Dochy, M. Michielsen, B. Moeyaert describes DL as an unplanned and implicit process with unpredictable results using different types of technological devices such as smartphones, tablets, computers (Kyndt et al., 2009). According to A.C. Gonçalves, M.J. Sousa, R. Cruz there are two possible ways of digital learning:

1. spontaneous, unconscious process in order to prepare the student for critical thinking and complex problems solving, for collaborative work and effective communication, independent learning;

2. specially planned process by combination of different learning activities like a search of information or watching special educational videos with the goal to understand better the issue and acquire more knowledge about it (Gonçalves, Sousa, Cruz, 2017). L. Davis, on the other hand, indicates that DL is an technology-enhanced instructional practice that also includes blended, flipped and personalized learning or other strategies using digital tools. A DL strategy may be a combination of different activities such as adaptive learning; badging and gamification; blended learning; classroom technologies; e-textbooks; learning analytics; learning objects; mobile and personalized learning; online learning (or e-learning); open educational resources; technology-enhanced teaching and learning; virtual reality; augmented reality, artificial intelligent; robotics (Davis, 2019).

To sum up, it can be stated that DL can be either spontaneous, unconscious or planned and organized process, using a broad range of technology- enhanced educational strategies, including blended, flipped, online and personalized learning.

The digital transformation (DT) of education is an inevitable process for the change of educational content, methods and organizational forms, which takes place in a rapidly developing digital educational environment and is aimed to solve socio-economic development problems of the country in the conditions of the fourth industrial revolution and digital economies (Uvarov et al., 2019).

The world in general, and organizations and institutions in particular, is changing faster than ever. DT takes organizations to the next level. It is a modern phenomenon affecting all spheres of life, public administration and public services (Mergel, Edelmann, Haug, 2019), business and entrepreneurship (Tekic, Koroteev, 2019), other organizations (Sousa, Rocha, 2019b) and educational institutions (Filho et al., 2018).

Besides this according to network readiness index – a comprehensive indicator showing the level of information and communication technologies development in the world, offered by World Economic Forum - Latvia ranked 32nd in the world (Baller, Dutta, Lanvin, 2016).

In order to explain the base of any DT the focus on digitalization providers was made. Microsoft the leading global vendor of computer software, hardware, mobile and gaming systems, and cloud services indicates the basic concept of DT is not just a basic upgrade of hardware or software, but it is a physical change (Uvarov et al., 2019) and philosophical transformation (Tekic, Koroteev, 2019) to meet the growing demands of educational institutions and create the overall connection in a learning environment, where technology, services and security are provided for collaborative, interactive and personalized learning experiences creation (Microsoft, 2019).

One more American leading corporation Alcatel Lucent offered their concept of DT, indicating that it starts with a strategy. A clearly defined strategy that leverages opportunities presented by the new technology while meeting the objectives of the stakeholders. The following four steps necessary to develop a DT strategy for education:

1. to connect everything –high capacity communication network creation;
2. deploy analytics to automate, understand and save money, necessity to use real life, real-time data to drive strategic initiatives that improve performance, upgrades and infrastructure decisions.
3. to update business models, software and on-demand services, making them cheaper, more flexible and simpler to manage;
4. to create single platform as the basic foundation of the network and communications infrastructure for the institution (Figure 1).
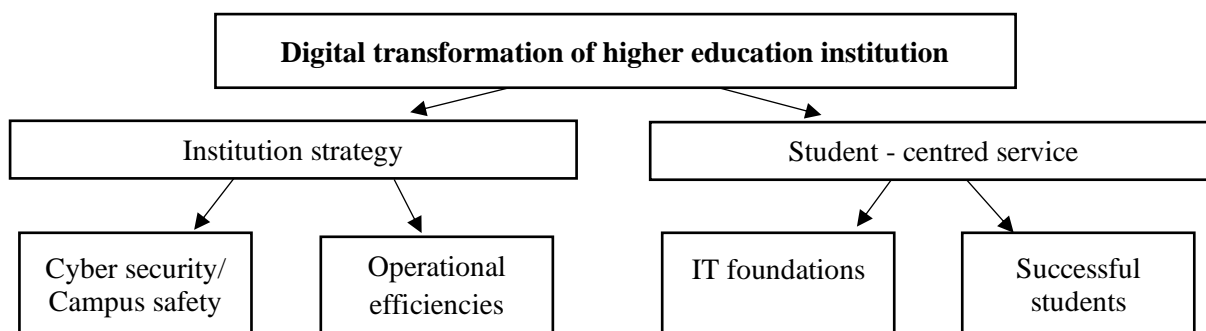
Figure 1. Digital transformation of higher educational institution (Alcatel-Lucent, 2019).

According to Figure 1 the key factors of Alcatel-Lucent strategy were indicated as strategy and student – centred service. In order to provide the IT foundations, the successful work of student, cyber security and safety and operational effectiveness, the following components are needed: network infrastructure, mobility, collaborative working rainbow, Internet of Things and solved security issue. So, DT of higher education is creating a world of difference by rethinking the used digital tools for new levels of collaboration, innovation and endless learning possibilities (Alcatel-Lucent, 2019).

Some companies see DT as a way to optimize processes and cut costs, while others view it as an opportunity to create new value by offering something new (Tekic, Koroteev, 2019), while in the terms of higher education DT has its effect on two main business parts:

1. transformation in services that focuses on creating new education products and transforming existing products into digital ones (like video lectures, digital texts, quizzes and digital means for communication between students and teachers);

2. transformation in operations that requires a digitalization of all the common operations offering by educational institutions like students' admission, registration for programs and courses, examination, program development, student' quality assurance and also study planning, facility management, teacher allocation, scheduling (Jackson, 2019).

Microsoft offers their definition of DT as the use of new, fast and frequently changing digital technology to solve problems often utilizing cloud computing, reducing reliance on user owned hardware but increasing reliance on subscription-based cloud services (Microsoft, 2019).

Thus, DT in the context of higher education is observed within two directions: strategy of higher education institution and student-centred service, by changing the educational content, methods, results and organizational forms. DT is must-have new paradigm that takes organizations to the next level of development. Besides this DT an ecosystem that combines technology, offered services and security to ensure collaborative, interactive, online and personalizes learning.

Transformative learning (TL) has been described in the J. Mezirow's Transformation Theory. According to which, TL is learning that occurs when an adult engages in activities that cause or allow them to see a different worldview from their own. Afterwards adults work to integrate the implications of that different worldview into their own worldview, thereby enlarging it. This process of changing to person's worldview and the enlarging of it is called transformative by J. Mezirow (as cited in Taylor, 2007). The following four processes of learning had been indicated by J. Mezirow: to elaborate the existing point of view → to establish new points of view → to transform our point of view → to transform ethnocentric habit of mind (Mezirow, 1999).

The basic aim of the learning process was to transform the existing point of view through new knowledge or even to influence ethnocentric habit of mind. The following key elements of transformative learning were named by J. Mezirow: disorienting dilemma; critical reflection; rational discourse. In 1999 J. Mezirow has added seven more elements for the TL (total ten) and explained the existed ones:

- a disorienting dilemma – as significant stimulus to undergo meaning perspective transformation;
- self – examination with different feelings such as fear, anger, guilt, shame;
- a critical assessment of assumptions;
- recognition that one's discontent and the process of transformation are shared;
- exploration of options for new roles, relationships and actions;
- planning a course of action;
- acquiring knowledge and skills for implementing one's plan;
- provisional trying of new roles;
- building competences and self-confidence in new roles and relationships.
- a reintegration into one's life dictating by one's new perspectives (Mezirow, 2003).

Much of the research in TL, learners acquire in the context of higher education institutions. This is type of deep learning involving building social relationships and requires more changes that foster a culture of learning, support, reflection and meaningful communication (Henderson, 2002) see in Table 2.

It is important to note that initially created by J. Mezirow TL theory by changing person's worldview, enlarging and transforming it, has been adopted within the time being by adding to the basic concept the following opportunities for the students: critical thinking; relating to others transformative process; acting on new perspectives. Motivated students are able to transfer the acquired knowledge to new and unexpected situations.

Table 2

Transformative learning – theories overview

	Theory of R.B. Boyd, J.G. Myers	Theory of P. Cranton	Theory of J. Dirkx	Theory of P. Howie, R.G. Bagnall	Theory of M. Christie, A. Robertson, M.D. Carey
Transformative learning – basic concepts	three dimensions of "perspective transformation": - psychological by changing the understanding of the self; - convictional by revision of belief systems; - behavioral by changes in lifestyle	the role of learner - the educator becomes a facilitator; the goal of learning is for learners to construct knowledge about themselves, others, and social norm.	the expansion of consciousness through the transformation of basic worldview and specific capacities of the self through appreciatively accessing and receiving the symbolic contents of the unconscious and critically analysing underlying premises	the opportunities: - for critical thinking, by providing content that introduces new ideas; - to relate to others going through the same transformative process, being inspired by the changes friends and acquaintances make; - to act on new perspectives, by acting on their new found beliefs	- motivated students will have the chance to become lifelong learners capable of acting successfully in a rapidly changing world; - critically aware students will be able to transfer the acquired knowledge to new and unexpected situations, even changing their beliefs; re-assess the validity of learning;

Source: (Boyd, Myers, 1988); (Cranton, 2009); (Dirkx, 1997); (Howie, Bagnall, 2013); (Christie et al., 2015).

Definition of Transformative digital learning (TDL) - summing up described three concepts of TDL as digital learning, digital transformation and transformative learning the following basic categories of TDL were explained: digital technologies (digital learning), strategy (digital transformation) and personalized experience or new perspectives (transformative learning). Technology is an essential component of learning and educational process nowadays. With digital applications, tools, instruments and resources, students can create content, interact with experts, collaborate with peers and participate in simulation activities and work. Personalized and individualized experiences put students at the centre of learning and empowers students to take control of their own learning through flexibility and choice. Besides the technology presence in pedagogical process the transformative learning is the necessity as well (Žogla, Prudnikova, Mykhailenko, 2019).

By indicating the new role of technologies in education and changing the pedagogy accordingly the following aspects should be included:

1. technology to be presented in pedagogical processes with crucial restructuring of learning environments;

2. professional philosophy and capacity for thoughtful, reflective and flexible activity in assisting learners for educators;

3. incorporated effective technologies into a variety of methodologies when methods of learning are chosen or agreed upon by learners, the role of learner is important;

4. personal empowering of student and learner due to digital competence allowing for transformed mutual relations with deep, strategic and personalized learning in educator-student collaborative teams (Mykhailenko et al., 2018).

Summing up, the undergoing transition towards better understanding and learning with digital technologies in acquiring higher level competencies in order to achieve rich intellectual properties to

identify the themes and values of emerging importance, where professional philosophy of educators and personal empowering of students take important role.

Conclusion

The concepts allowed to state the **definition of transformative digital learning** – the process of individualized, lifelong spontaneous or planned technology - enhanced learning, changing and updating of educational results, content, methods and organizational form adopting them to the quickly evolving digital environment, including physical and philosophical change or transformation to meet growing demands of learners to achieve rich intellectual property by defining new perspectives and adopting personal worldview accordingly value- created learning.

TDL is associated with qualitative changes in educational work, especially for higher education and adults learning. It is necessary in order to form the ability of each member of society to live and work productively in a changing economy, to continue their education throughout all life. The essence of this change is the use of rapidly developing digital technologies for a consistent transition to a personalized result-oriented educational process. The digitalization and the digital transformation of education stimulated by it increasingly influence the development of the education system including the learning process of individuals, poses new challenges and tasks.

Acknowledgment

Bibliography

1. Alcatel-Lucent. (2019). *Why digital transformation of Education*. Retrieved from https://www.al-enterprise.com/-/media/assets/internet/documents/digital-transformation-faq-en.pdf
2. Baller S., Dutta S., Lanvin B. (Eds.). (2016). *Global Information Technology Report*. Geneva: World Economic Forum doi: 10.13140/RG.2.2.26157.90088
3. Boyd R.D., Myers J.G. (1988). Transformative Education. *International Journal of Lifelong Education, 7*(4), 261-284. doi: 10.1080/0260137880070403
4. Cambridge Dictionary. (2019). Retrieved from https://dictionary.cambridge.org
5. Christie M., Carey M.D., Robertson A., Grainger P. (2015). Putting transformative learning theory into practice. *Australian Journal of Adult Learning, 55*(1), 9-30. Retrieved from https://search.informit.com.au/documentSummary;dn=069076554869878;res=IELHSS
6. Cranton P. (2009). Understanding and Promoting Transformative Learning: A Guide for Educators of Adults. *Canadian Journal of University Continuing Education*, *35*(1), 67-69. Retrieved from https://ejournals.library.ualberta.ca/index.php/cjuce-rcepu/article/download/8516/6874
7. Davis L. (2019). *Digital Learning What to Know in 2019*. Retrieved from https://www.schoology.com/blog/digital-learning-what-know-2019
8. Dirkx J. (1997). Nurturing soul in adult learning. *New Direction for Adult & Continuing Education*, *1997*(74), 79-88. doi: 10.1002/ace.7409
9. Filho L.W., Raath S., Lazzarini B., Vargas V.R., de Souza L., Anholon R., Quelhas O.L.G., Haddad R., Klavins M., Orlovic V.L. (2018). The Role of Transformation in Learning and Education for Sustainability. *Journal of Cleaner Production, 199*(20), 286-295. doi: 10.1016/j.jclepro.2018.07.017
10. Gonçalves A.C., Sousa M.J., Cruz R. (2017). Designing Higher Education Digital Course to Boost Entrepreneurship Competencies. In L.G. Chova, A.L. Martinez, I.C. Torres (Eds.), The Proceedings of the International Conference on *Education and New Learning Technologies, 9*. Barcelona: IATED, 3322-3329. Retrieved from https://library.iated.org/view/GONCALVES2017DES
11. Henderson J. (2002). Transformative Learning as a Condition for Transformational Change in Organizations. *Human Resource Development Review, 1*(2), 186-214. doi: 10.1177/15384302001002004

12. Howie P., Bagnall R. (2013). A Beautiful Metaphor: Transformative Learning Theory. *International Journal of Lifelong Education, 32*(6), 816-836. doi: 10.1080/02601370.2013.817486

13. Jackson N.C. (2019). Managing for competency with innovation charge in higher education: Examining the pitfalls and pivots of digital transformation. *Business Horizons, 62*(6), 761-772. doi: 10.1016/j.bushor.2019.08.002

14. Jauno mācību gadu pasludina par "Tehnoloģiju gadu" [The new school year is proclaimed as "Technology Year"]. (2019). Riga: Izglītības un zinātnes ministrija. Retrieved from https://www.izm.gov.lv/lv/aktualitates/3629-tehnologiju-gada (in Latvian)

15. Konjajeva J., Pavlova L. (2012). *Short dictionary of pedagogical concepts*. Cheljabinsk. CGPI. Retrieved from https://docplayer.ru/39025170-E-a-konyaeva-l-n-pavlova-kratkiy-slovar-pedagogicheskih-ponyatiy.html

16. Kyndt E., Dochy F., Michielsen M., Moeyaert B. (2009). Employee retention: Organisational and Personal Perspectives. *Vocations and Learning, 2*(3), 199-215. doi: 10.1007/s12186-009-9024-7

17. Mergel I., Edelmann N., Haug N. (2019). Defining Digital Transformation: Results from Expert Interviews. *Government Information Quarterly*, *36*(4), article 101390. doi: 10.1016/j.giq.2019.06.002

18. Merriam-Webster Thesaurus. (2019). Retrieved from https://www.merriam-webster.com/thesaurus/transformation

19. Mezirow J. (1999). Transformation theory - postmodern issues. In the Proceedings of the Conference on *Adult Education Research Conference*. Retrieved from https://newprairiepress.org/aerc/1999/papers/29/

20. Mezirow J. (2003). Transformative Learning as Discourse. *Journal of Transformative Education, 1*(1), 58-63. doi: 10.1177/1541344603252172

21. Microsoft. (2019). *Focus on four areas to unlock value*. Retrieved from https://www.microsoft.com/en-us/enterprise/digital-transformation

22. Mykhailenko O., Blayone T., Žogla I., Lubkina V. (2018). Using activity theory for modelling transformative digital learning. In V. Lubkina, A. Indriksons, S. Usca (Eds.), The Proceedings of the International Scientific and Practical Conference *Environment, Technology, Resources, 2,* 222-227. Rezekne. doi: 10.17770/etr2019vol2.4044

23. Sousa M.J., Rocha Á. (2019a). Digital learning: Developing skills for digital transformation of organizations. *Future Generation Computer Systems*, *91*, 327-334. doi: 10.1016/j.future.2018.08.048

24. Sousa M.J., Rocha Á. (2019b). Skills for disruptive digital business. *Journal of Business Research, 94*, 257-263. doi: 10.1016/j.jbusres.2017.12.051

25. Taylor E.W. (2007). An update of transformative learning theory: a critical review of the empirical research (1999-2005). *Journal of lifelong education, 26*(2), 173-191. doi: 10.1080/02601370701219475

26. Tekic Z., Koroteev D. (2019). From disruptively digital to proudly analogue: A holistic typology of digital transformation strategies. *Business Horizons, 62*(6), 683-693. doi: 10.1016/j.bushor.2019.07.002

27. Uvarov A., Van S., Kan C., Su X., Cao P., Czjan S., Chan J., Chzhu S. (2019). Problemi i Perspektivi Cifrovoj Transformaciji Obrazovanija v Rossii i Kitae [Digital Transformation of Education in Russia and China Problems and Perspectives]. Moscow: Highschool of Economics. Retrieved from https://aiedu.hse.ru/mirror/pubs/share/308201188 (in Russian)

28. Visvizi A., Lytras M.D., Daniela L. (Eds.). (2018). *The Future of Innovation and Technology in Education: Policies and Practices for Teaching and Learning Excellence*. UK, North America, Japan, India, Malasia, China: Emerald Publishing.

29. Žogla I., Prudnikova I., Mykhailenko O. (2019). Pedagogical Assumptions of Transformative Digital Model for Social Change. In V. Lubkina, A. Indriksons, S. Usca (Eds.), The Proceedings of the International Scientific Conference *Society. Integration. Education, 1*. Rezekne: Rezekne Academy of Technologies, 645-656. doi: 10.17770/sie2019vol1.3881

How to Measure Adolescents' Mathematical Competence

Aleksandrs Vorobjovs Mg.ed.
University of Latvia, Latvia
aleksandrs.vorobjovs@gmail.com

Abstract: Most education systems worldwide working to create or bring to life competencies-based education. There are a lot of debates on how to define competence itself, but there is some consensus on this question. Mostly, competences are understood as a combination of knowledge, skills and attitudes, nevertheless a lot of quite different interpretations of these key words exist on scientific and political level. Speaking of specific competencies, as especially mathematical competence, approaches differ significantly: if one respected group of authors offer a definition, where mathematical competence is a list of specific abilities, another also much cited source views mathematical competence as some sort of arithmetic mean or score of how many tasks pupil could handle. Therefore, the first aim of this study was to explore both concept of mathematical competence and adolescent characteristics in order to synthesize them. Changes in focus of education and methodology cause need of reviewing pupil evaluating process. Most publications on this topic mention formative assessment as if this form of evaluation was something new. What really is still unclear is how to measure complex competence-based knowledge, skills and attitudes. So, the second aim of this study is to provide a research-based approach on measuring adolescents' mathematical competence. The study was held as a theoretical comparison of the most popular and cited definitions of mathematical competence in order to find a suitable set of components to measure adolescents' mathematical competence.

Keywords: mathematical competence, levels of competence, performance level, school education.

Introduction

In studies published in Europe (Laursen, 2010; Niss, Højgaard, 2019; Turner, 2010), there are many different, sometimes contradictory interpretations of mathematical competence (in some sources – mathematical competences or mathematical literacy). The most common explanation is interpreting mathematical competence as a list of specific skills, abilities and behaviours, which makes it easier to measure mathematical competence, since the definition itself gives some valid evaluation criteria (Laursen, 2010; Lee, 2016). Meanwhile, other authors define mathematical competence as the ability to use knowledge and skills in work and learning situations, as well professional and personal development (The Council of…, 2018).

Five main explanations of mathematical competence have been compiled in order to identify the most frequently mentioned components.

1. Author of "Teaching of Mathematical Modelling and Applications" Mogen Niss from Roskilde University, Denmark explains mathematical competence as the ability to understand, judge, do, and use mathematics in a variety of intra- and extra-mathematical contexts and situations in which mathematics plays or could play a role. Prerequisites for mathematical competence are lots of factual knowledge and technical skills (Niss, Højgaard, 2019).

2. Another Danish mathematician Kjeld Bagger Laursen from University of Copenhagen, cooperating with Institute of Mathematical Sciences, Centre for Science Education Knowledge, listed five abilities that determine mathematical competence: mathematical thinking, problem handling, modelling, reasoning and ability to deal with mathematical language and tools which includes representation, symbol and formalism, communication, aids and tools (Laursen, 2010).

3. Ross Turner from Australian Council for Educational Research (ACER) lists six mathematical competencies: communication, mathematising, representation, reasoning and argument, strategic thinking, using symbolic, formal and technical language and operations (Turner, 2010).

4. The Organisation for Economic Co-operation and Development (OECD) define mathematical literacy for its highly respected and frequently quoted Program for International Student

Assessment (PISA) as individual's capacity to identify and understand the role that mathematics plays in the world, to make well-founded judgements and to use and engage with mathematics in ways that meet the needs of that individual's life as a constructive, concerned and reflective citizen (OECD, 2003). Since PISA test was first performed in 2000 and then repeated every three years, the definition of mathematical competence has remained almost the same.

5. European Parliament in its 2018 recommendations reaffirmed mathematical competence as one of eight key competences for life learning. EP offers definition, where mathematical competence is the ability to develop and apply mathematical thinking and insight in order to solve a range of problems in everyday situations. Mathematical competence involves, to different degrees, the ability and willingness to use mathematical modes of thought and presentation (formulas, models, constructs, graphs, charts). Building on a sound mastery of numeracy, the emphasis is on process and activity, as well as knowledge (The Council of…, 2018).

The three most frequently cited definitions of mathematical competence were formulated by R. Turner (2010), K.B. Laursen (2010), M. Niss and T. Højgaard (2019). Although these definitions have many similarities, each definition also has at least one specific aspect. The common and different contents of these definitions are shown in the Figure 1.
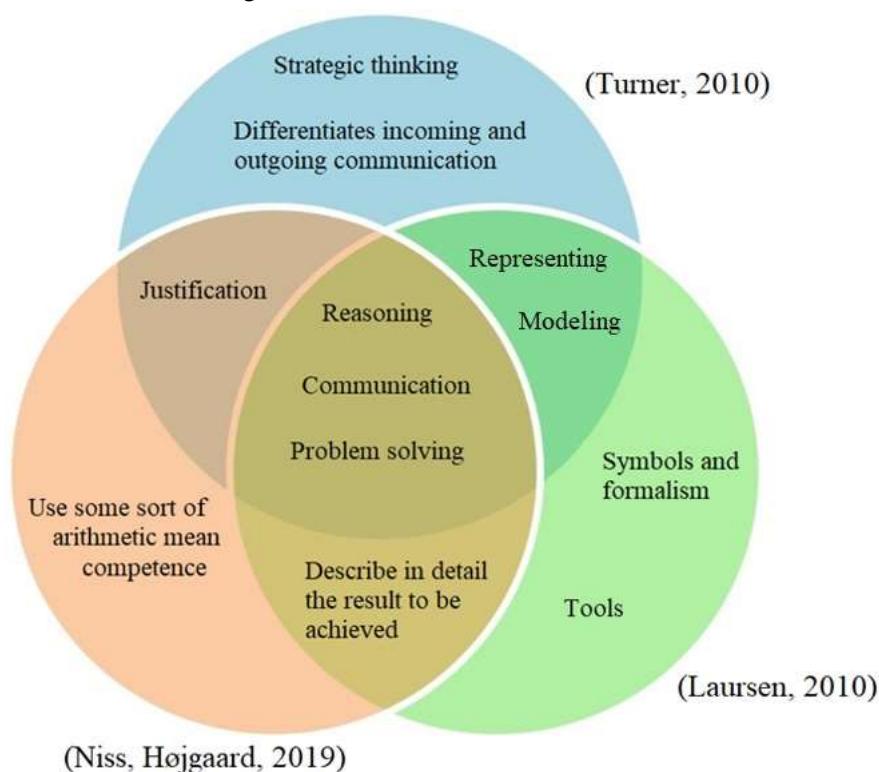
Figure 1. Comparison of three main definitions of mathematical competence.

Summarizing these five explanations of mathematical competence, it can be concluded that all five definitions refer to some form of communication, four definitions – to problem solving, three – to reasoning, two definitions to modelling, and one definition to the pupils' personality traits (Table 1). Extending list of definitions from five to eight, gives a quite similar result: all eight definitions include communication, six definitions to reasoning and problem solving, three definitions to modelling, and one definition to the adolescent personality traits.

These five components have been supplemented by mathematical intuition and self-reflection as they have been mentioned over the centuries as being critical to the development of mathematical competence (Casselman, 1897; Kahneman, 2011; Kolmogorov, 1988; Poincare, 1905).

In a survey held between 2016 and 2018 students themselves described mathematical competence as the use of symbol language, mathematical representation, problem solving, opinion formation and others. More than 10 % of students who took part in this survey considered that they are unable to solve problems

and have not developed mathematical thinking (Zeidmane, Rubina, 2018). This shows that students have a lower self-esteem than their reported scores at age 15, when only approximately 5 % of Latvian 8th and 9th graders are unable to solve mathematical problem with a familiar context that contains relevant information that requires to perform routine actions (OECD, 2018). Pupils identify mathematics as subject that helps them to improve how they think and how they solve problems, it improves technical thinking and overtaking obstacles and gives solid background (Vintere, Cernajeva, 2019).

Table 1

Components of mathematical competence in main definitions of mathematical competence

Components of mathematical competence	OECD	The Council of the European Union	Niss	Laursen	Turner
Communication	x	x	x	x	x
Reasoning			x	x	x
Problem solving	x		x	x	x
Modelling				x	x
Personality traits		x			

Sources: (OECD, 2003; The Council of…, 2018; Niss, 2011; Laursen, 2010; Turner, 2011).

Adolescents in the context of this article are students at age of 15. There are three main reasons why this age has been chosen. First, at this age students graduate from compulsory middle school, which is quite similar in its curriculum around the world, which allows to objectively compare the results of 15-year-olds in different regions. Second, at this age students make their decision on whether to continue education in high school. On average every tenth student in Europe does not continue formal education after middle school, therefore it is very important to give a reliable feedback on what competence have they accumulated before leaving school. Finally, this is the age when most adolescents are becoming aware of their potential engineering or humanitarian education pathways and careers, so it is particularly important at this age to investigate whether teens have sufficient mathematical competence to choose a mathematical – technological career path (Croll, Attwood, Fuller, 2011).

There is a major contradiction in this age group: adolescents tend to imitate adult behaviour norms but are not ready to take responsibility. Adolescent does not want to be perceived as a child, so subconsciously will develop an attitude towards an adult who, with advice, criticism, criticism and ridicule, does not allow the teenager to truly feel an adult. As a result, adults are no longer teenagers. The new authority becomes the peer, or the teenager has no authority at all. At this stage, there is an intense awareness of one's own identity when evaluating other people's standards of behaviour, morals and ethics (Levesque, 2018).

Several researches show that today's adolescents tend to emphasize they uniqueness by using IT and digital-related terms and slang that is usually unfamiliar for representatives of older generations. Although, adolescents' often overestimate their knowledge about computer and online tools, this is why researchers from different countries are unanimous that tablet PCs, mobile phones, interactive boards, on-line tests and many other so-called new technologies are just modern "digital toys" with no or very little impact on pupil results (Andersone, 2017).

Relevant information about today's teenagers can be found in intergenerational research. W. Strauss and N. Howe are known in generational research for proposing the generation Y to be called millennials. By the age range proposed by these authors, by the year 2025, 15-year-olds will be part of the Z generation, or, in the figurative terms of W. Strauss and N. Howe the "home-sitters generation", also known as digital natives (Figure 2). According to W. Strauss and N. Howe Generation Theory, Z generation teenagers will be replaced by the alpha (α) generation or "digital babies" for the next 15 years (Howe, Strauss, 2008).

Based on the analysis of understanding of mathematical competence and adolescent characteristics, each component of mathematical competence was described in detail in order to classify adolescent performance into four levels: excellent, good, weak and none. These levels can be used as criteria for measuring adolescents' mathematical competence.

The aim of the study is to provide a research-based approach on measuring adolescents' mathematical competence, exploring both concept of mathematical competence and adolescent characteristics in order to synthesize them.
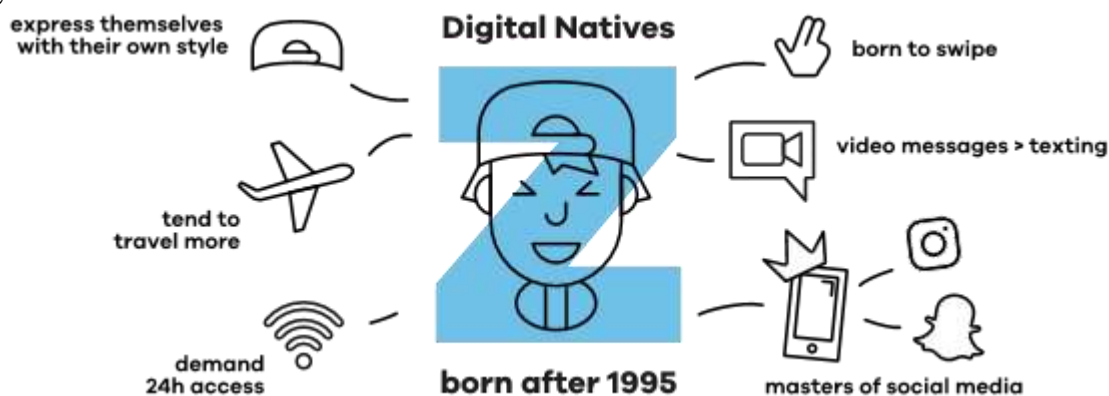
Figure 2. Characteristics of generation Z (Von Jörg, 2017).

Methodology

In order to identify appropriate measure methods to evaluate adolescents' mathematical competence, researches on structure, formation and indication of mathematical competence as well as adolescents' characteristics have been studied. Research is based on analyses of five most influential approaches to define mathematical competence (The Council of…, 2018; Laursen, 2010; Niss, Højgaard, 2019; OECD, 2003; Turner, 2010).

The question of the study is how to measure adolescents' mathematical competence. The study carries out qualitative content analysis. Based on this analysis, seven components of mathematical competence were selected for which four levels of achievement were described.

Results and Discussion

Considering theoretical investigation of adolescents' mathematical competence, it is possible to determine seven components of mathematical competence (Figure 3). Each component has been described using achievement level descriptions. These four levels are pronounced, good, poor and no or zero level. Descriptions of levels build from the lowest to the highest, emphasizing additional knowledge, skills and attitudes adolescent should show to get a higher level.

For example, personal traits as useful for acquiring mathematical competence has been described in general by Czech researchers based on the interpretation of the European Commission Frame of key competencies for lifelong learning. In this research mathematical competence was formulated from the learner's perspective: I have the ability to develop and apply mathematical thinking to solve problems in various everyday situations; I have the ability and willingness to use these mathematical ways of thinking (logical and spatial thinking) and presentation: formulas, models, figures, charts and diagrams (Smékalová, Němejc, 2016).
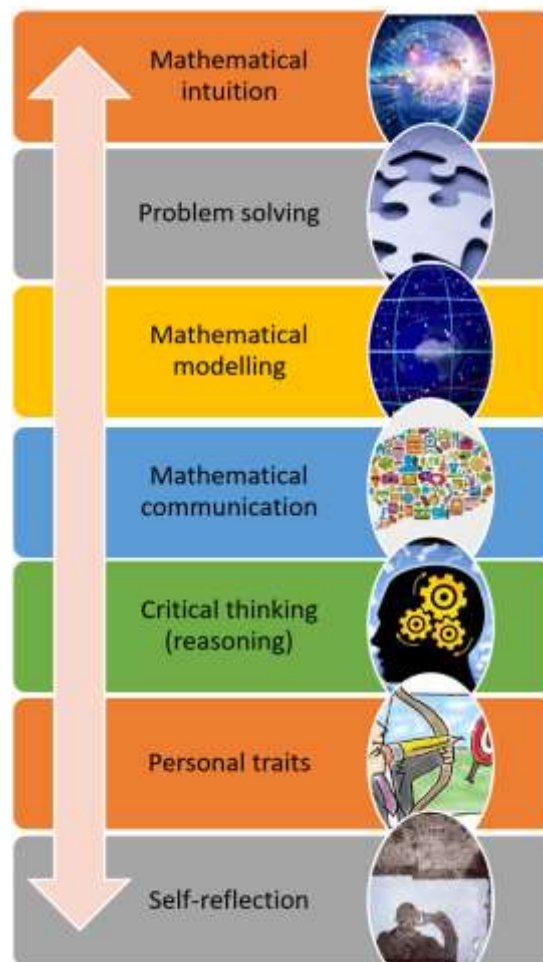
Figure 3. Components of mathematical competence.

In this research each component of mathematical competence is not only described from learner's perspective, indicating specific skills, skills, knowledge and attitudes, but also these criteria are divided into four levels for easy use as a tool for measuring mathematical competence.

Zero level for personal traits indicates that in a given situation and with some specific task does not know how to set long-term goals or does not follow them if someone else helps to set these goals and gives up facing a new kind of problem. This does not describe action of an adolescent, neither his or her personality in every learning situation, so for a different task pupil could achieve poor, good or even pronounced level. To get from zero to poor level pupil should show a small effort when faced a new type of problem situation, even if it does not lead to a solution of this problem. To certify for the third – good level pupil is supposed to do a lot more: act independently, purposefully, effectively and responsibly, most likely to be persistent in learning, actively follow what is happening and reach the goals even despite the difficulties and obstacles. As for the pronounced level, in some ways it can be viewed as an expert level. As mentioned before, this level includes all productive features of the lower levels and has some extra indicators. More specifically for personal traits, these additional criteria are not only persistence in reaching for the goal the teacher has set, but also initiative in learning: proposing ideas, participating in their realization, curiosity seen as developing new, innovative solutions, translating these ideas into practice. Pupils on an expert level of personal traits crucial for learning mathematics do their work thoroughly, diligently, in the highest quality and productive manner.

Other six components of mathematical competences are described in a similar manner and will be discussed along with the first data on adolescents' mathematical competence levels in the next publications.

Conclusions

Since mathematical competence in a highly complex construct, as shown by analysis of previous researches on this topic, to measure it appropriately requires science based, accurate and sensitive measuring tool, that is at the same time convenient and intuitive in use. It appears that grading or testing is not valid for this purpose. To consider the characteristics of adolescents this measurement must reflect specific traits of target audience such as psychological instability, disorder, rapid change of mood and priorities. All of them and many other could be mistakenly considered to be a lack of mathematical competence, which means criteria should be very precise, unambiguous and objective. Considering theoretical investigation of adolescents' mathematical competence, seven components of mathematical competence have been determined. They are mathematical intuition, problem solving, mathematical modelling, mathematical communication, critical thinking, personal traits and self-reflection. An example of levels of performance for personal traits is given in this publication.

Measuring adolescents' mathematical competence their characteristics also should be considered. Adolescents tend to have a critical view of the world, which leads to a deeper understanding of problems and concepts, also allowing to find more flaws that are not obvious. Since adolescents appreciate novelty, innovation and opportunity to share ideas, mathematics education should encourage adolescents to discover new ideas, relationships, look for applications, solve problems and explain them to others. Based on the above, adolescents' mathematical competence has been defined as a set of skills and attitudes that allow them to understand and solve a variety of problems, use generalized models, critically evaluate and justify a result, use mathematically correct language.

Bibliography

1. Andersone R. (2017). The Learning Environment in Today's School in the Context of Content Reform of Curriculum. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference Rural Environment. *Education. Personality (REEP), 10*. Jelgava: LLU, 17-22. Retrieved from https://llufb.llu.lv/conference/REEP/2017/Latvia-Univ-Agricult-REEP-2017_proceedings-17-22.pdf
2. Casselman B. (1897). *Archimedes' quadrature of the parabola*. Cambridge University Press.
3. Croll P., Attwood G., Fuller C. (2011). Children's Lives, Children's Futures: A Study of Children Starting Secondary School. *Continuum Studies in Educational Research*, Continuum.

4. Howe N., Strauss W. (2008). *Millennials Go to College: Strategies for a New Generation on Campus* (2nd ed.). Great Falls: LifeCourse Associates.
5. Kahneman D. (2011). *Thinking, Fast and Slow*. London, Penguin Books.
6. Kolmogorov A. (1988). *Matematika – nauka i professija [Mathematics - Science and Profession]*. Bibliotechka Kvanta, Moscow. (in Russian)
7. Laursen K.B. (2010). *Competence Driven Teaching of Mathematics*. Copenhagen: Institute of Mathematical Sciences, Centre for Science Education, University of Copenhagen.
8. Lee K. (2016). Mathematical Competence, Teaching, and Learning. Reflections on 'Challenges in Mathematical Cognition' by Alcock et al. (2016). *Journal of Numerical Cognition*, *2*(1), 48-52. doi: 10.5964/jnc.v2i1.25
9. Levesque R.J.R. (2018). *Encyclopedia of Adolescence*. Springer-Verlag New York.
10. Niss M., Højgaard T. (2019). Mathematical competencies revisited. *Educational Studies in Mathematics*, *102*(1), 9-28. doi: 10.1007/s10649-019-09903-9
11. OECD. (2003). *The PISA 2003 Assessment Framework – Mathematics, Reading, Science and Problem Solving Knowledge and Skills*. Retrieved from http://www.oecd.org/education/school/programmeforinternationalstudentassessmentpisa/33694881.pdf
12. OECD. (2018). *PISA 2015 Results in Focus*. Paris: OECD Publishing. Retrieved from https://www.oecd.org/pisa/pisa-2015-results-in-focus.pdf
13. Poincare H. (1905). On the nature of mathematical Reasoning. Chapter 1 in *Science and Hypothesis*. London: Walter Scott Publishing. Retrieved from https://archive.org/download/scienceandhypoth00poinuoft/scienceandhypoth00poinuoft.pdf
14. Smékalová L., Němejc K. (2016). Transferable Competencies of Graduates of Vocational Education: a Retrospective Survey 2007-2014. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 9*. Jelgava: LLU, 106-113. Retrieved from https://llufb.llu.lv/conference/REEP/2016/Latvia-Univ-Agricult-REEP-2016proceed2255-808X-106-113.pdf
15. Council Recommendation on Key Competences for Lifelong Learning. (2018). European Commission. *Official Journal of the European Union*, *189*(1). Retrieved from https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018H0604(01)&from=EN
16. Turner R. (2010). Exploring Mathematical Competencies. *Research Developments*, *24*. Retrieved from https://research.acer.edu.au/resdev/vol24/iss24/5/
17. Vintere A., Cernajeva S. (2019). A Case of Competence Building - International Student Scientific Mathematics Olympiad. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference Rural Environment. *Education. Personality (REEP), 12*. Jelgava: Latvia University of Life Sciences and Technologies, 196-202. doi: 10.22616/REEP.2019.025
18. Von Jörg M. (2017). *Introducing: Generation Z*. En Garde. Retrieved from https://www.engarde.net/introducing-generation-z/
19. Zeidmane A., Rubina T. (2018). The Contribution of Mathematics to the Engineering Education in the Students' Assessment. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference Rural Environment. *Education. Personality (REEP), 11*. Jelgava: Latvia University of Life Sciences and Technologies, 243-250. doi: 10.22616/REEP.2018.030

Nature and Peculiarities of Interval Hearing Development

Galina Zavadska[1] Dr.paed.; **Asta Rauduvaitė**[2] Dr.paed.
Daugavpils University, Institute of Life Sciences and Technology, Department of Design, Latvia[1];
Vytautas Magnus University, Education Academy, Vilnius[2]
g.zavadska@inbox.lv[1]; asta.rauduvaite@vdu.lt[2]

Abstract: Interval hearing is one of the components of musical hearing and it implies the ability based on being aware of the perceptions, notions and the activity of producing intervals by a voice. Like all the other aspects of musical hearing, interval hearing can also be developed. The development of interval hearing can be enhanced by different work forms during solfeggio (sol-fa) lessons: intoning, analysis by ear, music dictation. The development of different aspects of musical hearing during sol-fa lessons is an important component for life and career of future professional musician. The aim of the research is to determine the peculiarities of interval hearing and to characterize the stages of its development. On the basis of long pedagogical experience, the stages of the development of interval hearing during the process of sol-fa lessons have been determined and characterized in this research. Research methods: the analysis of pedagogical experience, the comparison of contemporary methodologies worked out for developing interval hearing. The research was carried out in three directions: perception of intervals and chords by ear, activating associations; analysis of the perceived harmonic vertical, defining its theoretical concepts, as well as determining the analogy between the visual images of intervals and chords and their characterizations; musicking of simple polyphony forms during individual or collective musicking, implementing in practice the inner perceptions of polyphonic musicking (by singing, playing, composing the accompaniment, arranging). The pilot survey of music teachers on the development of harmonic hearing conducted during the project allowed identifying and specifying the problems of hearing development as well as establishing questions which arose analysing the assessment of work forms for the development of harmonic hearing during music lessons. The interval may be considered acquired only when it is being intoned precisely.

Keywords: interval hearing, mode, music education, phonism of intervals.

Introduction

Music teachers are in a constant search for new forms and methods to develop musical hearing. Pure and rhythmic intoning by notes, correct perception and reproduction of music text comprise professional skills of a musician. Sol-fa is an integral part of other teaching disciplines in a musical-theoretical block of the system of contemporary primary, secondary and higher music education. In contemporary music science, great attention is given to studying the perception of pitch (Hargreaves, Lamont, 2017; Rauduvaite et al., 2016; Hallam, Cross, Thaut, 2008; Karaseva, 1999; Swanwick, Swanwick, 1994; Gillespie, 1993; Narmour, 1990), the features of musical hearing are discussed and recommendations for its development are provided (Urvanceva, 2014; Maslenkova, 2003). A unified classification of musical hearing has not yet been worked out in contemporary music pedagogy. Musical hearing is subdivided into external and internal, melodic and harmonic, absolute and relative hearing. *The problem of the research*: which activities employed during music lessons will enhance the development of interval hearing as one of the types of harmonic hearing.

According to the definition given by L. Maslenkova (Maslenkova, 2003), interval hearing is the ability to precisely assess the interval as a pitch correlation between two sounds which have definite stable expressive properties. According to D. Kirnarskaya (2009), interval hearing refers to sensing a distance between two sounds (two points) on the whole melodic line. The authors stress the fact that the emergence of the sense of interval means a new step in the formation of analytical hearing. In other studies (Fedorovich, Tihonova, 2014), *interval hearing* is being called *relative,* and it is defined as the ability to recognize and define pitch interval relations between sounds, degrees of mode; this ability also manifests itself in the skill of reproducing intervals (seconds, thirds, fourths) by voice or on the instrument with a non-fixed pitch in a melody as well as in a harmony. G. Zavadska, J. Davidova, A. Rauduvaitė (2016) also draw a parallel between relative and interval hearing. In their opinion, the

sense of interval mode and the perceptions of interval mode provide basis for relative hearing. This derives from the fact that one and the same interval can be formed by different degrees of mode, and, consequently, in perception the absolute quality of the interval is not fixed to sounds that form it.

Like all the other elements of musical hearing, interval hearing can be developed. This hearing is based on the skill of perceiving and reproducing two-voice music. Intervals should be taught and learnt during the whole process of teaching, since its final goal is to enable the learners to freely use intervals in both singing and listening (Lewin, 2007).

The development of interval hearing requires active participation and a wish on the part of a student himself or herself during the whole teaching process. The teacher's task lies in helping the learners, namely, in motivating them to work hard on developing their hearing. Though the theoretical issues of musical hearing have been quite extensively explored (Hargreaves, Lamont, 2017; Marshall, 2010; Hallam, Cross, Thaut, 2008; Karaseva, 1999), the potentials of the development of interval hearing have not been sufficiently studied yet: in scientific literature a lot research works that relate to the perception of intervals (McDermott et al., 2010; Vurma, Ross, 2006; Schellenberg, 2001) can be found but the stages of formation and development of interval hearing have not been sufficiently explored.

The aim of the research is to determine the peculiarities of interval hearing and to characterize the stages of its development.

Methodology

The tasks of the research: 1) to characterize the forms of work during music lessons that relate to intervals; 2) to reveal the peculiarities and differences between learning intervals within a mode and out of the context of mode; 3) to establish the succession of learning melodic and harmonic intervals.

The methods of the research: analysis of the pedagogical experience, comparison of contemporary methodologies worked out for developing interval hearing, survey.

Throughout the two-year period (from 2018 to 2019), students of the DU Music and Arts Faculty have been working on the development of their interval hearing. The research was carried out in three directions: 1) perception of intervals and chords by ear; 2) analysis of the perceived harmonic vertical; 3) musicking of simple polyphony forms. Nine students (between the age of 20 and 24) responded to the questionnaire.

Testing included such types of assignment: closed – where all possible variants of answers were given, and open – where the missing intervals had to be inserted. The results of testing were assessed by a three-point scale: a high level – 3 points; an average level – 2 points; a low level – 1 point. Two assignments were offered for every direction. The maximal number of obtainable points in the perception of intervals, analysis of intervals and music making was 54. Figure 3 shows the dynamics of results about the development of harmonic hearing in percentage (54 = 100 %) during four semesters.

Results and Discussion

The analysis of pedagogical experience

The pilot survey of music teachers on the development of harmonic hearing conducted during the project allowed identifying and specifying the problems of hearing development as well as establishing questions which arose analysing the assessment of work forms for the development of harmonic hearing during music lessons (Likert scale). Therefore, 121 respondents from different regions of Latvia participated in the second pilot survey (Zavadska, Ignatjeva, 2014). The respondents expressed their attitude to the development of harmonic hearing by assessing 11 indicators in bipolar scales within the scope of -3 to +3. A negative assessment indicated a critical attitude towards several working forms used for development of harmonic hearing, while a positive assessment testified usefulness and necessity of such forms (Figure 1).

Well-developed harmonic hearing is not important for all categories of musicians		Well-developed harmonic hearing is important for any musician
There are no universal methodologies for developing harmonic hearing		There are contemporary methodologies that enable to develop harmonic hearing
There are people whose harmonic hearing cannot be developed		All people can develop harmonic hearing
During the perception of a musical composition the presence of the performer's harmonic hearing is not felt		During the perception of a musical composition the presence of the performer's harmonic hearing is felt
At assessing the performance, the presence of a performer's (performers') well-developed harmonic hearing is not taken into account		At assessing the performance, the presence of a performer's (performers') well-developed harmonic hearing is taken into account
At my classes I don't devote enough time to the development of harmonic hearing		At my classes I devote enough time to the development of harmonic hearing
Students don't like to do exercises on the development of harmonic hearing		Students like to do exercises on the development of harmonic hearing
There is not a sufficient number of methodologies on the development of harmonic hearing		There is a sufficient number of methodologies on the development of harmonic hearing
My own competence does not allow me to develop students' harmonic hearing		My own competence allows me to develop students' harmonic hearing
I don't have a very well-developed harmonic hearing		I have a well-developed harmonic hearing
Students' well-developed harmonic hearing does not influence winning prizes at competitions		If students' harmonic hearing is well-developed there is more chance to win a prize at competitions

Figure 1. The indicators showing the attitude to the development of harmonic hearing (N=121).

Figure 1 provides information about respondents' attitude to the development of harmonic hearing. It shows the respondents' average assessment of the given statements, which in general bespeaks of their conviction – harmonic hearing is an essential indicator of music teachers' competence. However, the teachers admit that pupils do not like exercises on the development of their harmonic hearing. This involves the necessity of developing such methodological materials which would stimulate pupils' interest and enhance motivation to do such exercises. The majority of respondents acknowledge that they do not devote sufficient time to the development of harmonic hearing during their lessons. The survey data also indicate to the topicality of the research on harmonic hearing development and the need to qualitatively improve the methodological part of music classes oriented towards harmonic hearing development. Interval hearing is one kind of harmonic hearing, therefore the results obtained in the pilot project also consider the problems of interval hearing.

The comparison of contemporary methodologies worked out for developing interval hearing

Work on the Development of Interval Hearing. With good reason, interval hearing is considered a key skill within the system of sol-fa skills. It is usually assigned a special place in all sol-fa courses. The formation of interval hearing requires such skills as: ability to perceive intonations formed between definite sounds; correct intoning of one of the voices in a two-voice sounding.

Traditionally, two approaches to the development of interval hearing are distinguished: mode and extra-mode. When a mode approach is chosen, sounds are identified (during a dictation or auditory analysis) on the basis of a mode support and the correlation of sounds with their surroundings. Identification of an isolated interval, out of the context of a mode, takes place by means of correlating it with the so called "pattern" or a certain standard kept in memory.

Work on Melodic Intervals. Melodic intervals are acquired by intoning. L. Maslenkova (Maslenkova, 2003) maintains that at working on an interval we should bear in mind the fact that intonation is created as the result of interaction between metro-rhythmic and syntactic conditions. Interval-movement is a mode entailing intonation inside a syntactic unit – a motif (with a support on a sense of mode). Interval-switching over is formed of two sounds which belong to different syntactic units (intonation is as if "disrupted" by a caesura). For a melodic interval, the nature of intonation is essential. The ability to accurately sing in any direction tones, as well as diatonic and chromatic semi-tones, is the basis on which a correct, precise intoning of all intervals can be built. Ascending and descending melodic intervals differ in manner of performance. Descending intervals are more difficult to perceive and therefore they need more time for reinforcing the skill.

Learning intervals – melodic and harmonic – occur in a mode and from a sound as well. Learning intervals in a mode contribute to the development of a precise intoning, to a flexibility of musical ear. The basic forms of work on intervals may be as follows:
- mode-intonation work – intoning scales (singing scales in parallel thirds and sixths), intervals (in groups, in duet or with one voice accompaniment on the piano), sequences;
- sol-fa – practicing unfamiliar melodies from the sheet as well as simple songs, romances;
- metro-rhythmic exercises – performance of a rhythmic pattern at performing interval chains;
- auditory analysis – identifying intervals and interval sequences by ear, analysis of musical fragments by ear;
- music dictation – oral, written, with the analysis and without a preliminary analysis. (Figure 2).
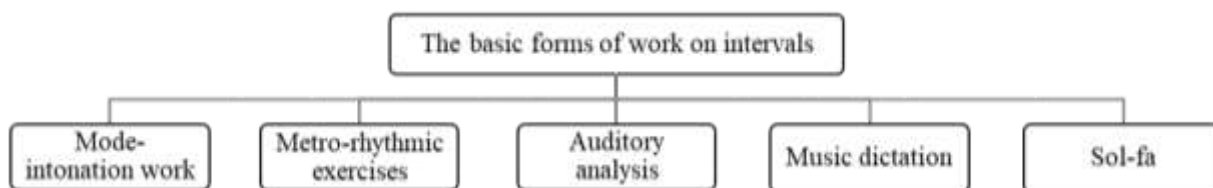
Figure 2. The basic forms of work on intervals.

Learning intervals in a mode takes place gradually:
- connected singing of two degrees; it is recommended to begin intoning intervals in a tonality with a consonance and dissonance no broader than the fourth; gradually the degree size of intervals widens, the attention focuses on intoning different kind of unstable consonances and dissonances;
- singing of one interval on different degrees with resolving and without it; all intervals should be resolved – discording and according; this contributes to the development of a controlling ability of ear and also the expressiveness of intonation is achieved.

A successful acquiring of intervals depends not only on correlations between mode degrees, but also on the fact that there are difficulties with their correct intoning. At alternating descending intervals with ascending ones, singing becomes melodically conscious; moreover, not only one of the voices is heard, but both voices of the interval sequence are heard. At this stage, skills of acquiring all intervals via singing and auditory fixation are being gained. A. Vurma and J. Ross (2006) maintain that intervals of the fifth and the triad are intoned less precisely than those of the second.

On the basis of our long experience of developing interval hearing, we offer several practical exercises for inner perception about resolving unstable mode degrees, and gravitation of unstable degrees towards stable ones, which create the sensation about a tonic as about the centre of a mode:
- to sing scales aloud, to oneself, from different degrees, alternating the progression up with down. For example, to sing the scale G-dur up from degree III; down – from degree IV; up – from degree VI; down – from degree V etc.;
- to represent a definite sound by different degrees of tonality, to lead the melody of the exercise to a tonic, and to sing a basic triad in the end;
- to sing a resolution of alternated unstable degrees in stable ones;
- to sing stable degrees with alternated unstable degrees.

The degree perceptions are formed much easier and faster than those of intervals, and when interval perceptions are being formed, the degree perceptions play the role of some corrector of their accuracy. Thus, we can state that the formation and development of degree perceptions are the basis for the development of the sense of mode and, consequently, of interval hearing. Learning melodic intervals from a sound enhances the formation of a contrastive perception about them. The interval is recognized by ear as such, independent of in which meaning of a mode it appears (Hargreaves, Miell, MacDonald, 2012). This is especially vital at studying music of the 20th century, where under the conditions of an extended composition the structure of the interval becomes the decisive factor.

Singing and the analysis of intervals by ear from any sound is most successful in cases when a mode "environment" is missing and the linking sequence of intervals is based on the principle of overcoming the inertia of a traditional classical mode (for example, the sequence of the third, sixth, fifth, fourth). For learning intervals from a sound, L. Maslenkova (Maslenkova, 2003, 73) offers the following algorithm of actions: 1) Every interval is sung a number of times; 2) Every interval is sung by repeating the initial sound; 3) Every interval is sung by repeating the initial sound "to oneself"; 4) Sounds are sung one after another; 5) For performing the interval sequence, a definite rhythmic formula is chosen; 6) A learner is offered to perform the interval sequence in a free improvised rhythm and measure.

Practical recommendations for the development of interval perceptions as correlations between the degrees of a mode might be as follows: in the chain of intervals, to sing the lower voice by degrees, write it down, then sing the upper voice by degrees, name the intervals; in the sequence of intervals, to sing and identify by ear melodic intervals in the upper and lower voice; to play the interval, and a learner sings only its resolution; in the interval, to sing one voice, but to play the other; from the given sound, to build the first interval mentally, the second – aloud; any next interval is sung from the initial sound of the previous interval; from the given sound, to build several intervals mentally, but sing the last one aloud.

Since the semantic range of the interval "out of the mode context" is extremely great, the characteristics of every interval at studying it must not be imaginative-concrete. M. Karaseva (1999) has developed a methodology for learning intervals in an integrated way (i.e. synesthetic way), based not only on auditory, but also on visual and kinaesthetic sensations. However, these sensations are exclusively individual; learners will sense and comprehend the interval each in their own way: the generally recognized features – distance between tones (width/narrowness) and their harmony (consonance/dissonance) – may be supplemented by new indicators emerging in the result of work of all sense organs. The analysis of one's own reactions enhances self-knowledge about the mechanism of music perception and shows that the interval is being learnt within the context. Interval hearing is being developed gradually on the basis of auditory experience. Listening to an unfamiliar sequence of intervals always involves its comparison with the familiar ones, with those that have sounded before, ear detects the contours of intonations mastered before. This is why the development of interval hearing is an integral part of a professional music education.

Work on Harmonic Intervals. Harmonic intervals have a certain timbre shade. When learning harmonic intervals, auditory attention should be focused on a phonic base. Therefore, at learning and acquiring harmonic intervals, the interval has to be treated as a consonance having timbre and functional characteristics, as one of the means of developing harmonic and timbre hearing. In the auditory analysis, the phonic qualities of intervals are characterized by the principle of contrast. Learning intervals by ear must be gradual, by stages. For this purpose, we recommend to use as the basis the part relating to intervals from Model of the Development of Harmonic Hearing by G. Zavadska (Zavadska, 2012). First diatonic and characteristic intervals are acquired, then – chromatic intervals. The succession recommended for learning intervals may be as follows: 1) intervals different by their timbre characteristics; 2) spatial characteristics of the interval, degree of the distance between two intervals; 3) associative perception of interval sound colour; 4) acquiring a tonal value of the interval.

Pedagogical practice shows that after separate intervals and degrees have been acquired (which is a time and labour consuming process) students can start learning blocks of intervals. The better the sense of degrees is developed, the more successful the formation of the sense of interval mutual relations and the development of auditory perceptions about intervals are. L. Maslenkova (2003) recommends keeping a fast working pace at learning intervals. Certainly, a fast working pace promotes the mobilization of

attention; however, the specificity of knowledge and skills of a specific learners' group, their reaction speed, their musical memory and abilities to concentrate attention must be also taken into consideration. Therefore, at teaching intervals, it would be recommendable for a teacher to take into consideration learners' abilities in the specific group as well as the specific situation during a sol-fa lesson when the working pace is chosen.

Results of surveys

In the process of studying the level of development of children's interval hearing, a survey was conducted and its sample consisted of teachers who are related to the methodology of teaching music at school (Zavadska, Davidova, 2013). The study was necessary to find out how important, according to the teachers, the development of harmonious children's hearing is, to identify problematic situations and to establish how much time teachers spend on its development in the classroom (Rauduvaite, 2018). As American researchers state, well-crafted questions lead to new insights, generate discussion, and promote the comprehensive exploration of subject matter (Tofade, Elsner, Heines, 2013). Questioning also provides the student with a model for learning; we learn by asking ourselves questions, consciously or subconsciously (Hannel, 2014).

From 2013 to 2015 a study on development of harmonic hearing (including interval hearing) on the basis of a diffusive group of students of the study programme of music teacher training was conducted at Music Faculty of University of Daugavpils (Zavadska, 2015). The research was carried out in three directions:
- perception of intervals and chords by ear, activating associations;
- analysis of the perceived harmonic vertical, defining its theoretical concepts, as well as determining the analogy between the visual images of intervals and chords and their characterizations;
- musicking of simple polyphony forms during individual or collective musicking, implementing in practice the inner perceptions of polyphonic musicking (by singing, playing, composing the accompaniment, arranging).

Sixty respondents – music teachers from Latvia, Lithuania, Estonia, Belarus and Finland – took part in the first pilot survey. The results of pilot research survey were analysed using SPSS 19.0 program. Mann-Wittney Test and Kaiser-Meyer-Olkin Measure of Sampling Adequacy were also applied (Zavadska, Davidova, 2013). The analysis of the received results showed that the average age of the respondents was 43.5 years: the youngest respondent being 25 years old and the oldest one – 63 years old. The respondents' pedagogical experience ranged from 1 to 44 years with the statistic mean being 20.5 years.

During 2018 to 2019, nine students of the DU Music and Arts Faculty took part on study of their interval hearing. The components of work on interval hearing, such as singing and listening to harmonic and melodic intervals, are also involved in this process.

Tests given during the semester included such tasks as:

1) to write down by ear blocks of different intervals, which include diatonic, characteristic and chromatic intervals in natural, chromatic major and minor keys with resolutions;

2) to emotionally characterize (from the position of phonics) the given small interval sequence (intervals with inversion in natural and harmonic major and minor keys);

3) to improvise in different genres (polka, waltz) small melody fragments including the acquired intervals and do it together with a teacher (in a dialogue form);

4) to sing in ensemble a pre-prepared two-part or three-part exercise chosen by a teacher.

The positive results of the work on the development of interval hearing are confirmed by the students grades for four semesters presented in Figure 3. Grades are summed for all 9 participants and calculated as a percentage of the maximum score (54) for each indicator.
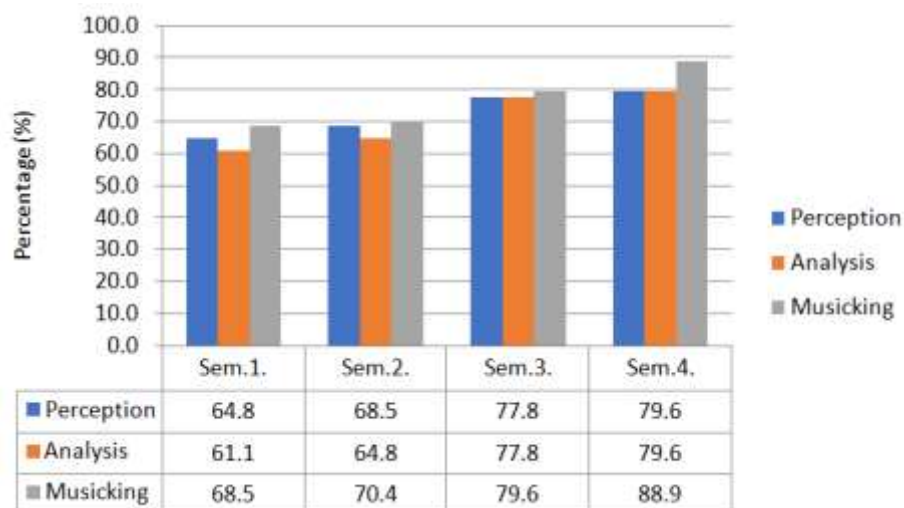
Figure 3. Dynamics of results about the development of harmonic hearing
(for the group in total, where n=9).

A stable growth of the results was established in indicators *Perception* (64.8 % - 79.6 %) and *Analysis* (61.1 % - 79.6 %). The analysis of final assessment results in the direction of *Musicking* showed that *Improvisation* had been the most complicated form of work; the most stable indicators of the development were shown in a *Polyphonic Singing* form of work (68.5 % - 88.9 %) (Figure 3).

Analysing the results of indicators of harmonic hearing development (including interval hearing) in the group of remote-control students, the increasing positive dynamics can be identified, which confirms the correctness of the chosen method.

On the basis of pedagogical experience the authors of the paper suggest several recommendations for identifying and representing phonism of intervals, and training the speed and stability of auditory reaction: to play one and the same interval in different octaves and from different sounds on the instrument; to learn the interval from known melodies at first; to sing identical intervals up or down from one and the same sound; to sing the interval as part of a known chord, for example, to sing the minor third from the sound "d" and the major sixth from the sound "f"; to sing intervals mentally or aloud, filling in the space between their base and top; to sing intervals like a sequence of degrees.

To develop their skill of perceiving, analysing and precisely intoning intervals students need knowledge of music theory on the place of intervals in the mode and on how to resolve them. It is useful to introduce any new interval by giving students examples from music literature: these might be fragments from works by composers-classics and from contemporary music as well. Learning intervals is a long and complicated process. The interval may be considered acquired only when it is being intoned precisely.

Conclusions

- Work on intervals allows simultaneously activating many processes of auditory, visual, vocal, tactile, and imaginative perception. The ability to correctly use the acquired knowledge provides the opportunity to obtain and develop interval hearing, i.e. deliberate interval perceptions.

- The process of work on the development of interval hearing takes place by stages: first diatonic and characteristic intervals, and only after that chromatic ones are learnt.

- The basic forms of work on intervals may be as follows: mode-intonation work – intoning scales (singing scales in parallel thirds and sixths), intervals (in groups, in duet or with one voice accompaniment on the piano), sequences; sol-fa – practicing unfamiliar melodies from the sheet as well as simple songs, romances; metro-rhythmic exercises – performance of a rhythmic pattern at performing interval chains; Auditory analysis – identifying intervals and interval sequences by ear, analysis of musical fragments by ear; music dictation – oral, written, with the analysis and without a preliminary analysis.

- Although being a minimal bearer of intonation by its size, an interval is the most significant semantic element in music. One and the same interval can be interpreted differently depending on the context (on mode, rhythmic, texture, dynamic, timbre conditions for materializing a musical image).

Bibliography

1. Fedorovich E., Tihonova E. (2014). *Osnovi muzikalnoi psihologii: ucebnoe posobie* [Basics of Music Psychology: a Study Guide]. Moskva: DirektMEDIA. (in Russian)
2. Gillespie J.L. (1993). Difficulty factors in melodic perception. *Journal of Music Theory Pedagogy*, *7*, 41-52. Retrieved from https://drive.google.com/file/d/1iWVgxBpTx-t9FqE7ychRu0pZnycHTRyp/view
3. Hallam S., Cross I., Thaut M. (Eds.). (2008). *The Oxford Handbook of Music Psychology.* Oxford, UK: Oxford University Press. *doi*: 10.1093/oxfordhb/9780199298457.001.0001
4. Hannel G.I. (2014). *A Pedagogy of Questioning.* United States: Createspace Independent Publishing Platform. Retrieved from https://tapconyc.weebly.com/uploads/1/9/1/5/191529/a_pedagogy_of_questioning_october_1_2014.pdf
5. Hargreaves D., Lamont A. (2017). *The Psychology of Musical Development.* Cambridge: Cambridge University Press. doi: 10.1017/9781107281868
6. Hargreaves D., Miell D., MacDonald R. (2012). *Musical imaginations: Multidisciplinary perspectives on creativity, and perception.* Oxford, U.K.: Oxford University Press. doi: 10.1093/acprof:oso/9780199568086.001.0001
7. Karaseva M. (1999). *Solfedzio - psiho tehnika razvitia muzikalnogo sluha* [Sol-fa – Psycho-Technique for Developing Musical Hearing]. Doctoral Thesis. Moskow: Kompozitor (in Russian)
8. Kirnarskaya D. (2009). *The Natural Musician: On Abilities, Giftedness, and Talent*. Oxford: University Press. doi: 10.1093/acprof:oso/9780199560134.001.0001
9. Lewin D. (2007). *Generalized Musical Intervals and Transformations*. Oxford: University Press. doi: 10.1093/acprof:oso/9780195317138.001.0001
10. Marshall C. (2010). *Hear the Music. Hearing Loss Prevention for Musicians.* Canada: University of Toronto. Retrieved from http://www.marshallchasinassociates.ca/pdf/Hear_the_Music_2010.pdf
11. Maslenkova L. (2003). *Intensivnij kurs solfedzio: metodiceskoe posobie dla pedagogov* [Intensive Course in Sol-Fa: Methodological Aid for Teachers]. St. Petersburg: Soyz Hudozhnikov. (in Russian)
12. McDermott J.H., Keebler M.V., Micheyl C., Oxenham A.J. (2010). Musical intervals and relative pitch: Frequency resolution, not interval resolution, is special. *The Journal of Acoustical Society of Amerika, 128*(4), 1943-1951. doi: 10.1121/1.3478785
13. Narmour E. (1990). The analysis and cognition of basic melodic structures: The implication-realization model. *Music Theory Spectrum, 15*(2). Chicago: University of Chicago Press, 267-272. doi: 10.2307/745819
14. Rauduvaite A. (2018). The Educational Aspects of Integrating Popular Music into Lessons. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 11*. Jelgava: Latvia University of Life Science and technologies, 94-100. doi: 10.22616/REEP.2018.011
15. Rauduvaite A., Lasauskiene J., Abramauskiene J., Davidova J., Chuang M.-J. (2016). Development of pre-primary and junior school children's singing voice in musical education classes: Examples in Lithuania, Latvia and Taiwan. In The International Virtual Conference on *Advanced Scientific Results, 4*(1), 113-118. doi: 10.18638/scieconf.2016.4.1.370
16. Schellenberg E.G. (2001). Asymmetries in the Discrimination of Musical Intervals: Going Out-of-Tune Is More Noticeable Than Going In-Tune**.** *Music Perception: An Interdisciplinary Journal*, *19*(2), 223-248. doi: 10.1525/mp.2001.19.2.223
17. Swanwick P., Swanwick K. (1994). *Musical Knowledge: Intuition, analysis and music education*. London, New York: Routledge, Falmer. doi: 10.4324/9780203424575

18. Tofade T., Elsner J., Heines S.T. (2013). Best Practice Strategies for Effective Use of Questions as a Teaching Tool. *In American Journal of Pharmaceutical Education, 77*(7), 155-162. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3776909/

19. Urvanceva O.A. (2014). *Osvoehie stilebih modelei v kurse solfedzio* [Learning Style Models in the Sol-Fa Course]. *Muzikalnoe izskustvo i obrazovanie, 1,* 87-98. Retrieved from https://cyberleninka.ru/article/n/osvoenie-stilevyh-modeley-v-kurse-solfedzhio (in Russian)

20. Vurma A., Ross J. (2006). Production and Perception of Musical Intervals. *Music Perception: An Interdisciplinary Journal*, *23*(4), 331-344. doi: 10.1525/mp.2006.23.4.331

21. Zavadska G. (2012). Model for developing student teacher's harmonious hearing introduction. *Problems in Music Pedagogy, 10-11* (59-71). Retrieved from https://du.lv/wp-content/uploads/2015/12/Volume_10-11__2012.pdf

22. Zavadska G. (2015). *The Development of Future Music Teachers' Harmonic Hearing in a Higher Education Establishment*. (Doctoral dissertation, Daugavpils University) Latvia: Daugavpils University, 47-92. Retrieved from https://du.lv/wp-content/uploads/2015/12/Zavadska_kopsavilkums.pdf

23. Zavadska G., Davidova J. (2013). The analysis of music teachers' questionnaire survey on issues of developing harmonic hearing. *In Procedia - Social and Behavioral Sciences, 106*(10), 2602-2613. doi: 10.1016/j.sbspro.2013.12.300

24. Zavadska G., Davidova J., Rauduvaitė A. (2016). Features of the development of 6–8 year-old children's musical hearing. In A. Shlahova (Ed.), Scientific Articles of International Conference *Person. Color. Nature. Music, 9,* 237-245. Daugavpils: Art Teacher Union, Daugavpils Mark Rotko Art Centre, Faculty of Art of Šiauliai University.

25. Zavadska G., Ignatjeva S. (2014). The analysis of results obtained in the second stage of the pilot study on issues of developing music teachers' harmonic hearing. *Problems in Music Pedagogy, 13*(1), 33-55. Retrieved from https://du.lv/wp-content/uploads/2015/12/PMP_2014_Vol-13.pdf

Capability Approach in Technology-Enhanced Tertiary Education: Looking for New Directions

Irēna Žogla[1] Dr.habil.paed.; **Svetlana Ušča**[2] Dr.paed.; **Olena Mykhailenko**[3] PhD Econ.
Rezekne Academy of Technologies, Latvia[1,2]
Educational Informatics Lab., Institute of Technology, Ontario Tech University, Canada[3]
irena.zogla@lu.lv[1]; svetlana.usca@rta.lv[2]; e.mykhail@gmail.com[3]

Abstract: The Latvian-Ukrainian project "*Gender aspects of digital readiness and development of human capital in regions*" (LV-UA/2018/3) highlighted some peculiarities in educator and student attitude to Information Technologies (IT) that is positive in major but currently their appropriate usage lacks behind the possibilities Digital Technologies (DT). This study, among others, raised two questions that are addressed in this article: *"Does gender significantly affect educator and student attitude to DT?"* and "*Is educators' current digital competence a comprehensive and sufficient target to meet modern rapid changes?*" Some findings have pointed out essentialities in competence development and attracted the researcher attention to sources of attitudes, as well as challenged looking for a new direction to an appropriate pedagogical provision for further development of educator and tertiary student digital competence. The aim is to provide a theoretically-based introduction to the capability approach in using DT while building the capacity of the internal and external environment of higher education. The theoretical investigation draws on the theory of attitude sources and capability approach of educators and students; the empirical data illustrate the theoretical statements of attitude to IT. The empirical research methods and tools to illustrate theoretical considerations are questionnaires "*Personal cultural orientations*", "*Cultural values scale*", and "*Scale to measure attitudes toward IT*"; data processing followed the procedure suggested by the methodology of each tool. The research base is made up of 1013 respondents *(n = 260 in Latvia; n = 753 – in Ukraine)*. The article advances arguments in favour of the capability approach to be discussed as a possibility to introduce a new pedagogical direction to further improve educators' competencies.

Keywords: educator, student, gender, attitude sources, capability approach in university education.

Introduction

Current developments and total diffusion of DT in almost all spheres of human life are accompanied by lots of problems related to their usage, among these there is slow skills' acquisition. For instance, implementation of DT at universities has jumped up from fragmentary use to improve teaching-learning in 2000 to a powerful tool that ensures virtual learning possibilities since 2010 (Rubene, Strods, 2017). These usually accompany rapidly changing societies and introduce misbalance in social processes; this research spots out only several of these related to education.

The context of traditional attitudes to gender roles in the world and involvement of women in jobs and education related to information technologies (IT) reveal the gender disproportion. The Global Gender Gap Report (2018) pays attention to the possible impact of digitalization on sustaining gender equality: involvement of women related to IT remains quite modest; among the employees of *Apple, Google, LinkedIn* females make up 30-40 % of the entire staff and an average of 15-20 % of technical specialists (Makarova, 2016); more than 50% of all university graduates in the EU are women while men graduated 5.7 times more in IT studies (European Commission, 2018). The traditional understanding of the 'male' and 'female' professions still interfere with career choices and IT jobs are widely considered as a playground for men (Barbieri et al., 2018); this largely affects women's attitude to IT and challenges investigations.

One can observe educators attempts to provide as good assistance to their students as possible to *achieve a desired quality* of one's competence; meanwhile, they experience some incomprehension that accompanies rapid transformations not only by ubiquitous presence of DT, but mainly by transforming teaching-learning, the character of tertiary process, and challenging new approaches based on a new professional philosophy and mind-set. The universities discover that what worked in the nearest past does not provide expected success in the present. Social changes cause threats to their autonomy, as well as anxiety if educators reach the desired quality of the university process and appropriate personal academic excellence. Noticeable

misbalance between their academic freedom coupled with responsibility and comparatively slow pace of the improvements in pedagogical provision, on the one hand, powerful governmental pressures, on the other, influence teacher and student attitudes and attract researcher attention to contexts of human capital developments (Biggins et. al, 2016; Dinkelman, Margolis, Sikkenga, 2016; Russell, 2019).

The changing nature of learning and teaching in a changing environment should be supported by positive attitude to technologies; their usage in many cases lacks behind the digitalized economy. The recently initiated competence approach promises to break the traditional ways of the tertiary process but its achievements are lower than the expectations and maintain a sense of uncertainty. Another powerful actor has entered universities and brings about a more serious gap - the young generation with a different mind-set, expectations and attitudes accompanied by the free usage of DT. In spite of their need for autonomy competent facilitators are vital (Blayone et al., 2018) to make their studies targeted. Higher education completes general comprehensive education and prepares the graduates for work that is demanding towards innovation and flexible responses to unpredictable environments, often in future. These challenge appropriate transformations from within and from outside the universities, as well as prompt scholars to look at educational improvements from an economic standpoint: profit-oriented economy does not fit the social developments; therefore education should consider the capability of educators and graduates to keep these two areas balanced (Sen, 2005; Nussbaum, 2011; Robeyns, 2016; Coeckelberg, 2011). Accents on understanding four pillars of learning (Delors, 1996) need their interpretation in the context of DT to initiate changes in pedagogy of the higher education.

Attitude's relation to motivation and the theoretical assumptions of *attitude sources* underpin tracing possibilities of current shifts in tertiary process by accentuating educator and student values and meaningful pedagogical provisions adequate to productive usage of DT; the assumption is based on attitudes' driving force by having motivation in its structure; therefore, improvements are possible by focusing on attitude sources (Collinson, 2012); the quality of interrelated education contents, processes, and contexts should lead to capabilities as specific learning outcomes (Hoffmann, 2006).

Another theoretical underpinning has been challenged by inconsistencies in comprehension that accompanies transformations by ubiquitous presence of technologies, as well as a number of educators that hold negative attitude to DT or are neutral to these – the emotional experience that is usually accompanied by a sense of unrealized opportunity, low self-esteem, unachieved expectations, and missing appropriate professional philosophy or mind-set. Hopefully, introducing of capability approach will attract educators' attention. The capability theory addresses human development and advices to use a more appropriate category that is *enhancement* (Coeckelberg, 2011); the educator accepted capability approach will challenge exploration of converting competencies into capabilities.

The aim of this study is to provide a theoretically-based introduction to the capability approach in using DT while building the capacity of the internal and external environment of technology-enhanced pedagogical process of higher education.

The Background Knowledge

Sources of attitudes. Educators' studying their practices was first discussed at the symposium of the American Educational Researcher Association in 1992. The idea of educators' reflection has spread slowly and does not demonstrate serious transformations of most programs (Loughran, Russel, 2016, 65-76). After 15 years the Association for Teacher Education in Europe has invested teacher educators' work (Svennen, van der Klink, 2009); nevertheless, there is little published research that deals with how educators develop their competence as practitioners and exercise their expertise (Zeichner, 2005; Russell, 2019). Meanwhile, researchers conclude that educators discover their voice through self-study and simulating the transmission in activities therefore become capable and powerful actors that encourage students' 'hearing, absorbing and retaining information' (Loughran, Russel, 2016, 66). Self-exploration, perceptual image, and meaningful values - these remind of educator attitude, self-enhancement, accepting innovations and practicing the capability approach in the context with the emerging new era of computing that brings with it fundamental differences in: how systems are built and interact with humans or how programmable systems are processed by humans, because Cognitive computing is about thinking itself. These build knowledge, transform learning, understand natural languages, reason and interact more naturally with human beings than traditional programmable systems

(Davis et al., 2016); therefore, challenge appropriate changes, subject educator and student attitude to DT in education and transform teaching accordingly.

Though the above-mentioned project is focused on gender gaps in using DT, its findings attracted the researcher attention to educator and student motives, values, and attitudes as powerful factors that gear human activity; these have also initiated considerations about a new pedagogical approach to transformative digital learning and teaching that challenge better usage of possibilities in the digitalised environment. The idea is confirmed by the well-known fact that one of the sources of attitudes is practice, especially successful practice (Collinson, 2012). In this respect, educators' transformative digital teaching-learning coupled with self-assessment and based on the capability approach might help moving outside the frames of formal education into practice, from competence to digital capability, and expand understanding of cognitive development by further enhancement.

Therefore, based on theoretical findings of the research the article focuses on four reasons for addressing educator and student attitudes to DT, consider attitude sources to improve tertiary curricula and motivate educators and students to identify and practice the capability approach in technology-enhanced tertiary process:

- values are deeply internalized and 'consciously or unconsciously held attitudes' (Burns, 1978, 75); this makes a background for consideration that the focus on attitude sources in tertiary curricula will accentuate the transforming value of capability approach;
- scholars create their self-knowledge of values to follow, identify attitudes, compare their capability with the most successful colleagues (Rallis, Rossman, 1995), accept cooperation;
- educators' capabilities and attitudes should be treated with high caution since attitudes are 'frequently associated with merits'; those who need more help to pass the threshold of basic capabilities usually need greater educational assistance (Ponce, Cancio, Sánchez, 2017, 79);
- final but not the least, educators are researchers, and their educational experience should be used to explore and self-evaluate their practices as a background for innovations.

The investigation did not aim at a deep exploration of the attitude sources; it is based on the recognition that attitudes can be more easily influenced by the external environment, they demonstrate a state of motives; therefore it focuses on the precedents of attitudes to DT and couples these to the category of *capability* and *capability approach.* V. Collinson (Collinson, 2012, 320-344) identified 14 groups of teacher attitude sources; the article spots out those four which can be considered the most important for educators, therefore included in the e-questionnaire open to all volunteer respondents.

The powerful contribution of inquiry in tertiary learning, educator reflection and self-study of the development of professional thinking, curiosity, open-mindedness, and intellectual responsibility; these demonstrate attitudes and develop them. Whereas respondents mentioned the importance of an inquiry and learning about IT, only a small number actively conducted inquiry as a source or refinement of values and attitudes.

Experiential or accidental use of competencies or followed role models represent doing something intentional or unintentional, 'trial and error' practices that alter values and attitudes and gear repeating what appears successful or avoiding what is unsuccessful. Respondents attributed much of their success to their accumulated life experiences, which is in line with the observations that 'attitudes, habits, and ways of judging' are often learned 'in the routines' of living (Gardner, 1981, 124).

Professional development, self-understanding, and others nowadays seem to involve grasping 'the whole picture' or seeing a bigger area of professional activities: the holistic self, the context knowledge, interdisciplinary education, emotional component in professional thinking and academic growth. Experienced professionals usually know more than they can put into words and respond to challenges of their work (Schön, 1992). This phenomenon suggests educators and researchers a promising object of investigating 'reflection-in-action' to explore sources of attitudes, motives of transformative digital learning and how this vital creativity might be fostered by innovative practices; the article suggests to consider the *capability approach.*

When *bridging tertiary teaching with learning or learning from teaching* researchers demonstrate awareness of how difficult it is to be able to know and measure the degree of influence that educator's teaching/assistance has on their educational practices: for instance, the graduate respondents expressed dissatisfaction with the contribution that formal studies provided to teacher education (Dinkelman,

Margolis, Sikkenga, 2016, 169-188); many students acknowledged that their reading and mutual discussions influenced them stronger and gave greater importance to the value of conducting formal studies while others preferred to have clear instructions and assistance. Much for conceptualizing theory and practice came from the process of reflection that helped to go further than repeating a learned mode of doing during the starting period of educator practices. Much of innovations start with clear attitude to them.

Challenging possibilities of the capability approach

Since the 1980s a capability approach to individual and social development has emerged, this considers economic growth as no more than a part and an instrument of social policy, especially related to human rights, justice, and participation; the latter again becomes topical. "It is people who matter… the real purpose of development is the growth of human capabilities" (Ponce, Cancio, Sánchez, 2017, 77). These considerations challenge exploration of how the competence approach can possibly be consummated. In pedagogical science, research often implement adaptation of the IT to improve the traditional university study, therefore the content of the educator teaching in practice is considered almost as a synonym for learning, and the research conclusions are limited to recommendations for improvement of teaching/tutorial methods within a traditional setting. Meanwhile, a new computation paradigm - Cognitive computing is opening the door of education with a new accent on pedagogical paradigm - intelligent machines simulate human brain capabilities to help societies solve the most worrying problems; it is a journey and not a destination (Davis et al., 2016) when education programs will be the key to make cognitive systems of educator and student capability grow. This is an accent that changes pedagogy and is not common with education yet, nevertheless it might be a new approach; therefore, the suggested transformation needs an academic discussion.

Since capabilities are a form of human power, the digital empowerment of educators is intrinsically significant for encouraging the wide usage of digital instruments by their students. The capabilities as an agent (educator and student) power to be and to do things ground interests in the opportunities to maintain, develop, and exercise them (Gilabert, 2014, 1-14), and possibly accelerate paradigm shift by at least borrowing some ideas from the capability approach.

The theory of *capability approach* with a focus on human freedom, dignity, social equality and attitude as a motivational resource of agency can facilitate bridging teaching and learning to meet the demands of the social spheres of human activities and transformative impacts of DT, or deduce educator and student abilities to better using opportunities; these demand essential life skills that are thought to be what ultimately positively shape agency, attitudes and behaviour, and have been proposed to be closely linked to capability (Hoffmann, 2006). Though the category of capability is being investigated more often in philosophy and economy it can be very useful in understanding the educators' academic preparedness in the context of their academic enhancement, freedom, responsibility, power, as well as general and professional human rights. These accentuate a need to step outside a program into the current reality and move accent from competencies to capabilities. Hopefully, this might bridge the state of matters with the emerging challenges of machine learning, the augmented reality, collaborative robots, and advanced human-machine interfaces, which enable new human-machine ecosystems with its crucial impact on education.

The term of human capabilities is plural and broad, this includes using the achieved competence to create new possibilities for further success, therefore deals with 'journey and not a destination' and demonstrates the background understanding of human enhancement. The capability approach … "is one of those rare theories that strongly connect disciplines, and that offers a truly interdisciplinary language". This approach purports that a person's freedom to learn and achieve the best possible self-development is a matter of what educators and students are able to do and to be (Robeyns, 2017, 8-16). Therefore, the capability theory addresses human development by advising to distinguish between the traditional understanding of development (Vygotsky, 1978) to release human natural inherited possibilities and a more appropriate category that is *enhancement* (Coeckelberg, 2011) to empower by DT the multidimensional teaching-learning that educators and students are able to conduct as 'a joint venture', exchange their roles when educators learn from students and do it together in a mobile environment; when digital technology processes information, replacing the functioning of the human brain, but leaving the created by this process product for the human mind to grasp and understand.

Technology-enhanced tertiary education is another broad category that transforms education and seeks for being defined in the new context of *capability approach*. Both of these penetrate a pedagogical process through all its components. While the capability approach accentuates the learner individual capability to do and be in a changeable environment (Sen, 2005; Gilabert, 2014; Robeyns, 2017) the notion *technology-enhanced* is mainly related to empowering means that augment learning and magnify teaching by improving internal and external environment of a pedagogical process, produce synergy and better achievements; its wide usage demonstrates a divergent understanding among educators. Despite the fact that digital technologies do not replace the functioning of human brain, technologies significantly enhance their functioning (Daniela, Strods, Kalniņa 2019); this background understanding is used for the identification of didactic principles of technology-enhanced learning (Žogla, 2019).

During the conducted in two countries investigation, a number of educators and students acknowledged impact of DT on their working life. This calls for re-visiting the educator competencies by shifting focus to capability approach and their academic capacity.

Methodology

Recent investigation within the Latvian-Ukrainian project (*Gender Aspects of Digital Readiness and Development of Human Capital in Regions, LV-UA/2018/3)* the educator and tertiary student attitudes to digital transformative learning among others have raised the questions to propose a discussion: "*Does the gender gap significantly affect educator and student attitude to digital technologies?*" and *"Is educator's digital competence a comprehensive target to meet modern rapid changes?* The article focuses on at least some findings to discuss further educational improvements.

The research tools and methods. The data collection and processing followed the procedures suggested by the methodology of the tools; the e-questionnaires were completed by volunteers and here only those items analysed which are related to the theme of this article. The questionnaire "*Attitudes towards Information Technology*" (Gokhale, Brauchle, Machina, 2013) addressed those involved in education. Respondents were asked to do rating by using a Likert scale (this only highlighted the preferable statements describing attitudes toward IT): *Practical Value of IT, Positive Effect of IT on Work Life, Negative Impact of IT, Gender Equality of IT, and Interest in Learning about IT*. The Cronbach's alpha coefficient (α = .857) indicates good internal coherence. The interpretation of the data is partly based on the results of the *Cultural Values Scale* (Yoo, Donthu, Lenartowicz, 2011), completed by the same respondents. Data were encoded and processed in SPSS 25.0. The *Scale to measure attitudes toward information technologies* (Gokhale, Brauchle, Machina, 2013) was used. The methodology of the questionnaires identified the statistical significance depending on the profile of the respondents and a good internal consistency of the tools.

The participants. The participated institutions, as well as the authors of the questionnaires, provided the certificates of ethical accountability. The recruitment of the survey participants (faculties and students who use DT) was done on the volunteer base. The research base is made up of 1013 respondents; these are categorised in Table 1.

Table 1

Socio-demographic characteristics of respondents by country

Variables	Values	Ukraine (*n* = 753)		Latvia (*n* = 260)	
		Number	%	Number	%
Gender	Males	282	37	44	17
	Females	467	62	214	82
	No response, invalid	4	<1	3	1
Academic Status	Students	717	95	206	79
	Educators	36	5	55	21

Results

Related to attitude toward IT the data identify some differences between gender attitudes to DT: Latvia looks more positive about Gender Equality for all population and each of the gender groups while the

Ukrainian respondents demonstrate higher interest in learning about IT. The data confirm that there are differences between the respondent countries in three more factor ratings; these also do not demonstrate crucial differences that might considerably affect educational improvements at least introducing the capability approach – tendencies are similar in both countries; therefore some findings (Figure 1) are used here to illustrate the theoretical statements. More detailed data on the gender differences in two countries are published (Žogla, Prudnikova, Mykhailenko, 2019).

Figure 1 shows that Median stands for most differences for *Interest in Learning about IT*: Latvia *Mdn* = 19, Ukraine *Mdn* = 21. Mann - Whitney U Test identifies statistically significant differences in the ratings of the three criteria (p = 0.000 in all cases), where Latvian respondents more often than those of Ukraine agree with the statements about *Negative Impact of IT*. In general, there are no crucial gender differences in attitudes to IT. Statistically significant (p = 0.000) differences between genders were found in the *Interest in Learning about IT* ratings: men were more likely to have interest (Mean Rank 431.63) than women (Mean Rank 340.80). The findings confirm that, despite the similarities of historical educational experiences, selected educational models and trends of the future development in both countries, education in each country should take into account national specificities and cultural environments that are related to the socio-economic situation or the values held by the learners and appreciated by the communities. Therefore, this article continues with common considerations for the universities and work-force developments in Latvia by the focus on educator and student attitude to DT and leaves the major data to be compared, analysed deeper and published by the project.
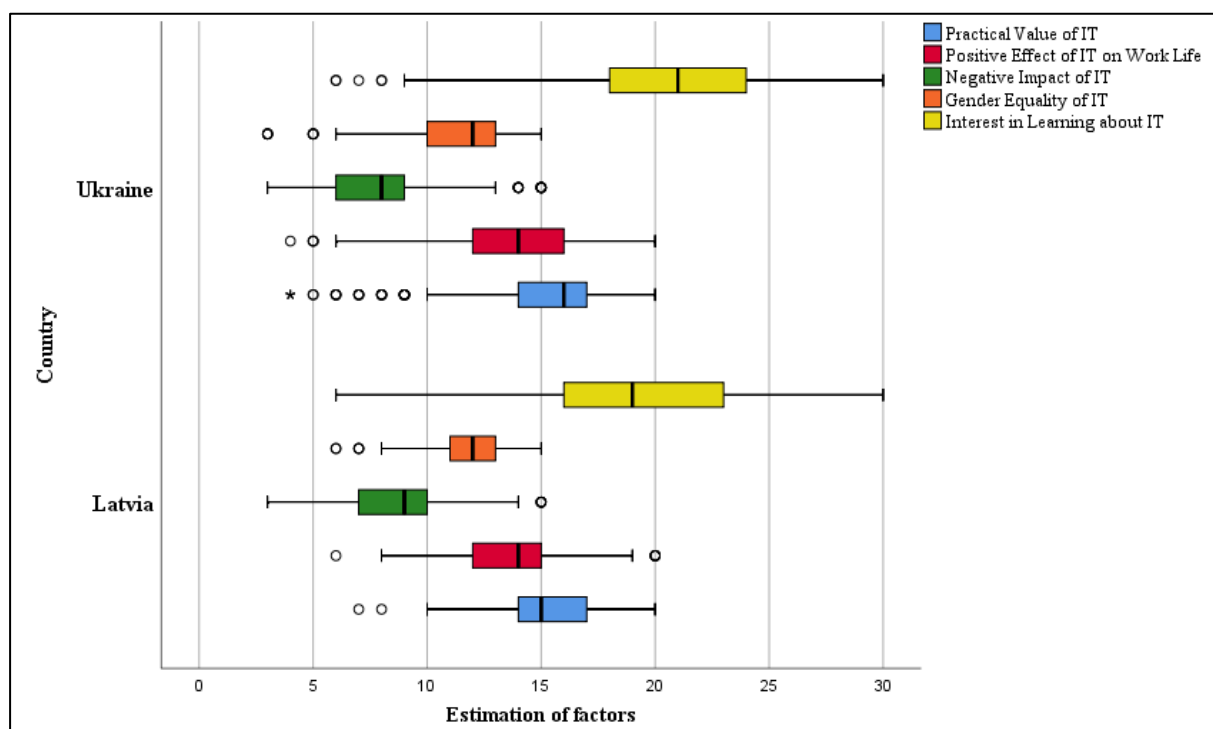
Figure 1. Estimation of factors by country.

Splitting the factor ratings into levels show that the lowest of which stands for negative attitude, the average level is neutral, and the highest level stands for positive attitude (Figure 2), about 1/3 of the respondents hold positive attitude, a large percentage of them remain neutral, but about 46% or 118 respondents have a negative attitude towards *Positive Effect of IT on Work Life*. Also, statistically significant differences (p = 0.046) were found in the *Positive Effect of IT on Work Life* assessments depending on the status of the respondents: educator negative attitudes are more pronounced (Mean Rank 486.46) than that of the students (Mean Rank 529.63). The assessment of statistical significance, which grounds on the averaging of the responses, however, has only technical sense; we cannot use these for more detailed essential conclusions; nevertheless, the data introduce into the state of matters and turn researcher attention to the sources of attitude to DT. This indicates the impact of the respondent status on the assessment: the new generation (students) feel more secure in using IT, the various new programs and IT opportunities do not frighten them, while the educator IT competence may be

comparatively lower or more severely assessed as underdeveloped for completing the educators academic duties when uncertainty and possibly wrong usage might cause some emotional threat of failure. The percentage of the respondents holding negative attitude to IT has several reasons: (a) the general collide of different mind-sets, visions, attitudes of educators and students that are influenced by the changing environment; (b) educators' previous experience when the didactic materials with IT had been developed at a lower quality make them aware of preparing these with DT, therefore, some of them do not feel confident about the result; (c) students start using a larger variety of DT earlier and with increasing speed if compared to the educators, and do it mainly in in-formal environments, while the educators' usage is stronger linked to the formal educational setting. This should be considered as a good possibility for creating educator-student learning communities to exchange experiences, use the priorities of the student skills to close the asynchronous gap.

The change of attitude takes place over a longer time; therefore, another topical gap appears - between students' readiness to operate freely or being and doing with DT and educators' more appropriate being or owning the transformations, making them happen and being change-makers in a pedagogical process. Respondents with a negative attitude toward DT need new positive experiences to change their attitudes. Conversely, those who are neutral are more convincing and, if supported, can easier decide for choosing digital team learning. These suggest re-addressing educator competencies and considering the term of capabilities by suggesting the capability approach.

Attitude is characterized by the respondent statements like this: *It is important that the instructions are detailed* and *I always know what I am expected to do; It is important to follow the instructions and sequence of actions closely to feel safe on the way to target; A standardized agenda is useful.* In total, more than 26 % of respondents disagree with these statements, 24 % agree, but almost half of the respondents – 49.5 % remain neutral. They demonstrated statistically significant differences (p = 0.001) depending on the status of the respondents: it is more important for students to know exactly what is expected of them and in what order (Mean Rank 125.00) than for educators (Mean Rank 94.54). This desire is related to the formal component of program acquisition. The findings suggest that today's students, being more familiar with DT, find transformational digital learning appropriate if a clear instruction is a condition for autonomous learning: learning can be properly organized, structured, more detailed; while educators follow the programs and accurately prepare the assignments, remind students of the formal demands towards academic results and achievements to which the students can proceed at their own pace, as well as provide two-way feedback. Student, as well as educator views indicates a potential to open the frames of formal programs, move a part of tertiary learning to real practice and therefore, enhance competences to sustain teaching and learning opportunities. This might release the process from bureaucratic systems of delivery (Tawil, Cougoureux, 2013); the acquired capability approach can fill in the gap.
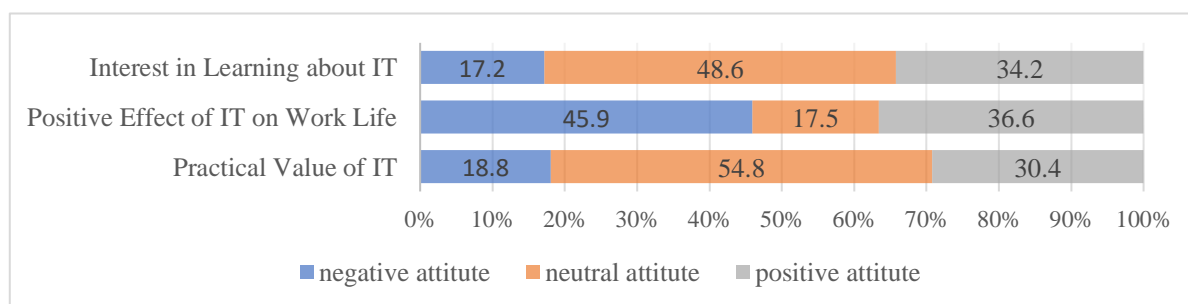
Figure 2. Latvian Respondents' Attitudes in Factor Assessments (%).

The article is limited in its scope; therefore, it addresses only some considerations that have been prompted by recent investigation of educator and tertiary student attitude to DT and which support introducing the capability approach. The learner empowerment at all ages and all levels of education is the direct promotion of capabilities through skills or competencies-based education challenged by the paradigm shift towards viewing human development in less economic terms (Hoffmann, 2006).

The capability approach is recognised to be in line with J. Delors (1996) four pillars of learning (Tawil, Cougoureux, 2013) and facilitating student learning; these when interpreted according to already

changed social environment are: (a) educator deep understanding of academic and professional knowledge (capability of knowing) that are fundamental for critical thinking, problem-solving, decision-making, well-informed action with full functioning of DT, as well as capability to transform competencies from an educational goal to a non-stop educational achievement; (b) educator concept of academic and professional abilities and agency coupled with appropriate personal qualities that include life skills for 'to be'; these are self-awareness and confidence in building a tertiary process that boosts educator and student capability (driven by motives, attitudes, values, needs); (c) experience of converting knowledge and skills (knowing and being) into agencies or academic and professional activities (learned doing) in educational setting by integrated internal and external environment, demonstrate these in activities and communication; (d) holding implied feeling of affiliation to the university or a professionals' group, a society and a culture, understanding and respecting individual differences (learned living together).

Discussion

Even if the initial understanding of *capability approach* has been related mainly to human dignity, freedom, justice including gender equality of individuals (Sen, 2005, 31) to pursue various goal-oriented activities, the approach can be applied to educational settings and by doing so can strengthen personalization of tertiary teaching-learning in a rapidly changing social environment.

Capability is a notion of psychology, while capability approach means its implementation in practice, a process of its on-going autonomous and/or assisted improvement and evaluation; therefore, it becomes a pedagogical notion and prompts important ideas that need their pedagogical considerations:

1. The capability approach in digital technologies-enhanced educational environments nowadays should meet more detailed understanding of integration with pedagogy by introducing a new looking at human development: from traditional understanding of human development as facilitation of one's inherited nature to technology-enhanced and more appropriate category of human cognitive *enhancement* that allows for augmented by DT enabling the acquired competencies to create new knowledge and skills.

2. The suggested capability approach might help educators and students better understand the crucial changes in social processes, especially in economy and education, go beyond the traditional pedagogical settings, reveal the interoperability of social processes and introduce new sources of attitudes to digital transformative technologies. There is a need for the improvement of the existing programs of formal and non-formal digital learning for the population that is considered a prospective work-force of a region.

4. Directions of shaping tertiary pedagogical process: (a) from including and involving learners to freedom of mutual engagement and participation; (b) from obligations of a formal educational process to freedom of accepting program and choice on the basis of personal meaningfulness and values; (c) valuate profiling in the context of freedom to choose and accentuate attitude to DT; (d) communication and cooperation of educators and students for synergy to maintain individual and collective values and rights, as well as changing resistance and control for acceptance of change.

Conclusions

The findings allow researchers to answer the research questions and to conclude:

1. Gender in Latvian tertiary education does not significantly affect educator and student attitude to DT; the aim of this article is achieved by limiting the concluding formulations to general tendencies in gender-related developments; the gender differences can be investigated in details for some specific purposes, for instance, creating programs to advance educator pedagogical capability in a technology-enhanced process.

2. The educator DT competence specified for pedagogical purposes should and can be improved. Another aim of this article was to trace possibilities of introducing the capability approach in using acquired competencies in DT while building the capacity of the internal and external environment of higher education by focusing on attitude sources. The capability approach in

building a technology-enhanced tertiary process is applicable in pedagogy and might introduce a real practice-oriented approach in higher education.

3. These accentuate a need to step outside a formal program into the current reality when pedagogy and the whole tertiary process is improved by real working processes instead of reducing the student practice according to norms of formal education; therefore, the accent from competence as an outcome of a tertiary pedagogical process should be moved to achieving capability of using acquired competencies in creating new knowledge and skills in a mobile environment.

Bibliography

1. Barbieri D., Lelleri R., Maxwell K., Mollard B., Karu M., Salanauskaitė L., Reingardė J. (2018). *Women and men in ICT: a chance for better work-life balance.* Luxemburg: Publication Office of the EU. doi: 10.2839/310959

2. Biggins D., Holley D., Evangelinos G., Zezulkova M. (2016). *Digital Competence and Capability Frameworks in the Context of Learning, Self-Development, and HE Pedagogy.* Retrieved from https://www.slideshare.net/debbieholley1/digital-competence-and-capability-frameworks-in-the-context-of-learning-selfdevelopment-and-he-pedagogy-eleot-2016

3. Blayone T.J.B., Mykhailenko O., Kavtaradze M., Kokhan M., van Oostveen R., Barber W. (2018). Profiling the digital readiness of higher education students for transformative online learning in the post-soviet nations of Georgia and Ukraine. *International Journal of Educational Technology in Higher Education*, *15,* 37. doi: 10.1186/s41239-018-0119-9

4. Burns J.M. (1978). *Leadership*, New York: Harper-Row.

5. Coeckelberg M. (2011). Human Development or Human Enhancement? A Methodological reflection on Capabilities and the Evaluation of Information Technologies. *Ethics Information Technologies, 13*(2), 81-92. doi: 10.1007/s10676-010-9231-9

6. Collinson V. (2012). Sources of Teachers' Values and Attitudes. *Teacher Development, 16*(3), 321-344. doi: 10.1080/13664530.2012.688675

7. Daniela L., Strods R., Kalniņa D. (2019). Technology-Enhanced Learning (TEL) in Higher Education: Where Are We Now? In M. Lytras, L. Daniela, A. Visvizi (Eds.), *Knowledge-Intensive Economies and Opportunities for Social, Organizational, and Technological Growth,* 12-24. Hershey, PA: IGI Global. doi: 10.4018/978-1-5225-7347-0.ch002

8. Davis G., Marshall A., Mercier K., Sarkar S. (2016). *Thinking Like a Customer*. Part 1. Somers, NY: IBM Global Business Services. Retrieved from https://www.ibm.com/downloads/cas/AWQVJQ7A

9. Delors J. (1996). Learning: the Treasure within: Report to UNESCO of the International Commission on Education for the Twenty-first Century (highlights). Paris: UNESCO. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000109590

10. Dinkelman T., Margolis J., Sikkenga K. (2016). De professor de escuela a formador de professores: reconceptualizando la teoría en la práctica [From School Teacher to Educator: Reconceptualization of Theory in Practice]. In T. Russel, R. Fuentealba, C. Hirmas (Eds.), *Formadores de Formadores, descubriendo la propia voz a través del Self-Study* [Educators, discovering their voice through the Self-Study]. Santiago, Chile: Organización de Estados Iberoamericanos para la Educación, la Ciencia y la Cultura, 169-188. Retrieved from https://oei.cl/uploads/files/news/publications/13/Formadores%20de%20formadores%20Self%20Study (in Spanish)

11. European Commission. (2018). *Increase in the Gender Gap in the Digital Sector - Study on Women in the Digital Age.* Retrieved from https://ec.europa.eu/digital-single-market/en/news/increase-gender-gap-digital-sector-study-women-digital-age

12. Gardner J. (1981). *Self-renewal: The individual and the innovative society*. New York: W.W. Norton.

13. Gilabert P. (2014). *Human rights, Human Dignity, and Power.* Retrieved from https://www.academia.edu/34660672/Human_Rights_Dignity_and_Power

14. Gokhale A.A., Brauchle P.E., Machina K.F. (2013). Scale to measure attitudes toward information technology. *Internat. Journal of Information and Communication Technology Education, 9*(3), 13-26. doi: 10.4018/jicte.2013070102

15. Hoffmann A.M. (2006). *The Capability Approach and educational policies and strategies: Effective life skills education for sustainable development*. Agence Française du Développement (AFD): Paris.

16. Loughran J., Russel T. (2016). Comenzando a entender la enseñanza como una disciplina. [Beginning to understand teaching as a discipline] In T. Russel, R. Fuentealba, C. Hirmas (Eds.), *Formadores de Formadores, descubriendo la propia voz a través del Self-Study* [Educators, discovering their own voice through the Self-Study]. Santiago, Chile: Organización de Estados Iberoamericanos para la Educación, la Ciencia y la Cultura, 65-76. Retrieved from https://oei.cl/uploads/files/news/publicatio ns/13/Formadores%20de%20formadores%20Self%20Study (in Spanish)

17. Makarova O. (2016). *Zhenskij vopros: gendernije stereotipi v ukrainskom IT. Obrazovanije.* [Women's issue: gender stereotypes in Ukrainian IT. Education]. Retrieved from https://dou.ua/lenta/articles/women-education/ (in Russian)

18. Nussbaum M.C. (2011). Capabilities, Entitlements, Rights: Supplementation and Critique. *Journal of Human Development and Capabilities 12*(1), 23-37. doi: 10.1080/19452829.2011.541731

19. Ponce R.S., Cancio J.A.P., Sánchez J.E. (2017). The Capabilities Approach and Values of Sustainability: Towards an Inclusive Pedagogy. *Journal of Innovation & Knowledge 3*(2) 76-81. doi: 10.1016/j.jik.2017.12.008

20. Rallis S., Rossman G. (1995). *Dynamic teachers: Leaders of change*. Thousand Oaks, CA.

21. Robeyns I. (2016). Capabilitarianism. *Journal of Human Development and Capabilities, 17*(3), 397-414. doi: 10.1080/19452829.2016.1145631

22. Robeyns I. (2017). *The Capability Approach. An interdisciplinary Introduction*. Received from https://academia.edu/34225916/The_Capability_Approach_An_Interdisciplinary

23. Rubene Z., Strods R. (2017). Transformations of Digital Culture in the Doctoral Studies in Pedagogy: The Case of the University of Latvia. *Acta Paedagogica Vilnensia, 38*, 143-158. Retrieved from https://www.zurnalai.vu.lt/acta-paedagogica-vilnensia/article/view/10798

24. Russell T. (2019). Are Teacher Education Practices Really Changing? An Editor's Farewell. *Studying Teacher Education 15*(3), 255-259. doi: 10.1080/17425964.2019.1675433

25. Schön D.A. (1992). *The Reflective Practitioner: How Professionals Think in Action*. London: Routledge. doi: 10.4324/9781315237473

26. Sen A. (2005). Human Rights and Capabilities. *Journal of Human Development 6*(2), 151-166. doi: 10.1080/14649880500120491

27. Svennen A., van der Klink M. (Eds.). (2009). *Becoming a Teacher Educator.* Switzerland: Springer and ATEE. doi: 10.1007/978-1-4020-8874-2

28. Tawil S., Cougoureux M. (2013). Revising Learning: the treasure within. Assessing the influence of the 1996 Delors report. *UNESCO Education Research and Foresight*. Paris: UNESCO. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000220050

29. The Global Gender Gap Report. (2018). Geneva: World Economic Forum. Retrieved from http://www3.weforum.org/docs/WEF_GGGR_2018.pdf

30. Vygotsky L. (1978). *Mind in Society*. Cambridge: Harvard UP.

31. Yoo B., Donthu N., Lenartowicz T. (2011). Measuring Hofstede's five dimensions of cultural values at the individual level: Development and validation of CVSCALE. *Journal of International Consumer Marketing, 23*(3-4), 193-210. Retrieved from https://www.tandfonline.com/doi/full/10.1080/08961530.2011.578059

32. Zeichner K.M. (2005). A research agenda for teacher education. In M. Cochran-Smith, K.M. Zeichner (Eds.), *Studying teacher education: The report of the AERA panel on research and teacher education*. Mahwall, NJ: Lawrence Erlbaum Associates Publishers, 737-759.

33. Žogla I. (2019). Principles of Learner-Learning-Centred Didactic in the Context of Technology-Enhanced Learning. In L. Daniela (Ed.), *Didactics of Smart Pedagogy: Smart Pedagogy for Technology Enhanced Learning.* Switzerland: Springer Nature, 71-94. doi: 10.1007/978-3-030-01551-0_4

34. Žogla I., Prudnikova I., Mykhailenko O. (2019). Pedagogical assumptions of Transformative Digital Model for Social Change. In V. Lubkina, A. Indriksons, S. Usca (Eds.), The Proceedings of the International Scientific Conference *Society. Integration. Education, 1*. Rezekne: Rezekne Academy of Technologies, 645-656. doi: 10.17770/sie2019vol1.3881

Education for Getting Competence

Innovations in the Improved Curriculum Content of the Competence Approach: a Case Study in Latvia

Rudite Andersone Dr.paed.
University of Latvia, Latvia
rudite.andersone@lu.lv

Abstract: Innovations in education are particularly important as education plays a crucial role in developing sustainable future. Innovation resembles mutation, the biological process that keeps species evolving so that they can compete better for survival. Innovations should therefore be considered as a necessary and positive tool of changes. Any human action (e.g., industrial, business or educational) requires constant innovation to be sustainable. Education is foundation of our economy. What (and how) we learn at school determines success throughout our lives. It affects how we solve problems, how we interact with others and how we look at the world around us. Education in the world of modern innovation economics becomes even more important to develop the future generation of innovators and creative thinkers. The purpose of the article is to theoretically analyse innovations related to significant changes in the competency – based teaching/learning content. The study, through document analysis, has selected the most substantial changes in the improved teaching/learning content of the basic education curriculum. The primary education content has been chosen because this stage of education lays foundations for the life and personal growth of every young person. Three domains of the education content have been selected for the analysis, namely Languages, Science and Civic domain. Innovations have been defined according to four criteria – promotion of cooperation in the acquisition of the curriculum content, the usage of information and communication technologies as a platform for developing reasoning and solving problem, experiential learning, which focuses on the process of discovery, and discussion-based learning, that positions knowledge in a political and cultural context. It has been stated that the curriculum content improved within the competence approach includes a number of innovations, among which the cooperation of teachers in planning the curriculum content and the selection of strategies, the use of information and communication technologies for developing judgment, the learning not only from the personal experience but also purposeful formation of learners' experience should be specifically mentioned.

Keywords: innovation, improved curriculum content, competence approach.

Introduction

The top priority of the European education policy makers is to ensure that every child attains his/her potential. In order to achieve this goal, the education systems should become more flexible and dynamic supporting the learning and teaching innovative approach to enable schools and their systems to follow the rapid social and economic transformations and to introduce a high-quality education as reality for everyone (Study on supporting…, 2018). The requirement of innovations in education has become especially important. Social and economic wellbeing of countries get increasingly dependent on quality of education of their citizens, the development of the knowledge society, the transformation of sources of information and media, and the ever-increasing specialization requires a high level of skills and knowledge, and competences (Cornali, 2012).

The understanding of the term "innovation" is very diverse. Innovation is usually understood as "the *successful* introduction of a new thing or method" (Brewer, Tierney, 2012, 15). Actually, "innovation seems to have two subcomponents. First, there is the idea or item which is novel to a particular individual or group and, second, there is the change which results from the adoption of the object or idea" (Evans, Leppmann, 1970, 16). The study performed by the DG of Entrepreneurship and industry of the European Commission "Innovation Management and the Knowledge-Driven Economy" offers the following definition for the term "innovation": Innovation is a successful production, inclusion and implementation of a novelty in the economic or social field. Innovation covers actions related to practical application of knowledge and implementation of skills in order to produce better products and more full-fledged services (European Commission, 2004). Thus, innovation needs three main steps: the idea, its implementation and a result which emerges as the outcome of implementing the idea and causes changes (Serdyukov, 2017).

Innovations in education can appear as a new pedagogical theory, methodological approach, a teaching/learning strategy, a study aid, a teaching/learning process or institutional structure which, being implemented, brings about essential changes in teaching and learning to promote better learning in general. Thus, innovations in education are envisaged to increase the efficiency of teaching/learning and the effectiveness, and/or to improve the quality of teaching/learning, to increase the learners' competence. However, innovation in the classroom isn't fostered by feeding teachers with techniques (Paniagus, 2018). Curriculum innovation may take many forms, determined by many different factors and special interests (Williamson, Payton, 2009; Katane, Laizāne, 2012).

New technologies and transformation of society have a noticeable impact on innovations in education. Analysing modern innovations, we can conclude that an overwhelming majority of them is tangible – they are either technological tools (laptops, iPad, smart phones) or they are technology-supported teaching/learning systems and materials, e.g., teaching/learning management systems (e-class), education software and network resources. Technologies have always been both the driving force of innovations and the tool in any sphere of human activity (Serdyukov, 2017). The introduction of technologies in the pedagogical work, if it is not the aim of itself but the means of personality development, also becomes the innovation if the implementing of technologies is gradual, planned and follows a particular aim and serves the development of the learners' independence (Šteinberga, 2018). Then it is natural to expect that innovations, based on the IT application can improve teaching and learning:

- technologies allow delivering lessons faster and more effectively in the classroom and learning at home;
- technologies reduce the need for textbooks and other printed works, decreasing the expenses of schools and learners in long term;
- technologies make the cooperation easier. Learners, teachers and parents can communicate and cooperate more effectively;
- technologies help to form the technology-based skills promoting pupils' independent learning, and the use of different new IT tools.

Although technologies have a great advantage, they are not the only or the chief source of modern innovations (Cuban, 2015). All innovations after all are directed towards the change of qualitative and/or quantitative factors of learning outcomes (Serdyukov, 2017):

- qualitative factors: better knowledge, more effective skills, important competences, character development, values, disposition, effective placement of work and work outcomes;
- quantitative factors: improved teaching/learning parameters, e.g., test results, scope of the acquired information, quantity of developed skills or competences, number of learners enrolled in the college, measured performance of learners, retention, the level of graduation, number of learners in the class, expenses and time efficiency.

Definite features allow recognizing innovations in the teaching/learning content and methods. They are: blended learning, where a classroom is seen as a place to apply the content and deepen one-to-one interactions whether with a teacher or through peers collaboration; a gamification, which is an engagement through play and pedagogies of games; a computational thinking, which addresses mathematics as a coding language and looks at information and communication technology as a platform for developing a problem-solving reasoning in students; experiential learning, which focuses on the process of discovery; embodied learning, which focuses on the non-mental factors involved in learning and that signals the importance of the body and feelings; and multiliteracies and discussion-based teaching, which situates knowledge in the political and cultural context (Paniagus, 2018).

The topical issue today in Latvia is the introduction of the new curriculum content based on the competence approach in all stages of education. The aim of the improved curriculum content and approach is to foster a competent pupil, who wants and is able to learn all his/her life, who is able to solve challenges of a real life, to create innovations, to develop different personal qualities that help to become a happy and responsible personality (Skola 2030, 2019). Globalization, the development of information technologies and diversity of values characterise the world nowadays thus, the human activity in the most diverse areas expands and becomes more unpredictable. Pupils have to learn to live in the world that undergoes constant changes and should be ready for unpredictable circuit of economic, political, social and cultural environment

in the future. The idea of the new content is simple and at the same time complex and innovative. Pupils themselves seek and analyse information, the right answers no longer can be found only in the textbooks. It requires more active involvement in each lesson so that pupils' competences, skills to apply knowledge in diverse situations get developed. An innovation in the competence approach is the fact that while preserving the fundamental knowledge, understanding and key skills in the diverse fields of human actions, the curriculum content is supplemented with transversal skills and habits that are value-based so that the pupil would learn to learn all lifelong and would act in his/her everyday life in accordance with personal values. Such skills as critical thinking and problem solving, innovation and entrepreneurship, cooperation, civic participation, digital skills permeate through the whole curriculum content. The focus is laid on responsibility, diligence, courage, honesty, wisdom, sincerity, empathy, temperance, self-possession, solidarity, fairness and tolerance as the most important values and virtues (Skola 2030, 2019).

The aim of the article is to analyse innovations in the intrinsic changes in the improved curriculum content that has been developed in the competence approach aspect.

Methodology

The study, using the document analysis, has selected the intrinsic changes in the improved curriculum content of basic education in the competence approach. The basic education content has been chosen because this stage of education lays foundations for the life and personal growth of every young person (Skola 2030, 2019). Three domains of the curriculum content have been selected for the analysis, namely, Languages, Science and Civic domain. Innovations have been defined according to four criteria – the promotion of cooperation in the acquisition of the teaching/learning content, the use of information and communication technologies (ICT) as a platform for developing reasoning and problem solving, experiential learning, which focuses on the process of discovery, and discussion-based teaching, which situates knowledge in the political and cultural context.

Results and Discussion

The improvement of the curriculum content and approach in Latvia takes place in order to develop pupils' competence in areas significant for human action, reducing fragmentation and homogeneity in curriculum content; and promoting consistency and integrity. Languages, Sciences and Social and Civic domains are very important in the curriculum content in the education of each pupil as they are most directly related to the formation of values and virtues, the development of relationships and attitudes towards the surrounding social and physical environment. The knowledge and competences acquired in these areas of the curriculum content are important for any further path of the professional career.

The most important emphasis is the need for cooperation between teachers of different subjects in the implementation of the improved curriculum and innovation in the analysed domains. The teacher in the new curriculum content is the leader of the acquisition process who not only gives knowledge but leads pupils to obtain the answers instead of giving them. Equally important is the teachers' mutual cooperation and joint planning of the work. Through cooperation teachers improve the curriculum of the subjects, teaching goals, share the experiences, and support each other in developing their own competences and elaborating innovative strategies for developing pupils' competences (Anspoka, Kazaka, 2019). Only the Social and civic domain places emphasis not only inn teachers' cooperation but also on promoting pupils' cooperation. The current practice, indeed, paid less attention to the teachers' cooperation because the main focus has been on promoting the pupils' cooperation (Table 1). Analysing the application of information and communication technologies (ICT) as a background of developing reasoning and problem solution, we can conclude that the Language domain accomplishes the analysis of diverse texts, including, texts of social networks in order to make judgments. Social and Civic domain provides a critical analysis of historical and information sources in order to form judgment, to develop thinking strategies. Here we can understand that information sources are the ones that can be found with the help of ICT, however, there is no direct indication. It is even less directly indicated in the Science domain, in terms of the development of engineer-technical thinking and transferring of the science regularities. Thus, this innovation can be linked more to Linguistic, Social and Civic domains which are mainly intended to use ICT in the formation of pupils' judgment, reasoning and problem solving than in Science domain (Table 1).

Table 1

Innovations in the improved curriculum content in the competence approach

Innovation Domain of the curriculum content	Promotion of cooperation in the acquisition of the content	The use of information and communication technologies as a platform for developing problem solving and reasoning	Experiential learning, which focuses on the process of discovery	Discussion-based teaching, which situates knowledge in the political and cultural context
Language domain	According to the improved approach about the acquisition of the language one should think interdisciplinary, which means **a greater cooperation of teachers** in the frame of their teaching/learning domain and with the teachers of other domains.	The emphasis is put on the diversity of texts (advertisements, product names, documents, maps, diagrams, charts, etc.), including texts in **social networks**. On purposeful work to develop text literacy, the skill to understand faster and deeper the main idea and purpose of the text.	Great importance is given to that stage of the teaching/learning process when pupils **gain new knowledge and new experience– listening, reading and observing**. The more pupils will hear, read and notice (at school, on the street, in the theatre, museum, industrial enterprise, etc.), the more content-rich and diverse will be his/her created written and oral text.	The pupil develops the sense of language and thinking (reading, listening, observing, analysing information, training the perception and forming the attitude), creativity and **the skill to express in words in writing and speaking**, to create a text as well as the digital skill.
Science domain	It is important that **teachers** of different subjects **cooperate** to develop a common learning conception in the science domain and, e.g., agree on how they will teach terms that are common to several subjects and how the transfer of knowledge from one subject to another will be facilitated.	Enhanced emphasis on **engineer technical thinking and the transfer of science regularities** in order to get acquainted with the engineer-technical solutions.	The direction started in previous years in improving the teaching /learning approach in the science field continues, emphasizing the **development of pupil's inquiry skills** and the formation of profound understanding through practical activities, experimenting, modelling and seeking regularities.	Analyses and evaluates the data, **expresses personal opinion and arguments in different ways** and draws conclusions from the data.
Social and civic domain	It is important to **develop cooperation and participation skills**, thus developing stable social habits and orienting on the result that requires everyone's participation.	It is important both in history and social science to develop concrete skills and thinking strategies important for history science: **critique of history and information sources**; **analysis of history and information sources**; defining causal relations; the skill to provide arguments, chronological thinking.	It is important to offer each pupil the **teaching/learning process in different environments** – surrounding nature, cultural environment, museums and local municipality provides the possibility to **get immediate experience from primary sources**.	It is important both in history and social science to develop concrete skills and thinking strategies important for history science: critique of history and informa-tion sources; analysis of history and informa-tion sources; defining causal relations; **the skill to provide arguments, chronological thinking.**

The use of information and communication technologies in forming judgment, in reason is related to the development of media literacy. Media literacy is developed in the whole new basic education curriculum. Media literacy is understood as the ability to access, analyse, evaluate and communicate messages in a variety

of forms as well as the ability of individuals to access and understand information through different means, such as television, radio, print media, the Internet and digital technology (Andersone, Helmane, 2019).

The School 2030 website, where is provided developed curriculum based on competency approach, points out to innovative support for introducing new content. It is being prepared the digital teaching / learning resource repository; it will include examples of subjects' curricula, free teaching / learning aids developed by the project and available to students, methodological materials, examples of colleagues' tutoring that could stimulate the exchange of ideas and experiences (Skola 2030, 2019). However, it cannot replace student behaviour with ICT as a basis for reasoning and problem solving.

Experiential learning, which focuses on the process of discovery, means learning from experience or learning by doing. Experiential learning first immerses learners in an experience and then encourages reflection about the experience to develop new skills, new attitudes, or new ways of thinking (Lewis, Williams, 1994). Experiential learning is envisaged in the Language domain as the acquisition of pupils' knowledge and new experience by listening, reading and observing. The developers of the new content indicate that the more pupils will hear, read and discover at school, on the street, in the theatre, museum, industrial enterprise and other places, the richer and more diverse will be their learning experience (Skola 2030, 2019). Experiential learning in Science domain focuses on the process of discovery and is connected with the development of pupils' inquiry skills, which are developed through practical activities, experimenting, modelling and searching for regularities. Pupils in the Social and civic domain are encouraged to get an immediate experience from the sources, organizing the teaching/learning process in different environments – the surrounding nature, cultural environment, museums, local municipality, etc. (Table 1).

Discussion-based learning, which situates knowledge in the cultural context, is an innovation in the implementation of the new curriculum content. The construction of knowledge is group work in which the participants share, use, improve, discuss and criticise the knowledge (Stahl, Hesse, 2009). It can be observed in the Language domain when pupils through discussions develop their skill to express themselves in written and oral form, in Science domain when pupils learn to express their opinion and provide arguments in different ways, in Social and civic domain when pupils learn to identify the causal relations, to develop the skill of argumentation and chronological thinking (Table 1). The expected learning outcomes in the Science domain point out that pupils participate in discussions and other activities that leads to making socially responsible decisions and their decision-making is based on scientific ideas, values, economic considerations and the needs of the humankind (Skola 2030, 2019). Thus, the cultural context is emphasized.

Conclusions

Globalisation, the development of information technologies and the diversity of values depicts the world of today, thus the human action in the most diverse spheres expands and becomes unpredictable. Contemporary pupils have to learn to live in the world that is constantly changing, in which innovations are intrinsically important. Therefore, any changes in the content of education and school practice should be assessed from the point of view of their innovative character.

The improved curriculum content developed in the competence approach in the three most important domains of the curriculum content – Language domain, Science domain and Social and Civic domain – comprises several important innovations.

Innovations that have been most vividly expressed in the Language domain are the following: teachers' active cooperation in promoting the acquisition of the curriculum content, its mutual coordination; the selection of the teaching\learning strategies; the use of ICT as a platform for developing reasoning and problem solving; the analysis of diverse texts, including the texts in social networks; experimental learning as the acquisition of knowledge and new experience by listening, reading and observing in the most varied environments and situations at school, on the street, in the theatre, museum, industrial enterprise, etc.; discussion-based learning, which situates knowledge in the cultural context, when pupils develop their skill to express themselves orally or in writing in the discussions.

Innovations in the Science domain are expressed as teachers' mutual cooperation and common planning of work with teachers from other domains; experimental learning, which focuses on the process of discovery, is connected with the development of pupils' inquiry skills, that are developed through

practical activities, experimenting, modelling and searching for regularities; discussion-based learning, which situates knowledge in the cultural context as the pupils' involvement in discussions and other activities for making socially responsible decisions. Besides, the decision making is based on scientific ideas, values, economic considerations and the needs of the humankind. Innovation in the Science domain is also the emphasis on developing the engineer-technical thinking and the transfer of science regularities.

Innovations in the Social and civic domain are seen in teachers' mutual cooperation and common planning of the curriculum content and promoting of pupils' diverse cooperation in the teaching/learning process; the use of ICT as a platform for developing reasoning and problem solving, as critical analysis of information sources in order to develop reasoning and thinking strategies; experiential learning, which focuses on the process of discovery, where pupils get immediate experience from the primary sources, organizing the teaching/learning process in different environments – the surrounding nature, cultural environment, museums, local municipality, etc.; discussion-based learning, which situates knowledge in the cultural context, takes place when pupils learn to identify causal relations, develop their skill to provide arguments and develop their chronological thinking.

Bibliography

1. Andersone R., Helmane I. (2019). Towards Media Literacy in the Education Curriculum: Experience of Latvia. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, 12. Jelgava: Latvia University of Life Sciences and Technologies, 15-21. doi: 10.22616/REEP.2019.001

2. Anspoka Z., Kazaka D. (2019). Teachers during Education reforms: Challenges and Opportunities. In V. Dislere (Ed.), The Proceedings of the International Scientific *Conference Rural Environment. Education. Personality (REEP), 12*. Jelgava: Latvia University of Life Sciences and Technologies, 22-27. doi: 10.22616/REEP.2019.002

3. Brewer D., Tierney W. (2012). Barriers to innovation in the US education. In B. Wildavsky, A. Kelly, K. Carey (Eds.), *Reinventing Higher Education: The Promise of Innovation*. Harvard Education Press, Cambridge, MA, 11-40.

4. Cornali F. (2012). Effectiveness and efficiency of educational measures: Evaluation Practices, Indicators and Rhetoric. *Sociology Mind, 2*(3), 255-260. doi: 10.4236/sm.2012.23034

5. Cuban L. (2015). *Larry Cuban on school reform and classroom practice: the lack of evidence-based practice: the case of classroom technology*. Retrieved from https://larrycuban.wordpress.com/2015/02/05/the-lack-of-evidence-based-practice-the-case-of-classroom-technology-part-1/

6. European Commission. (2004). Innovation Management and the Knowledge-Driven Economy. Retrieved from https://op.europa.eu/en/publication-detail/-/publication/dd46213f-89e1-4c20-ad21-f3adca0b0f7f

7. Evans R., Leppmann P. (1970). *Resistance to Innovation in Higher Education*. San Francisco: Jossey-Bass Publishers Inc.

8. Katane I., Laizāne A. (2012). Cross-school mentoring as a facilitator of sustainable development of rural schools in Latvia. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *5*. Jelgava: LLU, 43-50. Retrieved from https://llufb.llu.lv/conference/REEP/2012/REEP-2012-proceedings-E-ISSN-2255-808X.pdf

9. Lewis L.H., Williams C.J. (1994). Experiential Learning: Past and Present. In L. Jackson, R.S. Caffarella (Eds.), *Experiential Learning: A New Approach*. San Francisco: Jossey-Bass, 5-16.

10. Paniagus A. (2018). *Why pedagogy matters for innovative teaching*. Retrieved from https://oecdedutoday.com/why-pedagogy-matters-for-innovative-teaching/

11. Serdyukov P. (2017). Innovation in education: what works, what doesn't, and what to do about it? *Journal of Research in Innovative Teaching & Learning*. *10*(1), 4-33. doi: 10.1108/JRIT-10-2016-0007

12. *Skola 2030. Mācību saturs* [School 2030. Education content]. (2019). Riga: VISC. Retrieved from https://www.skola2030.lv/lv (in Latvian)

13. Stahl G., Hesse F. (2009). Paradigms of shared knowledge. *International Journal of Computer-Supported Collaborative Learning*. *4*, 365-369. doi: 10.1007/s11412-009-9075-7

14. Study on supporting school innovation across Europe. (2018). School Education Gateway. Retrieved from https://www.schooleducationgateway.eu/en/pub/resources/innovation

15. Šteinberga A. (2018). Inovācijas pedagoģiskajā darbībā Latvijas skolās [Innovations in pedagogical work in Latvian schools]. In V. Lubkina, S. Ušča, A. Zvaigzne (Eds.), Proceedings of the International Scientific Conference *Society. Integration. Education*, *2*. Rezekne, Rezekne Academy of Technologies. 478-486. doi: 10.17770/sie2018vol1.3172 (in Latvian)

16. Williamson B., Payton S. (2009). *Curriculum and teaching innovation. Transforming classroom practice and personalisation*. Retrieved from https://www.nfer.ac.uk/publications/FUTL03/FUTL03.pdf

Technology as a Tool in STEM Teaching and Learning

Rita Birzina[1] Dr.paed.; **Tamara Pigozne**[2] Dr.paed.
University of Latvia, Latvia
rita.birzina@lu.lv[1]; tamara.pigozne@lu.lv[2]

Abstract: STEM (science, technology, engineering, and mathematics) education nowadays becomes more and more topical; however, there are still few students who choose to study these sciences therefore it is important to develop students' interest in these subjects already at school. Meaningful use of technology in the teaching and learning process of STEM could be one of the ways how to attract students' interest. The aim of the research was to identify the role of technologies in the teaching and learning process of STEM. One hundred and twenty-eight (128) STEM teachers and 257 students in general comprehensive schools of Latvia have been surveyed with the help of the *QuestionPro* e-platform. The obtained data showed that teachers and students had similar and different views on the use of technologies. Both teachers and students mainly use technologies reproductively as consumers of information not as productive developers of knowledge. There are problems with the specific STEM technology: the sensor – data registering and processing system, the use of the computer-adjusted microscope and computer laboratory simulations for carrying out virtual experiments. This means that the impact of specific technologies in STEM education is still largely provisional. Exploring the obstacles that prevent teachers from applying technologies it has been found that both institutional and personal factors are important.

Keywords: school education, STEM, technology, teachers, students.

Introduction

Education in science, technology, engineering, and mathematics (STEM) nowadays becomes more and more topical and it attracts ever-increasing attention; many countries set it as the priority of education. The acronym STEM has caused broad discussions in the last decade (Honey, Pearson, Schweingruber, 2014; Brown et al., 2011; Stohlmann, Moore, Roehrig, 2012; Tsupros, Kohler, Hallinen, 2009). Historically, STEM was first "coined" as an educational term by National Science Foundation (NSF) of the USA in early 2000s. (Dugger, 2010). In the 1990s, NSF started using "SMET" as a shorthand for "science, mathematics, engineering, and technology", when describing the respective disciplines of science. The abbreviation "SMET" for a better sounding (pronounced as "smut") was changed to the acronym "STEM" (Sanders, 2009). Today this term is widely used and it is considered that STEM - a curriculum based on the idea of educating students in four specific disciplines — Science, Technology, Engineering and Mathematics — in an interdisciplinary and applied approach (Breiner et al., 2012; Gonzalez, Kuenzi, 2012; Hom, 2014; Gibilisco, 2013). The English acronym STEM is mainly used in Latvia for a common designation of science disciplines together with the denomination "exact or hard sciences", which are described as sciences that "use mathematical methods, calculations, mathematical logics in the descriptions of their phenomena, research and previsions; definitions and rules can be formulated mathematically precisely. The exact sciences are biology, physics, chemistry, mathematics and informatics (Beļickis et al., 2001, 45). The Latvian version of the STEM, namely "DZIMT" – *Dabaszinātnes, Inženierzinātnes, Matemātika un Tehnoloģijas* has also been suggested by Aivars Gribusts.

Why has STEM education become so important? R.V. Bybee considers that STEM-literate citizenry is prepared for the grand challenges of the 21st century (Bybee, 2010b) and, implementing the STEM education programmes, teachers have greater possibilities of helping their students to develop 21st century skills (Bybee, 2010a).

Despite the importance of science, the learning of STEM subjects at school is still problematic, so one possible way to make the subject more interesting is to use technology, therefore, the aim of the present study was to identify the role of technology in the STEM teaching and learning process.

How to teach science better: integration versus isolation?

How are STEM subjects learnt at school? There are several ways. One of the ways is to teach each discipline as a separate school subject S–T–E–M with some or no integration at all. The second way is to teach each of the four subjects separately but to choose one or two subjects to learn in-depth (the denomination SteM). The third way is to integrate one of the STEM disciplines in the other three subjects for instance, the content of engineering science can be integrated in the courses of science, technology and mathematics (E–S, T, M). The fourth way is a more embracing integration of all four subjects into one school subject. For instance, technology, engineering science and mathematics are integrated in the science content (T, E and M in S) (Dugger, 2010).

Nowadays an integrated science course is taught in schools of humanitarian direction in Latvia and each STEM subject is usually taught separately in general comprehensive schools. There can be a situation in the specialized science/mathematics schools when one or *two STEM subjects are taught in-depth.* According to the new *School 2030 (Skola 2030)* reform (National Reforms…, 2019), schools will choose the directions of teaching/learning domains and the chosen subjects will be taught in-depth.

The use of technology in science

Science that is one of the greatest achievements of culture of the Western society cannot attract the young people's interest (Osborne, Hennessy, 2003:9) despite the fact that nowadays it has the potential much bigger than ever before to motivate students for STEM subjects, and it would be important to maintain their interest in STEM subjects in the basic and secondary school (Sanders, 2009).

Technologies is one of the tools that could increase young people's interest in learning science. ICT offer a possibility to engage actively in science activities using different technological options. Today digital technologies are an integral part of a modern teaching/learning process (European Commission, 2018). Europe has to develop and introduce innovations in school education. Schools have to adjust to the changing context in which they function, including the digital age and the increasing diversity among the students (European Commission, 2016). European Commission is working on several political initiatives, e.g., the Action Plan on Digital Learning in order to modernize education and training by promoting the use of digital technologies in the teaching/learning process, thus developing the ability of individuals, education institutions and education systems to adjust better to the life and work in the age of rapid digital transformations (European Commission, 2018).

The standard developed by the International Society for Technology in Education (ISTE) for students and teachers shows how the guidelines for using technologies have changed over the time: from 1998 - Learning to use technology, 2007 - Using technology to learn, till 2016 - Transformative learning with technology. It means that school also must change the quality and effectiveness of using technologies in science education. Modern students have to be ready to function continuously in the constantly changing technological environment. ISTE standards have been developed in order to ensure that learning is a student-driven process (ISTE Standards, 2019). ISTE standards for teachers, in their turn, is a guide how to help students to become empowered learners and will urge teachers to reflect on the traditional approaches and prepare students to drive their own learning.

Undeniably, schools change along the time. However, as mentioned by M. Fullan and M. Langworthy (2014), the problem is that school, firstly, concentrates on students' learning targets, secondly, on precise pedagogy, and thirdly, on how technology could enable and accelerate learning in high level standards. Without denying the importance of technology in the learning process, in practice they are perceived as an additional tool rather than as one of the resources of the learning process (Anspoka, Kazaka, 2019). But it is not the technologies that transform methods of traditional pedagogy, it is how teachers use them that changes the methods. The important question is whether the current use of technologies at schools and classrooms is connected with using digital tools and resources for a meaningful teaching/learning process. The Innovative Teaching and Learning Research project, which identified teachers' view on using ICT in seven countries, has shown that technologies are still mainly used in basic ways that layer technology on top of traditional teaching and learning, rather than for collaboration and knowledge creation (Fullan, Langworthy, 2014).

It is self-evident that teachers use different digital resources to help students explore and learn, to support collaboration in the class and to perform formative assessment. They also use the internet and webinars to help students deepen their knowledge on concrete topics. Indisputably, technologies are the tools that the teacher uses when preparing for lessons as well as for sharing experience with other colleagues. It means that technology has changed the methods of teaching and learning (Byers, 2016).

The usage of technology in science can be divided into four broad areas (Table 1): data handling, information, communication and exploration (Gras-Velázquez, 2016).

Table 1

Classification of using technology in STEM

Data handling	Information	Communication	Exploration
Data logging	Internet	E-mail	Simulation
Spreadsheets		Collaboration	Modelling
Graphing tools			

Technologies, e.g., computers, probeware, data collection and analysis software, digital microscopes, hypermedia/multimedia, student response systems, and interactive white boards can help students to engage actively in the acquisition of scientific knowledge and development of the nature of science and inquiry (Guzey, Roehrig, 2009). Science resources: from virtual laboratories to computation tools; there are tens of possibilities of integrating technologies in the science school programme (Byers, 2016). The above-mentioned ways of teaching and learning, by all means, attract students as representatives of the digital generation for whom learning takes place by applying technologies intuitively in their everyday life (Punie, Zinnbauer, Cabrera, 2008). It is possible that the use of such technologies makes students' learning more interesting, effective and qualitative.

As science is essential for understanding the way the world works, then the use of technologies in the acquisition of STEM can be viewed as the formation of science literacy in five following stages (Figure 1).
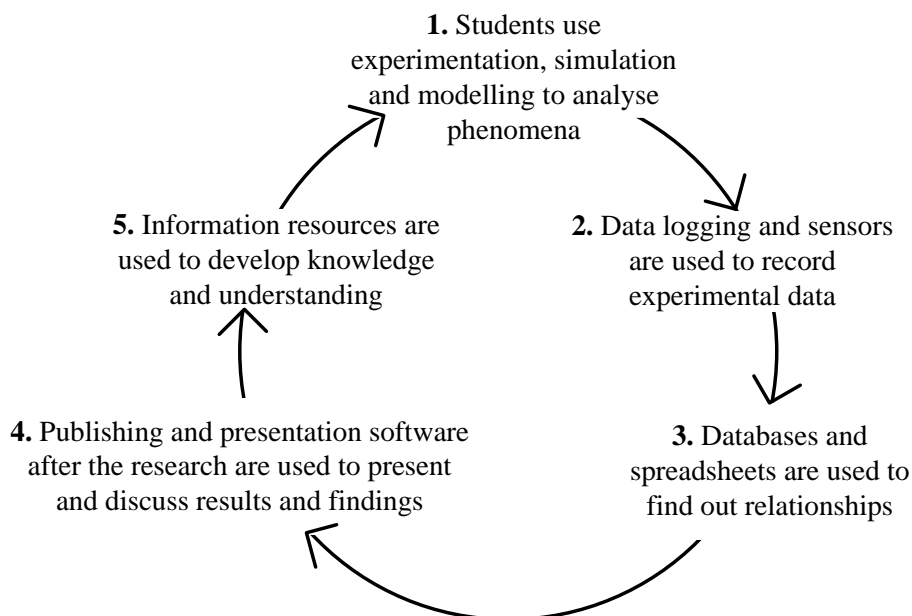
Figure 1. Five stages of technology use for STEM learning.

Factors influencing the teacher's use of technology

Teachers usually use technologies according to their own professional and their students' needs (Ottenbreit-Leftwich et al., 2010). However, different factors affect the possibilities of using technologies. British Educational Communications and Technology Agency indicates that factors influencing teacher's work can be divided in several groups and sub-groups. For instance, teacher's incompetence in using technologies can be connected both with the lack of time for training, and the

lack of pedagogical training. Other important factors are the lack of access to resources, as well as technical problems and teacher's resistance to change and his/her negative attitude (Jones, 2004). Other authors (Ertmer et al., 2012) distinguish external and internal barriers, emphasising the teacher's attitudes, beliefs, knowledge (internal barrier) as the most important. In any case, the integration of technologies in the teaching/learning process is a complex process that is connected with personal, organizational, institutional and even cultural barriers (Mumtaz, 2000). It means that the use of technology is related to teacher's age, computer skills, beliefs and factors on the school level: accessibility of computers and technical support (Inan, Lowther, 2010).

The aim of the research was to identify the role of technologies in the teaching and learning process of STEM.

Methodology

The present study is connected with finding out the role of technologies in teaching and acquisition of science. The selection of teachers and students' target group was defined by the fact that science teachers are smart and "savvy" users of instructional technology (Byers, 2016). Two research questions were put forward to clarify the issues of using technology:

1. What differences and similarities there exist in using technology by teachers and students as a means in science teaching/learning?

2. Which conditions determine the teachers' use of technology in the STEM teaching/ learning process?

Research design. The study adapted two questionnaires developed in the ERASMUS+ project "International Diploma for School Teachers in STEM Education (eSTEM)" (one for teachers, the other for students). Data have been collected using open-closed questions on the 5-point Lickertt scale (1- strongly disagree, 2- disagree, 3 – neither agree, nor disagree, 4 – agree, 5 – strongly agree) in the on-line platform *QuestionPro*. Quantitative data are processed with the SPSS 23.0 programme. The data analysis uses the Mann–Whitney U test and Spearman's rank correlation coefficient. Two different samples: teachers and students were compared, using the non-parametrical Mann–Whitney U test. The connection between teachers' problems in using technologies was defined with the help of Spearman's rank correlation coefficient. The survey was structured in two parts: general and conceptual. The general part of the survey characterized respondents: teachers and students (Figure 2, 3).

Teachers were 110 female and 18 male aged 20 to >70 years.

Subject	Science n=27	Biology n=34	Chemistry n=18	Physics n=22	Math n=36	Geography n=19	ICT n=30	Other n=6
Age (Years)	20-24 n=8	25-30 n=9	31-40 n=14	41-50 n=29	51-60 n=49	61-65 n=14	66-70 n=4	>70 n=1
Education	Diploma n=51	Diploma (professional) n=25		Bachelor n=19		Master n=77	PhD n=1	Other n=5
Experience (Years)	<1 n=3	1-3 n=8	4-6 n=7	7-10 n=7	11-20 n=22	21-30 n=33	>30 n=47	Other n=1
Grade taught	5th n=20	6th n=19	7th n=22	8th n=21	9th n=30	10th n=52	11th n=51	12th n=49	Other n=30
Direction	No direction n=90		Humanitarian n=24		Science n=49		Other n=19	

Figure 2. Teachers profile.

Students were 161 female and 96 males.

Grade learnt	10th n=97		11th n=112		12th n=48	
Entry requirement	Average mark n=119	Test in STEM n=15	IQ test n=4	Personal interview n=5	Other n=59	
Direction School level	No direction n=2	Humanitarian n=19	Science n=96	Secondary school n=37	Gymnasium n=215	Other n=21

Figure 3. Students profile.

The conceptual part of the questionnaire on the use of technologies (Figure 4) has been developed by adapting the division suggested by *European Schoolnet* (Gras-Velázquez, 2016).

Exploration	**Obtaining information**	**Presentation of information**	**Classrom resources**	**Communication**
Questions on data handling, simulation, modelling and obtaining graphic information	Questions on the use of the internet/ intranet	Questions on presentation the information	Questions on using technology accessible in the classroom	Questions on collaboration, using e-mail and on-line platforms
Codes: E (5)*	Codes: I (4)	Codes: P (3)	Codes: R (6)	Codes: C (4)

* number of questions

Figure 4. Structure of the conceptual part of the questionnaire.

The conceptual part also included questions related to teachers' problems in using technology.

The current study involved 385 respondents (128 teachers and 257 students). The results of the study are analysed by comparing teachers and students' views on the use of technologies ($\alpha = 0.87$) and identifying problems that teachers have in using technologies ($\alpha = 0.88$).

Results and Discussion

Teachers and students' views on using technologies

In order to find out teachers and students' views on using technologies, 22 questions were asked.

There were no statistically significant differences between teachers and students' views in five questions on such technology used in science education as social networks for learning, online discussions, tools for data capture, processing and interpretation and tablets. Low mean values mainly dominate in teachers and students' answers, which shows that these technologies are rather little used in communication, tablets as a resource, the use of data logging tools is rather problematic. The different views on the use of technologies held by teachers and students are reflected in Table 2.

There were statistically significant differences between teachers and students' views on technology used in communication, exploration and data handling, obtaining of information and presentation as well as classroom resources.

Table 2

Different views on the use of technologies held by teachers and students

Code	Issue	Students (N=257)			Teachers (N=128)			ρ
		Mdn	*M*	*SD*	*Mdn*	*M*	*SD*	
C2	E-class or *Mykoob*	5	4.43	0.886	5	4.7	0.439	<0.001
C6	E-folio	2	2.50	1.21	2	4.46	1.21	0.001
C12	MOOCs	1	1.73	0.933	2	2.39	1.15	<0.001
E3	Computer laboratory simulations for carrying out virtual experiments*	2	2.62	1.00	4	3.57	1.00	<0.001
E4	Computer adapted microscope **	2	1.98	1.23	2	2.49	1.12	0.006
E13	Visual aids for presenting phenomena	3	3.11	1.11	4	3.93	1.06	<0.001
E20	Educational computer games	2	2.16	1.08	4	3.55	0.938	<0.001
I1	Internet for searching of information	4	4.12	0.920	4	4.41	0.633	0.008
I21	E-learning resources (in Latvian)	3	2.74	1.24	4	3.70	1.14	<0.001
I22	Other internet resources	4	3.67	1.05	4	4.17	.677	<0.001
P7	*MS Office* applications for home-works	4	3.93	1.05	5	4.43	0.636	<0.001
P8	Online programs for home-works	2	2.44	1.20	3	3.06	1.25	<0.001
P10	Desktop publishing	2	1.81	0.918	2	2.27	1.13	<0.001
R14	Interactive board	3	2.84	1.21	4	3.34	1.42	<0.001
R15	Voting consoles	2	2.01	1.09	2	2.48	1.28	<0.001
R18	Smartphones	3	3.09	1.17	4	3.54	0.995	<0.001
R9	*MS Office* applications during lessons	3	3.02	1.18	4	3.77	1.12	<0.001
R16	Mobile computer-class	2	2.53	1.17	3	2.88	1.44	0.026

*   number of teachers (n = 79), because the question referred only to science teachers (teachers of informatics and mathematics were excluded)

**   number of teachers (n = 51), because the question referred only to science and biology teachers

According to mean values there were differences in teachers and students' views on MOOCs (ρ = <0.001; students *Mdn* = 1, teachers *Mdn* = 2). It is interesting that the mean values in teachers' answers on the use of technologies had a higher value (*Mdn* = 4-5) than students (*Mdn* = 2-4):

- *exploration.* There are statistically significant differences on using Computer adapted microscope (ρ = 0.006) in biology and science (*Mdn* = 2) in both groups; (computer laboratory simulations (multimedia software for simulation of processes carrying out virtual experiments (ρ = <0.001), visual aids - models, drawings, and graphs - for presenting phenomena (ρ = <0.001), and usage of educational computer games (ρ = <0.001);

- *obtaining the information.* There are statistically significant differences on using Internet for searching of information (ρ = 0.008), usage of e-learning resources such as Latvian materials of *Lielvārds, Zvaigzne ABC, DZM project* (ρ = < 0.001), and usage of other internet resources such as data base, video, animations (ρ = <0.001);

- *presenting the information.* There are statistically significant differences (ρ = <0.001) in questions about using *MS Office* applications for home-works (students) and presentations (teachers *Mdn* = 5; students *Mdn* = 4), online programs such e.g. *Prezi* for home-works (students) and presentations (teachers *Mdn* = 3; students *Mdn* = 2).

- *technologies as a resource in the classroom.* There are statistically significant differences (ρ = < 0.001) in questions on using the Interactive board, Voting consoles, Smartphones, MS Office applications during lessons, and Mobile computer-class (ρ = 0.026).

- *technology in communication.* There are statistically significant differences in teachers' and pupils' views on the use of technology for cross-communication (*Mdn* = 5) for both e-class or *Mykoob* (ρ = <0.001), E-folio (*Mdn* = 2; ρ = 0.001) and MOOCs (ρ = < 0.001; students *Mdn* = 1, teachers *Mdn* = 2).

Conditions determined the teachers' use of technology in the STEM teaching/ learning process

There are many conditions determined the teachers' implementation of technology in STEM education.

Teachers' problems in using technologies are connected with the institutional and personal factors (Figure 5). There is a strong correlation on the institutional level between the lack of technology provision, moral depreciation ($r = 0.69$; $p < 0.001$), moderate correlation - non-compatible versions of applications ($r = 0.57$; $p < 0.001$) and the inability to ensure immediate technical assistance ($r = 0.51$; $p < 0.001$).
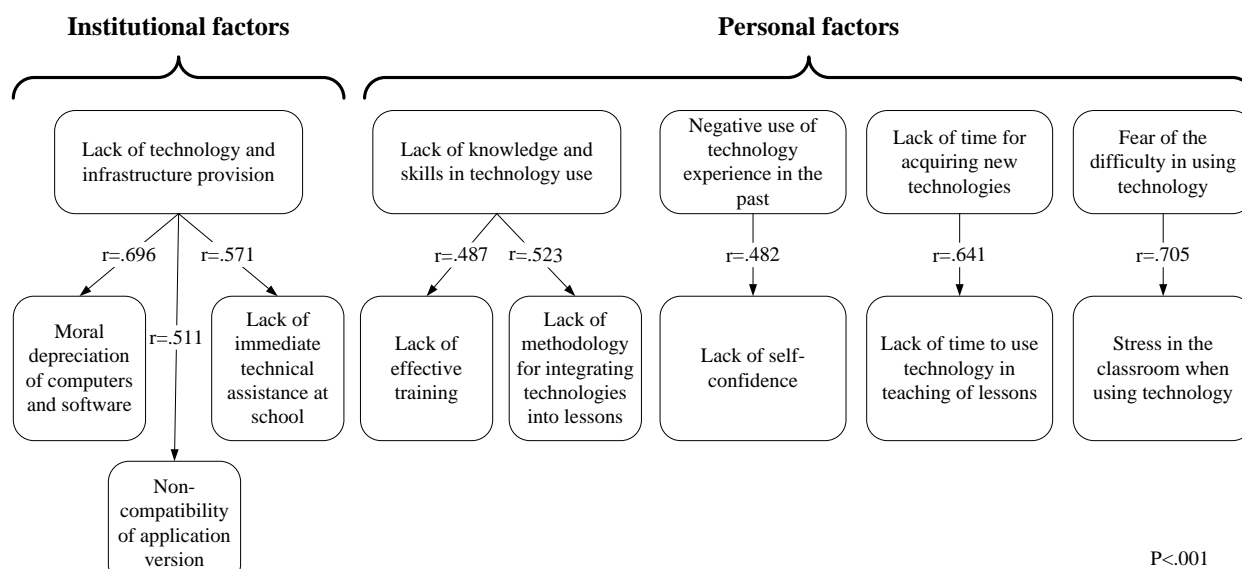
Figure 5. Factors that influence teachers' use of technologies.

The moderate correlation on the personal level develops between the teacher's insufficient knowledge on technologies that are related to the lack of training in using technologies ($r = 0.48$; $p < 0.001$) and the lack of methodology on integrating technologies in lessons ($r = 0.52$; $p < 0.001$). The previous negative experience of using technologies is personally important for the teacher because it affects his/her self-confidence ($r = 0.48$; $p < 0.001$). There is also a strong correlation between teacher's not daring to use technologies (*Fear of the difficulty in using technology in the presence of students and colleagues, since failure could lead to a reduction in the status and create a misconception of professional competence*) and the stress when using technologies in lessons ($r = 0.70$; $p < 0.001$). This relationship could be explained by the fact that the majority of teachers are aged 41-60 ($n = 78$) and thus their use of technology is problematic. The lack of time significantly interferes with the teacher's use of technology: the lack of time for acquiring technologies correlates with the lack of time to use technologies in the lessons ($r = 0.64$; $p < 0.001$). Table 3 summarises quotes from teachers' answers on technology use.

Table 3

Strength and weakness of technology use

Strengths	Weaknesses
Planning and materials available for primary school.	*Lack of resources and methodology for secondary school. Old generations' materials and educational resources in Latvian language.*
There are technologies that can be used to demonstrate a natural phenomenon / process.	
Young people have better knowledge of technology, so I am still learning.	*No projectors, 3D printers.*
	Difficult to find tasks in electronic form, tests that are not available for students.

Conclusions

Teachers and students have similar and different views on using technologies. The study shows that there are certain problems with the specific STEM technology: the sensor – data registering and

processing system, the use of the computer-adjusted microscope and computer laboratory simulations for carrying out virtual experiments. Classroom resources not always give the possibility to use technologies to full capacity in the lessons. It means that the impact of technologies specifically needed for the acquisition of science in STEM education is still largely provisional and the teacher faces difficulties to ensure a meaningful exploration process. Both teachers and students use technologies mainly reproductively (to seek information in the internet, to summarise it and to make a presentation) as consumers of information and less productively as developers of knowledge.

Institutional and personal factors are the main that affect the use of technologies. Teaching, using technology, sets 21st century requirements to teachers and teacher's knowledge, experience and motivation can be considered as one of the key factors that has a substantial role in integrating technologies in the classroom. Actually, technology is only a tool and its meaningful use depends on the teacher.

Bibliography

1. Anspoka Z., Kazaka D. (2019). Teachers during Education Reforms: Challenges and Opportunities. In V. Dislere (Ed.), *The Proceedings of the International Scientific Conference Rural Environment. Education. Personality (REEP)*, *12*. Jelgava: Latvia University of Life Sciences and Technologies, 22-27. doi: 10.22616/REEP.2019.002

2. Beļickis I., Blūma D., Koķe T., Markus D., Skujiņa V., Šalme A. (2001). *Pedagoģijas terminu skaidrojošā vārdnīca*. [Explanatory dictionary of pedagogical terms] Rīga: Zvaigzne ABC. (in Latvian)

3. Breiner J.M., Harkness S.S., Johnson C.C., Koehler C.M. (2012). What is STEM? A discussion about conceptions of STEM in education and partnerships. *School Science and Mathematics*, *112*(1), 3-11. doi: 10.1111/j.1949-8594.2011.00109.x

4. Brown R., Brown J., Reardon K., Merrill C. (2011). Understanding STEM: current perceptions. *Technology and Engineering Teacher*, *70*(6), 5-9. Retrieved from http://www.stemteacherlearning.com/uploads/topics/stem-curricula/Understanding%20STEM.pdf

5. Bybee R.W. (2010a). Advancing STEM Education: A2020 Vision. *Technology and Engineering Teacher*, *70*(1), 30-35.

6. Bybee R.W. (2010b). What is STEM education? *Science*. 329(5995), 996. doi: 10.1126/science.1194998

7. Byers A. (2016). *Science Teachers "Speak Up" About Technology in the Classroom*. Retrieved from http://blog.nsta.org/2016/09/08/science-teachers-speak-up-about-technology-in-the-classroom/

8. Dugger W.E. (2010). Evolution of STEM in the United States. In *the Biennial International Conference on Technology Education, 6.* Gold Coast, Queensland, Australia. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.476.5804&rep=rep1&type=pdf

9. Ertmer P.A., Ottenbreit-Leftwich A.T., Sadik O., Sendurur E., Sendurur P. (2012). Teacher beliefs and technology integration practices: A critical relationship. *Computers & education*, *59*(2), 423-435. doi: 10.1016/j.compedu.2012.02.001

10. European Commission. (2016). *Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions. Improving and Modernising Education.* Brussels. Retrieved from http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52016DC0941&from=EN

11. European Commission. (2018). *Digital Learning & ICT in Education.* Retrieved from https://ec.europa.eu/digital-single-market/en/policies/digital-learning-ict-education

12. Fullan M., Langworthy M. (2014). A *rich seam: How new pedagogies find deep learning.* London: Pearson. Retrieved from https://www.michaelfullan.ca/wp-content/uploads/2014/01/3897.Rich_Seam_web.pdf

13. Gibilisco S. (2013). *STEM (science, technology, engineering, and mathematics)*. Retrieved from https://whatis.techtarget.com/definition/STEM-science-technology-engineering-and-mathematics

14. Gonzalez H.B., Kuenzi J.J. (2012). *Science, technology, engineering, and mathematics (STEM) education: A primer.* Washington, DC: Congressional Research Service. Retrieved from https://fas.org/sgp/crs/misc/R42642.pdf

15. Gras-Velázquez À. (2016). *ICT in STEM Education - Impacts and Challenges: Setting the scene*. A STEM Alliance Literature Review, Brussels, Belgium: European Schoolnet. Retrieved from

http://www.stemalliance.eu/documents/99712/104016/STEM_Alliance_ICT-in-STEM-Edu-Setting_the_Scene_Nov2016.pdf/4d276d53-b339-4955-a7fb-e162dfeaf5a8

16. Guzey S.S., Roehrig G.H. (2009). Teaching science with technology: Case studies of science teachers' development of technology, pedagogy, and content knowledge. *Contemporary Issues in Technology and Teacher Education*, *9*(1), 25-45. Waynesville, NC USA: Society for Information Technology & Teacher Education. Retrieved from https://www.learntechlib.org/primary/p/29293/

17. Hom E.J. (2014). *What is STEM Education?* Retrieved from https://www.livescience.com/43296-what-is-stem-education.html

18. Honey M., Pearson G., Schweingruber H. (Eds.). (2014). *STEM integration in K-12 education: Status, prospects, and an agenda for research*, *500*. Washington, DC: National Academies Press. doi: 10.17226/18612

19. Inan F.A., Lowther D.L. (2010). Factors affecting technology integration in K-12 classrooms: A path model. *Educational Technology Research and Development*, *58*(2), 137-154. doi: 10.1007/s11423-009-9132-y

20. *ISTE Standards*. (2019). Retrieved from https://www.iste.org/standards

21. Jones A. (2004). *A review of the research literature on barriers to the uptake of ICT by teachers: British Educational Communications and Technology Agency (Becta)*. Version 1. Retrieved from https://dera.ioe.ac.uk/1603/1/becta_2004_barrierstouptake_litrev.pdf

22. Mumtaz S. (2000). Factors affecting teachers' use of information and communications technology: a review of the literature. *Journal of information technology for teacher education*, *9*(3), 319-342. doi: 10.1080/14759390000200096

23. National Reforms in School Education. (2019). Retrieved from https://eacea.ec.europa.eu/national-policies/eurydice/content/national-reforms-school-education-34_en

24. Osborne J., Hennessy S. (2003). *Report 6: Literature review in science education and the role of ICT: Promise, problems and future directions*. Retrieved from https://telearn.archives-ouvertes.fr/hal-00190441/document

25. Ottenbreit-Leftwich A.T., Glazewski K.D., Newby T.J., Ertmer P.A. (2010). Teacher value beliefs associated with using technology: Addressing professional and student needs. *Computers & education*, *55*(3), 1321-1335. doi: 10.1016/j.compedu.2010.06.002

26. Punie Y., Zinnbauer D., Cabrera M. (2008). *A review of the Impact of ICT on Learning. Working paper prepared for DG EAC*. Seville, Spain: Institute for Prospective Technological Studies (IPTS), JRC, European Commission. Retrieved from http://ftp.jrc.es/EURdoc/JRC47246.TN.pdf

27. Sanders M. (2009). Integrative STEM education: primer. *The Technology Teacher*, *68*(4), 20-26. Retrieved from https://www.iteea.org/File.aspx?id=56320

28. Stohlmann M., Moore T.J., Roehrig G.H. (2012). Considerations for teaching integrated STEM education. *Journal of Pre-College Engineering Education Research (J-PEER)*, *2*(1), Article 4. doi: 10.5703/1288284314653

29. Tsupros N., Kohler R., Hallinen J. (2009*). STEM education: A project to identify the missing components*. Intermediate Unit 1. Pittsburgh, Pennsylvania: Center for STEM Education and Leonard Gelfand Center for Service Learning and Outreach, Carnegie Mellon University.

Mathematical Modelling as a Means of Formation of Methodical Competence of the Prospective Teacher

Bakhytkul Kaskatayeva[1] Doctor of pedagogy; **Maral Andassova**[2] PhD
Kazakh National Women`s Teacher Training University, Kazakhstan[1]
Kazakh Ablai Khan University of International Relations and World Languages, Kazakhstan[2]
Kaskataeva1946@gmail.com[1]; andassova872@gmail.com[2]

Abstract: In this article the method of formation of methodical competence of students of pedagogical university is developed. The task of the higher school is to raise a new generation of professionally competent mathematics teachers. In this regard, there is a need to develop effective methods of training prospective teachers. The aim of the study is to develop a methodology for the use of mathematical modelling for the formation of methodical competence of the prospective teacher. The study used research methods such as theoretical analysis of scientific literature, observation, generalization. As a result, a method of using mathematical modelling as a means of forming the methodological competence of the prospective teacher was developed. Every method of scientific research, both theoretical and experimental, is based on the method of modelling, since in sign modelling, models appear in the form of graphs, drawings, formulas, systems of equations, sentences in natural or artificial (symbols) language.

Keywords: mathematical modelling, methodical competence, mathematics teachers, pedagogical university education.

Introduction

The task of the higher school is to raise a new generation of professionally competent teachers in accordance with the modern model of education of Kazakhstan in the conditions of digitalization. In this regard, there is a need to develop effective methods of training future professionally competent teachers.

Currently, a special role is given to the competence approach, which is in demand in domestic and foreign school systems. The competence approach meets the state ideology and acts as a means of updating the educational policy of Kazakhstan. The need for the introduction of competence approach in Kazakhstan is defined in the State program of education development of the Republic of Kazakhstan for 2011-2020 (State program of…, 2010).

The analysis of domestic and foreign literature on the formation of methodical competence of the prospective teacher showed that the relevance of this problem is determined not only by the social order, but also by the student's needs for self-determination and self-expression (Trede, Macklin, Bridges, 2012). Special attention of foreign and domestic researchers points to the lack of knowledge of students on the problem of methodical competence in the process of studying at the university, as well as contradictions between the need of educational institutions in competent specialists and their lack of theoretical and practical training. In this regard, there is a need to train competitive teachers who have the necessary important qualities, knowledge and skills, able to adapt independently and quickly in a constantly changing information and technological environment, that is, to develop their skills having professional competence, the main component of which is methodical competence. The works of scientists (Tang, Wong, Cheng, 2015; Boud, Molloy, 2013; Briede, Krastina, 2006; Briede, Pēks, 2014) revealing the main provisions of the competence approach are important in this regard; as well as pedagogical conditions of forming the research competence masters are identified (Kaskatayeva, 2014). Vocational training is the process of acquiring skills that are necessary to carry out certain duties related to a job or group of jobs (Kaskatayeva, 2009).

The main components of the teacher's professionalism, his/her pedagogical skills are professional competence, creativity, culture, technology, individual style, innovative and research approach to activity, its productivity. The highest stage of professional competence is manifested in a teacher with experience, but its prerequisites and individual components are formed during training in a pedagogical university. Professional competence of the teacher is a multifactorial phenomenon that includes a system of theoretical knowledge of the teacher and ways of their application in specific pedagogical situations,

value orientations of the teacher, as well as integrative indicators of his/her culture (speech, communication style, attitude to himself and his activities, to related areas of knowledge).

Professional competence is understood as a set of professional and personal qualities necessary for successful pedagogical activity. Professional competent can be called a teacher who at a sufficiently high level carries out pedagogical activities, pedagogical communication, achieves consistently high results in development and education (Kaskatayeva, 2018a).

The final frontier in the professional training of future specialists is the formation of their professional competence. Methodical competence is the main component of professional competence of the teacher. The authors had previously identified the essence of the concept of *methodical competence*, "as personal professional qualities that allow achieving a methodological result, its theoretical and practical readiness to teach the subject and possession of modern technology of training" and justified that methodical competence is the main component of professional and pedagogical competence of the teacher (Kaskatayeva, 2018b).

In previous studies, the authors had also developed interactive methods for the formation of methodological and research competencies (Kaskatayeva, 2017; Kaskatayeva, Andassova, Andassov, 2018). The subject of further study is the search for effective methods of formation of MC. One of effective methods of formation of methodical competence of the prospective teacher is mathematical modelling which develops independent effective thinking, intelligence. Modelling, as analysis, abstraction, generalization, induction, analogy, refers to General logical methods and techniques of research.

Modelling is a method of studying certain objects by reproducing their characteristics on another object-a model that is an analogue of a particular fragment of reality (real or mental) - the original model. There must be a certain similarity (similarity) between the model and the object of interest to the researcher — in physical characteristics, structure, and functions. Any method of scientific research, both theoretical and experimental, is based on the method of modelling, since in sign modelling, models appear in the form of graphs, drawings, formulas, systems of equations, sentences of natural and artificial (symbols) language. Currently, mathematical (computer) modelling is widely used.

Mathematical modelling is the art of translating problems from an application area into tractable mathematical formulations whose theoretical and numerical analysis provides insight, answers, and guidance useful for the originating application.

Several scientist's has the previous experience of studies about mathematical modelling: - about student strategies to mathematical modelling, instructional implementation of mathematical modelling, and assessment of these activities (Lyon, Magana, 2020); about modelling of online short-courses for teaching mathematics for prospective primary school teachers (Jackson et al., 2020); mathematical modelling opportunities of secondary school teachers (Jung, Stehr, He, 2019; Hernandez-Martinez et al., 2019; Tran et al., 2019); the analysis of the modelling processes that emerged during the implementation of a didactic sequence of Inquiry-Based Mathematics Education - their methodology basically consists of finding evidence in the implementation that reveals the emergence of some of the sub-processes from the modelling model (Sala, Font, 2019). S. Bernander, J.E. Szydlik, C.E. Seaman focuses on ways to foster and model a classroom culture of doing mathematics with prospective teachers, to develop mathematical thinking, supporting students in problem solving, using precise language and notation, making sense of definitions, conjecturing and generalizing (Bernander, Szydlik, Seaman, 2020).

Today the method of formation of methodical competence of students by means of mathematical modelling is insufficiently developed. In this regard, there is a need to develop methodical of using mathematical modelling in order to increase the level of professional readiness of students of pedagogical university, which predetermined the relevance of this topic.

Analysing the findings of the aforementioned scientists, the authors define mathematical modelling as a method of qualitative and quantitative description of the process using a mathematical model, which describes the real process using an adequate mathematical technique.

The aim of the study is to develop a method of using mathematical modelling as a means of forming the methodical competence of the prospective teacher.

Methodology

The task of the study: to develop a methodology for the formation of methodical competence of the prospective teacher with the help of mathematical modelling in the process of teaching mathematics.

Research methods: study and theoretical analysis of domestic and foreign literature on the problem of research; analysis and generalization of advanced pedagogical experience; generalization and synthesis of empirical material.

It is known that the solution of specific practical problems is carried out by creating its mathematical model. The authors considered mathematical modelling in teaching students in mathematical modelling of applied problems in the practical classes of the course *Methods of Teaching Mathematics in high school*. In the educational process, much attention should be paid to the methods and techniques of teaching courses, equipment, rational organization of independent work of students. When carrying out theoretical and practical training of prospective teachers, the formation of methodical competence of the prospective teachers is carried out by showing the use of the considered educational material in the future profession.

Focus is on the use of mathematical modelling in the formation of components of methodical competence. When considering the application of mathematical modelling, prospective teachers realized its role for systematization and consolidation of knowledge.

Results and Discussion

The purpose of the article is to show the theoretical and practical preparation of students for the use of mathematical modelling in the course *Methods of Teaching Mathematics*. One of the features of the development of science at the present stage is the widespread use of mathematical methods and computer technology in the study of various fields of science. They have a special place in the course of mathematical programming or effective planning models.

Linear programming is a deterministic method to achieve the optimum outcome (such as maximum profit or lowest cost) in a given mathematical model for a set of constraints. It is based on a mathematical technique following three methods: a graphic solution, an algebraic solution and the use of the simplex algorithm (Réveillac, 2015).

Modelling is understood as the study of objects with the help of a model, the construction and study of a model of substances and phenomena of real life (chemical, physical, biological, social processes). Modelling is connected with the process of education development. It has been used since an early time. For example: Brunelleschi, Michelangelo and other Italian architects and sculptors used models of high-rise structures that they built. Galileo and Leonardo da Vinci used not only models, but also studied their used places. Subsequently, Newton more deeply showed the application of this method (Cooke, 2013).

A mathematical model is the "equivalent" of an object, reflecting in mathematical form its most important properties the laws to which it obeys, the connections inherent in its constituent parts, there is a triad "model-algorithm-program". "By creating the triad "model - algorithm – program", the researcher gets a versatile, flexible and inexpensive tool in his hands, which is initially debugged, tested in trial computational experiments. After the adequacy (sufficient correspondence) of the triad to the original object is established, various and detailed "experiments" are carried out with the model, giving all the required qualitative and quantitative properties and characteristics of the object" (Samarski, Mikhailov, 2001).

The concept of model in science and technology has different meanings. Therefore, it is difficult to make a classification into types of modelling. Classification of modelling concepts is:
- by its nature;
- depending on the nature of the simulated object;
- depending on the places of modelling used (in engineering, physical science, chemistry and psychology, pedagogy of modelling processes).

Any classification of modelling techniques is conducted on the basis of scientific experience. It doesn't have a standard pattern. If the geometric, physical, functional properties of the studied objects are studied, then modelling is a specific modelling. For example, the modelling properties of the structure

are used in the study of various mechanisms, vehicles. If the nature of the simulated object is only physical, then such modelling is called physical modelling. The physical nature of phenomena can also be studied empirically. It can be characterized by the mathematical relation of the simulated phenomena. For example, mechanical and electrical oscillations characterize only one differential equation. Therefore, mechanical oscillations can be investigated by means of electrical oscillations and Vice versa by means of mechanical oscillations. And it is very convenient for laboratory research. In this case, it is possible to measure unknown quantities.

According to authors' opinion, the process of mathematical modelling consists of three stages:
- *first-stage* - creating a mathematical model is the process of transition from a real area to a model area through formalization; an approximate description of any processes or phenomena expressed using mathematical symbols; this is usually a specific sequence of mathematical and logical operations called a program;
- *second stage* - solving mathematical problems in the framework of the constructed model;
- *third stage* - translating the result into practice-interpreting the results in the real area.

When analysing mathematical modelling, there is a deep understanding of the nature of the phenomena being studied. The connections connecting the main objects of the model are revealed. Here the facts related to the phenomena under consideration are revealed, and the relations between model objects are written in a mathematical term. Next, the authors study mathematical problems constructed using the model. Complex mathematical problems are solved using computer technologies. The calculation is performed according to the program on electronic computers. Mathematical modelling, which reduces the study of various processes and phenomena to mathematical problems, in connection with the advent of computers has become widely used.

Under the visibility most often understand the use of the didactic principle of visibility, when training is based on specific memorable images and examples, directly perceived by students. Recently, the use of special and technical means of training, such as audio-visual, multimedia, computer, has become increasingly understood as visibility in the classroom. During learning process visibility is understood as a specially organized demonstration of material to facilitate its understanding and consolidation through the use of simplified schemes, vivid images, memorable comparisons.

The principle of visibility in general is very important in teaching. The methods that use it are perhaps the oldest methods of learning and have been used since people began to transfer knowledge to each other. They are much more widely used in the technical Sciences, where the subject of study are material objects and processes, in themselves the use of visibility makes the training material more accessible, understandable and memorable, facilitating the learning process.

Mathematical modelling of practical problems develops the subject competence of the student. That is, develops independent productive thinking, intelligence. The authors show mathematical modelling of practical problems. One of the ways of mathematical development is the external way. He was born because of the need to solve problems outside of mathematics. In this case, the main reason for the development of mathematics is the solution of practical problems (counting objects, measuring area and volume, problems of Economics, technology, etc.).

In the second method, the construction of the theory and development of this theory depending on its internal laws is carried out on the basis of systematization, generalization of the discovered mathematical facts. These ways of development of mathematics are inextricably linked with each other. They are called, respectively, as the path of applied external and internal theory.

Thus, applied mathematics is the science of solving mathematical problems caused outside of mathematics. The peculiarity of solving applied problems is that their solution uses not only inductive analysis and deductive logic, but also an analysis that corresponds to reality, based on analogy and quantitative or physical experiments (Blehman, Mishkis, Ganovko, 2006).

Experiment plays an important role in solving applied problems. The experiment is often used in the construction of a mathematical model and shows the correctness of the chosen, used mathematical theory. For example, an equation constructed according to the content of applied problems is its

analytical model, a drawing is a geometric model. The following is an example in Figure 1, that shows a geometric model of the function $y = x^4 - x^2$. This is a parabola.

The graphic method occupies an important place in the school mathematics course. This method will help to find the approximate value of the desired value.
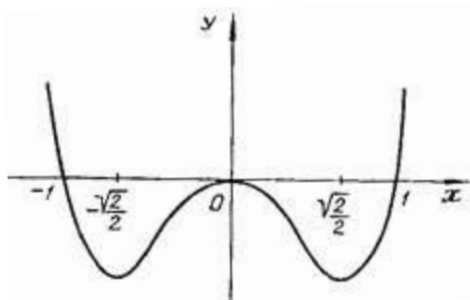
Figure 1. Geometric model of the function $y = x^4 - x^2$.

In algebra, this method is often used to find solutions to equations and inequalities and their systems, to find the roots of quadratic equations. In geometry, it is used when constructing a square equal to a given square, when dividing an angle into equal parts.

The following is the repetition of theoretical material in the classroom.

Teacher: What are the stages of solving practical problems using mathematical modelling?
Student: The solution of applied problems consists of three stages.

The first stage of mathematical modelling is the translation of the problem condition into the language of mathematical formulas (equation, inequality). The second stage – the solution of the mathematical tasks within the constructed model. The third stage is the translation of the result into practice (interpretation stage).

The first stage: setting the problem.

Teacher: How can I conduct a lesson on "the System with two second-order unknowns" method of problem learning?
Student: The problem situation can be put in the form of a task.
Teacher: Well. Let's create a problem for studying this topic using the following geometric task.

The task: The Hypotenuse of a right triangle is 10 cm, and the sum of the catheters is 14 cm. Find the area of this triangle.

Decision. The first stage: creation of a mathematical model, i.e. translation of the content of a given problem into the language of a mathematical formula. Students in solving this applied problem developed its mathematical model.

Let x and y are the catheters of this right triangle. By the condition of problem, the hypotenuse $10(cm)$ and $x + y = 14(cm)$. Then by the Pythagorean Theorem:

$$\begin{cases} x^2 + y^2 = 10^2 \\ x + y = 14 \end{cases} \quad (1)$$

where x – the catheter one; y – the catheter two.

So, a mathematical model of this practical problem has been created in the form of a system of two equations with two second-order unknowns (Formula 1).

The second stage: solving mathematical problem (Formulas 2,3,4).

$$\begin{cases} (14 - y)^2 + y^2 = 10^2 \\ x = 14 - y \end{cases} \quad (2)$$

$$\begin{cases} 196 - 28y + y^2 + y^2 = 10^2 \\ x = 14 - y \end{cases} \tag{3}$$

$$\begin{cases} y^2 - 14y + 48 = 100 \\ x = 14 - y \end{cases} \Rightarrow \quad \begin{cases} y = 8 \\ x = 6 \end{cases} \quad \text{or} \quad \begin{cases} y = 6 \\ x = 8 \end{cases} \tag{4}$$

The system is solved by the substitution method.

The area of the triangle is calculated by the following formula:

$$S_\Delta = \frac{1}{2} a \cdot h_a = \frac{1}{2} b \cdot h_b = \frac{1}{2} c \cdot h_c \tag{5}$$

The Triangle is rectangular. Therefore, $x = a = h_b$; $y = b = h_a$. Substitute the values of x and y in the formula (5).

$$S_\Delta = \frac{1}{2} a \cdot h_a = \frac{1}{2} x \cdot y = \frac{1}{2} \cdot 8 \cdot 6 = 24 (cm^2) \tag{6}$$

The solution of the geometric problem by the method of mathematical modelling led to the solution of a system of two equations with two second-order unknowns, which is solved by the substitution method.

The third stage: interpretation stage.
The catheters of the rectangular triangle are 8 cm, 6 cm. The area of this triangle is $24\,cm^2$ (Formula 6). What was required to find.

In the practical lessons of the course *Methods of Teaching Mathematics*, the solution of a system of two equations with two second-order unknowns was considered by the substitution method. Solving applied problems, drawing up its mathematical model develops cognitive abilities and mathematical thinking. The various formulas, tables, diagrams, schemes, equations and inequalities and their systems are used to model the problem. An important role is played by the development of students' ability to solve problems at all levels of education at school and in higher education institutions.

One of the effective ways to stimulate students and improve the quality of education is a rating system. The rating control system takes into account all active activities of students. This is due to the formation of methodical competence. The rating number of points is formed based on the results of such types of control as: 1) Entrance control-control of students ' knowledge and skills at the beginning of the course; 2) Current control; 3) Control of students ' knowledge and skills at the end of studying a topic or module; 4) Final control; 5) Control of residual knowledge and skills.

Because the rating is a student achievement scale, a well-designed and thought-out test is a standard measurement tool. To achieve certain quantitative results, the student plans and models his work. This prepares them for future professional work and forms methodical competence. That is why the authors conducted preparatory work at the Institute so that students could master the methodical competence and use it in their future school practice.

The formation of the methodical competence of the prospective mathematics teacher is a priority task of the pedagogical University, since the quality of training and education directly depends on the ability to organize all types of professional and pedagogical activities methodically correctly.

Conclusions

The necessity of using mathematical modelling as a method of forming the methodical competence of a prospective teacher is substantiated in this article. Methodical competence is the main component of teacher professional competence. It is known that professional competence is manifested by teachers with experience, but individual components are formed in the learning process at a pedagogical university.

On the basis of theoretical analysis domestic and foreign literature the authors defined the following:
- the essence of the concept of *methodical competence* means the personal and professional qualities that allows teacher to achieve a methodical result, her/his–theoretical and practical readiness to teach the subject and to use the knowledge of modern pedagogical technologies;

- the concept of *mathematical modelling* means a method of qualitative and quantitative description of the process using a mathematical model that describes the real process using an adequate mathematical apparatus.

At the present stage, modelling as a method of scientific knowledge begins to play an increasingly important role. In fact, any method of scientific research, both theoretical and experimental, is based on the method of modelling. Models allowed to understand the device of various objects, to learn to manage them, to predict the consequences of impact on the object. This reveals the unity of the surrounding world and the method of modelling as a method of knowledge.

In order to form the methodical competence of students, it is shown:
- the usage of *mathematical modelling* technology in practical classes of the course *Methods of teaching mathematics*;
- the construction of a geometric model of the function $y = x^4 - x^2$;
- the usage a problem-based learning method for solving a geometric problem using *mathematical modelling* on the example of organizing a lesson on the topic *The System with two second-order unknowns*.

Solving practical problems using mathematical modelling in theoretical and practical training of students has formed students' skills of preliminary modelling using cogitative orientation.

The method of mathematical modelling prepares the prospective teacher for teaching mathematics at school in combination with life and forms the ability to apply the obtained mathematical knowledge in practice. Mastering the method of mathematical modelling served as an indicator of students' readiness for future teaching activities. The results of pedagogical experience showed high-quality assimilation of educational material by students, development of independent productive thinking and intelligence of students of pedagogical University.

Thus, the method of using mathematical modelling as a means of forming the methodical competence of a prospective mathematics' teacher has been developed.

Bibliography

1. Bernander S., Szydlik J.E., Seaman C.E. (2020). Fostering and Modelling the Common Core Standards for Mathematical Practice in Content Courses for Prospective Elementary Teachers. In A. Appova, R.M. Welder, Z. Feldman, (Eds.), Supporting Mathematics Teacher Educators' Knowledge and Practices for Teaching Content to Prospective (Grades K-8) Teachers. Special Issue: *Mathematics Enthusiast, 17*(2,3), 907-937. Retrieved from https://scholarworks.umt.edu/tme/vol17/iss2/18

2. Blehman I.I., Mishkis A.D., Ganovko N.G. (2006). Mehanika I prikladnaja matematika: logika I osobennosti prikladnoi matematiki [Applied mathematics: Subject, logic, features of approaches] (2nd ed.). Moskva: Nauka. Fizmatlit. (in Russian)

3. Boud D., Molloy E. (Eds.). (2013). Feedback in higher and professional education: understanding it and doing it well. London: Routledge.

4. Briede B., Krastina L. (2006). Competence Research Aspects, Kinds and Components. *Journal of Science Education*, *7*(1), 20-22.

5. Briede B., Pēks L. (2014). A constructivist approach in teaching in higher education for getting methodological and reflection competences. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 7. Jelgava*: LLU, 84-89. Retrieved from https://llufb.llu.lv/conference/REEP/2014/Latvia-Univ-Agricult-REEP-2014proceedings-84-89.pdf

6. Cooke R.L. (2013). *The history of mathematics a brief course* (3rd ed.). Hoboken, New Jersey: John Wiley & Sons. Retrieved from http://www.maths.sci.ku.ac.th/suchai/02731141/hmath.pdf

7. Hernandez-Martinez P., Thomas S., Viirman O., Rogovchenko Y. (2019). "I'm still making dots for them": mathematics lecturers' views on their mathematical modelling practices. *International Journal of Mathematical Education in Science and Technology*, *50*. doi: 10.1080/0020739X.2019.1668977

8. Jackson B., Hauk S., Tsay J.J., Ramirez A. (2020). Professional Development for Mathematics Teacher Educators: Need and Design. *Mathematics Enthusiast, 17*(2,3), 537-582. Retrieved from https://scholarworks.umt.edu/tme/vol17/iss2/8

9. Jung H., Stehr E.M., He J. (2019). Mathematical modelling opportunities reported by secondary mathematics preservice teachers and instructors. *School Science and Mathematics, 119*(6), 353-365. doi: 10.1111/ssm.12359

10. Kaskatayeva B.R. (2009). *Formation the Research Competence of Future Mathematics Teachers*. Monograph. Almaty: Kazakh State Womens Teacher Training University.

11. Kaskatayeva B. (2014). Pedagogical conditions for forming the research competency in future teachers of mathematics. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 7*. Jelgava, LLU, 103-109. Retrieved from https://llufb.llu.lv/conference/REEP/2014/Latvia-Univ-Agricult-REEP-2014proceedings-103-109.pdf

12. Kaskatayeva B. (2017). Interactive Methods as the Way of Forming the Research Competence of Future Math Teachers. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 10*. Jelgava, LLU, 284-291. Retrieved from https://llufb.llu.lv/conference/REEP/2017/Latvia-Univ-Agricult-REEP-2017_proceedings-284-291.pdf

13. Kaskatayeva B.R. (2018a). Application of interactive methods in the course of the methodology of teaching mathematics. In *International research symposium on Turkic world, 5*(2). Almaty: Қазақ Мемлекеттік Қыздар Педагогикалық Университеті, 74-81. Retrieved from http://kazmkpu.kz/symposium/wp-content/uploads/2018/04/2-ТОМ-9-КАЗАН-2018-СОНГЫ-1.pdf

14. Kaskatayeva B.R. (2018b). *Bolashaq matematika mugalimderinin' a'distemelik quzirettiligin qalyptastyry'* [Formation of methodical competence of the prospective teacher of mathematics]. Monograph. Almaty: Women's University. (in Kazakh)

15. Kaskatayeva B., Andassova M., Andassov M. (2018). Forming of Research Competence of Students on the Basis of Information Technologies. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *11*. Jelgava, LLU, 179-185. doi: 10.22616/REEP.2018.021

16. Lyon J.A., Magana A.J. (2020). A Review of Mathematical Modelling in Engineering Education. *International Journal of Engineering Education, 36*(1A), 101-116.

17. Réveillac J.M. (2015). *Optimisation Tools for Logistics*. UK: Elsevier Ltd. Retrieved from https://www.sciencedirect.com/topics/engineering/linear-programming

18. Sala G., Font V. (2019). The role of modelling in an experience of inquiry-based mathematics teaching. *Avances de Investigacion en Educacion Matematica*, *16*, 73-85. Retrieved from https://www.aiem.es/index.php/aiem/article/view/283 (in Spanish)

19. Samarski A.A., Mikhailov A.P. (2001). Matematiceskoje modelirovanije. Ideji, metodi, primeri [Mathematical modelling. Ideas. Methods. Examples]. Moskva: Fizmatlit (in Russian)

20. *State program of education development of the Republic of Kazakhstan for 2011-2020*. (2010). Astana: The Ministry of Education and Science of the Republic of Kazakhstan. Retrieved from https://kaznmu.kz/eng/wp-content/uploads/2012/01/program_2020_english.doc

21. Tang S.Y.F., Wong A.K.Y., Cheng M.M.H. (2015). The Preparation of Highly Motivated and Professionally Competent Teachers in Initial Teacher Education. *Journal of Education for Teaching: International Research and Pedagogy, 41*(2), 1-17. doi: 10.1080/02607476.2015.1010875

22. Tran D., Nguyen D.T., Nguyen A.T.T., Nguyen G.N.T., Ta P.M. (2019). Bridging to mathematical modelling: Vietnamese students' response to different levels of authenticity in contextualized tasks. *International Journal of Mathematical Education in Science and Technology*, doi: 10.1080/0020739X.2019.1648890

23. Trede F., Macklin R., Bridges D. (2012). Professional identity development: a review of the higher education literature. *Studies in Higher Education, 37*(3), 365-384. doi: 10.1080/03075079.2010.521237

Promoting of Student's Cultural Understanding in General Education: Contradictions and Solutions

Ilze Briška[1] Dr.paed., Mg.art.; **Daiga Kalēja-Gasparoviča**[2] Dr.paed.
University of Latvia, Latvia
ilze.briska@lu.lv[1], dkalga@lu.lv[2]

Abstract: The study is devoted to the clarification of the content and learning approach for the promoting students' cultural understanding in general school education. The aim of the study is to systematize the different curriculum designs and pedagogical approaches aimed at the development of learner's cultural understanding, and analyse their suitability for particular educational purposes. In the article, the concept *cultural understanding* is analysed theoretically, in the context of transmissive or transformative learning in order to help the all participants of general education (including teachers, politicians, teacher educators, researchers and school students) by clarifying the typical educational approaches and appropriate terminology for promoting the students' cultural understanding in general education. Empirical data come from interviews with educational experts and 72 surveys with pre- and in-service teachers. As a result of the study, the theoretical model of the promoting the cultural understanding in general education curriculum was constructed. The model will be useful for combining the content and approach of learning for promoting the student' s cultural understanding in accordance with particular educational goals in general school practice, teacher education and education policy.

Keywords: cultural understanding, content of learning, transformative learning, general education.

Introduction

Cultural understanding is a significant concept of ongoing education reform in Latvia. It is relatively new issue in Europe, too. The incorporation of the variety of cultural contexts in the general school curriculum is a challenge for school and pre-school teachers, teacher educators and policy makers. The problem is, that *culture* and *understanding* are very versatile concepts; there are no rational, quantitative, unambiguous criteria for its recognition and measurement. Depending on the focus, they can be interpreted as comprehensive or narrowly specific, relating to aesthetics or anthropology, superficial or profound. J. Fornäs argues, that different points of view have starkly contrasting implications and tend to create confusing contradictions if combined in the same discourse (Fornäs, 2017). It means, that educators cannot avoid these issues. What kind of promoting student's cultural understanding realized at school helps to achieve such educational goals as student's life-long learning competences, transversal skills, civic responsibility and sustainability in society, and which produces the opposite effect?

The aim of the study is to systematize the different curriculum designs and pedagogical approaches aimed at the development of learner's cultural understanding and analyse their suitability for particular educational purposes.

Methodology

To find the answer and to reach the aim, a qualitative study was conducted in four stages:
1. The theoretical analysis of the concept *cultural understanding* was proceeded in order to find out the varieties of its meaning;
2. The implementation of concept *cultural understanding* in education policy documents was analysed to highlight the most common approaches for including the culture in general school education.
3. The qualitative analysis of the general school teacher's experiences was done to find out the typical combinations of the content of learning and pedagogical approaches for promoting the students' cultural understanding in school practice.
4. A theoretical model of the promoting the cultural understanding in general education curriculum was constructed and completed with the appropriate terminology for the marking and describing a particular type of learning the culture.

In the study, the information from three sources were compared – theoretical literature, European Union and Latvian educational policy documents and educational practitioners' experiences in Latvian schools.

In order to cover the broadest possible range of views on how cultural understanding is perceived by educators, the empirical data were obtained in interviews with five educational experts and survey of 72 in-service and pre-service teachers; aged from 19 – 62. Respondents were asked to explain the concept *cultural understanding* by their own words. They freely focused on ideas that comes to mind when thinking about cultural awareness. As all respondents are education practitioners; it can be assumed, that they also implement and evaluate the development of students' cultural understanding in this way.

Results and Discussion

The concepts *cultural understanding, cultural awareness, cultural competence* and *cultural literacy* are often used by contemporary educators as a matter of course, although each concept and each word has a wide range of meanings. Hereafter, the meanings of the words *culture* and *understanding* will be analysed.

The Oxford learner's dictionary offers three explanations of the word *culture*: 1) way of life, 2) art/ music/ literature and 3) beliefs/ attitudes (Oxford Learner's Dictionary, 2019). In other sources there two varieties are dominant: culture as an art and culture as a way of life, especially the general customs and believer of particular group of people (Cambridge Dictionary, 2019).

J. Fornäs emphasizes the opposition of the anthropological concept of culture and the "aesthetic" notion of culture as arts and artistic creativity. Culture in the aesthetic sense is usually implied by terms like *cultural policy, cultural work* or the *cultural sector*, and is often applied in institutional settings. It invites tensions between high and low taste, contrasting fine arts to popular culture and everyday aesthetics (Fornäs, 2017).

W. Griswold analyses four different meanings of culture: 1) high culture, as separated from everyday living and comprised of elevated activities and materials, such as fine and performing arts and literature; 2) culture as a coherent system, of norms, beliefs, values, and attitudes; organizing principle of society; 3) culture as a set of tools used by humans to make sense of their world; 4) culture as phenomenon, which affects social existence - oppressive, but at the same time - subject to change and transformation based on lived realities (Griswold, 2013).

Anthropologists argue that the concept of culture is very complex and ambiguous. Culture is explained in anthropology as learned and shared patterns of behaviour (Damen, 1987), symbolic, ideational and intangible aspects of human societies (Banks, McGee-Banks, 2015), collective programming of the human mind and others. In context of multicultural education, *culture* usually is defined as inherent to different social groups, encompassing race, ethnicity, nationality, language, religion, class, gender, sexual orientation (Farr, 2010). C. Geertz's understands the culture as "an accumulated totality of symbol-systems (religion, ideology, common sense, economics, sport, etc.) in terms of which people make sense of themselves and their world, and represent themselves to themselves and to others" (Geertz, 1977, 47). C. Geertz's "thick description" approach has become recognized as a method of symbolic anthropology, enlisted as a working antidote to overly technocratic, mechanistic means of understanding cultures, organizations, and historical settings. As P. Young summarizes: "Culture is everything! It is every-thing around us and everything ever created. Culture is all that is man-made, and even those things made by nature" (Young, 2014, 350).

It can be inferred, that the concept *culture* can be explained in two versions – as the arts and other manifestations of human intellectual achievement regarded collectively or the ideas, values, customs, social behaviour, life style of a particular person or society. Traditionally, the general education curriculum includes both of them either as particular school subjects - visual arts, music, literature, drama or as desired outcomes learning - civic responsibility, virtues, ethical attitudes.

The other opposition relates to the idea about student's *understanding* as a result of learning. It can be explained either in transmissive or transformative way. According with C.M. Halupa, in the case of transmissive learning, the highest level of learners' achievement is concluding, interpreting and estimating. In contrast, the transformative learning results as internalization and displaying one's knowledge (Halupa, 2017). Therefore, the rational and critical explanations of cultural phenomena are

not enough for the student's cultural understanding; but the learner's subjective sense must be involved in study process, too. If the learning is personally meaningful, human's transformation can occur.

Theoretical sources dealing with the learner's personal transformation are approaches of experiential learning and in-depth learning. Experiential learning develops the idea about including the learner's personal and cultural experiences into educational process (Dewey, 2015; Jarvis, Holford, Griffin, 2003). In-depth cultural studies take for granted a holistic structure of culture: knowledge about the culture does not only refer to objective, evident facts, but also includes different layers of meanings, symbols, emotional experiences and complex contexts; they are open for ambiguous interpretations (Bennett, Grossberg, Morris, 2005; Grossberg, 2010; Hanley, 1999). The result of the deep learning is not only cognition, but a transformed person. On the contrary, surface learning deconstructs any structure, perceiving all phenomena of culture as equally significant, without constructing a system (Shusterman, 2002; Welsch, 1996). The learners understand the material correctly, but simply do not possess the connections between concepts (Draper, 2009).

It follows from R. Mason, that results of cultural learning are the recognition of and tolerance for the cultural diversity and the desire to preserve it as a valuable asset. Additionally, one can recognize a strong desire to preserve diversity in response to the threat of loss of cultural identity in the face of globalization and because of the benefits of community cohesiveness through unique cultural expression (Mason, 2007). In this respect, deep learning fits with socio-cultural learning theory which integrates learning as individual construction of knowledge in accordance with one's subjective sense and experience, with social learning and communicating cultural contexts (Helds, 2006). So, the deep learning can be recognized as productive way for cultural studies.

The various forms of the art education offer a wide range of information about cultural phenomena of different historical periods and countries. At the same time, reflection of one's aesthetical experiences are helpful for the noticing, acceptance and better understanding of one's own personal and cultural life and that of others. In art, transformative learning can be realized successfully through a holistic approach, as opposed to a technological (academic) one. Together with learning the means of artistic expression, this approach includes the development, reflection and analysis of personal self-expression and cultural contexts of art (Briška, 2012; Kalēja-Gasparoviča, 2012).

In EU key competences for life-long learning, the concept *cultural awareness and expression* is explained as increasing intercultural skills and the ability to express ideas in a variety of ways and contexts (European Commission, 2017). There, the culture is separated from language, civic, personal, social, learning and entrepreneurship competences. As the list of key competences is constructed in accordance with different fields of education, from it follows, that appropriate field for cultural education is art, but not the life, values, believes, way of life of the society on the whole. This principle is absolute in the Latvian basic education standard by declaring *Cultural awareness and self-expression in art* as a separate field of education, with its content – knowledge, understanding and basic skills in artistic expression. But the word *culture* appears there in language and social sciences, too: as related to identity, cultural heritage, multicultural understanding, tolerance and dignity, intercultural communication, culture of communication, cultural differences, events, cultural experiences. It does not occur in mathematics, science, technology, health and physical activity (Noteikumi par valsts..., 2018). From this follows that there is no consequent implementation of the concept *cultural understanding* in documents of education policy. The culture in aesthetic sense is separated there from the system of values, traditions and way of life of the society. So, this curriculum cannot be a proof basis for systemic development of general school students' deep cultural understanding.

It can be concluded, that the concept of cultural understanding in educational documents can be interpreted in different ways, even diametrically opposed:
1) the culture as related to *art* or to *human life*;
2) the learning as *transmission* or *transformation*.

These categories were indicated and interpreted in expressions or educational practitioners, too. Respondents' statements were read through several times, interpreted and coded according to the categories mentioned in the theory and education police documents - culture as art or culture as way of life, and transmissive or transformative learning approaches.

Several statements related to more than one category. For example, the singing songs. If the respondent associates singing with a professional concert, it was interpreted as culture as art. If he recognizes to which culture the song belongs, it was related to culture as a life. Both variants are interpreted as representing the transmissive learning. However, if the respondent describes singing the song together with his family on a daily or festive basis, i.e. engagement and participation, "using" the culture, then it was categorized as a transformative approach. Some statements described the respondents' lack of understanding the question: "without explanation I can say nothing…", "… I can't really define it", "It seems that I need to start thinking terribly wise, now". Expression as "cultural diversity or People's Festival is only formal words" reveals respondent's critical attitude to the learning culture on superficial, formal level and can be interpreted as respondent's recognition of the transformative approach.

With all this in mind, the expressions were divided into four groups. Each group of expressions was revised again, looking for correlations, until it was possible to define 3-5 key words that accurately reflect the specific features of each type of cultural learning (Table 1).

Table 1

Appearance of 4 types of learning the culture in respondents' expressions.

	Transmissive: Learning ABOUT	Transformative: Learning THROUGH
1. Culture as art	**Fields of art** Paintings, theatre, books, music, dance. Professional art education. Various artistic expressions. The expression of any art. **Art history** The National canon of culture. Cultural symbols. Cultural components, artistic and cultural events. **Cultural heritage** Folk cultural heritage. Folk songs and dances.	**Self-expression** Creation of art. Painting, singing, dancing. **Aesthetic perception** People's view on different art forms Perception of differences. The pleasures of life. Understanding the meaning of symbols and cultural events. **Self-awareness** Individual believes, attitudes and principles of thinking. Spiritual diversity in the human soul. Self-awareness and belonging to a specific time, place, thinking mode, political situation.
2. Culture as life	**Norms and values** Knowledge of cultural values. We know that others have values, we value them. The norms of society, courtesy, etiquette. Controlling the emotions. **Symbols** Events, traditions and symbols that make up the culture of the country. Understanding the cultural environment. **Cultural differences** My and other nationalities. Know your own culture and that of other nations. Multiculturalism. Current events in Latvia and the world. Thoughts on culture and nations. **History** Past of your city and state. **Traditions** Festivities, events. Family traditions and celebrations. Aware of cultural traditions. People's Day.	**Life** Culture is alive. Culture is connected to the social environment; it exists inside the life**.** Culture is everything that happens around us. Culture shapes an environment that connects people and expands thinking. Lifestyle. *Being* cultural. **Participation** Family traditions and celebrations. Traveling. Behaving in society. Providing support to those in need. **Identity** Belonging to your people. Views on how Latvians see the world. Independent living of one's own life. **Interaction** Ability to integrate into society. Respect other people and the country we live in. Mutual respect for difference. Ability to accept cultural diversity. Co-existence.

It is possible to see that on the left side 1, there are professional terms for art and on the right side 1 – the description of individual feelings, abilities and experiences. On the left side 2 - social life and

concepts of history, on the right side 2- attitudes, experience of values. It means, that implementation of particular categories are helpful for the recognizing particular pedagogical approach to the promoting of students' cultural understanding in school practice and educational documents.

Model constructing

There are two dimensions in the model of promoting the cultural understanding – content of learning and learning approach. The content of the learning can be focused either on art, by emphasizing the aesthetic sense of culture, or on all complexity of human life - anthropological understanding of culture. Learning approach variates from transmissive to transformative one: from learning about the culture to learning through it, from student's passive position to the active engagement, from learning the theory to self-realization, from knowledge acquisition to competent implementation of knowledge in life, from mechanical action to an organic and personally significant engagement into the world (Figure 1).
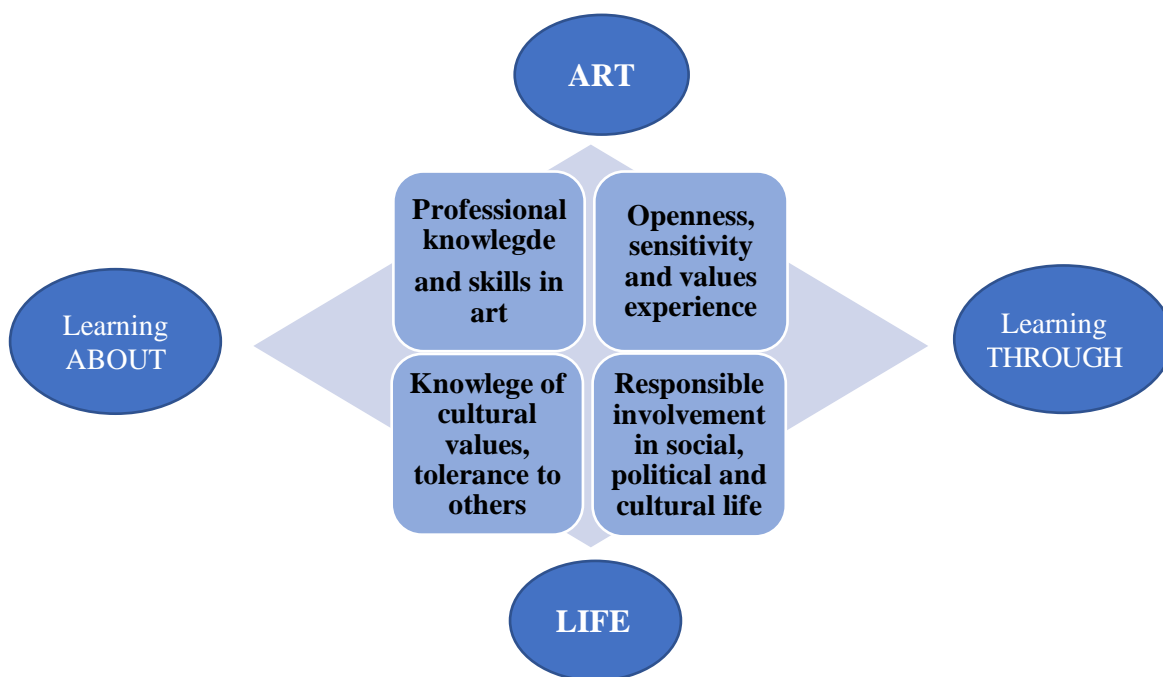
Figure 1. The model of learning culture in general school education.

These four components (2 – the content of learning and two – learning approaches) allow to construct 4 combinations, four types of the promoting cultural understanding, which are recognizable in general education. Each type proposes different aims and results, and different vocabulary, as well.

Type 1. The art as a content of learning is combined with a transmission approach to learning. Students learn *about* different artefacts, fields of professional and traditional art. They learn to produce the works of art of high technical quality. The context of the learning emerges as a history of art and a comparison of artworks from different countries and eras. Traditional folk song is perceived as a form of art that is performed on the stage. Phenomena outside the professional art are not interpreted as culture; cultural understanding does not relate to the life as a wholeness.

Type 2. In the art studies, the self-expression of an individual and the expression of cultural values in artwork are more important than technical skills. Students are supposed to learns *through* art. The art is not a goal, but a mean of transforming a learner's individuality and personality. The purposeful fostering of learner's self-expression and creativity in arts helps to make the artistic activities personally important. The focus on the aesthetic experiences in perceiving and producing the art helps to cultivate person's empathy not only to the artwork, but to other people and cultures, too (Briška, 2012; Kalēja-Gasparoviča, 2012).

Type 3. The content of learning the culture is closely related to the life, values and traditions of the particular country, religion, nation or other social group. The essential question for educator there is – is value learning deep or superficial, normative or meaningful one. If the result of learning the values is student's ability to name and distinguish them without personal experience of meaning, there will be no person's transformation.

Student can learn "about" one's own and other cultures, he/ she can recognize the norms, for example, that one must behave with respect and dignity, but knowing *what must be done* is not the same as readiness to do and doing. Such learning can even meet the opposite goal - like an allergy to values in general.

Type 4. Educators are able to guarantee that the values, traditions, way of life as a content of learning the art or any other issue go together with a personal sense of meaning and involvement in activities that are important to society: student's cultural learning is transformative.

Conclusions

Consistent use of the concept *cultural understanding* can contribute for successful achievement of educational goals and for the mutual understanding of educators.

- Learning about art (transmissive approach) is useful, if the aim of the learning is professional excellence in particular field of art.

- If the aim of the learning is defined as understanding the cultural diversity (including one's own culture) and respect another culture, there is a risk that cultural understanding is superficial: without personal experience, the learning is transmissive, without the transformation of personality and society.

- If the aim of education is student's active participation in society and life processes, then learning must be deep, personally relevant, transformative.

- Learning through art helps to involve student's emotional experience, openness to new experience, tolerance towards unknown, unpredictable situations, creativity and aesthetic sensitivity, which are necessary for transforming the personality and society. Expression and reflection of the cultural values in art classes, promotes the development of student's attitudes towards the acceptance of the coexistence with other people and cultures.

- Educators and students need expanded vocabulary for nominating their experiences and describing the variety of cultural values.

The results of a study will help the all participants of general education (including teachers, politicians, teacher educators, researchers and school students) by clarifying the typical educational approaches and appropriate terminology for promoting the learners' cultural understanding.

Bibliography

1. Banks J.A., McGee-Banks C.A. (2015). *Multicultural education: Issues and Perspectives* (9th ed.). UK: Wiley.
2. Bennett T., Grossberg M., Morris M. (Eds.). (2005). *New Keywords: A Revised Vocabulary of Culture and Society.* Malden, MA: Blackwell Pub. Retrieved from http://cscs.res.in/dataarchive/textfiles/textfile.2010-08-24.8343019985/file
3. Briška I. (2012). Fostering students' experience of holistic artistic creativity. The Scientific Articles of International conference "*Person. Color. Nature. Music", Arts Lifelong Learning Program, 7*, 103-115. Daugavpils: Daugavpils Universitātes akadēmiskais apgāds "Saule".
4. *Cambridge Dictionary*. (2019). Retrieved from https://dictionary.cambridge.org/dictionary/english/culture
5. Damen L. (1987). *Culture learning: the fifth dimension in the language classroom*. Cambridge: Cambridge University Press.
6. Dewey J. (2015). *Democracy and Education: An Introduction to the Philosophy of Education*. New York: The Free Press; London: Collier Macmillan.
7. Draper S.W. (2009). Catalytic assessment: Understanding how MCQs and EVS can foster deep learning. *British Journal of Educational Technology*, *40*(2), 285-293. doi: 10.1111/j.1467-8535.2008.00920.x
8. European Commission. (2017). *Developing key competences for all throughout life*. Retrieved from https://ec.europa.eu/education/sites/education/files/document-library-docs/factsheet-key-competences-lifelong-learning_en.pdf

9. Farr S. (2010). *Teaching As Leadership: The Highly Effective Teacher's Guide to Closing the Achievement Gap*. San-Francisco: Jossey-Bass.

10. Fornäs J. (2017). The Aesthetic Concept of Culture as Art. *Defending Culture*. Palgrave Macmillan, Cham, 35-48. doi: 10.1007/978-3-319-57810-1_4

11. Geertz C. (1977). *The Interpretation of Cultures*. New York: Basic Books.

12. Griswold W. (2013). *Cultures and societies of a changing world* (4th ed.). Sage Publications Inc, London.

13. Grossberg L. (2010). *Cultural Studies in the Future Tense*. Durham, NC: Duke University Press.

14. Halupa C.M. (2017). Transformative curriculum design. In *Medical Education and Ethics: Concepts, Methodologies, Tools, and Applications,* 439-487. Hershey, PA: IGI Global. doi: 10.4018/978-1-5225-0978-3.ch021

15. Hanley J.H. (1999). Beyond the tip of the iceberg. Five stages toward cultural competence. *Reaching today's youth, 3*(2), 9-12.

16. Helds J. (2006). Mācīšanās kā konstruktīvs un sistēmisks jēdziens [Learning as constructive and systemic concept]. In I. Maslo (Ed.), Rakstu krājums *No zināšanām uz kompetentu darbību.* Rīga: LU akadēmiskais apgāds, 31-35. (in Latvian).

17. Jarvis P., Holford J., Griffin C. (Eds.). (2003). *The theory and practice of learning*. London and New York: Routledge Falmer.

18. Kalēja-Gasparoviča D. (2012). The students creative experience enrichment in visual art studies. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality*. (*REEP*), *5.* Jelgava: LLU, 223-230. Retrieved from https://llufb.llu.lv/conference/REEP/2012/REEP-2012-proceedings-E-ISSN-2255-808X.pdf

19. Mason R. (2007). Internationalizing education. In M.G. Moore (Ed.), *Handbook of distance education* (2nd ed.), 583-591. Mahwah, NJ: Lawrence Erlbaum Associates.

20. *Noteikumi par valsts pamatizglītības standartu un pamatizglītības programmu paraugiem* [Regulations on the National Standard for Basic Education and Models of Basic Education Programs]. (2018). Ministru kabineta noteikumi Nr. 747. Retrieved from https://likumi.lv/ta/id/303768 (in Latvian)

21. *Oxford Learner's dictionaries.* (2019). Retrieved from https://www.oxfordlearnersdictionaries.com/definition/american_english/culture_1

22. Shusterman R. (2002). *Surface and Depth. Dialectic of Criticism and Culture*. Cornell University Press.

23. Young P. (2014). The presence of culture in learning. In J. Spector, M. Merrill, J. Elen, M. Bishop (Eds.), *Handbook of educational communication and technology*. New York, NY: Springer doi: 10.1007/978-1-4614-3185-5_28

24. Welsch W. (1996). *Grenzgänge der Ästhetik* [Limits of aesthetics]. Stuttgart: Reclam (in German)

An Exploratory Survey on Internationalization at Secondary Schools: International Mobility from the Perspective of Students

Eva Lebduskova[1] Ing.; **Karel Nemejc**[2] Ing., PhD; **Jirina Snehotova**[3] Mg.
Katerina Tomsikova[4] Ing.; **Emil Kriz**[5] Ing., PhD
Czech University of Life Sciences Prague, Faculty of Agrobiology, Food and Natural Resources[1]
Czech University of Life Sciences Prague, Institute of Education and Communication[2,3,4,5]
Czech Republic
lebduskova@af.czu.cz[1]; nemejc@ivp.czu.cz[2]; snehotova@ivp.czu.cz[3]
tomsikova@ivp.czu.cz[4]; kriz@ivp.czu.cz[5]

Abstract: Internationalization has become a common phenomenon in educational institutions, and secondary level of education is no exception. In this context, the paper looks into the possibilities of outgoing international mobility in secondary educational institutions. The aim of the study is to map the possibilities of outgoing international mobility in educational institutions and using an exploratory survey to study the perception of international mobility by secondary school students. The target group were 288 students of secondary schools with various specializations. The data collection was carried out on social media and by actively contacting secondary schools across the Czech Republic. The survey was conducted using an anonymous online questionnaire in the period from December 2018 to January 2019. The data were analysed and processed using descriptive statistics. Based on the results, it can be recommended to secondary schools that they should raise students' awareness of outgoing international mobility, organize so-called international days or weeks, transfer experience from students who have participated in international mobility, expand the offer of international mobility, focus more on the specialization aspect of outgoing international mobility, etc. Correlation matrices showed that outgoing international mobility meets students' expectations in the five monitored aspects and benefits their studies.

Keywords: Internationalization, international mobility, secondary education, practice abroad.

Introduction

Internationalization is becoming an integral part of all spheres of life in modern society, including education (Raitskaya, Tikhonova, 2019; Roskosa, Stukalina, 2019). As evidenced by the results of a related research that focused, among other things, on employability of graduates of vocational education (Smekalova, Nemejc, 2016), perceptions of students and academic staff mobility (Petzhold, Bucher, 2018), quality assurance in education (Roskosa, Stukalina, 2018), or professional preparation of teachers (Zhanguzhinova et al., 2018), the process of internationalization is accelerating.

One of the possibilities how to support this area of education is international mobility of students and teachers. Outgoing international mobility can last one or more days, with one-day trips usually organized in the vicinity of the school. Multi-day stays are devised as excursions to one country, one region, or to several countries (Dvorakova, 2012). A lot of students' mobilities can be organized in the framework of EU programmes. ERASMUS + is a mobility programme providing its participants with experience in their fields of study and work by presenting global trends. It promotes the academic, professional and individual development of the participants while contributing to the extension of the worldwide work market (Mizikaci, Arslan, 2019). Participants are then issued a Youthpass certificate as a confirmation of participation in the project, which can also be a welcome addition to the participant's CV. The certificate contains information about the implemented project (date and place, objectives, main activities) as well as a description of the achieved or improved key competences of the participant (Welcome to Youthpass, 2019).

The platform eTwinning, a community for schools in Europe, has been established to promote mobility. Using information and communication technology, the platform enables schools to communicate and cooperate at international level, or at the level of European countries. The portal is available in 28 languages. Established in 2005, eTwinning is currently part of ERASMUS+ and is run by the eTwinning Central Support Service. In the Czech Republic, it is part of the Centre for International Cooperation in

Education, managed by the National eTwinning Support Service. In this way, eTwinning develops students, their key competences, understanding of cultural differences, while also developing their language skills. As regards teachers, it helps them in their professional development, using different teaching methods (eTwinning is the Community…, 2019, European Commission, 2019).

Another possibility how to help students acquire experience with travelling or studying abroad is to contact an agency that specializes in this kind of study stays. Some agencies also offer the possibility to work as an au pair as well as language courses and various forms of short-term jobs abroad. These agencies include, among others: Student Agency; Czech-us; Studyline; Bohemia institut; Coolagent.

The aim of the study is to map the existing possibilities of outgoing international mobility in secondary educational institutions and to understand how the offered international mobility is perceived by students at selected secondary schools in the Czech Republic.

Methodology

An exploratory survey was used to map the existing possibilities of international mobility in secondary educational institutions and to understand the perception of international mobility by students. The target group are students of secondary schools of various specializations. The data collection was carried out on social media and by actively contacting secondary schools across the Czech Republic. The survey was conducted using an anonymous online questionnaire in the period from December 2018 to January 2019.

The questionnaire consisted of 24 items, which were formulated as dichotomous (yes – no), trichotomous (yes – no – don't know), multiple choice questions with one correct answer and multiple-choice questions with more than one correct answer with additional comments. One item concerning additional information about and recommendations for outgoing international mobility was an open one. The items in the questionnaire queried the following information:
- respondent identification (gender, age, size of municipality) and the secondary school where they study (region and type of secondary school – grammar school, secondary technical / vocational school, conservatory) (5 items);
- study of foreign languages (1 item);
- students' awareness of outgoing international mobility implemented at their secondary school (2 items);
- participation of students in outgoing international mobility organized by their secondary school (4 items);
- students' expectations before mobility and the fulfilment of their expectations (2 items always with 5 claims);
- overall assessment of outgoing international mobility (10 items).

Results and Discussion

The data were analysed and processed using descriptive statistics. Summarization of the selected empirical data enabled an insight into the investigated issue and a subsequent interpretation of the findings.

A total of 288 respondents completed the questionnaire, of which 201 (69.8 %) were females and 87 (30.2 %) were males. The target group for the questionnaire survey were secondary school students; students from all regions of the Czech Republic participated in the survey. The most frequent group were students aged 17–18; a total of 129 (44.8 %) students. The second most frequent group were students aged 15–16; a total of 79 (27.4 %) students. The group of students aged 19–20 consisted of 66 (22.9 %) students, while only 14 (4.9 %) students were over 20.

The sample consisted of secondary school students from 13 regions of the Czech Republic (the Ústecký Region was not included). The regions with the biggest share of participating students were in descending order: the Pardubice Region (111, i.e. 38.5 %), the South Moravian Region (81, i.e. 28.1 %), the Plzeň Region (28, i.e. 9.7 %), and Prague (24, i.e. 8.3 %). The sample consisted of 215 (74.7 %) students of secondary schools, 58 (20.1 %) students of grammar schools, 14 (4.9 %) students of secondary vocational schools, and one student of conservatory (0.3 %).

A total of 283 (98.3 %) respondents study English. It can be expected that English is the primary foreign language for the majority of students. The second most widely studied language and the dominant "second" foreign language is German, studied by 146 students, i.e. 50.7 % of all respondents. The third most widely studied language is Russian with 41 (14.2 %) respondents, followed by French with 20 (6.9 %) respondents and Spanish with 16 (5.6 %) respondents. This item also included the possibility to add another foreign language; here, 2 out of 3 respondents mentioned Latin (0.7 %).

The two closed items of the questionnaire were devised to reveal students' awareness of the possibilities of outgoing international mobility organized by their secondary school and about the possibilities of outgoing international mobility in cooperation with Erasmus+ or other institutions. Respondents could answer: "yes", "no", "don't know". A total of 268 (93.1 %) respondents claimed that their secondary school organized outgoing international mobility. A total of 10 (3.5 %) students answered that their school did not organize outgoing international mobility, and another 10 (3.5 %) students did not know whether their school organized outgoing international mobility. Although some secondary schools do not offer outgoing international mobility, most students expressed interest in outgoing international mobility in an additional question following a negative answer. A total of 268 respondents answered the question concerning whether their school organized outgoing international mobility in cooperation with Erasmus+ or other institutions, of which 75 (28.0 %) students answered yes, 72 (26.9 %) answered no, and 121 (45.1 %) students did not know about any cooperation with other institutions organizing secondary school students' mobility. Consequently, a question arises as to why the awareness of cooperation with other institutions is so low: Is it because of lack of awareness of students or little interest on the part of students to participate in outgoing international mobility? What is the cause and what is the result of students' low awareness?

In the sample, 114 (42.5 %) students took part in one of the offered outgoing international mobilities, while 154 (57.5 %) students did not take part in any mobility. In case students had not participated in mobility organized by their school, they were asked about the reasons using an open questionnaire item. The most frequently cited reasons were that students were not interested in the offer, they thought their language skills were insufficient, mobility was too expensive, in secondary schools the preference is given to students in higher classes, or students were not much interested in travelling. Students would be willing to change their opinion if the destinations were more attractive, if they travelled by plane, if the trips took place on a different date, if the whole class participated, or if they were accompanied by a different teacher.

Among the students who participated in outgoing international mobility were 61 (53.5 %) students who participated once, 28 (24.6 %) students who participated twice, and 25 (21.9 %) students who participated three or more times. Students were able to specify what kind of mobility they took part in using an open item. The majority of students travelled abroad as part of an excursion abroad; this option was selected by 69 (42.3 %) students. A stay abroad was selected by 55 (33.7 %) students, exchange stays abroad were selected by 20 (12.3 %) students, language courses abroad by 11 (6.7 %) students, sports stays abroad by 5 (3.1 %) students. Three students wrote down that they made a "visit to a partner school" (1.8 %). No respondents selected the option of a work stay abroad. A total of 42 (36.8 %) students did not know or were not aware of financial support provided by the school for outgoing international mobility, 36 (31.6 %) students said that financial support was not possible, and the remaining 36 (31.6 %) students claimed that their school financially supports students when they travel abroad.

Subsequently, students who had already participated in outgoing international mobility evaluated their expectations before going abroad on a scale of 1 to 5 (1 is the lowest and 5 the highest) based on the 5 presented aspects. In the following item, they reflected upon the extent to which their expectations were met. On average, students had the highest expectations regarding the possibility to "get to know a new environment" (4.228, SD=1.068). On average, students had the lowest expectations regarding the possibility to "acquire new experience in my field of study" (2.921, SD=1.458). As with the previous item, expectations were best met regarding the possibility to "get to know a new environment" (4.035, SD=1.084) and, conversely, they were met the least regarding the possibility to "acquire new experience in my field of study" (2.658, SD=1.450). Based on these findings, it can be concluded (see Figure 1) that in general students' expectations were slightly higher than their reflection on how the expectations were met.

For the 114 students who had taken part in outgoing international mobility, discrepancies between expectations (item 13) and fulfilment of expectations (item 14) were determined based on the

5 presented aspects. The total discrepancy is determined as the sum of differences in individual aspects of expectations and their fulfilment. Descriptive values of total discrepancy in assessment of expectations and fulfilment of expectations are given in Table 1.

	Possibility to get to know a new culture	Possibility to use one's language skills	Possibility to get to know a new environment	Possibility to taste local cuisine	Possibility to acquire new experience in one's field of study
▪ Reflections on how the expectations were met	3,596	3,228	4,035	3,228	2,658
▪ Expectations concerning outgoing international mobility	3,877	3,588	4,228	3,395	2,921

Figure 1. Expectations concerning outgoing international mobility and reflections on how the expectations were met.

Outgoing international mobility exceeded expectations (sum of differences greater than or equal to -1) in 27 (23.7 %) students, met expectations (sum of differences equals 0) in 29 (25.4 %) students, and 58 (50.9 %) students had higher expectations. The sum of differences in expectations and fulfilment of expectations is highest in case of the "possibility to use one's language skills" ($\sum = 44$), followed by the possibility to "get to know a new culture" ($\sum = 37$), and the possibility to "acquire new experience in one's field of study" ($\sum = 30$). A lower sum of differences in expectations and fulfilment of expectations is to be seen in case of the possibility to "taste local cuisine" ($\sum = 23$) and the possibility to "get to know a new environment" ($\sum = 26$).

Table 1

Total discrepancy in assessment of expectations (item 13) and fulfilment of expectations (item 14) of outgoing international mobility

Total discrepancy in assessment of expectations and fulfilment of expectations concerning outgoing international mobility (on a scale from 1 to 5; 1 is the lowest and 5 the highest)	N	Average	SD	Sum	Minimum	Maximum
Mobility exceeded expectations	27	-2.519	2.331	-68	-12	-1
Mobility met expectations	29	0.000	0.000	0	0	0
Expectations of mobility were higher	58	3.931	3.084	228	1	16
Total	114	1.404	3.677	160	-12	16

In general, the benefits of outgoing international mobility in the given 5 aspects were confirmed in the selected sample of 114 students in the correlation matrix, see Table 2. Pearson's correlation coefficients confirming the relation between expectations and fulfilment of expectations in the given aspects at significance level of 5 % are shown in Table 2. The range of coefficients is highest in case of the

possibility to "acquire new experience in one's field of study" (0.693) and lowest in case of the possibility to "taste local cuisine" (0.523). Significant correlations were also confirmed for the following expectations and fulfilment of expectations:

- between the expectation concerning the possibility to get to know a new culture and the expectations concerning the possibility to get to know a new environment (0.504);
- between the expectation concerning the possibility to get to know a new environment and the fulfilment of expectation concerning the possibility to get to know a new culture (0.420);
- between the fulfilment of expectation concerning the possibility to get to know a new culture and the fulfilment of expectation concerning the possibility to get to know a new environment (0.463);
- between the fulfilment of expectation concerning the possibility to use one's language skills and the fulfilment of expectation concerning the possibility to acquire new experience in one's field of study (0.459);
- between the fulfilment of expectation concerning the possibility to get to know a new environment and the fulfilment of expectation concerning the possibility to taste local cuisine (0.454).

Table 2

Correlation matrix of the selected 5 aspects of expectations and fulfilment of these expectations concerning outgoing international mobility

	E1	E2	E3	E4	E5	F1	F2	F3	F4	F5
E1	1	0.271	0.504	0.269	0.183	0.658	0.358	0.362	0.219	0.207
E2	0.271	1	0.366	0.238	0.348	0.302	0.641	0.186	0.162	0.271
E3	0.504	0.366	1	0.271	0.181	0.420	0.274	0.569	0.129	0.169
E4	0.269	0.238	0.271	1	0.242	0.295	0.210	0.191	0.523	0.143
E5	0.183	0.348	0.181	0.242	1	0.134	0.294	0.129	0.189	0.693
F1	0.658	0.302	0.420	0.295	0.134	1	0.422	0.463	0.374	0.262
F2	0.358	0.641	0.274	0.210	0.294	0.422	1	0.270	0.280	0.459
F3	0.362	0.186	0.569	0.191	0.129	0.463	0.270	1	0.454	0.225
F4	0.219	0.162	0.129	0.523	0.189	0.374	0.280	0.454	1	0.321
F5	0.207	0.271	0.169	0.143	0.693	0.262	0.459	0.225	0.321	1

Legend:
  E1 – Expectations concerning the possibility to get to know a new culture
  E2 – Expectations concerning the possibility to use one's language skills
  E3 – Expectations concerning the possibility to get to know a new environment
  E4 – Expectations concerning the possibility to taste local cuisine
  E5 – Expectations concerning the possibility to acquire new experience in one's field of study
  F1 – Fulfilment of expectations concerning the possibility to get to know a new culture
  F2 – Fulfilment of expectations concerning the possibility to use one's language skills
  F3 – Fulfilment of expectations concerning the possibility to get to know a new environment
  F4 – Fulfilment of expectations concerning the possibility to taste local cuisine
  F5 – Fulfilment of expectations concerning the possibility to acquire new experience in one's field of study

Out of the total of 114 students who had taken part in outgoing international mobility, 103 (90.4 %) used a foreign language to communicate abroad, only 11 (9.6 %) students did not have an opportunity to use a foreign language (for both situational and personal reasons). The 18th item in the online questionnaire survey evaluated the course of outgoing international mobility in 6 specific aspects on a scale from 1 to 4 (1 – agree, 2 – rather agree, 3 – rather disagree, 4 – disagree) (see Table 3). Students assessed as best the amount of provided information (average 1.456, SD = 0.715). They assessed as worst the benefits for their field of study (average 2.211, SD = 0.978).

Although students' expectations exceeded the fulfilment of the expectations they had of outgoing international mobility, a total of 110 (96.5 %) students would recommend their peers the experience of travelling abroad in the form of international mobility organized by their school, increasing the

probability to yield many benefits, including language competence, increased awareness of cultural differences and the ability to negotiate meaning across borders, both intelligently and competitively, with rewards for the individual and for society (Fabricius, Mortensen, Haberland, 2017; Spencer-Oatey, Dauber, 2019). Only 4 (3.5 %) students would not recommend the experience of travelling abroad in the form of international mobility organized by their secondary school.

Table 3

Overall assessment of the course of student's mobility (item 18)

How do you assess the course of the mobility? (1 – agree, 2 – rather agree, 3 – rather disagree, 4 – disagree)	N	Average	SD
We received sufficient information about the mobility	114	1.456	0.715
Transport was comfortable	114	1.956	0.777
Breaks and free time were sufficient	114	1.851	0.901
Visited places were interesting	114	1.632	0.752
Costs of the trip were manageable	114	1.886	0.835
Mobility was beneficial for my field of study	114	2.211	0.978

The authors are aware of methodological limitations that could affect the validity of results. They include not taking into account the period of time that has elapsed since the last international mobility. Further, in the future, the initial study should be expanded to include formal assessment that the students fill in after the mobility.

Conclusions

Based on the results of the questionnaire survey, it can be recommended to secondary schools that they should increase their students' awareness of outgoing international mobility. Students can receive information not only from teachers, but also from ad hoc notice boards dedicated to mobility, bookmarks on websites or social media. Students should be informed about all kinds of possibilities of cooperation and obtaining financial support. Providing this information could encourage many students to travel abroad also independently of organized school activities. Another possibility how to inform about mobility and boost interest among students who have not been interested in it so far is to organize so-called international days (or weeks). Photos from international mobility could be exhibited in school and brief informative lectures could be organized, ideally by students for students. In case of outgoing international mobility that is very popular, it is advisable to increase the capacity of the trip or organize the same mobility more often to satisfy demand. Based on students' demand, expanding the portfolio of the countries to which trips are organized could be an option, focusing on smaller groups of students, or offering the possibility of travelling by plane and thus being able to visit more distant countries.

Correlations have confirmed that outgoing international mobility meets students' expectations in the five monitored aspects. Nevertheless, the greatest drawback indicated in the questionnaire survey is the low level of specialization of outgoing international mobility in terms of limited contribution to the given field of study. Therefore, it would be advisable to supplement the offer of outgoing international mobility with possibilities of vocational training abroad, such as visits to foreign companies, expansion of the network of partner schools, as well as adding destinations of specialized internships abroad. Before or after the mobility it is advisable to summarize, discuss, and explain the specialization aspect of the mobility to students. It is important to show them not just the fun side of international mobility, but also the reality of working or educational environment so that students are able to make a connection between knowledge and skills on the one side and practice on the other.

Bibliography

1. Dvorakova M. (2012). *Tradice skolnich vyletu a jejich soucasnost* [Tradition of School Trips and their Present Concept]. Jihlava: Vysoka skola Polytechnicka Jihlava. Retrieved from https://is.vspj.cz/bp/get-bp/student/25918/thema/1376 (in Czech)
2. *eTwinning is the Community for Schools in Europe.* (2019). eTwinning. Retrieved from https://www.etwinning.net/en/pub/index.htm

3. European Commission. (2019). *eTwinning: the community for schools in Europe.* Retrieved from https://ec.europa.eu/programmes/erasmus-plus/sites/erasmusplus/files/factsheet-etwinning_en.pdf

4. Fabricius A.H., Mortensen J., Haberland H. (2017). The Lure of Internationalization: Paradoxical Discourses of Transnational Student Mobility, Linguistic Diversity and Cross-Cultural Exchange. *Higher Education: The International Journal of Higher Education Research*, *73*(4), 577-595. doi: 10.1007/s10734-015-9978-3

5. Mizikaci F., Arslan Z.U. (2019). A European Perspective in Academic Mobility: A Case of ERASMUS Program. *Journal of International Students*, *9*(2), 705-726. Retrieved from https://www.ojed.org/index.php/jis/article/view/1138

6. Petzhold K., Bucher H. (2018). The Academic Mobility Regime: Analysing Perceptions of Students and Academic Staff. *International Review of Social Research*, *8*(1), 98-108. doi: 10.2478/irsr-2018-0011

7. Raitskaya L., Tikhonova E. (2019). A University Course of Intercultural Communication: Fostering Students' Skills and Competence. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *12*. Jelgava: Latvia University of Life Sciences and Technologies, 152-157. doi: 10.22616/REEP.2019.019

8. Roskosa A., Stukalina Y. (2018). Management of a Study Programme in the Context of Quality Assurance in Higher Education. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 11*. Jelgava: Latvia University of Life Sciences and Technologies, 118-127. doi: 10.22616/REEP.2018.014

9. Roskosa A., Stukalina Y. (2019). Marketing in Higher Education in the Agenda of Increasing International Enrolment. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *12*. Jelgava: Latvia University of Life Sciences and Technologies, 119-125. doi: 10.22616/REEP.2019.015

10. Smékalová L., Němejc K. (2016). Transferable Competencies of Graduates of Vocational Education: a Retrospective Survey 2007-2014. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 9*. Jelgava: LLU, 106-113. Retrieved from https://llufb.llu.lv/conference/REEP/2016/Latvia-Univ-Agricult-REEP-2016proceed2255-808X-106-113.pdf

11. Spencer-Oatey H., Dauber D. (2019). Internationalisation and Student Diversity: How Far are the Opportunity Benefits Being Perceived and Exploited? *Higher Education, 78*(6), 1035-1058. doi: 10.1007/s10734-019-00386-4

12. *Welcome to Youthpass. Recognition Tool for Non-Formal & Informal Learning in Youth Projects.* (2019). Youthpass. Retrieved from https://www.youthpass.eu/en/

13. Zhanguzhinova M., Magauova A., Salkhanova Z., Urazbayeva G. (2018). Review of the International Experience upon Professional Preparation of Teachers. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *11*. Jelgava: Latvia University of Life Sciences and Technologies, 155-161. doi: 10.22616/REEP.2018.018

Tales of Emotions: A Work in Progress of a Tool for Teaching Emotional Intelligence

Lolita Jolanta Navickienė PhD
Lithuanian Academy of Music and Theatre, Vilnius, Lithuania
lolita.jolanta.navickiene@gmail.com

Abstract: Although the benefit of developing a child's emotional intelligence for the child's personality education has been beyond any doubts, methodological literature that focuses on 1 - 3-year-old children is still scarce in Lithuania. The aim of this article is to present the experience accumulated while creating a new programme for emotional intelligence development, entitled "Tales of Emotions", based on author's Method of Emotional Imitation. Particularly, it discusses the competences necessary for the developer and the teacher as well as challenges and problems encountered in the process of programme development and its implementation. The main methodological approach used in this text is self-observation or "diary" method that led to emphasize the non-linear character and the complexity of the process of method development. Importantly, the findings of this article provide the guidelines for creating a framework to develop the emotional intelligence of 1-6-year-old children and their parents while currently the emotional literacy of 1-3-year-old children is traditionally considered to be a family prerogative.

Keywords: emotional intelligence, method of emotional imitation, emotional literacy, preschool education.

Introduction

The research conducted worldwide (Goleman, 2005; Bradberry, Greaves, 2009; Clark, 2018) prove that in most cases emotional intelligence (EI) predetermines the individual's success and that development of logical thinking and intellectual potential only is not necessarily a prerequisite for successful life. The previously conducted research studies also reveal that emotionally literate people become more responsible, careful and happier adults in the future. They also have better careers, are able to cope with life challenges and feel happier. However, development of emotions in early childhood and pre-primary education receives too little attention as if forgetting that an individual not only thinks but also has feelings (Slušnienė, Balčėtienė, 2016). In an attempt to fill this gap, the author of this paper has participated in an initiative to develop a programme focusing on emotional literacy of 1-6-year-old children in Lithuania.

Similarly, to other post-soviet countries Lithuanian schools face multiple problems often leading to bullying among children. Indeed, children's destructive behaviour, negative emotions and feelings obstruct development of relations, whereas positive emotions, pleasant communication, collaboration, appreciation, sharing, respect and tolerance can contribute to personal improvement and influence the quality of activities. The previous research also shows that the main attention in schools is allocated to development of mental intelligence (thinking, understanding, imagination, creativity) and other abilities. All this evidences that EI and categories of emotional potential are underdeveloped or have not reached the necessary and desirable level in educational science (especially in Lithuania) (Slušnienė, Balčėtienė, 2016). Scant attention to development of emotions leaves the aspects of emotion quality (surprise, joy, disgust, resentment, anxiety, sadness), dynamics (duration, intensity) and external expression (language, gestures, mimic) aside.

In the first and second decades of the 21st century a number of research papers have been published, which target at emotional intelligence and possibilities for its development (Goleman, 2005; Goleman, Boyatzis, McKee, 2013; Bradberry, Greaves, 2009; Clark, 2018). The programmes for EI development, such as "Zippy's Friends", "Let's Overcome This Together", "Second Step", "Kimochi", "Crossroads of Teens", "Keys to Success", "Life Skills Education", "SEAL", "Apple's Friends" and others, have also became available. It focuses on helping the teachers to enable children to recognize and understand the basic emotions. For example, "Zippy's Friends" aims to give children better skills in communication, conflict resolution, self-assertion, co-operation, self-control and empathy (Clarke, 2011). This is in line with previous research that has found that programmes focusing on a single phenomenon have proved less effective than those that integrate training of various competencies (Weissberg, Elias, 1993).

H.J. Ahn (2005) suggests that children acquire their emotional knowledge from adults so the teacher should

encourage the children to verbalize their emotions or seek other constructive ways of expressing it. The importance of such a strategy comes from the attitude that once the emotion has been named it can be controlled and immediately starts to decline in intensity (Briers, 2008). However, teachers in many countries face difficulties in acquiring such skills as socio-emotional education is mostly attributed to the family sphere (Rosenthal, Gatt, 2010). According to D.W. Winnicott (1992), A. Bagdi and J. Vacca (2005), the period of early childhood sets the stage for how well children view themselves, each other, and their world. At this stage children already perceive the importance of people-to-people communication. They express it through the need to have friends, are able to enlist the qualities characteristic of a good friend or to help or support a friend. Obviously, EI has to be developed as early as babyhood. However, parents lack necessary experience. Even more, to express and understand own emotions are a challenge to many adults. This particularly concerns positive emotions as their display may presuppose vulnerability. Based on the experience of the author of this paper (see Methodology), clear expression of positive emotions is impeded by an insufficient number of drama societies at school, underdeveloped ability of school students to control facial muscles, to understand the body language of surrounding people, by tension, stress or other situations, where demonstration of positive emotions is problematic in general. Therefore, this article presents the encountered challenges and experience acquired while working on the development of programme for 1-6-year-old children's EI, which is grounded on the Method of Emotional Imitation (MEI).

Method of Emotional Imitation is a method of promoting school learners' musicality and musical abilities as well as their self-education imitating the content of emotional intonations of music compositions or experiences lived through by an imaginary character, when this content is evoked integrating other kinds of art (Navickienė et al., 2019). Thus, the method that facilitates expression of emotions through imitation and mimicking in various kinds of art may significantly contribute to developing emotional literacy. The trust in using such a possibility for creation was predetermined by the long-established experience in applying MEI in prenatal, early, non-formal and formal music education in Lithuania. The distinctive feature of MEI is that all the educational goals (cognitive, psychomotor, training, emotional and moral) are implemented in the process of such education (Navickienė, 2016). In terms of application, the method is universal and can be integrated into other kinds of art in an easy way. With the help of MEI, performing music aims at development of the individual's expressiveness, susceptibility, creativity and musicality through musical activities. That is why, this method perfectly complies with the goals of the programme for emotional literacy.

Peculiarities of developing methodological programmes

As it is provided for in "The Methodological Recommendations for Development of Early Childhood Education" put forward by the Ministry of Education and Science of Republic of Lithuania, the changes in the country's economic, social and cultural life resulted in by globalisation, sustainable development, information society development, transformations in values and value-based attitudes, obliges members of education community to carefully comply goals of education with the needs of children, families, community and the state (Skripkienė, 2005). However, namely the teachers, who develop early childhood education programmes for their institutions are able to address the needs of community, parents' expectations, to choose the desired content and methods best and, thus, to provide education with an opportunity to become more varied and enriched as well as to better meet different educational needs of children (Skripkienė, 2005). Therefore, while preparing for the programme development, it is particularly important to allocate attention to the analysis of philosophical, psychological and pedagogical aspects in accordance with strategical documents that provide for a contemporary approach to a child and his/her education as well as to revelation of the attitude towards the child and childhood and to links of child's needs and education. This necessitated a review of the previously designed programmes.

In the 21st century various programmes for enhancement of social and emotional competences have been introduced in educational institutions of our country but the process of their introduction and implementation has not been consistent. The programmes have been used only by some teachers and the main focus has been allocated to academic results. After the analysis of the most popular programmes ("Zippy's Friends", "Apple's Friends", "Kimochi"), several commonly shared aspects were identified: children play with toys that reflect emotions and feelings, toys make some situations visible and audible, which makes expression of certain emotions possible. A considerable attention is laid on recognition and acceptance of both negative and positive emotions and feelings, on learning to

make friends, establishment of relations. This is attractive to kindergarten-age children but the question how to speak about emotion to one-year old children and their parents still remains open.

Requirements for a teacher in early childhood education

Before the start of programme development, it was important to understand the requirements for this activity. The work of D. Bagdanavičienė shows that teacher's competency is a result of changing world and dynamic transformations in new knowledge, which is predetermined not by obtained qualifications but rather by an ability to adapt to changes, when the personal competence and ability to constantly improve it plays a significant role. The transformations in the pedagogical system, didactic processes, teaching/learning goals, teacher-student relation are based on a new bottom-up principle of planning teaching instead of the old top-down one. The above-mentioned comprise challenges posed on a contemporary teacher, which exceed traditional boundaries of teacher's competences (Bagdanavičienė, 2016). Thus, competences of teachers, who work in school of modern society, expand significantly and, according to R. Čiužas (2013), result in a big number of roles – the teacher becomes a conveyer of information, a subject teacher and organiser, a social pedagogue, an experienced senior friend, a philosopher, an innovator, a researcher, a promoter of learning processes, a collaborating colleague, a consultant, a mediator of changes and a methodologist. The requirements imposed on an early childhood teacher are even higher. The teacher has to be a personality prepared to communicate with children employing a sense of trust, love, warmth and respect. In other words, a teacher has to be an "ideological figure", who educates and develops more humane and cultured personalities that strive for social ideals, perceive the phenomenon of childhood and performs the role of a child's caregiver, a creator of opportunities, an intermediate of education and an establisher of partnership with the family, because an early childhood teacher builds up what is most important for the society, i.e., the individual's internal and external world during one of the most complicated period in his/her life – the childhood. B. Tracy also emphasises the same idea pointing out that "the greater clarity you have regarding your values on the inside, the more precise and effective will be your actions on the outside" (Tracy, 2010, 48).

The aim of this article is to present the experience accumulated while creating a new programme for emotional intelligence development, entitled "Tales of Emotions", based on author's Method of Emotional Imitation.

Methodology

The tasks of the study are:
- to review the current trends and specific aspects of emotional intelligence education;
- to introduce the Method of Emotional Imitation in the context of emotional literacy;
- to describe the process of designing the programme "Tales of Emotions" for EI education;
- to provide the guidelines for creating a framework of methodological programmes aimed for developing the emotional intelligence of 1 to 6-year-old children and their parents.

Seeking to record and share all the acquired experiences, the social research method of self-observation or "diary" method was employed (Bolger, Davis, Rafaeli, 2003; Engin, 2011).

The development of "Tales of Emotions" had several methodological inputs. Firstly, the EI theory developed by J.D. Mayer and P. Salovey (Mayer, Salovey, 1997) was taken into account, which was used to determine five skills influencing the EI: recognizing emotions in oneself and others, understanding the causes and consequences of emotions, precisely naming emotions, expressing emotions in a context relevant way, and regulating emotions (Brackett, Rivers, 2014). The set of these skills was termed RULER and was proposed as a baseline for developing EI (Hagelskamp et al., 2013). Moreover, the authors of this set suggest the usage of "the mood meter", suitable for children as young as 3 years old and enabling them and their parents to understand their emotions (Nathanson et al., 2016). The concept of social and emotional learning (SEL), emphasizing that social and emotional skills are essential not only for the general wellbeing of a person and their sustainable relations with others but also for the academic success, was a second major influence while developing "Tales of Emotions" (Durlak et al., 2015; Heckman, Kautz, 2012; Levin, 2012). The importance of SEL could be illustrated by a calculation stating that parents' investment in their children's EI will result in an 11-fold higher

added value (Heckman, Masterov, 2007; Belfield et al., 2015). This information prompted the thorough inclusion of moral themes and social context in the programme.

The professional experience of the author of this article was instrumental in developing the Method of Emotional Imitation, and subsequently proposing its extensive application in "Tales of Emotions". The author has worked as a music teacher in secondary education (Trakai Vytautas Magnus Gymnasium, 1988-2008; Trakai Art School, 2002-2006), as a professor in music education (Lithuanian Academy of Music and Theatre, 1992-2002, then 2012 to present), and as a tutor of prenatal and early music education (Musical Educational Health Promotion School "Sveikutis", 2003 to present). This experience showed that the MEI functions in multiple educational contexts (Navickienė, 2016; Navickienė et al., 2019) and suggested its potential in teaching emotional literacy. Experiencing the emotional state of a piece of music or art, describing and imitating it – at the very core of the MEI – were seen as a key for children and their parents to access their own emotions, facial expressions, and body language. Moreover, focusing on details of recognizing, describing and expressing emotions through singing, rhythmic exercises or music listening activities perfectly fits the five skills of the RULER set. As the author of the programme was also the person to implement it for the first time during the process of its development, it was essential to capture in details this experience. The author of this paper together with the initiator of the programme R. Lazdin, and the children psychologist V. Grigorjeva took notes on each lesson and the general process of the programme. All lessons were filmed and then discussed, along the notes, in a weekly meeting following the lesson. Throughout the process, the communication between the author, the initiation and the assisting psychologist continued (several times a week, sometimes daily) online. As discussed further, this approach proved instrumental in capturing the non-linear nature of method development.

Results and Discussions
The process of developing the programme "Tales of Emotions"

The beginning. The programme was started in June 2019 and there are plans to finish it in February 2020 (during the preparation of this text the programme was still in progress). Initially, the process of creation was more of piloting character, and continuous consultations with the initiator of this programme, R. Lazdin, were held. Working in the field of early education since 2013 and having accumulated extensive experience through designing the programme "Seven Intelligences", R. Lazdin was more experienced in designing programmes for infants and young children (Lazdin, 2018). The duration and volume of the programme for emotional intelligence was clearly defined from the beginning – 16 lessons (one lesson per week). The specific developmental period was also chosen, i.e. 1 to 6-year-old children. It was decided to divide children into two groups: 1 to 3-year-old children comprised the first group and the second one consisted of children aged 3 to 6 years old. The initial plan was to create "Tales of Emotions" within the period of several months but the very beginning of creation was tiring and more complicated than planned because there was a feeling that at first the author of the programme lacked special psychological knowledge and a model programme. This is in line with the findings of M.K. Rosenthal and L. Gatt (2010), suggesting that teachers in different countries are thought to focus on children's linguistic and cognitive skills while leaving the socio-emotional development to the family sphere. Such an understanding resulted in engagement of a professional psychologist into the process of programme development. After the analysis of the popular programmes for EI education ("Zippy's Friends", "Kimochi" and "Apple's Friends") it became clear that using them as model programmes, the final results would not be satisfactory as the element of novelty of "Tales of Emotions" would not be distinct and the programme would be based on well-known facial expressions learning cards, games with toys and situation-based tasks. Therefore, it was decided to use the Method of Emotional Imitation and to consider it an exceptional characteristic of "Tales of Emotions".

Choice of topics for "Tales of Emotions". Perceiving the importance of this stage, considerable time was allocated to it. In the beginning it was decided to create "tales" taking into account the importance of moral topics, e.g., "Types of Love", "Importance of Hope", "Importance of Patience", "Love for Nature" and others, and their logic sequence because all the tales had to be interrelated by their scenarios, which had to be used for the plot line of journey to the world of emotions and feelings. From the very beginning it was suggested including a character, i.e. a specially made puppet *Prince* (*Princas*), into all the tales but the consulting psychologist emphasised that *Prince* would be better understood by elder children, whereas the

younger ones need a character from animate nature. For this reason, the hand puppet *Little Bunny* (*Kiškutis*) was introduced. Moreover, the audio character *Knowledge Fairy* (*Žinių fėja*) dubbed by the initiator of the programme was created to enhance children's imagination.

Before choosing the topics of the programme the scenario of "Tales of Emotions" was written: *Prince William-Nilliam* (*Princas Noriukas-Nenoriukas*) (the prototype of the character is the main character of "The Little Prince" by Antoine de Saint-Exupery) is under a spell and he does not know his own name and that of his kingdom. *Knowledge Fairy*, *Teacher*, *Little Bunny*, mothers and children help him during his journey to the kingdom reigned by *Three Kings*, where he will find out the real names and then everybody will be happy again. Every lesson of "Tales of Emotions" was assigned moral ideals and the most relevant emotions were associated with them. However, such an objective appeared to be insufficient because it was important to link moral topics and emotions to be developed with knowledge of music. This new challenge encouraged creation of a certain "matrix", when every topic of the tale to be analysed was linked with music knowledge, emotion imitation and creative tasks, home games allocating considerable attention to expression of positive emotions. For example, the topic "Expression of Positive Emotions" is divided into the following sub-topics: "Ability to Express Liking"; "Ability to Express Love, Tenderness"; "Meaning of Hug"; "Importance of Hug"; "Meaning of Voice Timber", "Song (Solo and Choir)"; "Music Notes"; "Ta (Quarter Note) and Ti Ti (Eight Note)". The importance of homework was constantly emphasised by the contracting party of the programme; therefore, it was decided to create special "home games for the whole family". The intention was to give children a generously illustrated file with the main topics of the lesson, pictures depicting events and versed quatrains conveying the most significant moments in the lesson plot. In this way by the end of the programme parents will have collected a set of sixteen home games and a tale in thirty-two verses, which will help children to revise and remember the learnt programme.

Choice of emotions. The choice of the main emotions for the programme became a serious challenge, when it turned out that there was no one number of them. For a long time, it was thought that *six types of* basic human *emotions can be distinguished: anger, disgust, fear, happiness, sadness and surprise* and all the other emotions are only combinations of the basic ones. According to P. Ekman (2007), there are five main and universal emotions: anger, fear, sadness, happiness and disgust. The research presented by A.S. Cowen and D. Keltner disclosed more distinct (but interrelated) emotions that can be experienced by an individual. The research conclusions provided for 27 distinct emotions, which include fear, awkwardness, calmness, confusion, disgust, nostalgia, sadness, sympathy, horror and triumph (Cowen, Keltner, 2017). R. Plutchik (2000) pointed out eight basic emotions (joy, trust, fear, surprise sadness, disgust, anger, anticipation) with three levels each. Taking into consideration the age of participants in the programme "Tales of Emotions", ten most relevant emotions to children were chosen: disgust, sympathy, anger, surprise, joy, sadness, fear, trust, calmness and anticipation. It was decided to turn these emotions into *Emotion Fairies* (*Emocijų fėjos*), which became significant characters of the whole programme and to visualise them drawing their expressive portraits and body language complying with the emotion.

The strategy of writing the text of "Tales of Emotions. The "polishing up" of the strategy for creating the text of tales was necessitated by the fact that in the process of programme development, the author had to give lessons to two groups of children. The process of making final decisions about the strategy for texts of "tales" lasted for a long time, i.e. almost two months. This strategy had to be clear and convenient for lessons. In the beginning structured dialogues were created for every tale but this strategy was given up after the first lessons because it was complicated to learn long texts by heart and the author improvised more on the basis of dialogues during the lessons. The final decision was made to write very concise texts of general character containing the main actions in the content of a lesson. However, later the practice showed that it was worth preparing a short separate gist on the bases of these general theses, which would help the teacher to effectively remember the plot of the tale. The *succinctness of the gist turned out to be of utmost importance, which led to shortening the text of one tale, which was necessary for a detailed narration of the idea and plot of the tale from around* ten pages to one. Thus, next to a detailed text of each tale a gist was prepared as well.

Method of Emotional Imitation and interdisciplinarity. Since 2003, the author of the article delivered an original programme of early musical educational health promotion for 3 - 12-month and 13 - 36-month-old children. After starting the work on "Tales of Emotions" it soon became clear that emotional intelligence in this programme will be developed in a more convenient way if other kinds of art, and especially music,

are employed. Then the problem of repertory arose because the topic of each tale required songs, specific knowledge, dances and expression of positive emotions had to prevail in all their texts. The author of the article generalised her experience obtained in early music education in two methodological publications: "Songs of Mothers-to-Be" (Būsimųjų mamų dainos) (Navickienė, Navickas, 2005) and "The Family Book" (Šeimos knyga) (Piličiauskaitė, Navickas, Piličiauskas, 2017). Some musical activities (songs, games) from "The Family Book" turned out to be suitable for the plots of "Tales of Emotions" and were included into the list of suggested songs but the other had to be specially written. For this it was decided to cooperate with the composer A. Navickas, who had contributed to creation of the above-mentioned publications.

The problems of content in "Tales of Emotions". Making attempts to supplement the content of each tale with various activities, a dilemma aroused to decide upon which of the goals of the programme had to be prioritised: emotional education or attractiveness and visual effect of the programme. In the beginning the main focus was on expression of emotions but very soon this task appeared to be too challenging for children and for parents because it is not easy to express positive emotions. Moreover, children of the younger group (1-2-year olds) are more agile and they retain their attention for a relatively short time – just several minutes. The decision was made to allocate significant attention to organisation of various attractive activities for children without overshadowing the main goal, i.e. emotional literacy. On the basis of her experience accumulated while creating the programme "Seven Intelligences", the initiator of the programme advised to employ a lot of various properties, what is attractive to children and makes the very process of education more entertaining. Every lesson had to include texts of the used vocal repertory, aids for games in accordance with the developmental periods, audio records of music and the voice of Knowledge Fairy. This proved to be successful but not enough as four lessons showed that singing, dancing and playing music were the most favourable activities among children. It was decided to make the music part of the programme more intensive including playing small percussion instruments, Bongo drums, Carl Orff's xylophones and glockenspiels. Children and parents were invited to learn, live through and convey various emotions while playing the above-mentioned instruments.

The requirements for the programme developer. In the beginning of work on "Tales of Emotions" the author had intentions to mainly focus on the writing scenarios for each lesson. However, it later became clear that the very creative process would be of non-linear character, i.e. there would be a constant search for the best strategy for programme structure, which would undergo evaluation in the process of creation and the programme would be rewritten and criticized. There was an exceptional opportunity to test the programme in the process of its development (after a few tales were written, they were presented in the summer camp organised by the programme initiator, one of the tales was staged, some lessons were delivered, the constant feedback process was going on among members of programme developers (the initiator, the developer, the psychologist, the property master and parents involved in the programme)). Later, the main attention was allocated to adaptation of the lesson scenarios to the groups of 1-2-year-old and to 3-6-year-old children, incorporating a constant feedback from the parents and observing the reactions of the children; this significantly facilitated the creative process. Thus, along the necessary knowledge of peculiarities of the chosen developmental period (1-6 years old) and psychology, the necessary good musical abilities to sing, play and improvise, the author had to create music, to write verses, to design tasks that comply with the developmental period of children and to write artistic scenes and texts and, what turned out to be most challenging, to create mise-en-scenes that can be really implemented by a teacher working alone, with puppets and different audio records. All this required not only pedagogical, musical but also stage and artistic experience, i.e. to be able to control facial muscles, to be expressive, to change voice timbre and to be able to work puppets. It was decided to make the latter challenge easier, i.e. not to use the puppet Prince during the whole lesson and to "inhabit" Little Bunny in the pocket of an apron, which is specially made for the Teacher to enable her/him to more freely perform various activities and complete tasks.

Conclusions

Generalising the experience gained developing the programme "Tales of Emotions" targeted at emotional intelligence, it can be stated that:
- a short overview of the current trends and specific aspects of emotional literacy development revealed that the majority of programmes for EI education focus on early childhood and

pre--primary children. They are taught to be friends, to establish harmonious relations, to recognise and accept negative and positive emotions. However, development of 1-3-year-old children's EI is seen as the family's prerogative;

- a contemporary early childhood teacher in modern society has to perform a wide range of roles closely related to the process of education, nurturance of spiritual values, their analysis, creation, collaboration with learners, their parents and colleagues; it is therefore essential to practically implement the requirements of the teacher as an "ideological figure";

- in the context of the programme for emotional intelligence education, MEI is a way and aid for learning emotions and, having learned it, to express and develop the self, to be able to feel others and to learn to apply the obtained knowledge in own daily life;

- musical activities and imitation of emotions – the core elements of the MEI – present an advantage over other existing EI approaches in its attractiveness and accessibility to 1-6-year-old children;

- moral value education is inseparable from emotional intelligence; therefore, various moral topics help to speak about emotions and to understand the meaning of their display;

- development of the programme for emotional intelligence is the process that requires creative potential, psychological knowledge, pedagogical experience, musicality and artistic abilities as well as poses numerous challenges;

- the storyline of "Tales of Emotions" participated in shaping the methodological aspects of the programme development, witnessing the mutual impact between the creative and implementation phases of the method development;

- the process of creating "Tales of Emotions" has been non-linear, i.e. it requires constant observation, compliance of theory and practical implementation, prudent evaluation and optimisation;

- in the process of programme creation, it is necessary to ensure the distribution of tasks and expert assistance, when an experienced specialist assumes responsibility for a relevant area (in this particular case an educational researcher, a music teacher, a psychologist, a manager, a composer and a property master);

- "work in progress" type approach to method development is a singular opportunity to design and test a programme aimed at specific target audience (in the case of "Tales of Emotions" – 1-6-year-old children and their parents), challenged by a real-time feedback from programme participants.

Bibliography

1. Ahn H.J. (2005). Child care teachers' beliefs and practices regarding socialization of emotion in young children. *Journal of Early Childhood Teacher Education*, *26*(3), 283-295. doi: 10.1080/10901020500371155

2. Bagdanavičienė D. (2016). *Pedagogo profesijos kompetencijų vertinimas priešmokyklinio ir ikimokyklinio ugdymo mokykloje* [Assessment of Teacher's Professional Competences at Pre-primary and Early Childhood Education Institutions]. (Master's Thesis, Lietuvos edukologijos universitetas, Vilnius). Retrieved from https://gs.elaba.lt/object/elaba:15930923/15930923.pdf (in Lithuanian)

3. Bagdi A., Vacca J. (2005). Supporting early childhood social-emotional well-being: The building blocks for early learning and school success. *Early Childhood Education Journal, 33*(3), 145-150. doi: 10.1007/s10643-005-0038-y

4. Belfield C., Bowden A.B., Klapp A., Levin H., Shand R., Zander S. (2015). *The economic value of social and emotional learning*. *Journal of Benefit-Cost Analysis, 6*(3), 508-544. doi: 10.1017/bca.2015.55

5. Bolger N., Davis A., Rafaeli E. (2003). Diary methods: Capturing life as it is lived. *Annual Review of Psychology*, 54(1), 579-616. doi: 10.1146/annurev.psych.54.101601.145030

6. Brackett M.A., Rivers S.E. (2014). Transforming Students' Lives with Social and Emotional Learning. In R. Pekrun, L. Linnenbrink-Garcia (Eds.), *Handbook of Emotions in Education*. New York: Taylor & Francis.

7. Bradberry T., Greaves J. (2009). *Emotional Intelligence 2.0*. San Diego: TalentSmart.

8. Briers S. (2008). *Superpowers for Parents. The psychology of great parenting and happy children*. London: Pearson Education.

9. Clarke A.M. (2011). *An Evaluation of Zippy's Friends, an Emotional Wellbeing Programme for Children in Primary Schools. (*Thesis for the Degree of Doctor of Philosophy, National University of Ireland Galway, Galway). Retrieved from https://aran.library.nuigalway.ie/handle/10379/2624

10. Clark D. (2018). *A 21-Day Step by Step Guide to Mastering Social Skills, Improve Your Relationships, and Boost Your EQ*. Scotts Valley: CreateSpace Publishing.

11. Cowen A.S., Keltner D. (2017). Self-report captures 27 distinct categories of emotion bridged by continuous gradients. *PNAS, 114*(38). doi: 10.1073/pnas.1702247114

12. Čiužas R. (2013). Mokytojo kompetencijų nuolatinė kaita [Constant Change in Teacher Competences]. *Overview of research papers.* Vilnius: Edukologija. Retrieved from https://docplayer.net/50229617-Renaldas-ciuzas-mokytojo-kompetenciju-nuolatine-kaita.html (in Lithuanian)

13. Durlak J. A., Domitrovich C.E., Weissberg R.P., Gullotta T. P. (Eds.). (2015). *Handbook of social and emotional learning: Research and practice.* New York, NY: The Guilford Press.

14. Ekman P. (2007). *Emotions Revealed: Recognizing Faces and Feelings to Improve Communication and Emotional Life* (2nd ed.). New York: Holt Paperbacks.

15. Engin M. (2011). Research diary: A tool for scaffolding. *International Journal of Qualitative Methods, 10*(3), 296-306. doi:10.1177/160940691101000308

16. Goleman D. (2005). *Emotional Intelligence: Why It Can Matter More Than IQ* (10th ed.). New York: Bantam.

17. Goleman D., Boyatzis R.E., McKee A. (2013). *Primal Leadership, With a New Preface by the Authors: Unleashing the Power of Emotional Intelligence.* Brighton: Harvard Business Review Press.

18. Hagelskamp C., Brackett M.A., Rivers S.E., Salovey P. (2013). Improving Classroom Quality with the RULER Approach to Social and Emotional Learning: Proximal and Distal Outcomes. *American Journal of Community Psychology 51*(3–4): 530–43. doi: 10.1007/s10464-013-9570-x

19. Heckman J.J., Kautz T. (2012). Hard evidence on soft skills. *Labour Economics*, *19*(4), 451–464. doi: 10.1016/j.labeco.2012.05.014

20. Heckman J.J., Masterov D.V. (2007). The productivity argument for investing in young children. *Review of Agricultural Economics*, *29*(3), 446–493. Retrieved from http://jenni.uchicago.edu/papers/Heckman_Masterov_RAE_2007_v29_n3.pdf

21. Lazdin R. (2018). *Vienas vaikas – 7 intelektai* [One child – 7 intelligencies]. Vilnius: Alma littera. (in Lithaunia)

22. Levin H.M. (2012). More than just test scores. *Prospects*, *42*(3), 269–284. doi: 10.1007/s11125-012-9240-z

23. Mayer J.D., Salovey P. (1997). What Is Emotional Intelligence? In P. Salovey, D.J. Sluyter (Eds.), *Emotional Development and Emotional Intelligence: Educational Implications*. New York: Basic Books, 3-31. Retrieved from http://ei.yale.edu/wp-content/uploads/2014/02/pub219_Mayer_Salovey_1997.pdf

24. Nathanson L., Rivers S.E., Flynn L.M., Brackett M.A. (2016). Creating emotionally intelligent schools with RULER. *Emotion Review*, *8*(4), 306-310. doi: 10.1177/1754073916650495

25. Navickienė L. (2016). The Parity of Educational Aims: The Potential of Methods of Personal Meaning and Emotional Imitation in Structuring Music Class. In the International Scientific Conference *Music Science Today: the permanent and the changeable, 10.* Daugavpils: Daugavpils University, 280-295.

26. Navickienė L., Navickas A. (2005). *Būsimųjų mamų dainos* [Songs of Mother-to-Be]. Vilnius: Kronta. (in Lithuania)

27. Navickienė L., Rauduvaitė A., Gabnytė G., Hebert D.G. (2019). Emotional Imitation Method in the context of Lithuanian music education. In D.G. Hebert, T.B. Hauge (Eds.), *Advancing music education in Northern Europe.* Routledge, 192-221.

28. Piličiauskaitė L., Navickas A., Piličiauskas A. (2017). *Šeimos knyga* [The Family Book]. Vilnius: Sėkmės vaikai. (in Lithuanian)

29. Plutchik R. (2000). *Emotions in the Practice of Psychotherapy: Clinical Implications of Affect Theories.* Washington DC: American Psychological Association. doi: 10.1037/10366-000

30. Rosenthal M.K., Gatt L. (2010). Learning to Live Together: training early childhood educators to promote socio-emotional competence of toddlers and pre-schoolchildren. *European Early Childhood Education Research Journal, 18*(3), 373-390. doi: 10.1080/1350293X.2010.500076

31. Skripkienė R. (Ed.). (2005). *Metodinės rekomendacijos ikimokyklinio ugdymo programai rengti* [Methodological Recommendations for Development of Early Childhood Education Programme]. Vilnius: Lietuvos Respublikos Švietimo ir mokslo ministerija. Retrieved from https://www.smm.lt/uploads/documents/Pedagogams/Visas.pdf (in Lithuanian)

32. Slušnienė G., Balčėtienė A. (2016). Emocinio intelekto ugdymas ikimokykliniame amžiuje [Development of Emotional Intelligence in Pre-School Age]. *Mokslo taikomieji tyrimai Lietuvos kolegijose, 12,* 183-189. Retrieved from http://ojs.kaunokolegija.lt/index.php/mttlk/article/view/127 (in Lithuanian)

33. Tracy B. (2010). Goals! How to Get Everything You Want -- Faster Than You Ever Thought Possible (2nd ed.). San Francisco: Berrett-Koehler Publishers.

34. Weissberg R.P., Elias M.J. (1993). Enhancing young people's social competence and health behavior: An important challenge for educators, scientists, policymakers, and funders. *Applied and Preventive Psychology, 2*(4), 179-190. doi: 10.1016/S0962-1849(05)80088-5

35. Winnicott D.W. (1992). *The Child, the Family and the Outside World.* (2nd ed.). New York: Perseus Publishing.

Constructivism in Mediation

Viktorija Portere[1] Mg.iur.; **Vladimirs Morevs**[2] Bc.
Latvia University of Life Sciences and Technologies[1]; "PRIVUS" Ltd[2], Latvia
viktorija.portere@gmail.com[1]; privuslat@gmail.com[2]

Abstract: The development of the constructive approach in the field of philosophy, pedagogy and psychology, as well as essential progress in the development of communication and information theory, emergence of the Internet and artificial intelligence systems, makes the use of the constructive approach in mediation relevant to date. On the basis of theoretical analysis of constructive approach and practical mediation experience of the authors, the general scheme of construct formation in the process of cognition and communication is described and the constructive mediation scheme is proposed. Attempts to analyse and generalize different theories are made providing those theories have different definitions of the same concepts, and also considering the decreasing efficiency of formal institutions in management of the society. The difference of constructive mediation presented in the charts is: the use of dialogue and its varieties of discourse in the process of mediation, training of the conflict parties to dialogue and organization of the discourse by the mediator; assistance to participants in the conflict in achieving the unambiguity of the representation of signs, which are used in communication by mediation participants; the formation and updating of constructs that promote consensus achievement; testing (questioning) of mediation participants and processing of results. Dialogue (discourse), training of conflict parties by a mediator, is considered as the key feature of the constructive approach in mediation. Gained results and its further methodological study will allow to develop the theory of mediation in the unified way, train participants of the mediation to gain dialogue and discourse skills and to reach consensus, allowing them to avoid new conflicts. Additionally, it would help to train mediators and other professionals who encounter conflicts between people in their official duties.

Keywords: mediation, constructivism, communication, conflict, dialogue.

Introduction

The life and development of modern society is accompanied by contradictions between members of society, their groups, institutions and countries. Contradictions become the driving factor in this development, but contradictions lead to conflicts.

The elimination or mitigation of conflicts that counteract development is the subject matter of mediation, which became the essential part of the modern society. The relevance of the mediation is also confirmed by such observed changes in the society as the growing importance of informal communication, the decreasing effectiveness of formal institutions and the increasing influence of informal practices in society management.

In these conditions, it is mediation that can become one of the instruments regulating informal interactions. The concept and principles of mediation and dialogue were considered by the authors in the article Importance of Dialogue Nature in the Mediator's Competence (Portere, Briede, 2019).

Different branches of science are currently developing within the constructive approach. Constructivism exists in various scientific directions in philosophy, pedagogy, psychology, semiotics, communication. Knowledge and methods created within these scientific directions can be used for the creation of effective mediation solutions.

Theoretical analysis of the achieved by constructivists results that can be used in mediation will be presented further in this article.

Determining the sequence of the process of constructive mediation and the concepts used, we have taken into account the following:

- nowadays, various information systems, communication and artificial intelligence theories are in sustainable development;

- there are technical solutions and devices for processing at the high speed and communicating big amount of data available. That allowed to create high-performance information systems and the Internet;
- branches of science as semiotics, information systems, artificial intelligence, communication have often obtained the results and created definitions of the concepts that differ from each other.

The purpose of this research: development of a constructive approach to mediation based on dialogue (discourse) and learning to create a dialogue.

Methodology

Generalizing the existing definitions, constructivism (from lat. Constructio — construction) can be understood as the scientific direction, which is based on the idea of the focused activity of the cognizing subject, which uses the information available to him, the cognitive organs, experience, communication procedures in constructing images, concepts (assessments) and conclusions.

According to the constructivists, the fundamental difference of the person is that his being is not contemplative, but actively, and proactively, constructively and creatively constantly reproducing himself.

Although the real development of this direction received only in the twentieth century. The great heterogeneity of theories united by the direction of constructivism should be noted. We can meet social constructionists, radical constructivists, constructivists who, in addition to philosophy, are involved in the development of various branches of knowledge - pedagogy, mathematics, computer science, sociology, semiotics. In pedagogy constructivism is an appropriate basis for successful development of all types of competence (Briede, Pēks, 2014).

What is a distinctive feature of the constructive approach and what should be taken from this for mediation:
- the role of the mediator as a guide and contributor to the process of resolving the conflict and reaching agreement between the parties to the conflict, using the achievements of pedagogy and psychology, where this role is comparable to the role of the teacher in the learning process, which is revealed by L. Vygotsky (Vigodskij, 1999, 176);
- the process of constructive training for conflict parties and mediators;
- the dialogue and its type - discourse, which is the means of reaching agreement between the parties to the conflict;
- the formation and updating of constructs that contributes to consensus achievement.

In the process of its development, various sciences came to the different definitions of the same concepts, used in constructive mediation.

Consider some of them. The concept of Construct is taken from G. Kelly (1991), who has it as a way of interpreting the world: "A person looks at the world through transparent patterns or templates that he himself creates. We will call these templates, applied empirically to the true state of things, as constructs". It is especially important for this research that, confirming the idea of the bipolar world, the construct can take bipolar values. For various authors, it is close to the references of concept (lat. Conceptus "concept"), frame (English Frame - sequence, cadre, i.e. the structure containing some information introduced in psychology, and initially in ethology by Gregory Bateson) and Pattern (Eng. Pattern "sample; template; shape, model; scheme").The construct is a component part of knowledge and experience. By knowledge thereafter is meant the information embedded in human, information obtained through the organs of sensory perception, acquired rules (algorithms) for processing this information. Experience is a combination of knowledge and skills acquired by the person in the process of interacting with the world external to him, as well as in the process of his own inner feeling.

The development of information processing tools, the Internet makes it necessary to build constructive mediation on the basis of the modern interpretation of the concepts of Communication and Information. Of fundamental importance was also the appearance of information and computer systems, artificial intelligence systems on the basis of the development of information. Systems, one of the prerequisites for the creation of which was the concept of duality of the processes of intelligence.

The possibility and necessity of developing artificial intelligence systems in mediation, which could today contribute to the solution of some of its tasks, should be noted. Online dispute resolution systems are already in place today on e-commerce sites, developing systems for searching and analysing legal information, digital mediation.

Information (lat. Informatio - clarification, exposition, awareness) is one of the central fundamental concepts of science and modern philosophy, which has been widely included in scientific use since the 50s of the twentieth century. This concept is increasingly considered as the third component of being - along with matter and energy.

There is no single definition of this concept. There were attempts to define "information" through the concept of "data", which is currently equally vague. In classical philosophy, "information" was the technical concept related to the theory of knowledge and ontology" (Adriaans, 2016).

According to the analysis of L. Floridi (2003), three aspects related to the concept of information can be distinguished: "1) technical problems associated with the quantitative determination of information; 2) semantic problems regarding meaning and truth; 3) the impact and effectiveness of information on human behaviour".

For purposes of this research, the authors have used such definition of Information, which means any signs, genes of inheritance, results (signals, thoughts) of the brain and consciousness activity, results (signals, thoughts) of the activity of the hypothetically pre-existing or higher mind, the order (algorithm) of processing of the incoming information.

A sign will be considered a component of information, providing the sign is material, sensually perceived (including any technical means) object, phenomenon, action, which act as the representative of another object, phenomenon or action. C.S. Peirce one of the founders of the science of the signs - semiotics, very simplistically characterizes the sign in a broad sense as "a three-part combination of a sign [in the narrow sense], of the thing signified and cognition produced in the mind" (Peirce, 1994).

Authors accept the classification of signs created by C.S. Peirce (1994) for semiotics: iconic signs representing the objects designated by them; natural signs indicating natural phenomena; conventional or relative signs adopted by agreement.

The author disagrees with N. Luhmann (1995), who says that "perception remains primarily a mental event, lacking communication existence". The perception, sensory knowledge is an integral part of communication, which is discussed further in this article.

Disagreeing with N. Luhmann when he says that "But perception remains primarily a mental event, lacking communication existence" (Luhmann, 1995). The perception, sensory knowledge is an integral part of communication, which is discussed further in this article.

Human communication is the exchange of information (Watzlawick, Beavin, Jackson, 1967). To understand the concept of communication, the is a need to characterize and supplement the communication axioms formulated by P. Watzlawick "it is impossible not to enter into communication; each communication contains the substantive aspect and aspect of relations; the nature of the relationship depends on the punctuation of the communication sequences (events) between the communicants; all communication exchanges are either symmetrical or complementary, depending on whether they are based on equality or differences (Watzlawick, Beavin, Jackson, 1967).

Communication as well can be either intentional or unintentional, effective and ineffective; is characterized by the location in time and space, the method of transmitting information, communication feedback; is irreversible.

In mediation, it is especially important to take into account the listed features of communication and eliminate the causes of conflicts related to communication.

Results and Discussion

Based on the above analysis and definition of concepts try to describe the general scheme of construct formation in the process of cognition and communication (see Figure 1), which will become the basis

of our constructive mediation scheme and, in the process of description, comes to the common understanding of the basic concepts of the cognition process, how constructs are born and corrected.
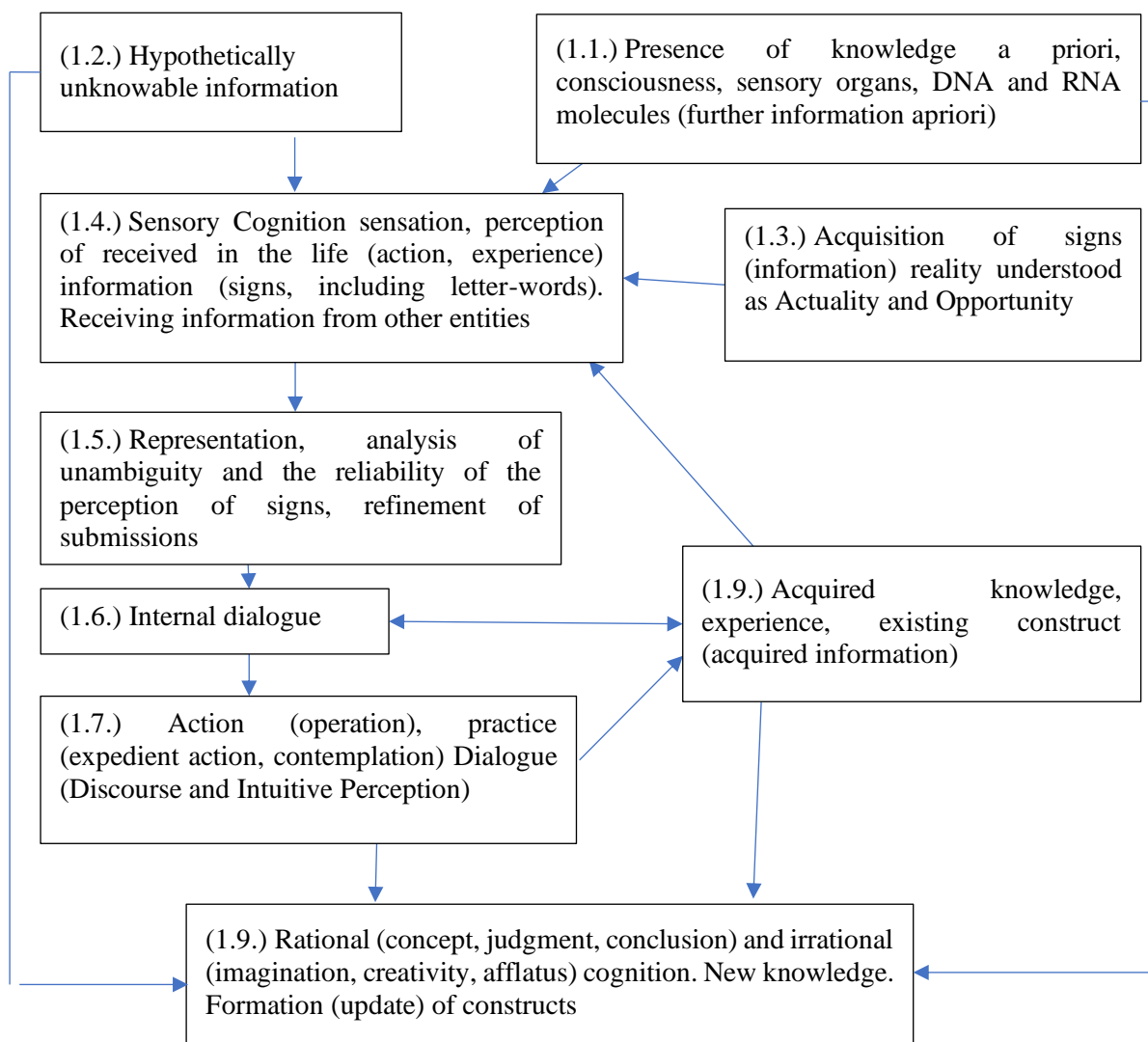
Figure 1. Scheme of constructs formation.

It is indisputable that at our birth, we already have inherent information transmitted from parents in the form of genes that materialize in DNA (DeoxyriboNucleic Acid) and RNA (RiboNucleic Acid) molecules known to science, which determine one or another development of the born human fetus, those sense organs that allow us to perceive the new information of the world around us, as well as the rules of behaviour of the new-born - the instincts that are necessary for his survival.

This we call Knowledge or information a priori (lat. A priori – literally "from previous") (1.1). Hereinafter, in parentheses the numbers of block charts are indicated.

It can also be assumed that some of the information we get from some kind of universal mind (god) and/or from some kind of consciousness that has the experience of the past life. At the current level of development of science, we cannot yet say in what form this information is transmitted and on which medium, but we will provide in our reasoning that it is. In the scheme it is call as unknowable information (1.2).

The concept of Actuality – the realized reality in its entirety – the reality of not only things, but also materialized ideas, goals, ideals, social institutions, generally accepted knowledge (1.3).

Signs (information) of the real world are received using the senses. At the same time are two functions of sensory cognition – perceive and sense this information (1.4).

In order to act adequately, it is fundamentally important to correctly present the received signs, which are based on a priori and acquired information. There is the comparison of the representations of the received signs and the information already stored, which allows to make decisions and take response actions.

One of the most important tasks in the processing of the obtained information (signs) is to achieve its correct presentation, and then its correct understanding (1.5).

Of particular note is the concept of internal dialogue (1.6), which appeared in psychology. This is the process of the person's internal communication with himself, the process of human communication with the higher mind. This is also a way of forming the constructs. To correct the already existing constructs, it is necessary to master the techniques of stopping the internal dialogue. It is necessary to use the rich experience gained in psychology. For example, to recall the selection of the concept of "internal speech" in the theory of the development of children by L. Vygotsky (Vigodskij, 1999, 100).

Based on the information received from the above sources, its presentation, understanding and ability to process it, a person carries out Actions (1.7), including conscious and targeted actions. In this article the definition of Actions by D. Davidson is used. D. Davidson has been argued that the action, in some basic sense, is what the agent does, and it is "intentional according to some description" Actions can also be carried out to obtain signs that are recognized by the human senses, only using technical devices (sensors) (Davidson, 2002).

The forms of cognition existing in the theory of cognition (epistemology) include the above mentioned sensory cognition — sensation, perception, and representation; and also rational knowledge - concepts, judgments, conclusions - abstractions expressed in constructs; Separately, it is necessary to consider irrational cognition (imagination, creativity, meditation, insight, foreboding, clairvoyance), direct knowledge scooped by the subject from the depths of himself, which is especially important when finding ways to resolve the conflict.

On the basis of all the information received and stored in us, experience of actions, prevailing constructs and information coming from the outside world, its presentation and understanding as a result of rational and irrational cognition, discourse, a person forms concepts, make judgments and make conclusions (1.8). As a result, constructs are formed and corrected (including new ones), arrays of information are created that reflect the experience gained are created, which are used in further actions.

It should be noted that the misrepresentation of signs and the opposite (incompatible) constructs of people entering into communication can lead to misunderstandings and conflicts requiring mediation. It is the mediator in this case that should help the parties to the conflict in the same, understandable to the parties' representation of signs and adjustment of constructs.

The paradox of life and knowledge is that in this process there are contradictions that lead to conflicts. Conflicts can be resolved through dialogue, which is the sign of the constructive approach to conflict resolution - performance mediation. As continuation of the cognition scheme, the authors have offered the constructive mediation scheme (see Figure 2) using two subjects (groups of subjects) as the sides of mediation.

The oval blocks of the diagram contain the functions of the mediator that are performed during the mediation process.

In the process of action, the subjects enter into communication, contradictions (2.6) that cause a hostile, antagonistic attitude towards each other appear, which in turn leads to conflicts (2.8). N. Luhmann's (1995) words characterize understanding of this formula: "In accordance with the increasing complexity of the social system, more and more contradictions are becoming the subject of communication" and also L.A. Coser (1968) wrote: "We need to distinguish between conflict and hostile or antagonistic attitude. Social conflict is always social interaction, while attitude or feeling is only the predisposition to action".
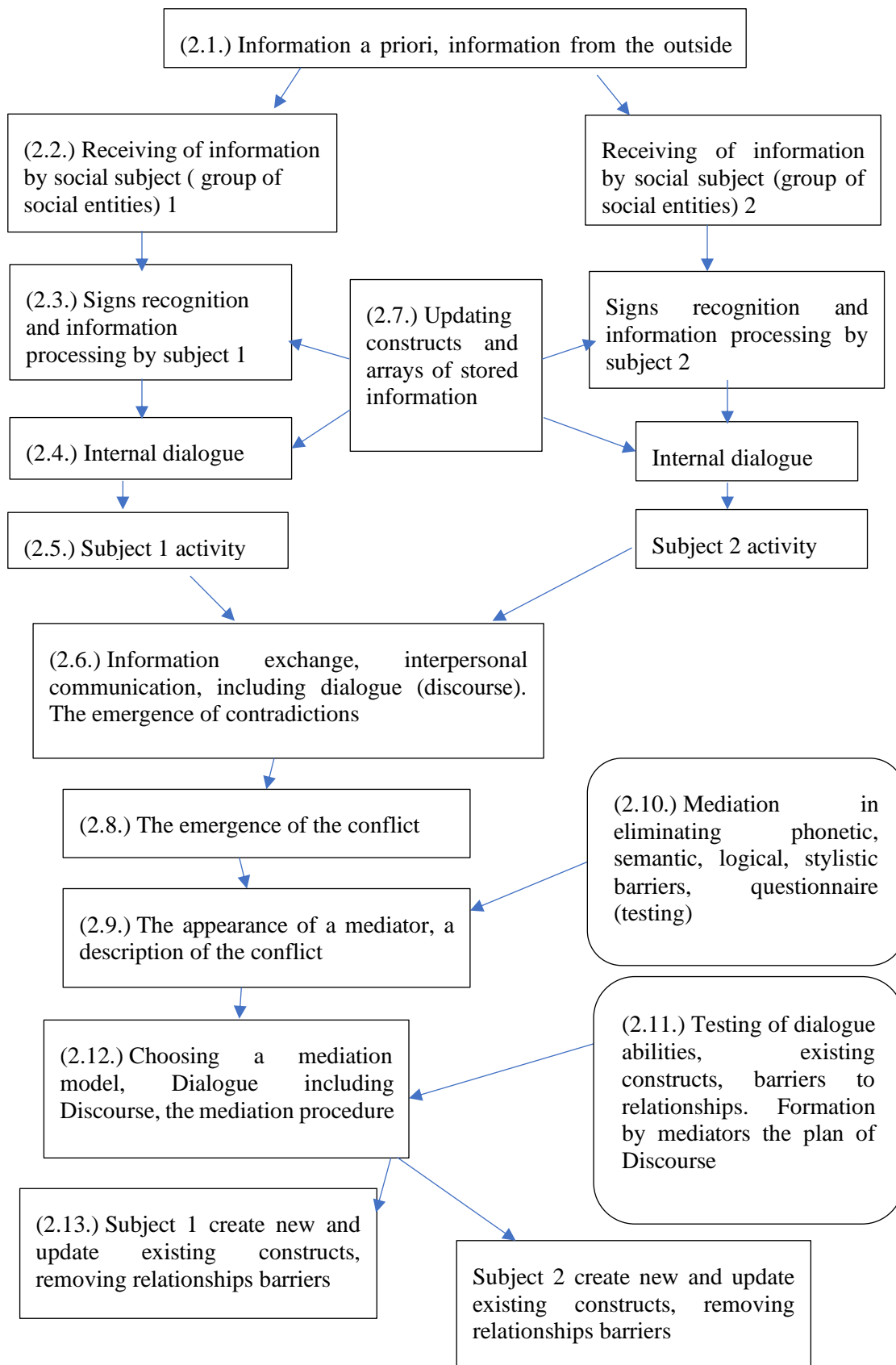
Figure 2. Constructive Mediation Scheme.

That is, the Conflict (lat. Conflictus — confronted) is the obvious hostile action of the parties to the conflict in order to resolve the contradictions that arise in the process of social interaction, that is, the action that goes beyond the rules and norms.

The main form of communication of the social subject is **dialogue,** dialogue for us becomes the main form of conflict resolution in mediation (2.12) (Portere, Briede, 2019).

The following types of dialogue used in the mediation process are distinguished:
- genuine, which can be expressed both in words and in silence,
- technical, caused only by the need for objective understanding,
- the monologue disguised as the dialogue,... (Buber, 2011).

The notion of internal dialogue used in this research can become both the genuine dialogue and monologue.

Gathering information about the conflict and its participants or resolving the simple conflict can be done using the technical dialogue, and the complex conflict can be resolved only with the help of **discourse**.

J. Habermas (1990) distinguishes between "implicit and explicit options for ensuring the pretension of the speech act on significance". Implicit options reveal in a technical dialogue or monologue, explicit options – in discourse as one of the types of genuine dialogue.

Conducting the discourse requires serious involvement of the mediator, depending on the characteristics and level of the parties to the conflict, the essence of the conflict, the mediator selects the mediation model and develops the discourse program.

It becomes important in the process of mediation to clarify and correctly evaluate information about the conflict, the ability of the parties to the conflict for dialogue, about the constructs that have developed among the participants in the conflict, which are largely their cause.

For this, testing is used (2.11) and questionnaire including using computers and the Internet. The formulation of questions in questionnaires and tests, the organization of the discourse program is carried out on the basis of the principles of Socratic Method (Clark, Egan, 2018) and the reliability of filling out questionnaires and tests is provided. The composition of the questionnaires (tests) includes questions that characterize the participants and the conflict, initial, directing and final questions that help the mediator conduct the discourse. The system of tests (questionnaires) is prepared depending on the mediation model used.

Conclusions

The development of the constructive approach in various sciences, the achievement of visible results of this development, especially in the field of pedagogy and psychology, the emergence of the tools necessary for mediation of this approach, the recent rapid development of computer science (communication), computers, the Internet, artificial intelligence, on the one hand, and appeared in society problems of social development, increasing the importance of the informal aspect in relation to the institutional make it necessary and possible to use constructive approach in mediation. The principal feature of the constructive approach to mediation is the following:
- dialogue and its form – discourse, which is the mean of reaching agreement between the parties to the conflict. Preparation to the discourse by the mediator;
- assistance to the parties to the conflict in eliminating the phonetic, semantic, logical stylistic barriers, that is, achieving unambiguous representation of signs;
- the structure of the mediation process, which involves the formation and updating of constructs that contribute to reaching agreement;
- testing (questioning) of mediation participants and processing of results;
- the constructive role of the mediator in the process of resolving the conflict and reaching agreement between the parties to the conflict, using the achievements of pedagogy and psychology;
- the process of constructive training for conflict participants and mediators;
- use of information computer systems, artificial intelligence systems.

Bibliography

1. Adriaans P.W. (2016). A General Theory of Information and Computation. Retrieved from http://arxiv.org/abs/1611.07829
2. Briede B., Pēks L. (2014). A constructivist approach in teaching in higher education for getting methodological and reflection competences. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 7. Jelgava*: LLU, 84-89. Retrieved from https://llufb.llu.lv/conference/REEP/2014/Latvia-Univ-Agricult-REEP-2014proceedings-84-89.pdf
3. Buber M. (2011). The life of dialogue. Retrieved from https://archive.org/stream/martinbuberlifeo00frie/martinbuberlifeo00frie_djvu.txt
4. Clark G.I., Egan S.J. (2018). Clarifying the Role of the Socratic Method in CBT: a Survey of Expert Opinion. *International Journal of Cognitive Therapy, 11*(2), 184-199. doi: 10.1007/s41811-018-0016-y
5. Coser L.A. (1968). *The Functions of Social Conflict*. Routledge & Kegan Paul.
6. Davidson D. (2002). *Essays on Actions and Events* (2nd ed.). Oxford: Clarendon Press Retrieved from https://bibliotecamathom.files.wordpress.com/2012/10/essays-on-actions-and-events.pdf
7. Floridi L. (2003). Two Approaches to the Philosophy of Information. *Minds and Machines, 13*(4), 459-469. doi: 10.1023/A:1026241332041
8. Habermas J. (1990). *Moral consciousness and communicative action*. Cambridge, Massachusetts: MIT Press.
9. Kelly G. (1991). *The psychology of personal constructs*. London: Routledge in association with the Centre for Personal Construct Psychology.
10. Luhmann N. (1995). *Social systems*. Stanford, California: Stanford University Press.
11. Peirce C.S. (1994). *The Collected Papers of Charles Sanders Peirce*. Cambridge: The Murray Printing Company. Retrieved from https://colorysemiotica.files.wordpress.com/2014/08/peirce-collectedpapers.pdf
12. Portere V., Briede B. (2019). Importance of Dialogue Nature in the Mediator's Competence. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 12*. Jelgava: Latvia University of Life Sciences and Technologies, 146-151. doi: 10.22616/REEP.2019.018
13. Vigodskij L. (1999). Mishlenije i rech. [Thinking and Speech] Maskva: Labirunt. Retrieved from http://pedlib.ru/Books/1/0162/1_0162-1.shtml (in Russian)
14. Watzlawick P., Beavin J.H., Jackson D.D. (1967). *Pragmatics of human communication: a study of interactional patterns, pathologies, and paradoxes*. New York: WW Norton & Company.

Understandings of Character and Virtue Education in Riga: Main Findings

Svetlana Surikova[1] Dr.paed.; **Tamara Pigozne**[2] Dr.paed.
Manuel Joaquin Fernández-González[3] Dr.paed.; **Ieva Stokenberga**[4] Dr. psych.
University of Latvia, Latvia
svetlana.surikova@lu.lv[1]; tamara.pigozne@lu.lv[2]
manuels.fernandezs@lu.lv[3]; ieva.stokenberga@lu.lv[4]

Abstract: During the last decade, moral education issues are widely discussed in Latvia and worldwide by practitioners, researchers and policy makers. Different understandings of character and virtue education are present in this debate, and this could blur the quality of communication between school leaders, teachers and parents in this relevant aspect of pupils' education. The aim of this study was to investigate the diverse understandings of character and virtue education in Riga city, the capital of Latvia. For answering this question, an online mixed-method survey was conducted from March to May 2018 involving 759 respondents (school pupils and their parents, pre-service and in-service teachers, school leading staff and educational authorities). The results showed that in Latvia prevails the belief that character education and virtue education have different goals, even if they are interrelated, whereas the main stream in international virtue ethics literature is to consider them as equivalents. The possible explanations of this discordance are discussed and some recommendations for reaching a unified understanding of character and virtue education in Latvian educational system are put forward.

Keywords: character education, school education, understandings, virtue education, virtue ethics.

Introduction

During the last decade, moral (character, virtue) education issues are being widely discussed in Latvia (Saeima approves lessons…, 2015; Morality guidelines workgroup…, 2015; 'Courage' and 'Moderation'…, 2016; Krolis, 2017; Fernández-González, 2019a; 2019b) and worldwide (Kristjánsson, 2013; What is Character…, 2019; Berkowitz, Bier, 2006; Harrison, Morris, Ryan, 2016; The Jubilee Centre…, 2017; The National Society, 2017) at the level of practitioners, researchers and policy makers.

Recently, the contents of character and virtue education at school have been under intensive discussion in Latvia, leading in 2016 to the adoption of the Cabinet of Ministers' regulation No 480 "Guidelines for the upbringing of learners and the procedure for evaluating information, teaching aids, materials and teaching/learning and upbringing methods" (Izglītojamo audzināšanas vadlīnijas…, 2016). The process started in 2015, when the Latvian parliament (Saeima) approved the amendments to the Education Law intended to provide moral education at school in line with the values of the Constitution, and a workgroup led by the National Centre for Education of the Republic of Latvia for preparing the guidelines approved in 2016 (Morality guidelines workgroup…, 2015; 'Courage' and 'Moderation'…, 2016). The guidelines include twelve virtues to be developed by pupils at school as the manifestation of their personal free thinking and behaviour, namely: responsibility, studiousness, courage, honesty, wisdom, kindness, compassion, moderation, self-control, solidarity, justice, tolerance. Those virtues are intended to facilitate the practice of a number of values considered to be of particular importance: life, respect, freedom, family, marriage, work, nature, culture, Latvian language and Latvian State.

One of the main streams in the international scientific literature on virtue ethics is to consider that character education and virtue education are two faces of the same coin, because character education is about facilitating the acquisition of virtues. For example, according to K. Kristjánsson, the terms 'character education' and 'virtue education' are interchangeable and are understood as any form of moral education that foregrounds the role of virtuous character in the good life (Kristjánsson, 2013, 271-272). Similarly, character education is supposed to refer to any implicit or explicit educational activity that helps people to develop character qualities or virtues (Harrison, Morris, Ryan, 2016, 18); to develop positive personal strengths called virtues (The Jubilee Centre…, 2017, 2); to develop a good character, i.e., knowing, caring about, and acting upon core ethical values (Berkowitz, 2008); and to develop and celebrate the flourishing of people through the cultivation of an expansive range of moral, spiritual, intellectual, civic and performance character virtues (The National Society,

2017, 6). The tenants of this approach argue that the presence of moral virtue differentiates a character strength from a traditional personality trait (McCullough, Snyder, 2000; Park, Peterson, Seligman, 2004).

It should be acknowledged that some scholars, in particular from the field of psychology, do not always recognize the necessity of speaking about virtues when addressing character education. Instead of linking character strengths to morality and virtue, they prefer to associate it with prosocial phenomena or to dispositional qualities that enable or promote well-being (Goodman, Disabato, Kashdan, 2019). However, some of the main representatives of positive psychology have acknowledged the necessity of addressing the moral dimension of character and the convenience of using the language of virtues (Peterson, Seligman, 2004).

In Latvia, the understanding of these terms is not univocal. As mentioned above, the Guidelines (Izglītojamo audzināšanas vadlīnijas…, 2016) used largely the words 'virtue' and 'value' (respectively, 20 times and 14 times, including their derivations), but the word 'character' is used only once in the document, in the expression 'strict character', as a component of the virtue of courage. And in the public discussion it seems to be a very diverse understanding of the terms related to moral education, such as values, virtues, and character. Certainly, those terms can be understood in different ways: there are different approaches to explaining them, and there is not a "right" or "wrong" understanding. However, it seems important to agree on a concrete understanding of these concepts in the Latvian education system. A common language of virtues and values would facilitate the communication between school leaders, teachers and parents, so that they can all work as a team for the best interest of children (Fernández González, 2019c, 16). Otherwise, misunderstanding in this field could hinder the peaceful and meaningful implementation of character and virtue education at school.

The aim of this study was to investigate the diverse understandings of character and virtue education in Riga city, the capital of Latvia. In June 2018, the primary descriptive quantitative findings of the research were summarized in a needs analysis report (Surikova, Pigozne, 2018), which was elaborated for the purposes of the Erasmus+ project "Supporting teachers for developing intra-personal competencies and character education at school − Arete Catalyst" (2017-2019). In this article, the data set was completed and analysed in-depth.

Methodology

Research questions. The idea behind the research project presented in this paper was to capture in a more scientific way the current understandings of character and virtue education in Riga city in the perspective of the main-stream international understandings. The research questions leading the inquiry were: 1) Do people think that they understand those concepts clearly, or do they feel unclear about them (self-perceived clarity)? 2) Are they regarded as similar or different notions? 3) Are there misunderstandings and myths about character and virtue education in Latvia? We looked also at group differences regarding these questions.

Research tool. An online mixed-method survey was conducted. The questionnaire contained an open question and several closed-ended questions in a Likert scale. The open question was: "Please, share your thoughts: how do you understand the concepts 'character education' and 'virtue education'? Do you see any difference between them? Which ones?" It was the same for all the respondent groups.

The scale questions were organized in three sections. The first section contained five questions: two about respondents' self-perceived clarity in their understanding of the concepts 'character' and 'virtue' (e.g., for me it is clear/not clear what the term 'character' means); and three questions addressing respondents' agreement with statements addressing their understanding of character and virtue education.

The second section was a battery of twice ten identical statements referring first to character education and then to virtue education. Respondents were asked to rate the level of their agreement/disagreement with them, using the same scale. The formulation of the statements of this section was based on the analysis of scientific literature reporting myths and possible misunderstandings of character and virtue education (Kristjánsson, 2013; The Jubilee Centre…, 2017; Fernández-González, 2018). In these two sections, each item was rated in a 7-point Likert scale. Respondents were presented with two antagonistic statements rated respectively 7 and 1 (e.g.: 'character education helps to develop critical thinking' = 7; and 'character education does not help to develop critical thinking' = 1), and they were asked to position themselves

between them (e.g., score '7' = maximum agreement with the first statement; score '1' = maximum agreement with the opposite – second statement; score '4' = neutral attitude towards both statements).

The third section of the questionnaire was intended to capture in-service teachers' and school leading staff understanding of character education more in-depth. It contained seven definitions of character education taken from the relevant literature (Kristjánsson, 2013; Krolis, 2017; What is Character…, 2019; Harrison, Morris, Ryan, 2016; The Jubilee Centre…, 2017; Eleven Principles of…, 2010; Character Education…, 2005; Berkowitz, 2008). The chosen definitions of character education had a different focus: some stressed the teaching process, other the involvement of learners, some stressed a formal education, others − the non-formal education settings. This different focus was used for the analysis and interpretations of results of this section. Those two respondent groups rate their agreement/disagreement with them in a 3-point Likert scale. The questionnaire was in Latvian and it was piloted first in paper version and then in the online version before starting data collection.

Sampling and data collection. The population addressed were the main actors of the formal education system: school pupils, pre-service and in-service teachers, parents, school leading staff and educational authorities. The sampling methods were randomized quota sampling. For optimizing the resources available, the data collection was limited to Riga and was organized with the support of the Education, Culture and Sports Department of Riga Municipality within the Erasmus+ project "Arete Catalyst". In spring 2018, the questionnaire was filled by 759 respondents (Table 1). Only the five more representative respondent groups were retained for the analysis.

Table 1

The research sample

Respondent group		Representative sample	Real sample
Full version	**Short version**		
School pupils	Pupils	150	226
Pre-service teachers	Students	150	155
In-service teachers	Teachers	150	116
School leading staff	Leaders	100	55
Parents of pupils	Parents	150	191
Educational authorities	Authorities	20	10
Other		-	6
Total		720	759

Data processing and analysis. Quantitative data processing and analysis was performed using MS Excel and SPSS 22 software. The distribution of data was checked for normality using Kolmogorov-Smirnov Test. For the comparison between respondent groups regarding section 1 of the questionnaire (self-perceived clarity of understandings and agreement with the given statements), the non-parametric Kruskal-Wallis H Test was used. For comparing the differences between the understandings of 'character education' and 'virtue education' within each respondent group (section 2 of the questionnaire), the non-parametric Wilcoxon Signed-Rank Test was used.

NVivo 11 Plus software was used for analysing the open answers about the understanding of character and virtue education and their eventual differences. In total, 685 expressions were analysed. Each expression was labelled with one of the following categories, which emerged from the data themselves: 'character education and virtue education are the same or similar notions' (concordance with the international understanding of those concepts); 'Character education and virtue education are not the same' (discordance); 'these two notions are interconnected' (partial concordance); and 'self-perceived lack of understanding of those concepts'.

Results

Regarding the 1st research question (*Self-perceived clarity about the concepts 'character' and 'virtue'*), in general, respondents' self-perceived clarity about the meaning of the concepts 'character' and 'virtue' was quite high (Table 2, items 1 and 2). The concept 'virtue' was perceived more clearly than concept 'character' (M = 5.85 and 5.33, respectively, in a 7-point scale). The analysis of the qualitative data confirmed this finding: overall, only 8.6 % of respondents (n = 60) reported a lack of clarity about the notions of character

education and virtue education. However, the scores were much lower for school leading staff (n = 2; 3.8 % within group), but slightly higher for students (n = 27; 12.2 %) (Table 3, item 4).

As regards the 2nd research question (*Character and virtue education: similar or different?*), a relevant finding of this study was that, overall, respondents believed that 'character' and 'virtue' have quite different meanings (M = 5.53, where 7 = absolutely different meanings), and that character education and virtue education are not the same (M = 5.32) (Table 2, items 3 and 5). These differences were even more marked in parents' mind (M = 6.06 and 5.82, respectively), but pupils were the group who sees less difference between those concepts (M = 5.09 and 4.87, respectively). These results were triangulated with respondents' open answers (Table 3). It was found that, overall, more than 2/3 of respondents (n = 493; 70.4 %) believed that 'character education' and 'virtue education' are not the same, and only 12.1 % (n = 85) believed that they are the same or similar notions. This general disagreement with international understandings of character and virtue education as being equivalent notions, as reported in the introduction, seems relevant, and it will be addressed in the discussion. However, similarly to the common opinion in virtue ethics, respondents tended to believe that 'virtue' is not only a religious notion (M = 5.81, where7 = absolutely not only religious) (Table 2, item 4).

Another relevant finding of this study was that, as the Kruskal-Wallis H Test showed (Table 2), there were statistically significant differences in all the research items' scores of this section between respondent groups. This diversity of understandings as well as the quite high standard deviations found within each group (around 1.5 in a 7-point scale) will also be addressed in the discussion.

Table 2

Respondents' understanding of 'character', 'virtue', 'character education' and 'virtue education'

The research items	Total (N=759)	Pupils (n=226)	Students (n=155)	Teachers (n=116)	Leaders (n=55)	Parents (n=191)	Kruskal-Wallis H Test
	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	
1. For me, it's clear what the notion 'character' means	5.33 (1.57)	4.77 (1.59)	5.32 (1.14)	5.69 (1.53)	5.98 (1.45)	5.55 (1.70)	66.46**
2. For me, it's clear what the notion 'virtue' means	5.85 (1.52)	5.73 (1.69)	5.65 (1.09)	6.01 (1.57)	6.05 (1.53)	5.99 (1.57)	34.04**
3. Both the notions (character and virtue) have not the same meanings	5.53 (1.67)	5.09 (1.67)	5.59 (1.43)	5.40 (1.93)	5.53 (1.83)	6.06 (1.53)	49.94**
4. Virtue is not only a religious notion	5.81 (1.52)	5.22 (1.63)	5.88 (1.23)	6.12 (1.51)	6.35 (1.28)	6.10 (1.49)	71.66**
5. Character education and virtue education are not the same	5.32 (1.73)	4.87 (1.76)	5.43 (1.45)	5.27 (1.89)	5.11 (2.02)	5.82 (1.65)	39.94**

**p<0.001; *p<0.05

Table 3

Respondents' understanding of the differences between 'character education' and 'virtue education'

The research items	Total (N=685)	Pupils (n=222)	Students (n=110)	Teachers (n=110)	Leaders (n=53)	Parents (n=190)
	N (%)	n (%)	n (%)	n (%)	n (%)	n (%)
1. Character education and virtue education are the same or similar notions	85 (12.1%)	43 (19.4%)	2 (1.8%)	15 (13.6%)	8 (15.1%)	17 (8.9%)
2. Character education and virtue education are not the same	493 (70.4%)	139 (62.6%)	90 (81.8%)	80 (72.7%)	31 (58.5%)	145 (76.3%)
3. These two notions are interconnected	44 (6.3%)	7 (3.2%)	6 (5.5%)	8 7.3%)	12 (22.6%)	10 (5.3%)
4. Lack of understanding	60 (8.6%)	27 (12.2%)	7 (6.4%)	6 (5.5%)	2 (3.8%)	17 (8.9%)
5. No answer	18 (2.6%)	6 (2.7%)	5 (4.5%)	1 (0.9%)	-	1 (0.5%)

As regards the 3rd research question (*Agreement/disagreement with myths and misunderstandings about character and virtue education*), another relevant finding of this study was that, in general, respondents agreed with statements opposing the myths and misunderstandings about both character education and virtue education presented to them (Table 4). The implications of this finding will be also discussed later.

Table 4

Differences in understanding of 'character education' and 'virtue education' (by respondent group)

Given statements (anti-myths) $7 = absolutely\ agree$	Character education	Virtue education	Total (N=759)	Pupils (n=226)	Students (n=155)	Teachers (n=116)	Leaders (n=55)	Parents (n=191)
	M (SD)	M (SD)	Z	Z	Z	Z	Z	Z
1. Promotes a critical thinking	5.36 (1.54)	4.74 (1.71)	-8.38**	-5.34**	-5.51**	-2.89*	-0.45	-2.99*
2. Promotes a personal freedom	5.37 (1.56)	4.65 (1.69)	-9.54**	-5.89**	-4.19**	-3.34*	-0.29	-4.78**
3. Not related to a religious doctrine	5.61 (1.55)	4.60 (1.88)	-13.03**	-7.27**	-6.33**	-4.81**	-0.04	-7.67**
4. Not related to political orientation	5.55 (1.61)	5.09 (1.75)	-7.79**	-5.68**	-2.46*	-3.45*	-1.50	-3.89**
5. Improves an academic performance of students	5.43 (1.54)	4.54 (1.63)	-11.99**	-5.56**	-5.25**	-4.34**	-2.59*	-7.48**
6. Improves the behaviour of students	5.68 (1.47)	5.53 (1.42)	-2.53*	-4.08**	-0.65	-0.42	-1.19	-1.05
7. Enhances the employment opportunities	5.48 (1.45)	4.63 (1.62)	-12.97**	-7.27**	-5.88**	-4.35**	-3.68**	-6.51**
8. Helps to build good relationships	5.42 (1.59)	5.25 (1.64)	2.85*	-4.05**	-0.62	-1.19	-1.18	-0.41
9. Encourages belonging to a democratic society	4.64 (1.61)	4.57 (1.65)	-0.92	-2.04*	-2.05*	-1.13	-1.91	-2.51*
10. Promotes individual and social well-being	5.11 (1.66)	5.19 (1.55)	-1.15	-1.56	-2.94*	-1.29	-1.72	-0.22

**p<0.001, *p<0.05, Z - Wilcoxon Signed-Rank Test

In addition, in most of the criteria, the disagreement with those myths was stronger when applied to 'character education' than to 'virtue education'. This finding (that character education and virtue education are different) echoes the finding reported previously. For example, 'character education' is believed to promote better critical thinking and personal freedom, to have a bigger impact on students' academic performance and behaviour, to be less related to a specific religious doctrine or political orientation, and to help better to build good relationships and to find a job. On the other side, respondents believed that virtue education promotes both individual and social well-being better than character education (M = 5.19 and 5.11, respectively). The indicator which received the strongest agreement relating both to character education and virtue education was their impact on improving students' behaviour (M = 5.68 and 5.53, respectively); the indicator related to the impact of character education on 'belonging to a democratic society' received the weakest agreement (M = 4.64); and the indicator related to virtue education impact on students' academic performance received the weakest agreement (M = 4.54).

Those differences between character education and virtue education were perceived by all the five respondent groups, but the difference is less often statistically significant in the case of school leading staff, and more often statistically significant in the case of pupils.

Regarding in-service teachers' (n = 116) and school leading staff (n = 55) agreement with the different definitions of character education presented to them (Table 5), overall, they mostly agree with all the definitions and there were no differences among those two respondent groups. A comparison of frequencies was performed merging both respondent groups.

In the assessment of the definitions, in-service teachers and school leading staff were tended to give affirmative answers, in general more likely agreeing to definitions with focus on learning or rather neutrally perceiving the proposed definitions with focus on teaching. The two definitions which got the highest perceptual agreement (Table 5, items 6 and 7) had a focus on pupils' learning (the youngsters themselves

develop their virtues) and included non-formal education elements, such as long-term processes and implicit education. On the other side, the two definitions which got the highest level of neutral attitude (Table 5, items 3 and 5) referred to explicit teaching and formal education settings.

Table 5

Frequencies (%) of agreement with definitions of character education (teachers and school leaders)

Proposed definitions of character education	Focus*	Disagree	Neutral	Agree
1. Character education is *a method of internal discipline and motivation* for students (Krolis, 2017).	(L, F)	12.8	36.0	**51.2**
2. Character education implies *a more deliberate approach – a conscious decision* to develop certain students' virtues, behaviours and attitudes and a plan as to how this will be achieved (What is Character…, 2019).	(T, F)	12.2	37.2	**50.6**
3. Character education is *any form of moral education* that foregrounds the role of virtuous character in the good life (Kristjánsson, 2013).	(T, F, NF)	11.6	**53.7**	34.8
4. Character education is *a learning process* that enables students and adults in a school community to understand, care about and act on core ethical values such as respect, justice, civic virtue and citizenship, and responsibility for self and others (Character Education…, 2005).	(L, F)	11.6	41.5	**47.0**
5. Character education is *the intentional effort* to develop in young people core ethical and performance values that are widely affirmed across all cultures (Eleven Principles of…, 2010).	(T, F)	11.0	**49.4**	39.6
6. Character education is *the long-term process* of helping young people to develop a good character, i.e., knowing, caring about, and acting upon core ethical values (Berkowitz, 2008).	(L, NF)	16.5	23.8	**59.8**
7. Character education is *the explicit and implicit educational activities* that help young people to develop virtues (Harrison, Morris, Ryan, 2016; The Jubilee Centre…, 2017).	(T, L, F, NF)	14.0	32.9	**53.0**

T=focus on teaching; L=focus on learning; F=focus on formal education; NF=focus on non-formal education

Discussion

Character education and virtue education seem to be perceived as two different constructs in Riga. A possible explanation could be that, during the Soviet times, the term character was understood in a very specific, narrow way. Since the beginning of the Soviet times, at the beginning of the 20th century, the Soviet system put at the centre of the education policy a number of so called "Soviet virtues", such as 'Soviet patriotism', 'social humanism' and 'collectivism', while the term 'character education' was reserved to the development of the discipline and will strength expected from the New Soviet Man (Fernández-González, 2019d). This distinction between character education (in a narrow sense) and virtue education might be still present in Latvia, which was under the Soviet rule for more than 50 years.

In spite of the subjective self-perceived clarity of the concepts of character and virtue reported by respondents, the data revealed a rich diversity of understandings of those concepts between the different groups and within groups. It seems that there is not a common understanding of these terms in Latvian educational system, at least in Riga. This fact could explain the contradictory debates originated in Latvian media during the legislative process leading to the approval of the Guidelines for moral education, as explained in the introduction. It could be advanced that working on the creation of a common understanding of the main terms could be beneficial for the whole educational system, facilitating the acknowledgement of the benefits of character and virtue education at school, and increasing its acceptance in Latvian society. Most of respondents did not take for granted some of the myths and misunderstandings about character education presented to them. This seems to indicate that, in Riga, there is a general a positive opinion and acceptance of 'virtue education', and, even more, of 'character education': they are often seen as complementary and working in synergy.

Finally, it should be noted that the results of this study refer to Riga city. Considering its importance in Latvia, it is possible that they reflect the situation in Latvia, but more research is needed to verify this hypothesis.

Conclusions

In Riga educational system, there is a general agreement of all respondent groups (parents, pupils, pre-service and in-service teachers as well as school leading staff) that character and virtue are quite well-known but different terms; therefore, character education and virtue education are also different concepts, but they are interconnected. Respondents have a quite positive opinion and acceptance of both character education and virtue education, and this tendency is stronger regarding character education. Both kinds of education are particularly relevant to improve students' behaviour. Respondents particularly strongly agree that character education is not directly related to religious or political education, and that it enhances academic performance and employability, whereas virtue education is particularly helpful to build good relationships and promotes both individual and social well-being. In-service teachers and school leading staff reported the highest agreement to definitions of character education that included both pupils' self-involvement and non-formal education activities.

A deeper understanding of the benefits of character education in Latvia might be facilitated within the institutional efforts of elaboration and implementation of character education programmes at school (a good practice example in Riga Catholic Gymnasium). Research projects, where practitioners, policy makers and researchers share their understandings and join their efforts for having an impact on society, are also relevant. Many efforts are being done in this field in Latvia, e.g.: the Erasmus+ project "Shaping Characters" (2015-2017); the University of Latvia's research project "Teachers' ethics, development of transversal and socio-emotional competences and character education to promote quality of education" (2016-2019); the Erasmus+ project "Arete Catalyst" (2017-2019); the postdoctoral research project "Modernization of school education in Latvia through an innovative research-based program on 21st century competences and virtue ethics development supported by a virtual campus (ARETE-school)" (2017-2020), as well as many other initiatives implemented in Latvia.

Given the differences in the understanding of the concepts of character and virtue across and within different respondent groups, it would be beneficial to work on building a common understanding of these notions which is attuned with the main stream international literature on virtue ethics. This would probably facilitate setting up joint international research projects and sharing educational materials about character and virtue education across different countries.

Acknowledgements

Bibliography

1. Berkowitz M.W. (2008). *A Primer for Evaluating a Character Education Initiative* (2nd ed.). Washington: Character Education Partnership.
2. Berkowitz M.W., Bier M.C. (2006). What works in character education: A research-driven guide for educators. Washington: Center for Character and Citizenship. Retrieved from https://www.researchgate.net/publication/251977043_What_Works_In_Character_Education
3. *Character Education… Our Shared Responsibility.* (2005). Washington: U.S. Department of Education, Office of Safe and Drug-Free Schools. Retrieved from https://www2.ed.gov/admins/lead/character/brochure.html
4. *'Courage' and 'Moderation' Join Upbringing Guidelines.* (2016). Latvian Public Broadcasting (eng.lsm.lv). Retrieved from https://eng.lsm.lv/article/society/society/courage-and-moderation-join-upbringing-guidelines.a167479/
5. *Eleven Principles of Effective Character Education: A Framework for School Success.* (2010). Washington: Character Education Partnership. Retrieved from https://coreessentials.org/assets/uploads/content/ce-11-principles.pdf
6. Fernández-González M.J. (2018). Zinātniski pētniecisks skatījums uz rakstura audzināšanu: mīti, izaicinājumi un starptautiskās perspektīvas [Research-Based Reflections about Character Education: Myths, Challenges and International Perspectives]. In V. Lubkina, S. Usca, A. Zvaigzne (Eds.), The Proceedings of the International Scientific Conference *Society. Integration. Education*, *2*. Rezekne: RTA, 126-136. doi: 10.17770/sie2018vol1.3133 (in Latvian)

7. Fernández-González M.J. (2019a). *Cultural and Historical Research on Character and Virtue Education in Latvia in an International Perspective.* Research Report. Retrieved from https://drive.google.com/file/d/1X15P6ubTIfWTKshOnYIpQoMdCJCso5rB/view

8. Fernández-González M.J. (2019b). *Skolēnu morālā audzināšana Latvijas skolās: vecāku, skolotāju, topošo skolotāju un skolu un izglītības pārvalžu vadītāju viedokļi. Populārzinātniskais pētījuma ziņojums* [Moral Education of Pupils in Latvian Schools: The Views of Parents, Teachers, Future Teachers, Heads of Schools and Education Boards. Popular Science Research Report]. Rīga: LU PPMF Pedagoģijas zinātniskais institūts. Retrieved from http://dspace.lu.lv/dspace/bitstream/handle/7/46498/Zi%20ojums_Skol%20nu%20mor%20l%20%20audzin%20%20ana%20Latvijas%20skol%20s.pdf (in Latvian)

9. Fernández-González M.J. (2019c). Par tikumiskās audzināšanas jēdzienu izpratni [About an Understanding of the Concepts of Virtue Education]. *Domāt. Darīt. Zināt.*, *9*, 16-19. Retrieved from http://skola2030.lv/admin/filemanager/files/2/nr_9.pdf (in Latvian)

10. Fernández-González M.J. (2019d). Legitimation of Virtue Education in Teacher Training Discourse during Soviet Latvia. In V. Lubkina, A. Indriksons, S. Usca (Eds.), The Proceedings of the International Scientific Conference *Society. Integration. Education*, *1*. Rezekne: RTA, 194-204. doi: 10.17770/sie2019vol1.3916

11. Goodman F.R., Disabato D.J., Kashdan T.B. (2019). Integrating Psychological Strengths under the Umbrella of Personality Science: Rethinking the Definition, Measurement, and Modification of Strengths. *The Journal of Positive Psychology, 14*(1), 61-67. doi: 10.1080/17439760.2018.1528380

12. Harrison T., Morris I., Ryan J. (2016). *Teaching Character in Primary Schools.* London: Sage.

13. *Izglītojamo audzināšanas vadlīnijas un informācijas, mācību līdzekļu, materiālu un mācību un audzināšanas metožu izvērtēšanas kārtība* [Guidelines for the Upbringing of Learners and the Procedure for Evaluating Information, Teaching Aids, Materials and Teaching/Learning and Upbringing Methods]. (2016). Retrieved from https://likumi.lv/ta/id/283735 (in Latvian)

14. Kristjánsson K. (2013). Ten Myths about Character, Virtue and Virtue Education – Plus Three Well-Founded Misgivings. *British Journal of Educational Studies*, *61*(3), 269-287. doi: 10.1080/00071005.2013.778386

15. Krolis L. (2017). *Raksturizglītība mudina tiekties uz labo. Rīgas Katoļu ģimnāzijas pieredze* [Character Education Encourages the Pursuit of Good. Experience of Riga Catholic Gymnasium]. Retrieved from https://tuvuma.lv/raksturizglitiba-mudina-tiekties-uz-labo-rigas-katolu-gimnazijas-pieredze (in Latvian)

16. McCullough M.E., Snyder C.R. (2000). Classical Sources of Human Strength: Revisiting an Old Home and Building a New One. *Journal of Social and Clinical Psychology*, *19*(1), 1-10. doi: 10.1521/jscp.2000.19.1.1

17. *Morality Guidelines Workgroup Discusses Nine Virtues.* (2015). Latvian Public Broadcasting (eng.lsm.lv). Retrieved from https://eng.lsm.lv/article/society/society/morality-guidelines-work-group-discusses-nine-virtues.a159698/

18. Park N., Peterson C., Seligman M.E.P. (2004). Strengths of Character and Well-being. *Journal of Social and Clinical Psychology, 23*(5), 603-619. doi: 10.1521/jscp.23.5.603.50748

19. Peterson C., Seligman M.E.P. (2004). *Character Strengths and Virtues: A Handbook and Classification.* New York: Oxford University Press. Retrieved from http://ldysinger.stjohnsem.edu/%40books1/Peterson_Character_Strengths/character-strengths-and-virtues.pdf

20. *Saeima Approves Lessons in 'Constitutional Morality' for Schoolchildren.* (2015). Latvian Public Broadcasting (eng.lsm.lv). Retrieved from https://eng.lsm.lv/article/society/society/saeima-approves-lessons-in-constitutional-morality-for-schoolchildren.a134466/

21. Surikova S., Pigozne T. (2018). *Transversal Competences and Character Education in Latvia: A Needs Analysis Report.* Retrieved from https://dspace.lu.lv/dspace/handle/7/49011

22. The Jubilee Centre for Character and Virtues. (2017). *Framework for Character Education in Schools.* Birmingham: University of Birmingham. Retrieved from http://jubileecentre.ac.uk/userfiles/jubileecentre/pdf/other-centre-papers/Framework.pdf

23. The National Society. (2017). *Leadership of Character Education: Developing Virtues and Celebrating Human Flourishing in Schools*. Retrieved from https://cofefoundation.contentfiles.net/media/assets/file/CEFEL_LeadershipCharacter_Report_WEB.pdf

24. *What is Character Education?* (2019). Factsheet 1. Shaping Characters. Retrieved from http://www.shapingcharacters.eu/wp-content/uploads/Factsheet-1-Screen-EN.pdf

Education for sustainable

development

Gender Perception towards Women in Rural Areas in Turkey

Tayfun Cukur[1] Dr.agr.; **Nuray Kızılaslan**[2] Dr.agr.; **Halil Kızılaslan**[3] Dr.agr.; **Figen Cukur**[4] Dr.agr.
Mugla Sıtkı Kocman University, Milas Vocational School, Turkey[1,4]
Tokat Gaziosmanpasa University, Agricultural Faculty, Department of Agricultural Economics, Turkey[2,3]
tayfun.cukur@hotmail.com[1]; nuray.kizilaslan@gop.edu.tr[2]
halil.kizilaslan@gop.edu.tr[3]; figencukur@hotmail.com[4]

Abstract: Women and men have certain roles and responsibilities in social life. These roles and responsibilities are determined by gender. The perception of gender can be different in urban and rural areas. In this research, the gendered perception of women was investigated specifically in Tokat province. 175 women and 125 men in 25 quarters of the central district of Tokat province, who had immigrated from rural to urban areas, were given a questionnaire. The study was aimed at identifying certain views on the family life of the woman, the work life of the woman, whether the man was considered as the leader of the family, and whether these views had a relationship with gender. The study was investigated statistically using Chi-square analysis. The statistical analysis showed that there existed a significant relationship between the views of the participants on gender, and their sex. Rural women believe that women can run businesses, work as managers, continue working after marriage, their working will not hinder their household tasks and they believe that they can work after giving birth more than men do. The majority of the men that took part in the survey think that the man is the family's leader and that men should make the most important decisions. An important part of the men think women are vulnerable and they should be protected.

Keywords: gender, rural area, man, woman, gender perception, adults.

Introduction

The term "gender" and the closely related term "sex" are used interchangeably, and the conceptual differences between the two words are often ignored, especially in everyday conversations. The term "sex" is related to anatomy, physiology and neurology and may also play a role in our behavioural, cognitive and affective characteristics. In general, sex is considered a demographic category based on biological characteristics. The term "gender" is both a cultural and an individual concept and refers to a social and psychological situation imposed or adopted. In other words, gender refers to psychosocial characteristics that characterize people as feminine or masculine (Kızılaslan, Diktas, 2011). Gender role is defined as the relative degree of an individual's feminine or masculine psychological characteristics. The feminine gender role is typically compassionate, emotional, submissive and dependent, while the masculine gender role is typically analytical, assertive, competitive, dominant, adventurous, strong and aggressive (Öngen, 2007).

Gender perceptions in societies can affect people's lives, behaviours, attitudes and expectations. These perceptions impose different roles on women and men in society. In particular, it can be said that these stereotypes have important effects on women's family life and working life. Gender stereotypes are closely linked to traditional social roles and power inequalities between women and men (Prentice, Carranza, 2002).

The effect of gender differences can be seen in many areas such as household labour, earnings, promotion and authority and educational opportunities (Mahaffy, Ward, 2002).

Successful integration of women into the labour market contributes to the development of the entire national economy (Racene, 2016). Women should strike a balance between work, family, mentality, civil society and leisure (Racene, 2013). There are certain differences between male and female personality traits - the man has more manifestation of dominance but woman has more signs of altruism (Badjanova, Ilisko, Ignatjeva, 2019). Women's career development is different and more complex when compared to that of men because women have different tasks and employment opportunities in life and in the family. There are different traditions and stereotypes, which both contributes to and prevents women's career development (Racene, Dislere, 2013). Low-income managers at the beginning of their careers face more career barriers than experienced and high-income women managers (Meral, Otlu, 2016).

Today, the global gender gap score is 68 %. So, there is a 32 % gap to close (World Economic Forum, 2018). Women still earn on average 16 % less than men. The disadvantage of women is directly related to their weak position in the labour market because, even if women participate in working life, they continue to have an important responsibility in the family in terms of housework (Oláh, Richter, Kotowska, 2014).

The leading gender-related problem is gender inequality. Whereas two-thirds of the working hours in the world are filled by women, and women produce more than 50 % of the food produced, they receive only 10 % of the income. While having less than 2 % of property, women can get less than 5 % of all bank loans. The study shows that 70 % of the 1.2 billion people in poverty are women. The number of rural women living in absolute poverty has increased by 20 % in the last twenty years. It is sad to find out that 60 % of the workers working without insurance are women. The study shows that 54 % of the 72 million school-age children who do not go to school are girls. Of the 40 million refugees in the world, 75 % are women and children (Food and Agriculture…, 2011).

Today, the rural population is decreasing all around the world. Among the reasons for this are that men want to work in cities and that they incline to non-agricultural economic activities in rural areas. A study by J.K. Mduma (2014) revealed that rural women did not have geographical mobility, and they preferred to work in the area they lived in. Their study devoted to identifying women's role in the immigration from rural to urban areas (Kızılaslan, 2013) showed that the influence of women on this matter increased with age, higher levels of education, and in cases where they had done research about the area where they were going to move to, or where there was a patriarchal family structure. In a study by G. Ozdemir, G. Unakıtan, G. Keskin, E. Yılmaz and F. Ülker (Ozdemir et al., 2017) carried out in Trakya Region, it was found out that 90 % of the participating women lived in their village constantly. This renders women more important in agriculture. Table 1 shows the employment rates of men and women in agriculture, forestry, hunting and fishing by years. As can be seen the percentage of women working in these sectors is higher than men. For instance, 27.6 % of men are working in these sectors while the percentage of women is 30.5 % as of 2017. A similar situation is present in Turkey as well, where, in 2016, 15.5 % of men and 28.7 % of women were employed in agriculture (Turkish Statistical Institute, 2018).

Table 1

Employment rates in agriculture, forestry, hunting and fishing (%)

Years	Women	Men
1997	41.6	38.5
2007	36.5	32.5
2017	30.5	27.6

Source: (World Employment…, 2017).

According to household workforce research results, while the employment rate for the population at 15 years of age and above was 56 % in 2015, this rate was 46 % in men and 27.5 % in women (Turkish Statistical Institute, 2017). The rate of workforce participation at the age of 15 or above is 71.6 % for men and 31.5 % for women (Table 2).

Table 2

Indicators chosen related with gender (2015) (%)

Chosen indicators	Total	Men	Women
Illiterate population (25+years)	5.4	1.8	9.0
Percentage of Associate or Bachelor degree (25+ years)	15.5	17.9	13.1
Employment (15+ years)	46.0	65.0	27.5
Participation in workforce (15+ years)	51.3	71.6	31.5
Unemployment (15+ years)	10.3	9.2	12.6
Young unemployment (15-24 years)	18.5	16.5	22.2

Source: (Turkish Statistical Institute, 2017).

Women working in rural areas both mind the home and actively work in agricultural and non-agricultural activities. For this reason, it is of prime importance that women's economic, social and legal rights are protected because the wages of rural women are about 80 % of the wages of men. On the other

hand, the women working in small family businesses are not paid, and most of these women do not have social security or a regular income (Braziene, 2008).

In order to raise the status of women in the society, it is necessary to know the perceptions and attitudes of individuals about gender inequality. In the current study, it is aimed to make contributions to research to be conducted, decisions to be made and policies to be developed in relation to men and women by determining the societal gender perceptions of men and women. The current research is thought to yield a data set for further research to be conducted for the purpose of reducing societal gender inequality. Therefore, the current study is believed to be important. When the literature is reviewed, it is seen that studies on gender perception of women are mostly directed to women living in urban areas, while studies on rural women are very inadequate. This is the most important feature that distinguishes the current research from previous studies. When the previous studies are examined, it is seen that the gender perceptions have been attempted to be determined only on the basis of the men's or women's opinions. In the current study, interviews have been conducted with both women and men and the attitudes of all the individuals living in rural areas related to gender perception have been evaluated; thus, it can help fill this void in the literature.

In this study, the gender perception of the women living in rural areas was investigated in the province of Tokat. The purpose of the study is to put forward the gender perceptions of the individuals living in the central district of Tokat province and identify the effects of the variable of sex on the perception of gender.

Methodology

This study consists of surveys given to people that had immigrated from rural areas to Tokat province central district. The priority was given to the 25 quarters that experienced intensive immigration. These quarters account for 50 % of the 52 quarters in Tokat province central district. Using proportional sampling, a total of 300 surveys were carried out on 175 women and 125 men from families that had emigrated from rural areas. Surveys were conducted face to face by researchers. The questionnaires in the current study were administered in November and December, 2017. The data were processed in 2018. The current study employed the "Societal Gender Perception Scale" developed by H.H. Altınova and V. Duyan (Altınova, Duyan, 2013).

In the study, views on the family life of the woman, the work life of the woman, the man's leadership in the family and any statistical relationship between these views and gender were examined using the chi-square analysis.

Results and Discussions

Several Socio-economical features

Of the participants of the study, 58.3 % are women and 41.7 % are men. The age average of the participants is 37.9 for women and 50.7 for men. The general age average was 43.2.

In terms of the educational background of women, 25.1 % of the participants were elementary school graduates or lower, but 30.9 % of them were high school graduates and 13.7 % had an associate degree while 30.3 % had a graduate or post-graduate degree. In turn 42.4 % of the men had elementary school education or below; 33.6 % of them were graduates of high school; 12 % held an associate degree and another 12 % had graduate or post-graduate degrees.

Where the participants spent most of their time was investigated. Answering to this question 22.3 % of the women spent most of their time in a village/town, 33.7 % of them spent most of their time in the district, and 44 % of them spent their time in the province. For men, these percentages were 18.4 %, 12 %, and 69.6 % respectively.

Findings related to gender perception

Women's participation in the labour force brings economic independence, enhances their health status and increases welfare (Karim et al., 2018). Table 3 shows the results of authors' of this article study and shows the views of individuals on work in relation to statements related with women's working life. In the current study 88.6 % of women and 78.4 % of the men agree with the suggestion "marriage does not prevent a woman from working".

Only 16 % of the women agree with the statement "A woman must work only if the family is having financial difficulties". The percentage of men that agree with this statement is 48.8 %.

Table 3

Statements on women work life

Statements	Gender	Agree		Indecisive		Disagree		Total		p
		Num-ber	%	Num-ber	%	Num-ber	%	Num-ber	%	
Marriage can not prevent women work life.	Women	155	88.6	10	5.7	10	5.7	175	100	**0.008***
	Men	98	78.4	6	4.8	21	16.8	125	100	
Women should work only if the family has an economical trouble.	Women	28	16	6	3.4	141	80.6	175	100	**0.000***
	Men	61	48.8	15	12	49	39.2	125	100	
Working women can also spend enough time with their kids	Women	120	68.6	38	21.7	17	9.7	175	100	**0.000***
	Men	49	39.2	10	8	66	52.8	125	100	
Women should not work after becoming a mother	Women	24	13.7	25	14.3	126	72	175	100	**0.000***
	Men	53	42.4	16	12.8	56	44.8	125	100	
Women should not work after getting married	Women	12	6.9	13	7.4	150	85.7	175	100	**0.000***
	Men	35	28	14	11.2	76	60.8	125	100	
Working life of a woman won't prevent her domestic work to be failed	Women	110	62.9	31	17.7	34	19.4	175	100	**0.001***
	Men	53	42.4	27	21.6	45	36	125	100	
A working mother is a better mother for her children	Women	78	44.6	59	33.7	38	21.7	175	100	**0.000***
	Men	44	35.2	18	14.4	63	50.4	125	100	
Woman politicians can also be successful	Women	152	86.9	9	5.1	14	8	175	100	**0.098**
	Men	99	79.2	6	4.8	20	16	125	100	
Women can become managers	Women	163	93.1	10	5.7	2	1.2	175	100	**0.000***
	Men	95	76	14	11.2	16	12.8	125	100	
Women should not commence a business on their own	Women	12	6.9	15	8.6	148	84.6	175	100	**0.000***
	Men	70	56	7	5.6	48	38.4	125	100	

*p < 0.05 importance level

According to the findings 68.6 % of women who took part in the study thought that working women can allot enough time for their children. However, only 6.9 % of the women agreed with the statement "women should not work after marriage". With regards to men, 28 % said they agreed with this statement. In a study conducted by V.S. Beniwal and B.D. James in India, it was found that 41 % of the participants participated in the statement that "women should not work after marriage." (Beniwal, James, 2019). One of the findings of this study is 13.7 % of the women and 42.4 % of the men agreed with the statement "women should not work after giving birth". A significant number of women (62.9 %) believed that working would not hinder the household chores of women. It was found out that 44.6 % of the women and 35.2 % of the men agreed with the statement "A working woman will make a better mother".

Women's engagement in politics is a requirement of human rights, which contributes to growth and sustainable development. Women's political empowerment is essential for democratic governance (Women's Political Participation…, 2018). A large majority of the women (86.9 %) agreed with the statement "women can be successful politicians". The percentage of agreement on the statement "women can be managers" was very high. In the current study 93.1 % of women and 76 % of men agreed with the statement. The results of the study show that 84.6 % of the women did not agree with the statement "women should not run businesses alone", which shows that the participants of the surveys thought positively of women's entrepreneurship. In a study by N. Kızılaslan and A. Yamanoglu, in Tokat province, 61.99 % of the women and 55.56 % of the men stated that women should take part in non-agricultural income-generating activities (Kızılaslan, Yamanoglu, 2010). M.K. Davran, N. Koluman-Darcan and D.B. Budak determined in their study that they conducted with the rural women in Adana province that 30 % of the women answered

the question "what is the difference between the tasks of men and women in agriculture?" saying there was no difference (Davran, Koluman-Darcan, Budak, 2007).

An examination of the views of the participants on the women's participation in the work force shows that a significant difference between men and women was found in all statements except "women politicians can be successful" (p<0.05). A study carried out by K. Yoshida (2011) in Japan argued that education has a positive effect on gender perception.

Table 4 shows the views of the participants of the study on considering the men as the leader of the family. An important part of the women (60.6 %) participating in the research disagree with the statement "A woman must not work if her husband does not give consent". G. Aslan (2011) stated that 46.6 % of female students and 10 % of male students strongly disagreed with the statement that "women should get permission from their husbands to work". In a study conducted by V.S. Beniwal and B.D. James, it was found that 51 % of the participants agreed with the statement that "women should always listen to their husbands" (Beniwal, James, 2019).

Table 4

Statements on men being the leader of the family

Statements	Gender	Agree		Indecisive		Disagree		Total		P
		Num-ber	%	Num-ber	%	Num-ber	%	Num-ber	%	
Woman should not work if her husband does not allow her to work	Women	39	22.3	30	17.1	106	60.6	175	100	0.000*
	Man	85	68	19	15.2	21	16.8	125	100	
A working woman should give her earnings to her husband	Women	22	12.5	40	22.9	113	64.6	175	100	0.000*
	Men	53	42.4	27	21.6	45	36	125	100	
A woman should not earn more than her husband	Women	36	20.6	24	13.7	115	65.7	175	100	0.000*
	Man	55	44	12	9.6	58	46.4	125	100	
A woman without a husband resembles a house without an owner	Women	54	30.9	14	8	107	61.1	175	100	0.000*
	Men	87	69.6	6	4.8	32	25.6	125	100	
A family's income should be provided by man	Women	51	29.1	27	15.4	97	55.5	175	100	0.000*
	Men	80	64	5	4	40	32	125	100	
Men should always be the head of the household	Women	70	40	21	12	84	48	175	100	0.000*
	Men	91	72.8	4	3.2	30	24	125	100	
Leadership of the society should be in men power	Women	33	18.9	21	12	121	69.1	175	100	0.000*
	Men	73	58.4	6	4.8	46	36.8	125	100	
Important decisions about the family should be made by men	Women	24	13.7	22	12.6	129	73.7	175	100	0.000*
	Men	75	60	17	13.6	33	26.4	125	100	

*p < 0.05 importance level

In a study by M.K. Davran and N. Tok the female seasonal workers working in potato agriculture in Adana reported that they spent the entire sum of their income on the family's needs and that they did not have any money left for their personal needs (Davran, Tok, 2011). A significant number of the women (64.6 %) disagree with the statement "a woman must give her income to her husband". On the other hand, 42.4 % of the man agree with this statement. In the study conducted by H. Ufuk and Ö. Özgen, the rate of female entrepreneurs sharing their earnings with family members was found to be 51.8 % (Ufuk, Özgen, 2001).

According to the results of the research 30.9 % of the women and 69.6 % of the men agree with the statement "A woman must be married". A significant amount of the participating men (64 %) have the opinion that a family's income should be provided by the man. Similarly, a great majority of the men

(72.8 %) think that men should always be the leader of the household. In a study conducted by M.K. Davran (2005) with amongst the rural women in Adana specifies that living in a small town shows urban and rural features and that the women are behind men at home and in the social life socially due to the patriarchal structure. The statement "The society's leadership must be in the hands of men" is agreed on by 18.9 % of the women and 58.4 % of the men. In a study conducted by G. Aslan (2011), it was found that 22.2 % of female students and 54.2 % of male students agreed with the statement that "women should not live alone".

While the majority of the women did not agree with the statement "important decisions must be made by the man" (73.7 %), a significant number of the men agreed with this statement (60 %). D. Devkota, G.P. Rauniyar and W.J. Parker found out that the man is dominant in terms of decisions regarding the family (Devkota, Rauniyar, Parker, 1999). In a study conducted in Nigeria by I.B. Oluwatayo (2009), it was revealed that the financial status of the woman was effective in terms of decision making. A. Schneebaum and K. Mader (2013) stress that the man has a voice in the family, especially regarding financial matters in Europe and that the possibility of making shared decisions will increase if the spouses are on the same level socially and economically (Schneebaum, Mader, 2013). Z. Creelman (2018) found that women's contribution to economic output in agriculture in Australia was 48 %, but the share of women in making farm-related decisions was less than 20 %.

An examination of the views of the participating individuals on regarding the man as the leader of the family shows a statistically significant difference between men and women in all suggestions (p<0.05).

Social and economic differences are effective on a family decision and these decisions can be shaped in accordance with the family's welfare and financial status. In these decisions, the age, sex, health status, agricultural experience of the family members and the relationship between them are also effective (Devkota, Rauniyar, Parker, 1999). Table 5 presents the opinions of the participating individuals on the statements concerning woman's family life. It is found out in the study that 42.3 % of the women and 69.6 % of men agree with the statement "A woman must be defended or protected by someone else". While the majority of the men (76.8 %) agree with the statement "Housewives can raise children better than working women", this percentage is lower among women (37.1 %).

Table 5

Statements on women's family life

Statement	Gender	Agree		Indecisive		Disagree		Total		P
		Num-ber	%	Num-ber	%	Num-ber	%	Num-ber	%	
Women should be defended or protected by somebody else	Women	74	42.3	19	10.8	82	46.9	175	100	**0.000***
	Men	87	69.6	12	9.6	26	20.8	125	100	
Compared to a working woman, a housewife takes better care of their children and raise them	Women	65	37.1	54	30.9	56	32	175	100	**0.000***
	Men	96	76.8	10	8	19	15.2	125	100	
Men should also do the housework such as washing dishes and doing laundry	Women	143	81.7	6	3.4	26	14.9	175	100	**0.000***
	Men	50	40	11	8.8	64	51.2	125	100	
Women should be younger than the husband	Women	83	47.5	34	19.4	58	33.1	175	100	**0.002***
	Men	76	60.8	7	5.6	42	33.6	125	100	
In order to have her own rights, a woman should be able to oppose to her husband if necessary	Women	107	61.1	19	10.9	49	28	175	100	**0.001***
	Men	52	41.6	11	8.8	62	49.6	125	100	
Women's primary job is to take care of domestic work	Women	53	30.3	21	12	101	57.7	175	100	**0.000***
	Men	86	68.8	4	3.2	35	28	125	100	

*p < 0.05 importance level

To the question, "Who do you think should marry?" 78.9 % of women said that men; while 21.1 % of men replied that it was irrelevant who made the proposal. The question "If you want to have a baby, do you prefer a gender?" was answered as "a girl" by 19.4 % of the women, 14.3 % said they wanted a boy and 66.3 % said it did not matter. For the same question, 1.6 % of the men said they wanted girls; 26.4 % said they wanted boys and 72 % said it did not matter.

It is determined in the study that 81.7 % of the women agree with the statement "Men must also do household chores". In a study by N. Kızılaslan and A. Yamanoglu, it was detected that 81.29 % of the women and 72.51 % of the men said that men also should take part in cooking, cleaning and taking care of children (Kızılaslan, Yamanoglu, 2010). It is found out in the study that 60.8 % of the men and 47.5 % of the women think that the woman should be younger than her husband. A significant percentage of women (61.1 %) are of the idea that women should oppose their husbands to protect their own rights. The statement "the primary task of a woman is doing the housework" is agreed on by 30.3 % of the women and 68.8 % of the men.

An examination of the views of the individuals that took part in this study on the woman's family life shows a statistically significant difference between men and women in all suggestions ($p < 0.05$).

Conclusions

In this study, devoted to identifying the gender perception in rural areas, the statements regarding the topic were examined under three groups. Whether the existence of a relationship between sex and views on gender was also investigated. A broad examination of the statements concerning the working life of women shows that rural women lean towards women entering working life more than men. Rural women believe that women can run businesses, work as managers, continue working after marriage, their working will not hinder their household tasks and they believe that they can work after giving birth more than men do.

When the suggestions that the man is the leader of the family are broadly examined, one can see that rural men demonstrate a more traditional attitude and they adopt a patriarchal mind-set. The majority of the men that took part in the survey think that the man is the family's leader and that men should make the most important decisions. Also, they think that the man should be the breadwinner of the household and that the woman should not earn more than her husband.

A general review of the suggestions about the woman's family life puts forward that the traditional mind-set of the rural men is present here as well. Because the majority of the men think women are vulnerable and they should be protected. For men, the principal duty of women is to do housework.

In the light of the findings obtained in the study, several recommendations can be made. Education should be given to especially rural men to change their patriarchal attitude and mind-set, and social projects should be developed. On the other hand, the positive attitude of women towards working life and entrepreneurship will facilitate their entrance to working life. For this reason, entrepreneurship courses should be opened in rural areas and their integration in working life should be fastened via support programs and loaning facilities.

Bibliography

1. Altınova H.H., Duyan V. (2013). Toplumsal cinsiyet algısı ölçeğinin geçerlik ve güvenirlik çalışması [The validity and reliability of perception of gender scale]. *Society and Social Work, 24*(2), 9-22. Retrieved from http://www.acarindex.com/dosyalar/makale/acarindex-1423931177.pdf (in Turkish)
2. Aslan G. (2011). Gender perceptions of preservice teachers. *International Journal of Social Sciences and Humanity Studies, 3*(2), 241- 254. Retrieved from http://www.sobiad.org/eJOURNALS/journal_IJSS/arhieves/2011_2/gulay_aslan.pdf
3. Badjanova J., Ilisko D., Ignatjeva S. (2019). Critical Evaluation of Personality Traits and Behavioural Gender Peculiarities of Latvian Males and Females. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 12*. Jelgava: Latvia University of Life Sciences and Technologies, 28-33. doi: 10.22616/REEP.2019.003

4. Beniwal V.S., James B.D. (2019). Women in Indian public administration: prospects and challenges. *Journal of Public Administration and Governance*, *9*(3), 210-224. doi: 10.5296/jpag.v9i3.10947

5. Braziene R. (2008). Final Report Annex I- Country Studies Lithuania. In *Poverty and Social Exclusion in Rural Areas*. European Commission, 243-261. Retrieved from https://www.researchgate.net/publication/237103993_poverty_and_social_exclusion_in_rural_areas

6. Creelman Z. (2018). Sharing the load: improving technical skills and competencies of women on farms. *Rural Extension & Innovation Systems Journal, 14*(1), 147-151. Retrieved from https://www.apen.org.au/static/uploads/files/reis-2018-1401-p7-wfgioggkkgcm.pdf

7. Davran M.K. (2005). Gender roles of rural women in small districts of Adana province, Turkey. *Pakistan Journal of Social Sciences*,*3*(1), 56-61.

8. Davran M.K., Koluman-Darcan N., Budak D.B. (2007). Gender role in the small ruminant sector in mountain area of Turkey. *Journal of Applied Animal Research, 31*(1), 93-95. doi: 10.1080/09712119.2007.9706638

9. Davran M.K., Tok N. (2011). Gender analysis in agricultural enterprises producing early potatoes in the Adana province of Turkey. *African Journal of Agricultural Research, 6*(2), 376-381. Retrieved from https://academicjournals.org/journal/AJAR/article-full-text-pdf/8ACA99F37913

10. Devkota D., Rauniyar G.P., Parker W.J. (1999). *The role of gender and ethnicity in household decision-making: evidence from rural Nepal*. Retrieved from https://econpapers.repec.org/paper/agsaare99/123801.htm

11. Food and Agriculture Organization of the United Nations. (2011). *Communicating Gender for Rural Development Integrating Gender in Communication for Development*. Brussels: Dimitra Project. Retrieved from http://www.fao.org/3/am319e/am319e00.pdf

12. Karim R., Lindberg L., Wamala S., Emmelin M. (2018). Men's perceptions of women's participation in development initiatives in rural Bangladesh. *American Journal of Men's Health, 12*(2), 398-410. doi: 10.1177/1557988317735394

13. Kızılaslan D., Diktas I.O. (2011). The role of university education in changing the gender role perceptions of Turkish ELT student teachers. *International Online Journal of Educational Sciences, 3*(2), 510-525. Retrieved from http://mts.iojes.net//userfiles/Article/IOJES_482.pdf

14. Kızılaslan N. (2013). Kırdan Kente Göç Olgusunda Kadının Rolü ve Göç Kararındaki Etkisinin Analizi Tokat İli Örneği [The Role of Women in Migration from Rural to Urban and Analysis of the Impact on Migration Decision Case of Tokat Province]. *Gaziosmanpaşa University Agricultural Faculty Publications No: 75*, Research Series No: 27, 111. Tokat. (in Turkish)

15. Kızılaslan N., Yamanoglu A. (2010). Social gender analysis in a Turkish province. The province of Tokat: a case study, *New Medit, 3*, 76-80. Retrieved from https://newmedit.iamb.it/share/img_new_medit_articoli/314_76kizilaslan.pdf

16. Mahaffy K.A., Ward S.K. (2002). The gendering of adolescents' childbearing and educational plans: reciprocal effects and the influence of social context. *Sex Roles, 46*(11-12), 403-417.

17. Mduma J.K. (2014). Gender differences in rural off-farm employment participation in Tanzania: is spatial mobility an issue? *African Journal of Economic Review, 11*(1), 3-24. Retrieved from https://www.ajol.info/index.php/ajer/article/view/116287

18. Meral Y., Otlu F.E. (2016). Career barriers (glass ceiling) of women managers' and a research about the reasons. *International Journal of Business Marketing and Management*, *1*(2), 26-38. Retrieved from http://www.ijbmm.com/paper/Sep2016/9971864269.pdf

19. Oláh L.S., Richter R., Kotowska I.E. (2014). The new roles of men and women and implications for families and societies. *Families and Societies*, *11*. Retrieved from http://www.familiesandsocieties.eu/wp-content/uploads/2014/12/WP11OlahEtAl2014.pdf

20. Oluwatayo I.B. (2009). Gender considerations in decision making in rural Nigeria: implications on households' food security in Ekiti state. Poster Presentation – IFRES Project), 21-23 May, 2009 at Accra, Ghana.

21. Ozdemir G., Unakıtan G., Keskin G., Yılmaz E., Ulker FE. (2017). Tarım işletmelerinde kadınların yarattığı işgücü değeri ve örgütlenme yaklaşımları: Trakya bölgesi örneği [Women's contribution of labor force and approach to organization in agriculture enterprises: case of Trakya region]. *Journal of Social Policy Studies, 39,* 33-58. Retrieved from https://dergipark.org.tr/en/download/article-file/399595 (in Turkish)

22. Öngen D.E. (2007). The relationship between sensation seeking and gender role orientations among Turkish University students. *Sex Roles, 57*(1-2), 111-118. doi: 10.1007/s11199-007-9214-4

23. Prentice D.A., Carranza E. (2002). What women and men should be, shouldn't be, are allowed to be, and don't have to be: The contents of prescriptive gender stereotypes. *Psychology of Women Quarterly*, *26*(4), 269-281. doi: 10.1111/1471-6402.t01-1-00066

24. Racene A. (2013). Factors Determining Successful Women Careers. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 6*. Jelgava: LLU, 138-145. Retrieved from https://llufb.llu.lv/conference/REEP/2013/Latvia-Univ-Agricult_REEP_2013_ISSN_2255-808X-138-145.pdf

25. Racene A., Dislere V. (2013). A career development support programme for women in professional crisis situations. *European Integration Studies*, *7*, 42-50. doi: 10.5755/j01.eis.0.7.4183

26. Racene A. (2016). The Model of Career Crisis Management for Women as a Means of Career Development in Relation to Lifelong Education. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 9*. Jelgava: LLU, 229-238. Retrieved from https://llufb.llu.lv/conference/REEP/2016/Latvia-Univ-Agricult-REEP-2016proceed2255-808X-229-238.pdf

27. Schneebaum A., Mader K. (2013). The gendered nature of intra-household decision making in and across Europe. *Department of Economics Working Paper Series*, *157*. Vienna: WU Vienna University of Economics and Business. Retrieved from https://ideas.repec.org/p/wiw/wiwwuw/wuwp157.html

28. Turkish Statistical Institute. (2017). Haber Bülteni [News Bulletin], No 24643. (in Turkish)

29. Turkish Statistical Institute. (2018). Cinsiyet Göstergeleri [Gender Indicators] [Fact sheet]. Retrieved from http://www.turkstat.gov.tr/PreIstatistikTablo.do?istab_id=1139 (in Turkish)

30. Ufuk H., Özgen Ö. (2001). The profile of women entrepreneurs: a sample from Turkey. *International Journal of Consumer Studies*, *25*(4), 299-308. doi: 10.1046/j.1470-6431.2001.00197.x

31. The Global Gender Gap Report. (2018). Geneva: World Economic Forum. Retrieved from http://www3.weforum.org/docs/WEF_GGGR_2018.pdf

32. Women's Political Participation in Egypt Barriers, opportunities and gender sensitivity of select political institutions. (2018). OECD. Retrieved from http://www.oecd.org/mena/governance/womens-political-participation-in-egypt.pdf

33. *World Employment Social Outlook: Trends Women 2017.* (2017). Genova: International Labour Organization. Retrieved from https://www.ilo.org/global/research/global-reports/weso/trends-for-women2017/lang--en/index.htm

34. Yoshida K. (2011). *Gender Perceptions in Southeast Asian Countries: Findings from JICA-RI Value Surveys*, Washington, DC: World Bank. https://www.jica.go.jp/jica-ri/publication/other/jrft3q0000002ald-att/JICA-RI_Southeast_Asia_Yoshida.pdf

Discovering a Sustainable Mindset in Hospitality Educators

Sandra Iriste[1] Dr.paed.; **Anne Fox**[2]
Latvia University of Life Sciences and Technologies, Latvia[1]
Norwegian University of Science and Technology (NTNU), Norway[2]
sandra.iriste@gmail.com[1]; anne.e.m.fox@ntnu.no[2]

Abstract: One of the main tasks of modern university professional education is to develop the sustainable mindset of future specialists. The development of a sustainable mindset within the study process can be achieved by combining professional competences with sustainability competences. The aim of this study was to promote a sustainable mindset in hospitality educators using a developed blended learning course. The content analysis method was used to discover changes in the hospitality educators' mindset through learning journals and compared to three documents related to sustainability education. Learning journals of nineteen participants, recruited all over the world, were used to generate graphical representations. Results showed that educators' learning journals are a rich source of feedback on the efficacy of the blended learning course "Discovering a sustainable mindset for future-oriented professionals in guest-oriented businesses" and can be used as a part of the quality assurance process to improve the course.

Keywords: sustainable mindset, hospitality educators, content analyse, learning journals.

Introduction

Nowadays, hospitality has turned its focus onto sustainability as it relates to business optimization and development, including the environmental, economic and social domains impact. All three domains are closely connected (Figure 1) and interact with each other (Figure 2): problems in one of them will affect the other two domains, and moreover, may have an impact not only on current but also on future generations. In addition, specific focus on one area will lead to an imbalance, the so-called sustainability *Mickey Mouse* model (Figure 3).
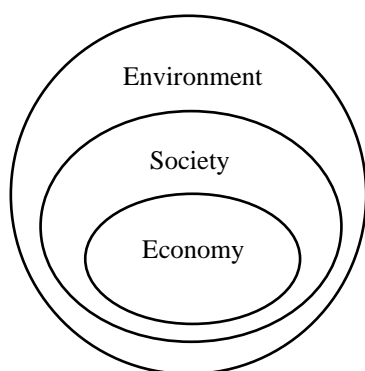
Figure 1. 3-nested dependencies model (Ott, 2003).
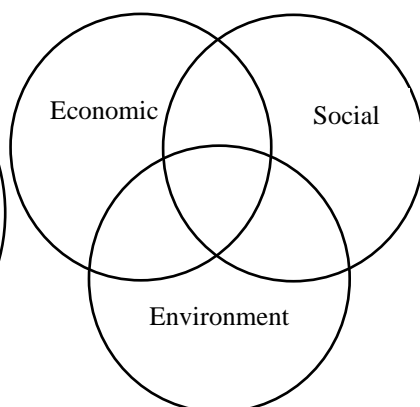
Figure 2. Three pillars of sustainability model (O'Riordan, 1997).
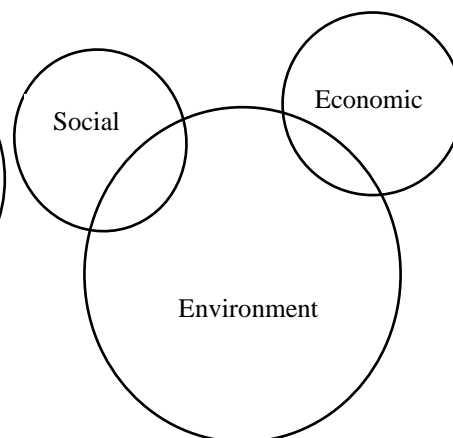
Figure 3. Sustainability *Mickey Mouse* model (Peet, 2009).

Education is a powerful tool for promoting the sustainable development of contemporary society. At the same time, only education that meets the needs of society now and in the future can be sustainable. One of the main tasks of modern university professional education is to discover the sustainable mindset of future specialists. The development of a sustainable mindset within the study process can be achieved by combining professional competences with sustainability competences (Learning for the…, 2012); a separated approach does not lead to the necessary links of knowledge, skills, values and collaboration.

In order to promote a sustainable mindset, both in educators and hospitality professionals, a blended learning course "Discovering a sustainable mindset for future-oriented professionals in guest-oriented businesses" within the EU ERASMUS+ ProfESus project was developed. It consisted of an introductory Module 1, face to face over a week, followed by two online modules: Module 2, comprising 7 units over 8 weeks exploring

how Green Pedagogy can facilitate development of sustainability competences, and Module 3, the planning and executing of a series of lessons over 5 weeks, and Module 4, the final face to face week, in which participants assessed their project lessons and made plans for their future practice in their classrooms.

The aim of this study was to promote a sustainable mindset in hospitality educators using the developed blended learning course.

Methodology

The content analysis method was used to discover changes in the hospitality educators' mindset through learning journals compared to three documents related to sustainability education: Future Fit (Sterling, 2012); Learning for the Future (Learning for the…, 2012); Green Pedagogy (Green pedagogy…, 2018). The learning journals were used as a part of 8 ECTS blended learning course for a number of reasons:
- source of feedback on course quality;
- source of self-evaluation;
- source of evidence of a change in the mindsets of course participants.

The content analysis was based on the use of the Leximancer content analysis software. It analysed which concepts are close in meaning within the text in order to develop multi-word thesaurus, and also how closely they are related. This software has earlier been used to analyse learning diaries (Letch, 2012).

The type of data was the written text of the learning journals. There was no limit set for the length/brevity of the text of each learning diary entry.

In the first six month of 2018, 35 participants, recruited globally, took part in the research. They were required to keep learning diaries for the first 14 weeks (representing nine entries and three modules) of the blended learning course. Participants were guided in what to write about in their learning journals with questions relating to the module or unit it was included in, however participants were always free to write about whatever they thought was relevant. The learning journals were not visible to the other course participants.

Results and Discussion

The concept of *sustainable mindset* has different interpretations:
- a particular way of thinking: a person's attitude or set of opinions about something (Merriam-Webster dictionary, 2016);
- synonymous with innovative mindset (Harris, 2018);
- a set of rules, agreed by a group of professionals as a basis for their professional practice (Kuhn, 2012);
- a way of thinking and being based on broad understanding of the ecosystem manifestation and personal values; embodies the dimensions of values (being) and knowledge (thinking) expressed in actions or competences (doing) (Kassel, Rimanoszy, Mitchel, 2016).

Summarizing the above mentioned, sustainable mindset is a set of rules (often - unwritten), attitudes, values that promote to act automatically, by default, particularly in the work environment. At the same time, a sustainable mindset is not just a result; it is a continuous process as awareness of sustainability is constantly changing.

Since mindset as well as sustainability are rather elusive concepts, indicators of professional and sustainability competences with a lower or higher degree of difficulty (dimensions of competences) within the ProfESus project have been evolved to record changes in participants' learning journals (Laufenberg-Beermann et al., 2019). The list of competences can be amended to keep it up to date.

Analysis of the scientific literature shows that there are different ways in which researchers refer to sustainability competence dimensions:
- orientation, knowledge, behaviour (Cseh, Davis, Khilji, 2013);
- cognitive, metacognitive, motivational (Story et al., 2014);
- head, soul, heart (Sterling, 2011) or head, heart and hands (Scharmer, Kaufer, 2013).

S. Sterling's (Sterling, 2011) holistic approach to transformative learning for sustainability combines innovative and systemic dimensions, as well as a spiritual dimension related to epistemological learning paradigm change. While this conceptualization applies specifically to higher education, it is closest to ProfESus' sustainable mindset model (Laufenberg-Beermann et al., 2019).

To discover a sustainable mindset in hospitality educators', four dimensions of competence have been adopted from UNECE document (Learning for the…, 2012) within the ProfEsus project:
- Knowledge: Professionals are able to know…
- Skills: Professionals are able to do …
- Collaboration: Professionals are able to work with others …
- Values: Professionals are someone who …

Ultimately hospitality educators and professionals have to be able to plan, decide, act, discuss, transform and reflect on their professional work in a sustainable manner.

Thirty-five participants enrolled on the blended learning course "Discovering a sustainable mindset for future-oriented professionals in guest-oriented businesses". Twenty-four completed the course, but learning journals of only nineteen participants were used in the content analysis, because these participants submitted at least seven journal entries and gave permission to use their journals in the research.

In the first stage of the study, it was considered how often the concept of sustainability and related concepts are reflected in the journals of participants compared to the documents that are specifically related to sustainability education used in the blended learning course on the topic of sustainable education pedagogy (Table 1):
- Future Fit (Sterling, 2012);
- Learning for the Future' (Learning for the…, 2012);
- Green Pedagogy (Green pedagogy…, 2018).

Table 1

Comparing the top 20 concepts of the learning journals to the top 20 concepts of three key texts in the ProfESus course

Rank	ESD concepts from 3 key texts	Hits	% Relevance	Learning Journal concepts	Hits	% Relevance
1	development	543	100%	**students**	250	93%
2	**students**	534	98%	**sustainable**	179	66%
3	**sustainable**	524	97%	time	165	61%
4	**learning**	474	87%	**work**	150	56%
5	ESD	458	84%	**sustainability**	134	50%
6	education	424	78%	change	129	48%
7	**work**	356	66%	**school**	127	47%
8	SD	292	54%	waste	125	46%
9	teacher	280	52%	thinking	124	46%
10	process	279	51%	use	122	45%
11	**sustainability**	279	51%	**different**	120	44%
12	**teaching**	275	51%	people	115	43%
13	research	273	50%	things	102	38%
14	project	266	49%	**teaching**	100	37%
15	knowledge	260	48%	food	100	37%
16	social	252	46%	**learning**	99	37%
17	teachers	242	45%	course	97	36%
18	**different**	218	40%	example	96	36%
19	action	200	37%	important	95	35%
20	**school**	200	37%	values	92	34%

All key concepts are more or less related to teaching and learning, since the participants are educators or trainers. Table 1 shows that eight key concepts of the top 20 in both lists are directly connected to the

main aim of the blended learning course, namely *sustainable* and *sustainability,* moreover, they were used equally frequently by course participants and key authors.

In the second stage of the study, it was clarified which concepts are strongly linked to the concepts *sustainable* and *sustainability* (Table 2). Leximancer software (Leximancer software, 2019) was used to process the data from the learning journals and create these linked sets of concepts.

Table 2

The top 20 concepts most linked to concepts *sustainable* and *sustainability*

Rank	Concepts most associated with *sustainable*	Hits	Relevance, %	Concepts most associated with *sustainability*	Hits	Relevance, %
1	mindset	57	71	topic	11	22
2	teaching	24	24	using	9	17
3	thinking	28	23	teacher	9	16
4	able	16	22	important	14	15
5	world	16	22	course	14	14
6	change	25	19	world	10	14
7	day	11	18	work	20	13
8	course	17	18	system	6	13
9	idea	10	16	idea	8	13
10	topic	8	16	feel	7	12
11	better	10	16	project	7	12
12	education	10	16	group	8	11
13	real	6	15	thinking	14	11
14	future	11	15	able	8	11
15	students	34	14	better	7	11
16	environment	6	13	ideas	7	11
17	school	16	13	future	8	11
18	staff	5	12	others	5	11
19	learning	12	12	time	17	10
20	teachers	6	12	interesting	7	10

Concepts relate to education and learning   Concepts relate to an educational context

The data in the Table 2 confirm that the most tightly connected concept with *sustainable* is *mindset*. This is a clear indication that the course has linked the sustainability topic to the need for competence in this, i.e. knowledge of sustainability is not sufficient on its own but must be accompanied by an associated mindset (Fox, Iriste, Bezeljak, 2019).

The concept *sustainability* is more tightly linked to the *educational context*, while the concept *sustainable* – to *education* and *learning*.

Certain parallels can be drawn with E. McConnell Freeman (McConnell Freeman, 2011) analysis of *sustainability* definitions, where four main areas are highlighted:
- **education** – it should be understood as the training of hospitality managers who take responsibility for educating their clients;
- **process** as opposed to product – hospitality managers should be aware that sustainability is not a product that can be achieved/produced overnight, but a complex, dynamic, long-term process;
- **community** involvement and participation - hospitality businesses that do not implement sustainable development initiatives may be under public pressure to make changes;
- **future** conditions - hospitality managers should be proactive in order to avoid creating negative circumstances in the future.

At the final stage of the study, reflections on sustainability over the lifespan of the blended learning course were compared. How the main concepts changed over time were observed by comparing journal entries at the beginning of the course, Figure 4, to those from the end of the course, Figure 5.
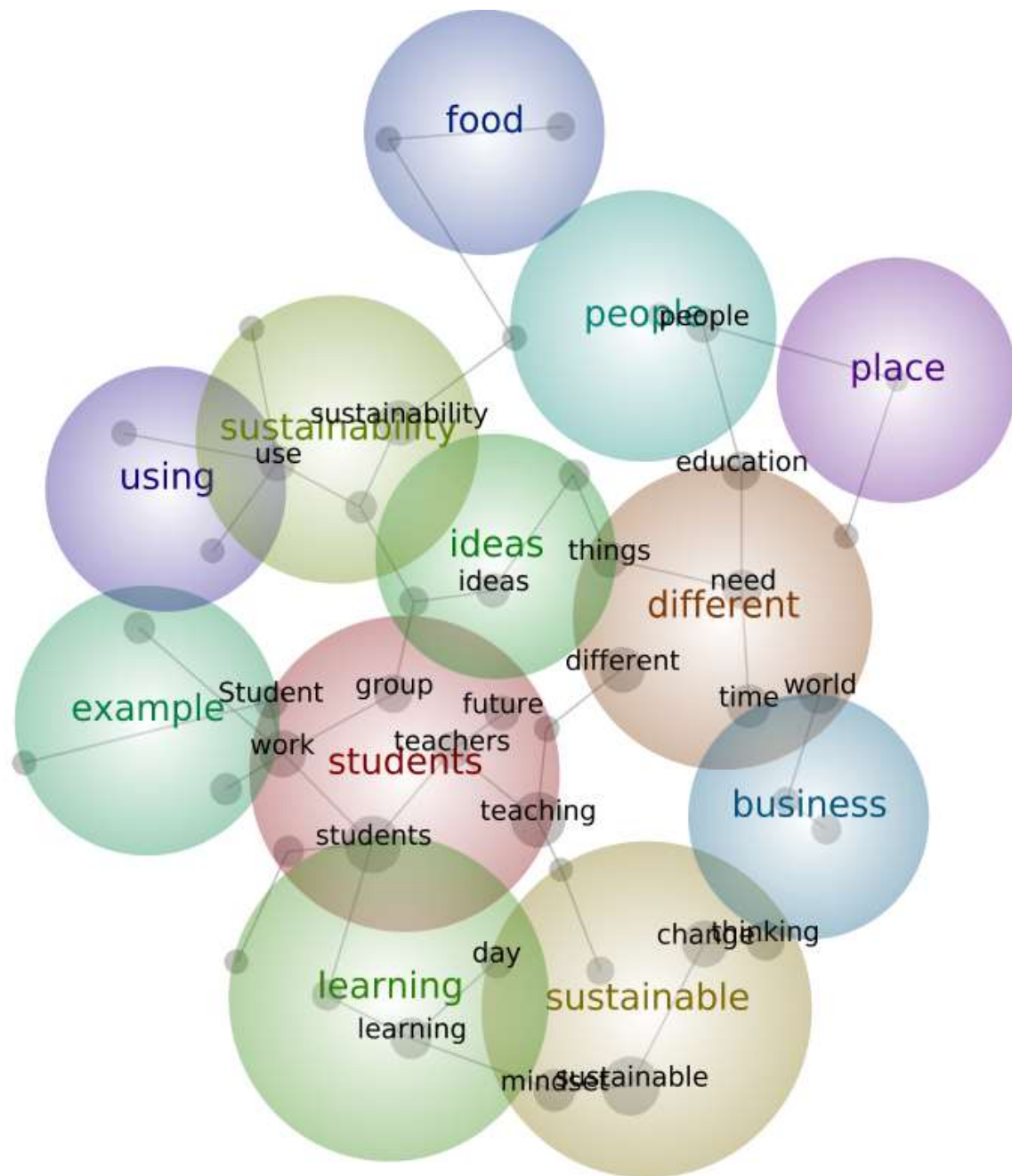
Figure 4. Early observations theme map (Fox, Iriste, Bezeljak, 2019).

There are considerable differences between the two theme maps, namely that at the beginning of the course more attention was paid to everyday *processes*, *pedagogy* and *organisations*, then at the end of the course participants focused on specific aspects of sustainability – *plastics, waste*, *tobacco*.
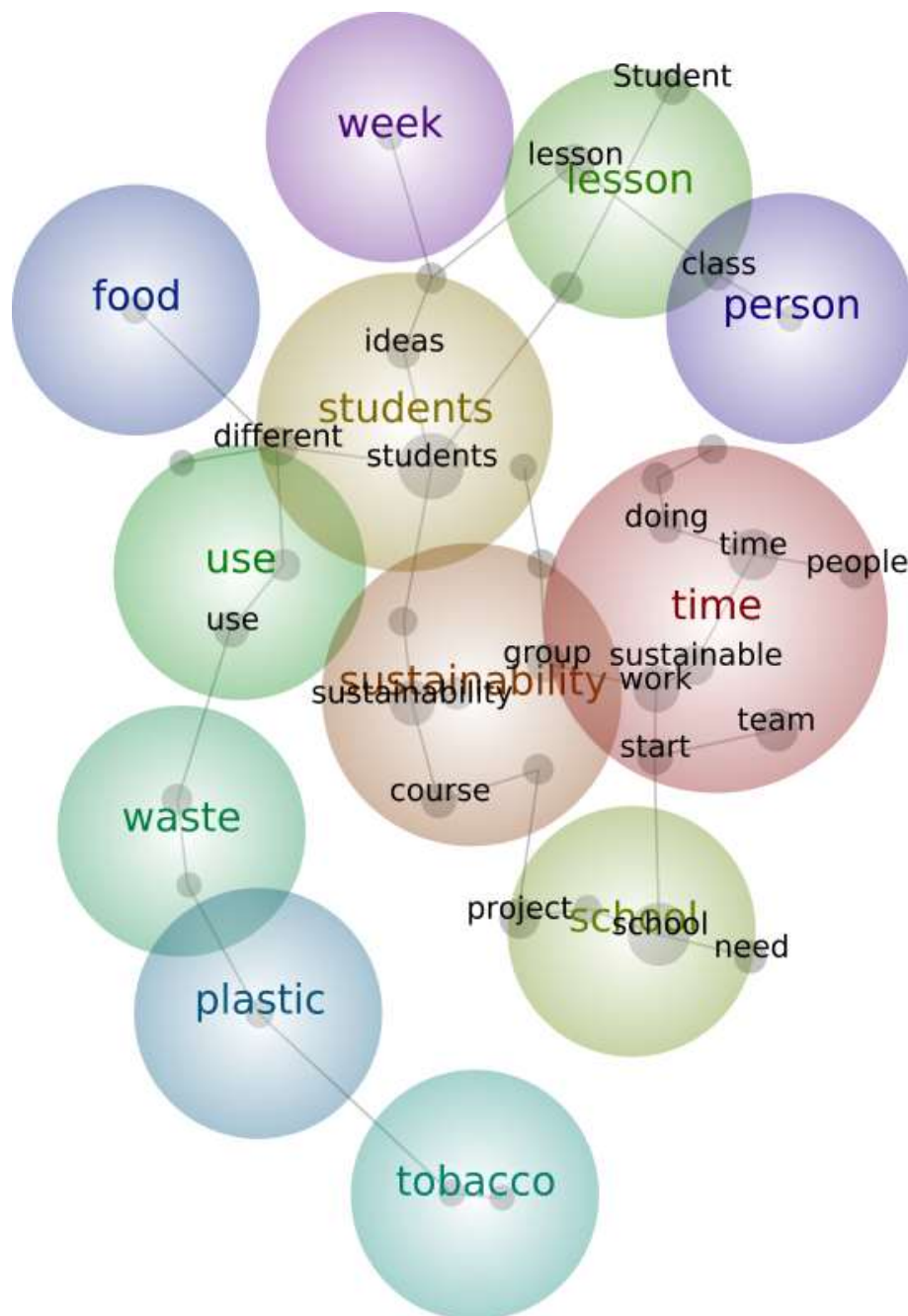
Figure 5. Late observations theme map (Fox, Iriste, Bezeljak, 2019).

This could be an indication of a more nuanced understanding of the concept of sustainability over time although it does not provide evidence of actual increased sustainable behaviour, which encompasses the sustainable mindset. As indicated by a group of scientists from the United States (Lane, Maznevski, Mendenhall, 2017), *discovering* is about learning and creating. It includes a set of transformation processes that culminate in new visions and actions that, in turn, lead to the creation of new knowledge, competence, actions and things (Iriste, Katane, 2019). Continual discovering helps to adapt to a permanent flow in the global market, including hospitality.

Conclusions

- A sustainable mindset is a set of rules (often - unwritten), attitudes, values that promote automatic reactions, by default, particularly in the work environment. At the same time, a sustainable mindset is not just a result, it is a continuous process as awareness of sustainability is constantly changing.

- Comparing the top 20 concepts of the learning journals to the top 20 concepts of three key texts in the ProfESus course shows they were used equally frequently.

- There are considerable differences between the two theme maps at the beginning of the course and at the end of the course when participants focused on specific aspects of sustainability. This could be an indication of a more nuanced understanding of the concept of sustainability over time although it does not provide evidence of actual increased sustainable behaviour, which encompasses the sustainable mindset. The text analysis is less useful in showing increased sustainability awareness over time. This question may be better answered using other methods. An indicator of sustainable development awareness can be monitored through a high ranking of the sustainable development concepts: *mindset*, *values* and *UNECE competences*.

- Educators learning journals are a rich source of feedback on the efficacy of the blended learning course "Discovering a sustainable mindset for future-oriented professionals in guest-oriented businesses" and can be used as a part of the quality assurance process to improve the course.

- Content analysis tools, such as the Leximancer software used in this study, are a useful way of drawing more objective conclusions about the way educators react to the meta-level of training than by relying on human interpretation alone.

Bibliography

1. Cseh M., Davis E.B., Khilji S.E. (2013). Developing a global mindset: Learning of global leaders. *European Journal of Training and Development*, *37*(5), 489-499. doi: 10.1108/03090591311327303
2. Fox A.E.M., Iriste S., Bezeljak P. (2019). Detecting a Sustainable Mindset through Using Content Analysis of Teacher-produced Learning Journals. *Journal of Teacher Education for Sustainability*, *21*(1), 35-47. doi: 10.2478/jtes-2019-0003
3. *Green pedagogy: From theoretical basics to practical sustainable learning activities*. (2018). Vienna: University College for Environmental and Agrarian Pedagogy (UCEAP). Retrieved from https://www.haup.ac.at/wp-content/uploads/2019/10/Green-Pedagogy.pdf
4. Harris P. (2018). *The Hidden Benefits of a Sustainable Mindset.* Retrieved from https://www.3blmedia.com/News/Hidden-Benefits-Sustainable-Mindset
5. Iriste S., Katane I. (2019). Prospective Hospitality Business Managers' Sociocultural Competence within the Context of Social and Cultural Environments. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality* (REEP), *12*. Jelgava: Latvia University of Life Sciences and Technologies, 48-56. doi: 10.22616/REEP.2019.006
6. Kassel K., Rimanoszy I., Mitchel S.F. (2016). The Sustainable Mindset: Connecting Being, Thinking, and Doing in Management Education. In G Atinc (Ed.), Proceedings of *Academy of Management Annual Meeting*, *1*, 1-39. doi: 10.5465/ambpp.2016.16659abstract
7. Kuhn T.S. (2012). *The structure of scientific revolutions* (4th ed.). London: The University of Chicago Press.
8. Lane H.W., Maznevski M.L., Mendenhall M.E. (2017). Globalization: Hercules meets Buddha. In H.W. Lane, M.L. Maznevski, M.E. Mendenhall, J.M. McNett (Eds.), *The Blackwell Handbook of Global Management.* Oxford: Blackwell Publishing Ltd, 1-25. Retrieved from https://onlinelibrary.wiley.com/doi/book/10.1002/9781405166355
9. Laufenberg-Beermann A., Michenthaler J., Fox A., Iriste S., Kettunen J., Ruggeri F., Shishova D., Temisevä S., Wogowitsch C. (2019). *ProfESUS Handbook. Professional Education for Sustainability.* Vienna: University College for Environmental and Agrarian Pedagogy (UCEAP). Retrieved from https://profesus.eu/fileadmin/user_upload/Outputs/English/ProfESus_Handbook_web.pdf
10. Learning for the future: Competences in Education for Sustainable Development. (2012). United Nations Economic Commission for Europe Strategy for Education for Sustainable Development Retrieved from http://www.unece.org/fileadmin/DAM/env/esd/ESD_Publications/Competences_Publication.pdf
11. Letch N. (2012). Using reflective journals to engage students in learning business process management concepts. *Knowledge Management & E-Learning: An International Journal*, *4*(4), 435-454. doi: 10.34105/j.kmel.2012.04.033

12. *Leximancer software*. (2019). Retrieved from https://info.leximancer.com/

13. McConnell Freeman E. (2011). *Restaurant Industry Sustainability: Barriers and Solutions to Sustainable Practice Indicators* (Master Thesis, Arizona: Arizona State University). Retrieved from
https://repository.asu.edu/attachments/56588/content/Freeman_asu_0010N_10634.pdf

14. Merriam-Webster Dictionary. (2016). *Sustainable Mindset* Retrieved from https://www.merriam-webster.com/dictionary/mind-set

15. O'Riordan T. (1997). Climate Change 1995: Economic and Social Dimensions. *Environment*, *39*(9), 34-39. doi: 10.1080/00139159709604768

16. Ott K. (2003). The Case for Strong Sustainability. In K. Ott, P.P. Thapa (Eds.), *Greifswald's Environmental Ethics*. Greifswald: Steinbecker Verlag Ulrich Rose. 59-64. Retrieved from https://www.academia.edu/279930/Greifswald_s_Environmental_Ethics._From_the_work_of_the_Michael_Otto_Professorship_at_Ernst_Moritz_Arndt_University_1997_2002

17. Peet J. (2009). *Strong Sustainability for New Zealand: Principles and Scenario*. *Principles and scenarios*. New Zealand: Nakedize Ltd. Retrieved from https://earthcharter.org/invent/images/uploads/Strong%20sustainability%20for%20NZ%20(2).pdf

18. Scharmer O., Kaufer K. (2013). *Leading from the Emerging Future: From Ego-System to Eco-System Economies.* Oakland: Berrett-Koehler Publishers. Retrieved from https://www.ottoscharmer.com/sites/default/files/e2e_ulab.pdf

19. Sterling S. (2011). Transformative Learning and Sustainability: sketching the conceptual ground. *Learning and Teaching in Higher Education*, *5*, 17-33. Retrieved from http://dl.icdst.org/pdfs/files/0cd7b8bdb08951af53e5927e86938977.pdf

20. Sterling S. (2012). *The Future fit framework: An introductory guide to teaching and learning for sustainability in HE*. Plymouth: Higher Education Academy. Retrieved from http://www.earthethicsinstitute.org/Resources/SustEd_Sterling_The_Future_Fit_Framework.pdf

21. Story J.S.P., Barbuto J.E. Jr., Luthans F., Bovaird J.A. (2014). Meeting the Challenges of Effective International HRM: Analysis of the Antecedents of Global Mindset. *Human Resource Management*, *53*(1), 131-155. doi: 10.1002/hrm.21568

Formation of the Electronic Informational and Educational Environment in the Prospects of the University 4.0

Sergey Kulik[1] Dr.sc.; **Ivan Aladyshkin**[2] PhD; **Maria Odinokaya**[3] PhD; **Ekaterina Kulikova**[4] PhD
Peter the Great St. Petersburg Polytechnic University, Russia
kulik54@mail.ru[1]; i-bez@yandex.ru[2]; World.Maria@hotmail.com[3]; ksuv77@gmail.com[4]

Abstract: The aim of the study is justified by the need to create modern personnel competencies for the digital economy and create a new model of modern universities. Strengthening the role of the university, as one of the main producers of knowledge and competencies for the information society, dictates the need for it to implement both the functions of education and research, as well as the functions of transfer, commercialization of technology, and a provider of knowledge about the future. The purpose of the study is to analyse the role of electronic forms of learning and the functioning of the electronic educational system in the prospects for the establishment of University 4.0, and also to identify what the electronic information and educational environment in a new generation of higher education should be like. The methodological basis of the work is the analytical and systemic approaches to the study of the object of study using the methods of logical and causal analysis, expert assessments and systematization of data. The article discusses the specific experience of the development and implementation of e-learning in Peter the Great St. Petersburg Polytechnic University (SPbPU). The authors analyse the effectiveness of the interaction of participants in the educational process within the framework of the electronic information educational environment, changes in the personnel policy, issues of staff development, the creation of a developed ICT infrastructure and the prospects for promoting large-scale modernization of the university. Based on the analysis of the experience of development and implementation at electronic information educational environment in SPbPU, the article highlights the advantages and disadvantages of using digital technologies in the educational activities of the university considering the challenges of its modernization. The authors concluded that the electronic educational environment is effective both in the educational process of the university and in increasing the competitiveness of the university in the modern digital market, in fulfilling the functions of transfer, commercialization of technologies and a provider of knowledge about the future.

Keywords: digital technologies, e-learning, University 4.0, university education.

Introduction

In discussions of recent years about the future of higher professional education and what a university should be like in modern Russia, University 4.0 model is increasingly mentioned. The ideas about this model took shape in the context of the discussion of those prospects that Henry Itskowitz so colourfully describes, considering the university as the core of the knowledge society, the most important channel for technology transfer, which plays a huge role in the formation of the modern knowledge economy (Etzkowitz, 2008). Previously, the apology for the modernization of higher education has varied for a long time and the well-known postulates of already tested strategies in the USA, countries of Western Europe and Asia. The trends of the world university environment that were set at the end of the last century were tirelessly repeated: the development of the market component, the race for high positions in world university rankings, the increasing mobility of students and distance education, the expansion of the penetration of the higher education system into society (life-long learning) (Clark, 2003). It is noteworthy that over the past decade, the list of inalienable components of a modern university has firmly included the problem of university informatization and the development of distance education.

In works as domestic (Patarakin, Shustov, 2004; Zhigadlo, Odinokaya, 2017; Glukhov, Vasetskaya, 2017; Almazova, Barinova, Ipatov, 2018; Kalmykova et al., 2018; Rubtsova, 2019; Rudskoy et al., 2019) and Western authors (Rosenberg, Foshay, 2002; Masie, 2003; McKeown et al., 2008; Katane, Katans, Vāvere, 2012; Roskosa, Stukalina, 2018; Nemejc, Smekalova, Kriz, 2019) the problems of introducing e-learning are considered in sufficient detail. There are much fewer works devoted to the electronic information and educational environment (EIEE) and its role in the functioning of the university; this topic itself has been problematized much later, but in recent years it has become more and more popular (Gleason, 2018). Updating the new university model 4.0. with the transition to its

implementation in the leading universities of the country, it requires the addition of the previous conclusions on digital technologies for training and analysis of the electronic information and educational environment in a new context.

It's about the supplement, because the ideas of the university 4.0., although they claim an original approach in developing a strategy for its modernization, nevertheless are built based on the previous model of the university 3.0., acting as a kind of add-on. The amendments to the previous model are caused by the desire to transform Russian universities in the direction of considering the trends of the knowledge economy and the unfolding 4th industrial revolution (industry 4.0) (Fries, 2019). Despite the hypothetical nature of many of the components of the new industry, they all agree on the growing digitalization of the economy, which directly affects modernization projects of higher professional education with the tasks of accelerating restructuring and reorienting the training of specialists. Moreover, in the context of measuring the knowledge economy (the mass introduction of cyber-physical systems in production, the automation of most production processes, the endowment of devices with artificial intelligence and total digitalization) in the life of a modern university, the EIEE is of particular importance, being as adequate as possible to the new digital format of key areas of society.

In the scientific literature, the very concept of "information educational environment of the university" appeared relatively recently, but has already managed to "acquire" a variety of interpretations. Mostly in the interpretations of this concept, they focus on the educational activities of the university, which is also confirmed by regulatory documents (Ob obrazovanii…, 2012). In the Federal Law on the Education of the Russian Federation, the components of the electronic information and educational environment indicate electronic, information, educational resources, a combination of information and telecommunication technologies, appropriate technological tools that provide the opportunity for the full development of educational programs, regardless of the location of the student (Ob obrazovanii…, 2012).

However, today, universities are actively using information technologies and services that form its unified information infrastructure, covering all components of the university. And it is justifiable to adhere to a broader interpretation of EIEE, including also those information technology tools, application programs and software products based on which the educational process is carried out, but also the research, administrative and financial and economic activities of the educational institution. For example, today the SPbPU EIEE includes the following services: educational portals and video hosting portal; Learning Content Management Systems and Learning Content Management Systems based on online learning platforms Moodle and openEdX; a system for organizing video conferencing; SPbPU basic services (corporate e-mail, IS "Repository of curricula", distributed distance learning system, video conferencing system); Resources of the Information Library Complex (electronic catalogue, electronic library, databases).

University 4.0 is spoken of as a global, open, dynamically developing centre for the creation and commercialization of intellectual property, which not only executes orders for research and development, but also actively creates technologies and technology companies. At the same time, the university model 4.0. far from a detailed study, it acts more like a guideline, a kind of concept of the desired transformation of advanced institutions in the field of higher professional education. At the level of common phrases, the key components of the University 4.0 model remain, as well as the restructuring programs of universities. Coordination with the realities of higher education in Russia is built, at best, on particular examples - of the country's leading universities and, above all, specific projects and ongoing state programs.

And earlier, the ideas of turning the university into a client-oriented organization that produces educational services were directly related to state policy regarding higher professional education (changing the system of allocating budget places, financing principles, performance evaluation systems, etc.). University Model 4.0. is also a well-founded concept that meets not so much the realities of the domestic economy as government programs and initiatives (the Digital Economy program and the National Technology Initiative was adopted earlier). Nevertheless, despite all the assurances, it should be recognized that in Russia there is both the 4th industrial revolution and the associated university model 4.0. are mostly hypothetical in nature, only partially touching the realities of individual advanced universities. Inevitably, the logic of analysing the role of digitalization of a modern university in achieving the horizons of model 4.0 will also be appropriate. But the forecasting will be noticeably more thorough in the case of approaching the realities, namely, the analysis of the EIEE in a university focused on model 4.0.

In discussions about the new model of the university, the leading universities of the country are often mentioned, and SPbPU occupies a special position among them. Among the key protégés of the new university model, the figure of the professor, vice-rector for promising projects of SPbPU A. Borovkov, who also serves as the leader and co-leader of the TechNet working group of the National Technological Initiative and a member of the working group of the Economic Council under the President of the Russian Federation in the field of Digital Economy. In his speeches, he repeatedly dwelt on questions about the new model of higher education, quite naturally stating that SPbPU is one of the few universities that operate in the "University 4.0" paradigm. However, in support of his findings and forecasts, A. Borovkov refers to certain areas of research and development and structural units of the university, namely, the Institute for Advanced Production Technologies, the Centre for Computer Engineering (CompMechLab), and the "Factory of the Future" created in 2015. While the implementation of the claimed model 4.0 requires a comprehensive modernization of the university and, especially, those areas of its functioning that are directly associated with the digital format of the economy (Rudskoy et al., 2019).

The aim of the study is to analyse the role of electronic forms of learning and the functioning of the electronic educational system in the prospects for the establishment of University 4.0, and also to identify what the electronic information and educational environment in a new generation of higher education should be like.

Methodology

The object of the research is the electronic information and educational system analysed in the framework of the formation and implementation of the concept of University 4.0. and modernization of higher education in accordance with the challenges of the digital economy. A direct example of this environment in these conditions was the development of electronic information and educational environment in SPbPU, which is one of the key universities in Russia, functioning in accordance with the paradigm of the University 4.0. The authors of the article analysed the key components of the electronic environment of SPbPU and more than 70 online courses placed on such platforms as the national platform "open education". Lectorium, Coursera, Stepik and internal platforms of SPbPU. The study traces the main stages of development and implementation of key components of the electronic information and educational environment in SPbPU.

The methodological basis for studying the electronic information and educational environment of the University and the courses developed in it were analytical and systematic approaches using methods of logical and causal analysis, expert assessments and systematization of data, as well as methods of pedagogical diagnostics.

Results and Discussion

University Model 4.0 was updated in 2016, at the same time the development of the EIEE of SPbPU intensified, and this coincidence is not accidental. The new educational policy of the university stated the need for the widespread introduction of educational teaching technologies, increasing the effectiveness of the teacher through the active use of electronic information educational environment for interaction with students.

In accordance with the new model, the university is seen not only as an active integrator of the scientific environment and a link between science and the economy, but also as a leader in the development of high-tech industries. And here it is important to note that the design and improvement of the EIEE of a university is an important indicator of its manufacturability, i.e. use in the educational process the latest achievements of information and telecommunication technologies. Improving the EIEE turns out to be the university's innovative activity, which is not only directly related to modern technical and technological solutions, but also acts as an element of the digital economy.

A. Borovkov describes a future university, starting from his previous model 3.0, which combines scientific, educational and entrepreneurial activity with the formation of an innovation ecosystem. The "University 4.0" model assumes the next step and focuses on solving the most complex problems-challenges of modern high-tech industry, which for several reasons the industry itself cannot solve. As for education, it is not only

built on the results of advanced scientific research, but is being transformed from a training system into a market development trend. Obviously, the solution of the stated tasks will require a qualitative reorganization of not only research, but also educational activities with a common system of training specialists in new areas of knowledge and professions that meet the needs of the business community.

And let University 4.0 remain a project, a kind of university of the future, and its image is quite flexible. However, this is not an image of the future we desire, as some write, it is an image drawn by the needs of the present. According to the assurances of A. Borovkov "the global digital transformation is no longer an abstract trend, but a reality that determines the development of companies and global markets". To a certain extent, this new reality has an obvious effect on the development of higher education.

Perhaps the main requirement for the system of higher professional education, which is put forward by the 4th industrial revolution, is flexibility, and in the broad sense of the word. Due to technological uncertainty, setting strict education standards is becoming less and less feasible. Reasoning A. Borovkov is not unfounded when he says that it is pointless to continue for 5 years to train engineers who will not be needed by the market. During this time, in the current conditions there are too many changes, first changes in high technology that the traditional educational system simply does not have time to master. It is necessary to change the very logic of interaction with the employer and not try to "guess" who will be in demand in the market in a few years, but to prepare graduates who will enter the market with such a "range" of competencies that will allow them to be in demand in various fields.

Electronic information and educational environment with a developed e-learning network ensures the implementation of continuous, open education with a wide field of variability in the context of the formation of a global environment of intercultural and interdisciplinary communication, the integration of the university, individual programs and directions in the international scientific community. At the fast pace of economic transformation and technology updates, it is just on EIEE and electronic forms of training that it is justifiable to pin hopes on the possibility of meeting the level of graduates with market demands. Indeed, EIEE allows you to create an extremely mobile and ramified system of additional training, retraining, advanced training, which is by no means limited to the resources of the university, but is interfaced with the global scientific and educational community, with prestigious universities, world-renowned scientists and leading experts in high-tech technologies, about which they say in the context of the 4th industrial revolution. And at SPbPU, much has already been done in this direction. SPbPU courses are presented at online learning platforms Coursera - open source, the National Portal "Open Education", Lecture Hall, Stepik (Figure 1).
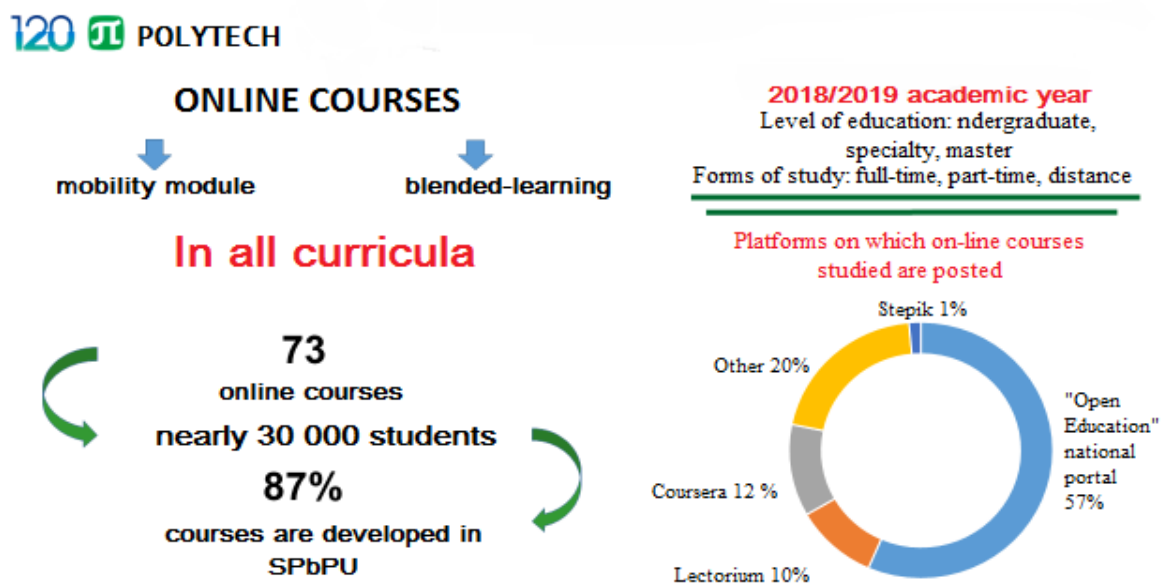

Figure 1. The representation of SPbPU courses at online learning platforms Coursera - open source, the National Portal "Open Education", Lecture Hall, Stepik.

Today, online courses in the form of blended learning or in the format of a "mobility module" are included in 100 % of the curriculum of students at SPbPU. The university's open education centre is developing joint courses not only with educational organizations, but also involving industrial partners. So, in 2019, the course "Introduction to the Kotlin Language", developed jointly with JetBrains, was developed and posted on the Coursera platform. JetBrains is a cutting-edge software vendor specializing in the creation of intelligent development tools, including IntelliJ IDEA - the leading Java IDE, and the Kotlin programming language.

The course "Technology of the Future of the Future" launched at the end of 2018 on the National Portal "Open Education" is very popular. The course is aimed at developing students' knowledge system in the field of new business models, business processes and technologies in high-tech industries. During the mastering of the course, students get an idea of advanced production technologies, production management tools, get acquainted with the basic concepts and tools used for digital transformation of the market, as well as with the key technological and market trends of the developing Digital Economy.

The electronic information and educational system turn out to be that element in the educational processes of training specialists that it is able to adapt as quickly as possible to changing socio-economic needs and challenges due to the variability, adaptability, efficiency, intensification, cost-effectiveness, variability, accessibility and mobility of EIEE.

- **The variability of education** in general is becoming one of the key parameters for training specialists at university 4.0. And this is not only a matter of plasticity of the electronic learning system, the possibilities of adjusting, supplementing existing educational programs, individual disciplines, for example, including entrepreneurial competencies in the list of knowledge and skills formed by students (including support for student activities). The variability of the educational process allows students (students, staff) to independently choose an educational trajectory, plan the time, place and duration of classes, which develops the ability to choose and find the most effective solutions within their own training, the skills to find the right information, use various sources of information to solve problems, i.e. those skills that are so necessary in the new economic realities. Undoubtedly, the EIEE and the developed e-learning system noticeably simplifies and accelerates the process of expanding the learner's range of competencies with the intensification of continuous self-development in a dynamically changing world.

- **Adaptability** should also be understood ambiguously. This is the adaptability of any educational technological resource of the educational information environment to the specifics of a particular subject. And, at the same time, adaptability must be considered from the standpoint of meeting external needs, in particular, the market, which involves the supply of such information and educational material that is necessary for the further adaptation of university students in real conditions of professional activity.

It should be noted that despite the fact that the blended learning format allows you to implement a certain flexibility of the educational process, to make it individualized and adaptive, all this is happening in a very "rigid and opaque" framework, as a result, the result is the same "unclaimed graduate" and 'unsatisfied employer". University 4.0 should allow overcoming this barrier, making the university open to external content, services, interaction, while maintaining its competitiveness and leadership position.

The task is to develop such an educational model, thanks to which the university will accompany a person throughout his life through a flexible system of modules, courses, programs "on demand" of the client and the market. And today steps are already being taken to implement this task at the University's EIEE. For example, in SPbPU, continuing education programs in the field of online training are being implemented, which allow employees of educational institutions to create content that is in demand on the foreign market.

- **Efficiency**. Speaking about the effectiveness of EIEE, one should start with the optimization and general reorganization of the university's functioning, which is one of the key requirements in the implementation of the University 4.0 model. Modern digital technologies can reduce the time it takes to search, transfer and work with environmental objects, simplify the processing of huge amounts of data, automate many routine processes, including in the field of the educational process (checking tasks, progress of students, etc.). They are expected from the fourth industrial revolution that it through digitalization, automation and robotization will free a person from solving many typical problems. EIEE quite rightly is expected to have a similar effect with thoughts about transferring the load to research work and developing innovative teaching technologies.

- **Intensification**. The development and development of the EIEE leads to the intensification of all levels of the scientific and educational process, as well as increasing the efficiency and effectiveness of managing the educational institution as a whole. Indeed, to create an effective EIEE, a comprehensive systematization and structuring of the entire educational system is required, restructuring of managerial parameters, selection of technologies and tools, determination of the composite and meaningful content of the information and educational space is necessary for competent personnel in technological support, its functioning and development, and resource support. Additional incentives for scientific and educational activities, determined by EIEE and e-learning, contribute to the development of innovativeness, ability and desire to create a new product as part of the educational process and to update the results of scientific research in new digital formats.

At the same time, EIEE facilitates the implementation of an independent external and internal assessment of the quality of implementation of EP and its individual elements, including from the professional community.

- **Profitability**. Economic efficiency is manifested by reducing the cost of maintaining the space of educational institutions, saving temporary, material resources (printing, reproduction of materials, etc.).

- **The variability of EIEE** is ensured by the universality of technological processes for the creation, storage and use of educational information resources. The system of such developments is easily modernized with the development of information technology, which facilitates the design of the information and educational environment of the university, adjusting it in accordance with current and future requirements of the educational services market.

- **The availability of EIEE** is associated with the wide and open use of information and educational resources of the environment with the provision of access to them from anywhere in the network and their transfer to other addresses. The latter refers to the ultimate mobility of the system.

- **Mobility of EIEE** and e-learning, implying independence from the geographical and temporal position of the student and educational institution, researcher and scientific institutions. The weakening of the barriers of space (distances, territories, borders) and time (time zones and work schedules) expand the boundaries of the scientific sphere of the university and allows not to limit the country's population in educational needs. The developed EIEE also means an increase in the coverage of the scientific and educational field - simultaneous use of many sources of scientific and educational information (electronic libraries, data banks, knowledge bases, scientific publications, etc.), a wide range of specialists and scientists, as well as a large number of students. On the agenda is the image of a virtual university, in which, at least, a significant proportion of the educational and scientific processes takes place in virtual settings. It should be noted that over the past few years, the virtual component of the Polytechnic has noticeably increased its scale.

In the conditions of the forthcoming 4th industrial revolution, a large amount of data, the speed of reaction to requests dictate the need to use information systems at almost every stage of the university's functioning. At the beginning of the current decade, individual researchers noted that the problem of the development of the information and educational environment is becoming central to the education system.
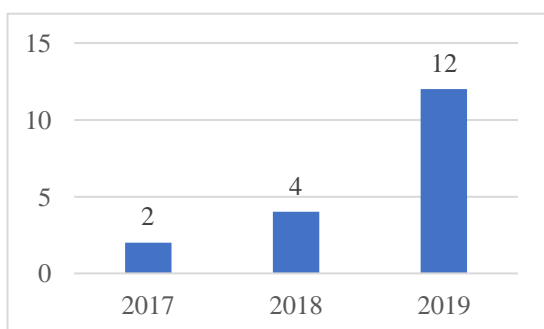

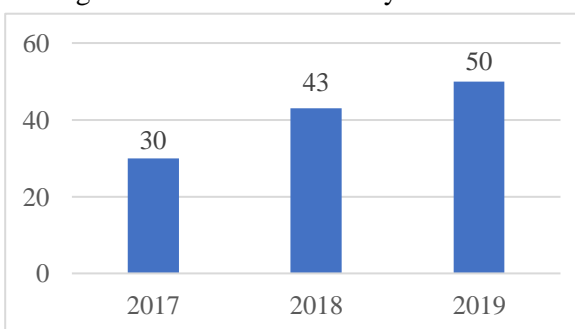Figure 2. Courses on the Coursera platform.

Figure 3. Courses on the "Open Education" national portal.

Currently, each educational institution creates its own information and educational environment, based on the information space of the whole society and the amount of invested funds. The interest in improving EIEE determines the competitiveness of the university not only in the Russian, but also in the international market for educational services. In the future, the indicated dependence will only increase and those universities that are lagging behind in the pace and quality of digitalization of education will be in a very vulnerable position.

The above graphs clearly show the growth of the number of SPbPU courses and their students on the basic international (Figure 2 and Figure 3) and national (Figure 4 and Figure 5) educational platforms.
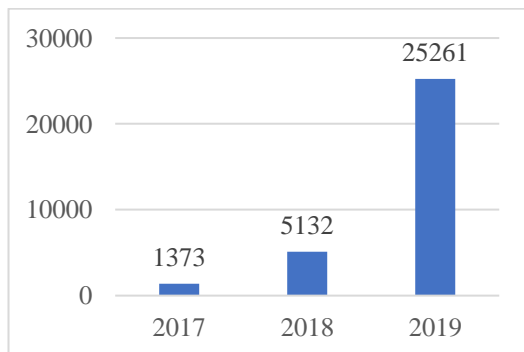
Figure 4. Growth in the number of users on Coursera.
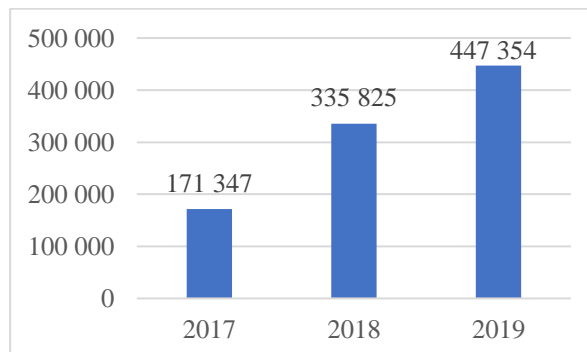
Figure 5. Students of the courses on the "Open Education" national portal.

In recent years, thanks to the active digitalization of education, SPbPU has taken one of the key positions in the Russian market of electronic educational services, achieving significant results in the commercialization of this area. At the Open Education Center, SPbPU, together with partners, were created and posted on the Open Education portal over 10 courses. Here are some of them: History of Fine Arts, St. Petersburg GBPOU "Petrovsky College"; Russian language and culture of speech, Federal state budgetary educational institution of higher professional education "NWIM RANEPA"; Fundamentals of oil and gas business, Federal state budgetary educational institution of higher professional education "MSTU"; Theory of state and law, Federal state budgetary educational institution of higher professional education "NWIM RANEPA"; Culturology, Federal state budgetary educational institution of higher professional education "NWIM RANEPA"; Technology for constructing an individual trajectory of a professional career, St. Petersburg State Public Educational Institution of Higher Professional Education, Petrovsky College; Bioethics, Federal State Budgetary Educational Institution of Higher Professional Education at the Ministry of Health of Russia. In total, more than 50 courses of the Polytechnic University are placed at the NPOE (National Platform of Open Education), the number of students exceeded 500,000 courses hosted on Coursera, while they have a smaller audience, but quickly gaining popularity, especially those that allow you to master real skills (Figure 6).
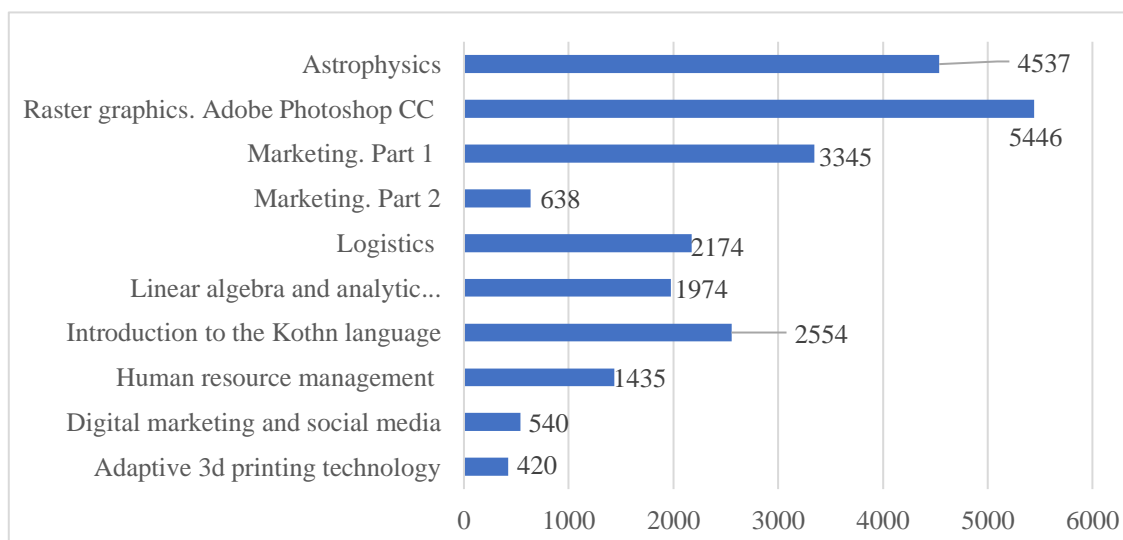
Figure 6. Students of SPbPU courses on Coursera platform.

The development of EIEE at SPbPU sets new guidelines for thinking in the design and development of the educational process, ensuring not only internal university needs, but also the fulfilment of external orders and the involvement of outside students and students. This ensures commercial efficiency and market demand, the formation of sustainable revenue streams with less dependence on budget financing. Advanced digital technologies, organizational and technical support for the development and implementation of an electronic training format in the educational process, an extensive EIEE give the Polytech every chance to intensify the transfer of knowledge and make it one of the main providers of knowledge about the future.

Conclusions

Further modernization of higher professional education, considering the trends in the knowledge economy and the challenges of the 4th industrial revolution, which determined the new University 4.0 model, is inextricably linked with the improvement of the EIEE of educational institutions. Indeed, today SPbPU is one of the few universities operating in the "University 4.0" paradigm, but some research programs and developments, any successes of individual structural units of the university remain only private examples. The implementation of the new model requires a comprehensive modernization of the university and all its key components with guidelines for building and developing a unified educational information space.

The EIEE of SPbPU should be the system that will provide the possibility of an operational response to the challenges of the 4th industrial revolution. The following areas of development are important here: training of new specialists that meet market expectations; formation of information conditions for the creation of advanced technologies and technology companies (in cooperation with the business community, industrial leaders - Russian and international), increasing the competitiveness of the university in the rapidly growing digital educational services market.

Being the most adequate to the new digital format of key areas of society, the university's EIEE is based on information and communication technologies, in particular, virtual and augmented reality technologies. The latter are today one of the priority areas of science and technology, gaining the character of decisive or, as they are often called, critical technologies. Critical are understood as those technologies that are cross-sectoral in nature, create significant prerequisites for the development of many technological areas or areas of research and development, and together make the main contribution to solving key problems of development and progress. Today, there is every reason to agree with the opinion that the critical role in education undoubtedly belongs to educational technologies that use the means of information and computing, telecommunication equipment and technologies, which together form the technical and technological infrastructure of the educational institution.

Currently, the presence and successful development of EIEE is one of the most important conditions for the functioning of a modern competitive university and movement towards the implementation of the University 4.0 model. And now SPbPU has achieved significant results in the development of the university's EIEE with the accompanying transformations of the administrative and economic structure, the training of managerial and teaching staff, teaching and research methods.

However, the need for a comprehensive modernization of higher professional education in the direction of implementing the University 4.0 model requires the further introduction of modern information and technical equipment in the main activities of the university: educational, pedagogical, research, organizational and managerial, expert. The prospect of digitalization has been voiced more than once - a unified space of the university's information and educational environment for further optimization and expansion of opportunities for the accelerated development of higher vocational education. Only such a comprehensive, effective innovation infrastructure ensures the competitiveness of the university today.

Further improvement of the EIEE is a necessary condition for the implementation of the University 4.0 model. The transformation of the format of scientific and educational activities is inevitable, and the role of digital technologies and e-learning in the training of new personnel will only increase. Therefore, the urgent tasks of the development of EIEE of SPbPU today are also the qualitative deepening of the integration of the university's information educational systems into the global network, the growth of EIEE components, increasing attention to the transfer of knowledge and technologies (the formation of a policy for working with intellectual property, supporting academic entrepreneurship, developing the university's innovative ecosystem, supporting activity on the creation of start-ups), the internationalization of the university (the

mobility of students and teachers, the formation of international partnerships and projects). A promising information system for educational and research activities should consider the main challenges of the 21st century and the most important human problems associated with them in the fourth industrial revolution.

Bibliography

1. Almazova N., Barinova D., Ipatov O. (2018). Forming of information culture with tools of electronic didactic materials. In B. Katalinic (Ed.), Proceedings of *the International DAAAM Symposium, 29*(1). Vienna: DAAAM International, 0587-0593. doi: 10.2507/29th.daaam.proceedings.085

2. *Clark B.R. (2003). Sustaining Change in Universities: Continuities in Case Studies and Concepts. Tertiary Education and Management*, *9*(2), 99-116. doi: 10.1080/13583883.2003.9967096

3. *Etzkowitz H. (2008). The triple helix: University-Industry-Government Innovation in Action.* New York: Routledge. doi: 10.4324/9780203929605

4. Fries I. (2019). *Future skills and University 4.0 - are you ready for the change?* Hoshschulforum Digitalisierunf. Retrieved from https://hochschulforumdigitalisierung.de/de/blog/future-skills-and-university-40-are-you-ready-isabell-fries

5. Gleason N.W. (Ed.). (2018). *Higher Education in the Era of the Fourth Industrial Revolution*. Singapore: Springer Nature Singapore Pte Ltd. doi: 10.1007/978-981-13-0194-0

6. Glukhov V.V., Vasetskaya N.O. (2017). Improving the teaching quality with a smart-education system. In S. Shaposhnikov (Ed.), Proceedings of the *2017 IEEE VI Forum Strategic Partnership of Universities and Enterprises of Hi-Tech Branches* (Science. Education. Innovations) (SPUE). St. Petersburg; Russian Federation, 17-21. doi: 10.1109/IVForum.2017.8245958

7. Kalmykova S.V., Krasnov S.V., Abushova E.E., Krasnov A.S. (2018). Problems of Quality of Education in the Implementation of Online Courses in the Educational Process. In *2018 International Conference on High Technology for Sustainable Development (HiTech)*. Sofia: BTSUD, 1-4. doi: 10.1109/HiTech.2018.8566618

8. Katane I., Katans E., Vāvere G. (2012). Environment of distance learning for humanization and democratization of education: the historical aspect. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 5*. Jelgava: LLU, 35-42. Retrieved from https://llufb.llu.lv/conference/REEP/2012/REEP-2012-proceedings-E-ISSN-2255-808X.pdf

9. *Masie E. (2003). Is E-Learning a Tool of the Present or a Fantasy for the Future? The Journal for Quality and Participation*, *26*(4), 8-11.

10. McKeown N., Anderson T., Balakrishnan H., Parulkar G., Peterson L., Rexford J., Shenker S., Turner J. (2008). OpenFlow: enabling innovation in campus networks. *ACM SIGCOMM Computer Communication Review*, *38*(2), 69-74. Retrieved from http://ccr.sigcomm.org/online/files/p69-v38n2n-mckeown.pdf

11. Nemejc K., Smekalova L., Kriz E. (2019). A Reflection of the Quality of Education in the Use of Teaching Aids and the Importance of Lifelong Learning. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 12*. Jelgava: Latvia University of Life Sciences and Technologies, 94-103. doi: 10.22616/REEP.2019.012

12. *Ob obrazovanii v Rossijskoj Federacii* [About education in the Russian Federation]. (2012). Federalnij zakon ot 29.12.2012. No 273-F3 Retrieved from http://www.consultant.ru/document/cons_doc_LAW_140174 (in Russian)

13. Patarakin E., Shustov S. (2004). Ecological education via formation of network communities. *Journal of Eurasian Research*, *3*(2), 57-62.

14. Rosenberg M., Foshay R. (2002). E-learning: Strategies for delivering knowledge in the digital age. *Performance Improvement*, *41*(5), 50-51. doi: 10.1002/pfi.4140410512

15. Roskosa A., Stukalina Y. (2018). Management of a Study Programme in the Context of Quality Assurance in Higher Education. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 11*. Jelgava: Latvia University of Life Sciences and Technologies, 118-127. doi: 10.22616/REEP.2018.014

16. *Rubtsova A. (2019). Socio-linguistic innovations in education: Productive implementation of intercultural communication. In IOP Conference Series: Materials Science and Engineering, 497*(1):012059. doi: 10.1088/1757-899X/497/1/012059

17. Rudskoy A., Borovkov A., Romanov P., Kolosova O. (2019). Reducing global risks in the process of transition to the digital economy. In IOP Conference Series: *Materials Science and Engineering*, *497*, 012088. Great Britain: IOP Publishing. doi: 10.1088/1757-899X/497/1/012088

18. Zhigadlo V.E., Odinokaya M.A. (2017). Ispolzovanije tehnologii ucebnih podkastov pri obucenii jaziku hindi v tehniceskom vuze kak sredstva povisenija kacestva dopolnitelnovo gumanitarnovo obrazovanija [Usage of training podcasts technology in the interactive learning process of hindi language in technical university as the basis of upbringing process in supplementary humanitarian education]. *Yazik i kultura [Language and Culture], 38,* 207-226. doi: 10.17223/19996195/38/14 (in Russian)

The Pedagogical Aspects of Reducing Adolescent Violence in the School Environment

Ilona Ledina[1] Mg.paed.; **Iveta Lice-Zikmane**[2] Dr.paed.
Jurmala City Orphan's Court[1]; Latvia University of Life Science and Technologies[2], Latvia
ilona.ledina@inbox.lv[1]; iveta.lice@llu.lv[2]

Abstract: School violence against adolescents is a pressing problem in today's society, which not only restricts a pupil's right to a safe and violence-free environment, but also has adverse consequences for the individual and for society a whole. The physiological and psychological changes characteristic of adolescence lead to inconsistent and incomprehensible behaviour in adolescents. Adolescents have a desire to be noticed, to prove to themselves and others that they have personalities. In the event that adolescents fail to assert themselves in a generally accepted way, they will self-assert themselves with aggressive behaviour. The aim of the study is to find out the views of adolescents about reducing violence in the school environment. The research methods such as questionnaires, discussions and experiment were used in the current investigation. The place of the research: Jurmala, Latvia. Altogether 51 respondents take part in this investigation. The study results demonstrated different results before and after approbation the methodological material "Be positive!". Adolescents' sense of security at school and in the classroom has improved. Adolescents' sense of fear from their classmates has significantly decreased ('often' decreased by 15.18 %; 'rarely' increased by 9 %).

Keywords: adolescent, reduction of violence, school environment, school education.

Introduction

Adolescents are one of the most sensitive groups in society. During this period of development, they are confronted not only with physiological changes in the body but also with the self-realization and identity.

The school environment encompasses both the physical environment, including safety and security, and the psychological environment, including the school climate, classroom management and discipline, and the relationship between teachers and students and between students. School-related violence in all its forms, including bullying, is an infringement of children's and adolescents' rights to education and health and well-being. No country can achieve inclusive and equitable quality education for all if learners experience violence in school (Behind the numbers…, 2019). Violence takes many forms around the world. The causes of violence are also deeply rooted in culture, social environment and economic structures.

During the teenage the polarity of the mind dominates: purposefulness - perseverance, increased self-esteem-lack of self-esteem, aggression - shyness, tenderness - cruelty, romanticism - cynicism. This age is a platform for the development of motives and values, beliefs, the ability to respond appropriately to comments and true and false criticism (Marchenkova, 2017). Scientist N.J. Cobb (2010) points out:
- the biological development of adolescents, characterized puberty and sexual maturation;
- psychological development of adolescents, oriented towards the recognition of the individual's identity;
- social development with the strengthening of appropriate social status.

Psychologist H.M. Knoff (Knoff, 2003), who focuses on pupil and school management, believes, that the main characteristic of adolescence is their tendency to integrate into adult life, but they are not able to do it physically and psychologically. They strive to claim the same rights as adults in the style of dress, a behaviour that is often provocative. Teenagers express their behaviour by smoking, using alcohol, slurs, and having sexual relationships. Adolescents experience difficult experiences related to new relationships with their peers and parents. They learn to analyse their personality traits and behaviours.

The World Health Organization defines violence as -the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation (World report on violence…, 2002, 4). The forms of violence:
- -self-directed violence (man is harming himself). Self-directed violence includes suicidal

behaviour and self-abuse such as self-mutilation.
- -interpersonal violence (directed against another person);
- -collective violence (violent conflicts between nations and groups, state and group terrorism).

The typology also captures the nature of violent acts, which can be physical, sexual or psychological or involve deprivation or neglect.

Aggression is motivated destructive activity that is contrary to the norms of society. Aggression results in physical or psycho-emotional harm. It can be directed externally-towards a person to cause significant harm to it – and it can be directed externally and internally – towards itself. Aggression can be used as a means to accomplish some goals, as an anti-aggression, and also as a target to attack, hurt and destroy under the influence of anger (Mendes et al., 2008). Adolescents are active users of verbal aggression. This is also largely due to the specific nature of the age group. Verbal aggression is not always blatant adolescent aggression towards others. Teenagers use harsh words to draw attention from parents and others, to test their parents love, to imitate their idols.

The consequences of aggression always affect more than just the aggressor himself. On the one hand, aggression is related to the excitement of the individual, on the other hand, there are other individuals who are directly or indirectly affected by the consequences of that aggressor's excitement. Aggression as a behavioural model is based on social influences, both congenital factors and negative childhood experiences. In childhood it has been explained to the child that aggression is unacceptable behaviour, but during the lifetime the individual faces conflicting situations. Teenagers who are victims of violence are characterized by physical aggression, which serves to gain and affirm their social status, and it takes a long time to change such behaviour (Poudžiunas, 2011).

One of the causes of adolescent behaviour problems is family instability. Priority focuses on adolescent behavioural problems, but the issue of family remains a secondary concern (Medne, 2010). A characteristic feature of adolescence is the tendency to be independent from parents, but at the same tome the teenager needs the love and support of this parents. J.R. Correll (Correll, Walker, Edwards, 2017) emphasizes that violent behaviour by adolescents not only affects their peers in the school environment but also their parents negatively affects family relationships. The family creates a complex emotional background. In this case, family support and understanding does not give the teenager a sense of security. The relationships between the parents of the teenager, the emotional climate in the family and the cooperation between all members of the family create the conditions for the teenagers psychological and social development. To a large extent, the personality traits and flexibility of parents are decisive in understanding their behaviour. Scientist H.M. Knoff has pointed out two less favourable forms of parent-generational relationship (Knoff, 2003):
- cruel, despotic control of the teenager and authoritarian parenting style;
- complete lack of control when a teenager is left behind.

Attachment behaviour is explained as behaviour that is biologically rooted and is part of human nature and is activated when the child is not feeling well or feeling bad (Simane-Vigante, Plotka, Blumenau, 2018). On the other hand, children who are frequently bullied are more likely to feel like an outsider at school. Educational outcomes are also lower (Behind the numbers…, 2019).

In a school environment adolescent accumulate beliefs and behaviours that are accepted in society and in the family. In practice, the authors are quite often confronted with cases where educational institutions, family physicians report problems in the family but do not inform law enforcement, or inform in cases where the problem is aggravated, or worse, find the consequences.

In the Global Education Monitoring Report "Accountability in education. Meeting our Commitments" emphasizes the role of a safe school environment in education (Accountability in education…, 2017). Safe school environment:
- encourage behaviour where the consequences and benefits of a breach are clearly defined and understandable;
- the school environment is perceived as the frequency and quality of interaction between its staff, pupils, their parents and the entire school community;

- a safe school balances physical security and a supportive environment, is prepared for crisis situations, offers its students pre-and-post-class activities, and promotes successful school-community collaboration. Positive behaviour is linked to the improvement of pupil performance, so both parents and educators should support positive behaviour.

School violence includes physical, psychological and sexual violence. Cybercrime has become popular. Cyberbullying includes being bullied by messages, i.e. someone sending mean instant messages, postings, emails and text messages or creating a website that makes fun of a student or by pictures, i.e. someone taking and posting online unflattering or inappropriate pictures of a student without permission; it also refers to being treated in a hurtful or nasty way by mobile phones (texts, calls, video clips) or online (email, instant messaging, social networking, chartrooms) and online hurtful behaviour (Behind the numbers…, 2019). Cyberbullying and other forms of violence have increased over the last decade, creating new concerns for educational institutions, teachers, parents and students. Available data from studies (Shariff, Churchill, 2009; Dilmaç, 2009; Catalano, 2012; Marzano, Lubkina, 2013) show that the number of young people affected by cybercrime is increasing. For young people, the web and the physical world become a whole.

Bullying is a common occurrence in the school environment. Bullying is characterised by aggressive behaviour that involves unwanted, negative actions, is repeated over time, and an imbalance of power or strength between the perpetrator or perpetrators and the victim (Behind the numbers…, 2019). A national approach to creating a safe school environment, effective monitoring and support system contributes to reducing school violence, as highlighted in the latest UNESCO publication "Behind the Numbers: Ending School Violence and Bullying". The study was published at the 2019 World Education Forum, London, urging world countries not to leave violence to teachers (Behind the numbers…, 2019).

The teacher is often the first person to observe the actions, thoughts and feelings of the adolescent. It instinctively felt his follow-up. At this point, the teacher becomes his friend. A teacher's profession is a profession of a mission. A successful teacher is the one who perceives his or her professional activities as calling, where the main essence is serving to the nation and humanity (Baltusite, Katane, 2017).

The aim of the study is to find out the views of adolescents about reducing violence in the school environment.

Methodology

The scientific research was carried out in Jurmala (Latvia) during 2018-2019. Students from Majori Secondary School took part in this investigation. 34 students - 16 boys and 18 girls (age 12-14), 12 teachers (work experience average 9.6 years) and 5 experts were invited to participate in this research.

The question of the research - what is the opinion of adolescents about the impact of the methodological material „Be positive!" in reducing violence in the school environment? The research was organized in four parts: 1-the first survey for adolescents; 2-the survey for teachers; 3-approbation of the methodological material "Be Positive!" (Ledina, 2019), 4-the second survey for adolescents.

In both surveys for adolescents the main questions were similar in order to find out the adolescents' change of opinion before and after approbation of the methodological material „Be Positive!". A questionnaire for teachers was developed to clarify teachers' actions in dealing with student conflict situations. The research methods such as questionnaires, discussions and experiment were used in the current investigation. The data was processed using the statistical data processing program SPSS for statistical analysis. The results have been summarized and the relevant ones are presented graphically using calculations of percentage.

Results and Discussion

Adolescent violence in the school environment is mainly in the form of emotional mobbing (denigration, humiliation, cyberbullying), but physical violence is also common. Violence is most intensified by the indifference of others. Sometimes other students, teachers, parents watch the offender's actions with indifference and do not react. It strengthens the abuser's confidence in his or her immunity. It is very important for the abuser to understand the consequences of his actions and to take responsibility for

what he has done. It is also important for the victim to face the abuser. If you cannot confront the abuser yourself, don't be silent, but seek immediately help from adults.

Everyday school environment is mostly meant to help victims of violence. It is forgotten that the abuser also needs help. In order to reduce adolescent violence in the school environment, the teacher, together with support staff, identify problems and their causes in a timely manner, and promote mutual understanding and respect.

A survey of teachers was conducted to determine the involvement of teachers in solving adolescents' personal problems and conflict situations at school.

The finding show that all teachers are 100 % engaged in solving adolescent's personal problem and conflict situations at school (Figure 1). Comparatively more adolescents' personal problems are dealt with conflict situations. Results shows that 75 % of teachers are 'always' and 'often' involved in personal problems, but 68 % in conflict situations.
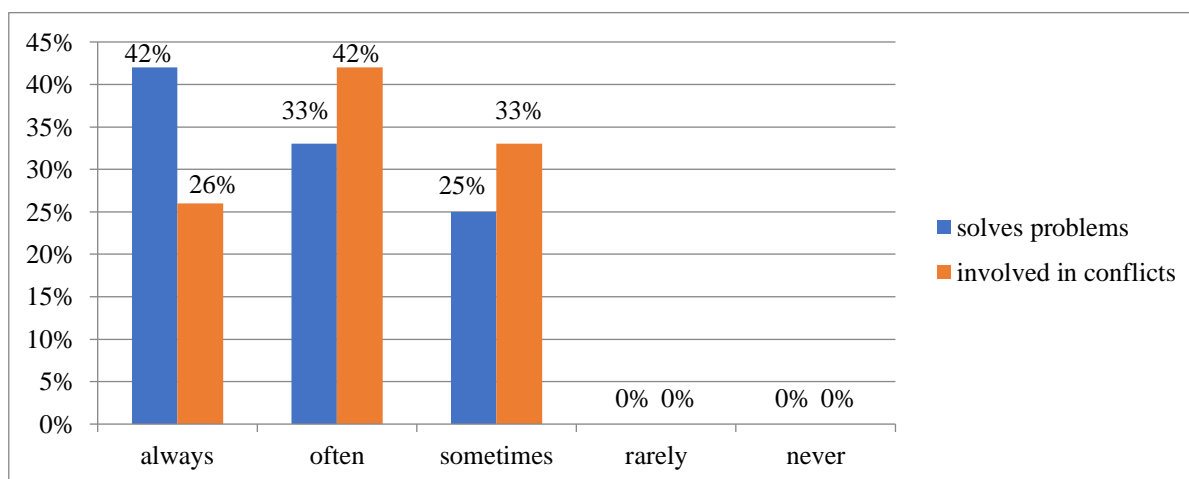
Figure 1 Teacher involvement in solving adolescents' personal problems and conflicts at school.

It is important to find out if teachers are sufficiently committed to the resources available at the school and support staff in resolving conflict situations. Data analysis shows, that all teachers are 100 % committed to support staff and parents in resolving conflict at school (Figure 2). Third part of teachers involve parents ('always' – 25 %, 'often' – 33 %), they explain this by the parents' close contact with the school.
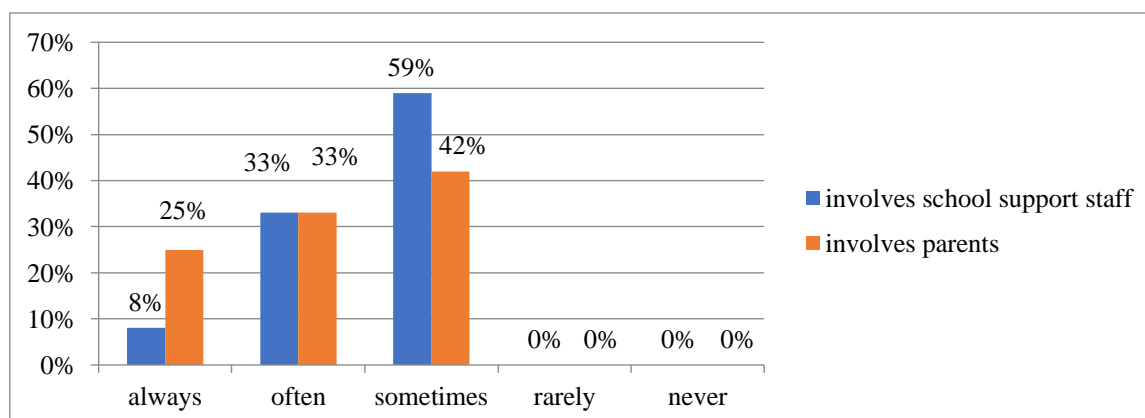
Figure 2. Involvement of support staff and parents in conflict resolution.

In the survey, adolescents indicated where they turned to for help with violence (Figure 3). The data show that in 50 % of cases the victim does not seek help; they accept the crime or try to solve the problem themselves. Sufficiently enough – 26 % of teenagers turn to their friends for help in cases of violence. Only 3 % seek help from a class teacher.
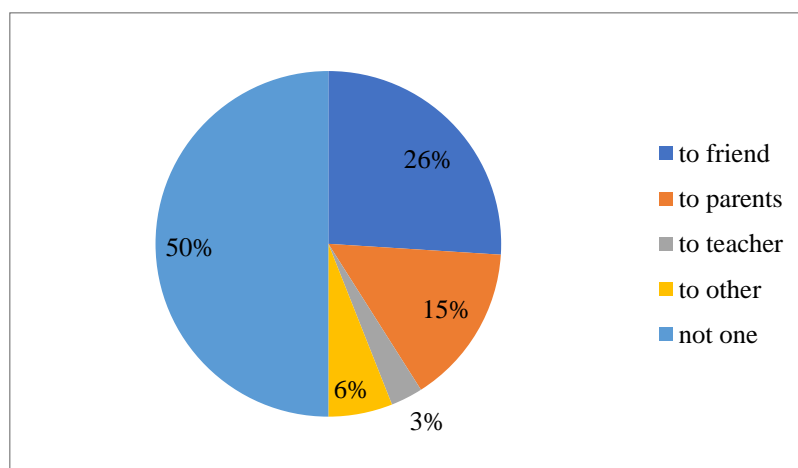
Figure 3. Adolescents seek help in cases of violence.

After collecting the data of the student survey, methodological material was developed. The aim of the methodological material "Be positive!" (Ledina, 2019) is to develop tolerance, positive behaviour in the educational institution. Using the tasks offered in the methodological material, to encourage adolescents to analyse and not consider violence as acceptable, to analyse its causes and consequences. Stimulate adolescents' awareness of each individual's responsibility.

Five experts - specialists with appropriate education and work practice with adolescents - participated in the evaluation of the methodological material. It was evaluated and supported by experts and recommended for use with adolescents.

After the pedagogical experiment, the adolescents were repeatedly surveyed (Figure 4). Adolescents in surveys indicated that they feel safe in the school and classrooms they are studying in. Comparing the respondent's answers before and after approbation of the methodological material, it can be seen that the number of respondents who 'always' feel safe in class and school has increased by 2 percentage points (before – 18 %, after – 20 %). The number of respondents who 'often' feel safe at school and in the classroom has increased by 15 percentage points (before – 47 %, after – 62 %). The number of respondents who 'sometimes' feel safe at school and in the classroom has decreased by 8 percentage points (before – 26 %, after – 18 %). In contrast, no respondents reported "rare" after approbation.
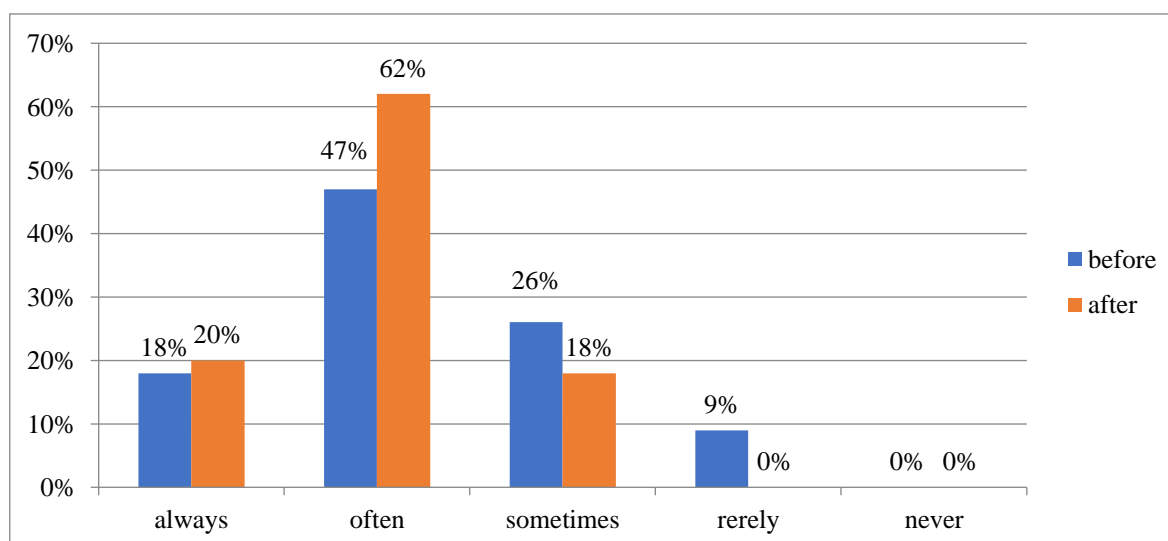
Figure 4. Adolescents' safety at school and in the classroom.

In both surveys, the adolescents indicated whether they fear any of their classmates (Figure 5). Comparing these answers before and after the methodological material "Be Positive!" approbation, it can be concluded that the fear of classmates has diminished. The indicator 'often' has fallen by 15 percentage points (24 % before, after 9 %). Respondents who tend to feel "rarely" feared by

classmates have increased by 9 percentage points (before 38 %, after 47 %), they feel safe at school and in the classroom. No one pupil has indicated their fears in the indicator 'always' and 'never'.
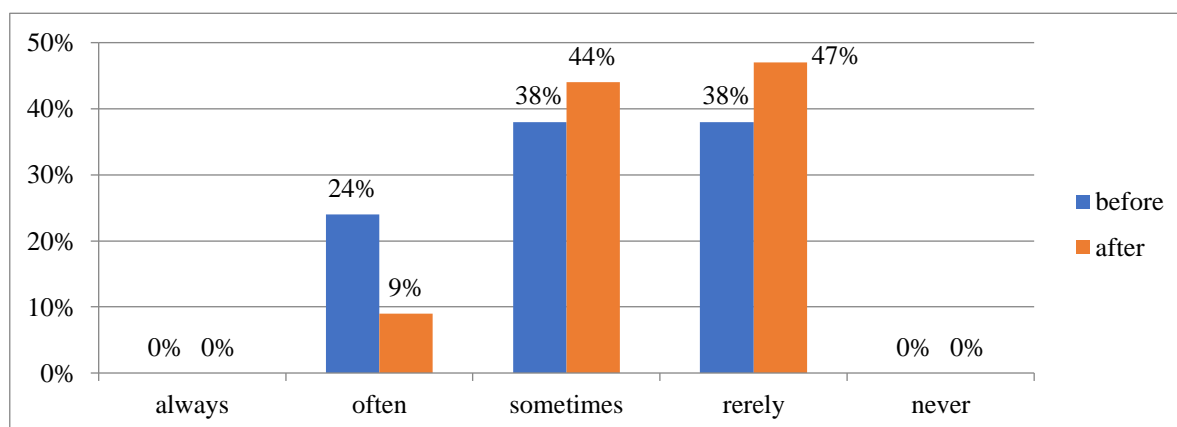
Figure 5. Adolescents' fear of classmates.

Using the methodological material 'Be positive!' adolescents' sense of security at school and in the classroom has improved, but adolescents' sense of fear from their classmates has significantly decreased.

Conclusions

- School is an environment where adolescents accumulate family relationship models in society.

- Adolescents are active users of verbal aggression. This is also largely due to the specific nature of the age group.

- Positive family relationships, parental support and understanding reduce the risk of aggressive behaviour by adolescents. Inconsistency, conflicting relationships, and lack of emotional support from parents can negatively affect adolescent behaviour.

- All teachers are 100 % involved in solving adolescents' personal problems and conflict situations at school. Support staff and parents are 100 % involved.

- The data show that 50 % of respondents who have experienced violence do not seek for help, they accept the crime or try to solve the problem by themselves, 26 % of adolescents seek help from their friends in case of violence, while only 3 % seek help from a class teacher.

- Using the methodological material 'Be positive', adolescents' sense of security at school and in the classroom has improved. Adolescents' sense of fear from their classmates has significantly decreased.

- Teenagers positively evaluated the methodological material "Be Positive!". It has encouraged them, promoted self-education, knowledge, skills and attitudes, stimulated active learning.

Bibliography

1. *Accountability in education: meeting our commitments. Global Education Monitoring Report, 2017/8*. (2017). Global Education Monitoring Report Team. France: UNESCO. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000259338
2. Baltusite R., Katane I. (2017). The Modern Teacher's Career. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *10*. Jelgava: LLU, 30-39. Retrieved from https://llufb.llu.lv/conference/REEP/2017/Latvia-Univ-Agricult-REEP-2017_proceedings-30-39.pdf
3. *Behind the numbers: ending school violence and bullying*. (2019). France: UNESCO. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000366483
4. Catalano S. (2012). *Stalking Victims in the United States.* Revised. U.S. Department of Justice. Office of Justice Programs Bureau of Justice Statistics. Retrieved from https://www.bjs.gov/content/pub/pdf/svus_rev.pdf

5. Cobb N.J. (2010). *Adolescence: Continuity, Change and Diversity* (7th ed.). Retrieved from http://cobb.sinauer.com/chapter06.html

6. Correll J.R., Walker S.C., Edwards T.C. (2017). Parent Perceptions of Participating in a Program for Adolescents Who Are Violent at Home. *Journal of Family Violence*, *32*(5), 243-255. doi: 10.1007/s10896-016-9847-6

7. Dilmaç B. (2009). Psychological Needs as a Predictor of Cyber Bullying: A Preliminary Report on College Students. *Educational Sciences: Theory and Practice*, *9*(3), 1307- 1325. Retrieved from https://files.eric.ed.gov/fulltext/EJ858926.pdf

8. Knoff H.M. (2003). *The Assessment of Child and Adolescent Personality*. London: The Guilford Press.

9. Ledina I. (2019). *Pusaudžu vardarbīga uzvedība skolas vides kontekstā* [Reducing Teenage Violence in the School Environment]. Master Thesis. Jelgava, Latvia: Latvia University of Life Sciences and Technologies. (in Latvian)

10. Marchenkova M. (2017). Tolerance as an exhibition of humanism for the rising generation. In V. Lubkina, A. Zvaigzne (Eds.), the Proceeding of the International Scientific Conference *Society. Integration. Education, 2.* Rezekne: RTA, 132-141. doi: 10.17770/sie2017vol2.2320

11. Marzano G., Lubkina V. (2013). Cyberbulling and real reality. In the Proceeding of the International Scientific Conference *Society. Integration. Education, 2.* Rezekne: RTA, 412-422. doi: 10.17770/sie2013vol2.598

12. Medne D. (2010). Socio-structural relevant trends of a family in transformative society. In Proceedings of ATEE Spring University conference *Teachers of 21st century: Quality education far quality Teaching*. Riga: LU, 35-47.

13. Mendes D.D., Mello M.F., Ventura P., De Medeiros Passarela C., De Jesus Mari J. (2008). A systematic review on the effectiveness of cognitive behavioral therapy for posttraumatic stress disorder. *International Journal of Psychiatry in Medicine, 38*(3), 241– 259. doi: 10.2190/PM.38.3.b

14. Poudžiunas I. (2011). *Dusmas un agresija vardarbību pārcietušajiem jauniešiem un dusmu pārvaldīšanas programmas efektivitāte* [Anger and aggression in adolescent abuse survivors and effectiveness of anger management programs]. Doctoral Thesis. Riga: University of Latvia. Retrieved from https://dspace.lu.lv/dspace/bitstream/handle/7/4672/20585-Inta_Poudziunas_2011.pdf (in Latvian)

15. Shariff Sh., Churchill A.H. (2009). *Truths and Myths of Cyber-bullying: International Perspectives on Stakeholder Responsibility and Children's Safety*. New York: Peter Lang Publishing Inc.

16. Simane-Vigante L., Plotka I., Blumenau N. (2018). Research of the Relationship of Criminal Violence, Adult Attachment Styles and Personality Traits of Violent Male Offenders. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment, Education, Personality (REEP), 11*. Jelgava: Latvia University of Life Sciences and Technologies, 128-141. doi: 10.22616/REEP.2018.015

17. *World report on violence and health: summary.* (2002). Geneva: World Health Organization, 54. Retrieved from https://www.who.int/violence_injury_prevention/violence/world_report/en/summary_en.pdf

Pedagogical Competence of Sustainable Aesthetic Cosmetologists

Iveta Lice-Zikmane[1] Dr.paed.; **Inguta Grinberga**[2] Mg.paed.
Latvia University of Life Sciences and Technologies, Latvia
iveta.lice@llu.lv[1]; inguta@tvnet.lv[2]

Abstract: Development of self-care in cosmetology goes hand-in-hand with development of the public society. Nowadays, large increase of innovative hardware technologies, more sophisticated procedures for skin care and treating of skin problems are entering the field of Aesthetic Cosmetology. There is an increasing need for highly qualified professionals in the Aesthetic Cosmetology industry who are able to perform these complex procedures professionally and educate their client awareness. The cooperation between the Aesthetic cosmetologist and the client in health care is a mandatory condition, so the specialist's pedagogical is essential in order to inspire and motivate the client for a healthier lifestyle. This is particularly relevant in the context of sustainable development, which focuses on the sustainability of humanity as a whole. Pedagogical competence is already developed during the study course. Student already learns to correctly and professionally transfer his professional knowledge and skills to his clients through healthcare. Professional higher education contributes to improving the pedagogical skills of prospective specialists. At the University of Latvia P. Stradins Medical College, the students are prepared for professional work and attitude of an Aesthetic cosmetologist during their studies in the course "Aesthetic cosmetology". Self-motivation of Aesthetic cosmetologists to develop themselves is important throughout their professional work, so they can provide quality and modern healthcare. The aim of the study to find out the views of aesthetic cosmetologists about pedagogical competence. The research methods such as questionnaires, self-evaluation, discussions and experiment were used in the current investigation. The place of the research: Riga, Latvia. Altogether 28 respondents take part in this investigation. The study results demonstrated different results before and after approbation the study course "Pedagogy in Aesthetic Cosmetology". After the study course, more and more respondents demonstrate the need for pedagogical competency in the field and plan to educate their clients and transfer professional knowledge. Most of the respondents (98 %) self-assessed their pedagogical competences very high –completely sufficient and almost sufficient.

Keywords: aesthetic cosmetologists, pedagogical competence, vocational education, sustainability.

Introduction

Nowadays Aesthetic cosmetology professional deals with important and serious issues within client healthcare. Their activities directly concern human health and safety. On the other hand, it is important for a person as an individual to obtain education on health improving and enhancive activities, therefore regular cooperation with healthcare professionals is important. Successful collaboration requires highly skilled and qualified professionals who understand a modern approach to communication and health care. In recent years, there has been a tendency for increasing numbers of clients with chronic skin diseases, which in most cases results from incorrect care for the skin and insufficient information on skin care before and after receiving different skin care procedures. Clients have insufficient knowledge of the health of their skin and proper care of it.

Health is individual's first priority which affects the quality of their life. According to scientists E. Ahmettshina and V. Husnutdinova, the concept of 'quality of life' in scientific literature appeared at the end of the 1960's and has various concepts and definitions around it, the concept has evolved and improved over time. Assessment and understanding of quality of life contributes to the wellbeing of the individual and public society as a whole (Ahmettshina, Husnutdinova, 2014).

The World Health Organization has defined quality of life as the perception of an individual in terms of his position and goals in life, as well as the ability to evaluate and make decisions (Čolovič et al., 2017). Scientist K. Tulza has defined the quality of life as an understanding of living conditions and public wellbeing (Tulza, 2017). Quality of life is an integral and important part of health in order for the individual being able to manage his or her life and maintain both mental and physical health throughout

his or her life (Levterova et al., 2017). Applying individually matched therapy for a patient is a great challenge and a priority for contemporary medicine to achieve a satisfying quality of life for a client. Cosmetology is in deep connection with patient's mental condition and it becomes a part of psychodermatology, becoming an important topic of public health (Chilicka, Maj, Panaszek, 2017).

In the field of healthcare, the Aesthetic cosmetologist holds a preventive role to minimize cases of skin sicknesses. Very important is the involvement of Aesthetic cosmetology professionals in the treatment process by cooperating with the client's doctor. In this collaborative process, the Aesthetic cosmetologist shall perform procedures appointed by the doctor and explain to the patient needs of it, progress, self-care before and after the procedure. Scientist K.A. Cameron concludes that to change a patient's behaviour, familiarity with theories of persuasion may lead to the development of novel communication approaches with existing patients (Cameron, 2009). Aesthetic cosmetologist should perform activities within the scope of his or her competence.

Strengthening health of a human, which can be seen from different aspects, is closely related to sustainable development. The concept of sustainable development has become a comprehensive regulative idea that is consistently spreading in our contemporary world. Different kinds of professional have to learn how to apply it in their sphere of activity. Communication across disciplinary boundaries, between representatives of different sectors may also be problematic (Raudsepp, 2006). This is an important case for professional education and self-development of Aesthetic cosmetologist. Cooperation with professionals from different healthcare sectors is a prerequisite for the professional competence of Aesthetic cosmetologists in the context of sustainable development.

The research about the seriousness of occupational health in the context of sustainability has been conducted by D. Brizga and L. Peks, who emphasize the importance of workplace wellness and attitude concepts at work. They pointed out that well-being is influenced by processes in the social, professional, mental, physical, intellectual and emotional dimensions (Brizga, Peks, 2014). Another research (Norlien et al., 2017) done about cosmetologists' occupational health and safety, where 46 % of respondents reported about symptoms of respiratory illness.

In the context of this study, the authors believed that health care professionals should pay attention to the design of their workplace aesthetically so that both the clients and the cosmetologists feel well and be healthy, thus providing the ability to operate in the long term with high quality. Vocational education ensures practical and theoretical preparation for work in a particular profession allows obtaining professional qualification and ensures further professional development. The characteristic feature of vocational education is specialization in the particular professional area in order to acquire the corresponding profession (Vocational Education, 2014).

One of the priorities of Latvian Presidency of the Council of the European Union (EU) is to promote competitiveness to generate jobs and economic growth in the EU. This requires encouraging entrepreneurial mindsets and stimulating the innovative capacity of industry and service sectors. Vocational education and training (VET) policy is part of this process. VET provides people with the skills and competences they need to be able to succeed in the labour market (Vocational education, 2015).

Competence -ability to apply learning outcomes adequately in a defined context (education, work, personal or professional development). or ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development. Comment: competence is not limited to cognitive elements (involving the use of theory, concepts or tacit knowledge); it also encompasses functional aspects (including technical skills) as well as interpersonal attributes (e.g. social or organisational skills) and ethical values (Terminology of European education, 2014).

A competency is more than just knowledge and skills. It involves the ability to meet complex demands, by drawing on and mobilising psychosocial resources (including skills and attitudes) in a particular context. For example, the ability to communicate effectively is a competency that may draw on an individual's knowledge of language, practical IT skills and attitudes towards those with whom he or she is communicating (The Definition and Selection…, 2005).

The characteristics of healthcare professionals on pedagogical competence firstly relates to the qualities and skills of the educator. They have been described by the scientist D.E. Hamachek (1985), who has

divided all characteristics and skills into four groups: personal characteristics; behaviour in the classroom; self-perception and self-assessment; social perception. Scientists S. Nyström, J. Dahlberg, S. Edelbring, H. Hult, M Abrandt-Dahlgren had explored simulation as a pedagogical practice for the health care professionals as continuing professional development (Nyström et al., 2017).

During the professional activities, the structure of pedagogical competence of healthcare specialists is characterised by the following components: knowledge of pedagogical theories, skills to apply them when dealing with problems, attitude in the form of responsibility, ability to make decisions, ability to manage and socializing (Council Recommendation on Key…, 2018; Key Competences for Lifelong…, 2019).

The pedagogical competence of healthcare professionals is considered to be a part of professional competence, which is not only the knowledge, skills and attitude learned and acquired over time, but also the ability to use them and improve effectively in professional activity (Puķīte, 2012). The pedagogical competence of an Aesthetic cosmetologist is part of professional competence, which includes knowledge, skills and attitude. Cosmetologists have to have the ability to listen and to evaluate clients' skin health problems, to explain potential causes of the problems, to inspire the clients to lead a healthier lifestyle and to motivate them to take responsibility for their own health and participate in the treatment results.

The development of pedagogical competence of Aesthetic cosmetologists nowadays is seen in the context of lifelong education. Scientist M. Puķīte emphasizes that a new culture of learning, communication and cooperation is being developed due to the awareness of the value of lifelong education, availability of information technologies, the development of a joint areas for new ideas and discussions on the quality of other people's activities, which altogether contributes to the development of individual personal competence (Puķīte, 2012; Pukite, Pukitis, 2011). Pedagogical strategies about clinical supervision is described - how clinical teaching is carried out in a clinical environment with medical students (Skyvell-Nisson et al., 2010).

Nowadays digital skills are very topical in the process of professional development. The digital skills are one of the most necessary preconditions for a productive cooperation in society of information. In Latvia, the digital skills of health care specialists are important and urgent, especially in association with the e-health system implementation (Rasnacs, Vitins, 2018). Formation of information competence health professionals in development digital economy requires constant change content and teaching methods that should include such technologies and directions: processing large amounts of data; artificial intelligence; digital identification and authentication of objects and subjects of exchange information; cloud technology; information security (Ovsyanitskaya, 2018).

As personal competence of individual develops, the pedagogical skills as a healthcare professional also develops, which, as part of professional competence describes professional experience of the individual, skills acquired during professional work, as well as academic knowledge (professional courses, seminars, foreign language and computer skills) and its role in the process of professional development.

Professional development can be seen as a diverse process in which experience and self-reflection plays significant role for further professional activity. The professional attitude of students during different stages in studying are important and emphasis is placed on the importance of openness, responsibility, cooperation and empathy (Johnston et al., 2011). On the other hand, scientist W. F. Hill concluded that learning is a process of developing relatively sustainable behaviors, skills, knowledge and attitudes, which are the result of individual's, experience (Hill, 2002).

The aim of the study is to find out the views of aesthetic cosmetologists about pedagogical competence.

Methodology

The scientific research was carried out in Riga (Latvia) during 2018-2019. Students from University of Latvia P. Stradins Medical College took part in this investigation. 24 respondents from the 2nd year (age 19 - 26) of the study program "Aesthetic Cosmetology" and 4 experts were invited to participate in this research.

The question of the research – What is the opinion of aesthetic cosmetologists about the need for pedagogical competence?

The research was organized in three parts: 1 - the first survey; 2 - approbation of the study course "Pedagogy in Aesthetic Cosmetology", 3 - the second survey.

In both surveys the main questions were similar in order to find out the respondents' change of opinion before and after approbation of the study course "Pedagogy in Aesthetic Cosmetology".

The research methods such as questionnaires, self-evaluation, discussions and experiment were used in the current investigation. The data was processed using the statistical data processing program SPSS for statistical analysis. The results have been summarized and the relevant ones are presented graphically using calculations of percentage.

Results and Discussion

University of Latvia P. Stradins Medical College is one of the educational institutions which emphasizes active role and involvement of students. In the study program "Aesthetic cosmetology", students are getting prepared as aesthetic cosmetology professionals and after graduation, receive a first-level professional higher education diploma and qualification –Aesthetic cosmetologist.

Study program ensures theoretical and practical knowledge, skills and professional attitude to comply with professional standards and requirements of labor market.

As part of the study program, students develop professional ethics, communication skills in their independent and team work, as well as self-motivation for students to continue education and professional development. Aesthetic cosmetologist acquires the status of a medical practitioner and are therefore trained to provide first emergency assistance, organize and maintain a safe working environment, and develop contact skills with the customer. When the new specialist has graduated the study program, he/she is prepared for the management and financing of a cosmetology salon, and is well-oriented on the legislation requirements for professional activities (LU P.Stradiņa medicīnas…, 2017).

A new study course "Pedagogy in aesthetic cosmetology" was developed to improve the pedagogical skills within students. During the scientific research, approbation of this study course was undertaken.

Five survey questions were analysed during the research.

Figure 1 visualizes answers to question 1 – "Do you think the public is not sufficiently informed on the improvement of skin and overall health?"
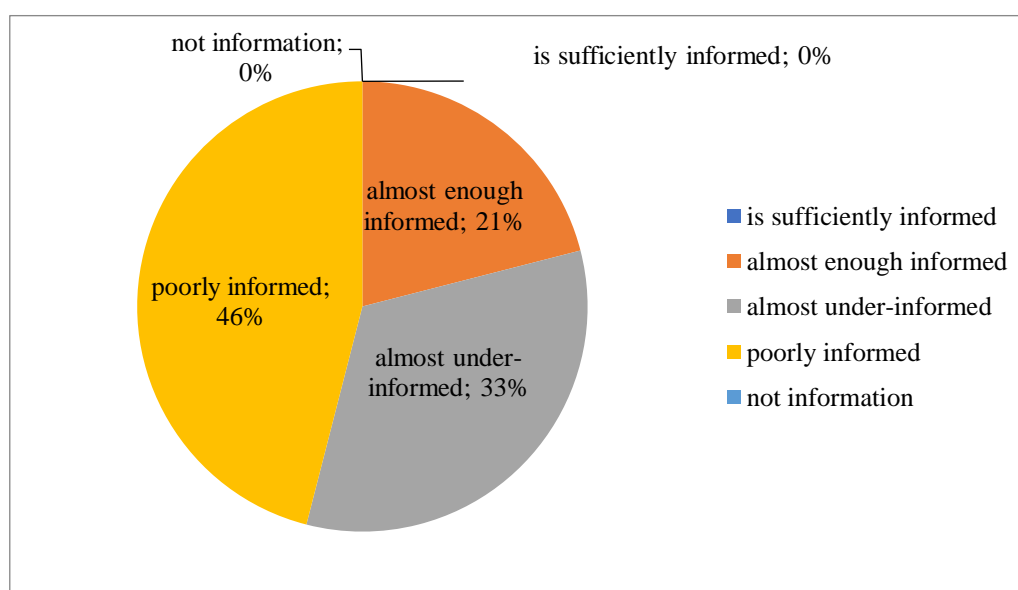
Figure 1. Respondents' opinion on public awareness in improving and preventing skin and health conditions.

The results show that none of the respondents have indicated that the public is sufficiently informed, while the majority of respondents (46 %) point out lack of awareness in the public. Part of the

respondents (33 %) believe that the public is informed moderately about the awareness in improving and preventing skin and health conditions. Five respondents (21 %) think that there is almost enough awareness.

Figure 2 visualizes answers to question 2 – "Do you have need for pedagogical competence in your specialty?"
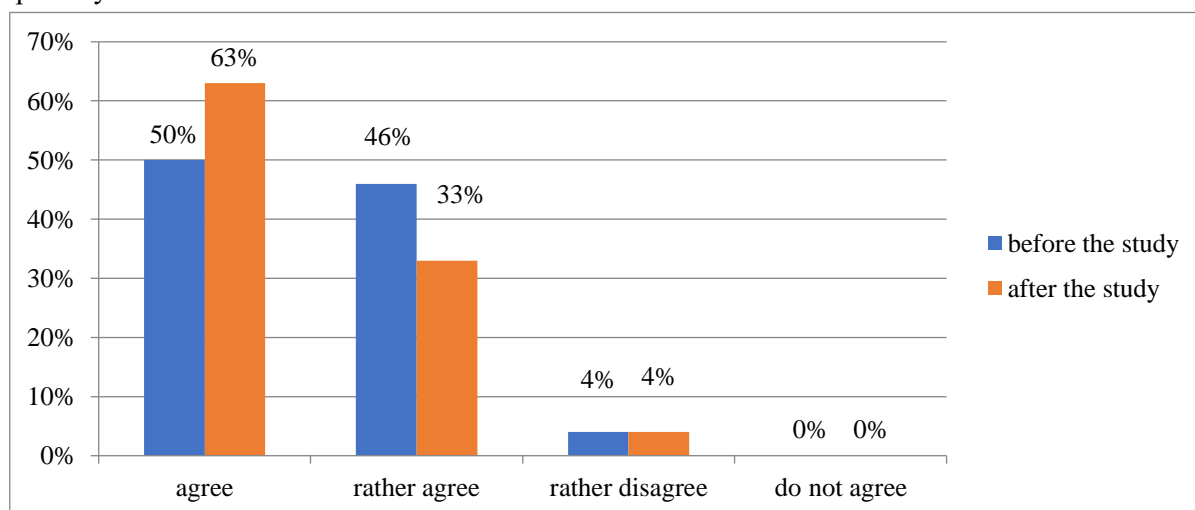
Figure 2. Respondents' opinion on the need for pedagogical competence in the specialty.

The results show unequal views on the need for pedagogical expertise in the specialty. The need for pedagogical competence is shared by half of respondents (50 %) prior to study and 63 % after the graduation. The authors emphasize on fact that 4 % of respondents, both prior and post-graduation 'rather disagree'. The author points out none of the respondent answers, both prior and post-graduation, that there is no need for the pedagogical competence at all. This indicates that respondents have assessed the need of pedagogical competence in their specialty.

Figure 3 visualize answers to question 3 – "Do you plan to educate your client in their professional work?
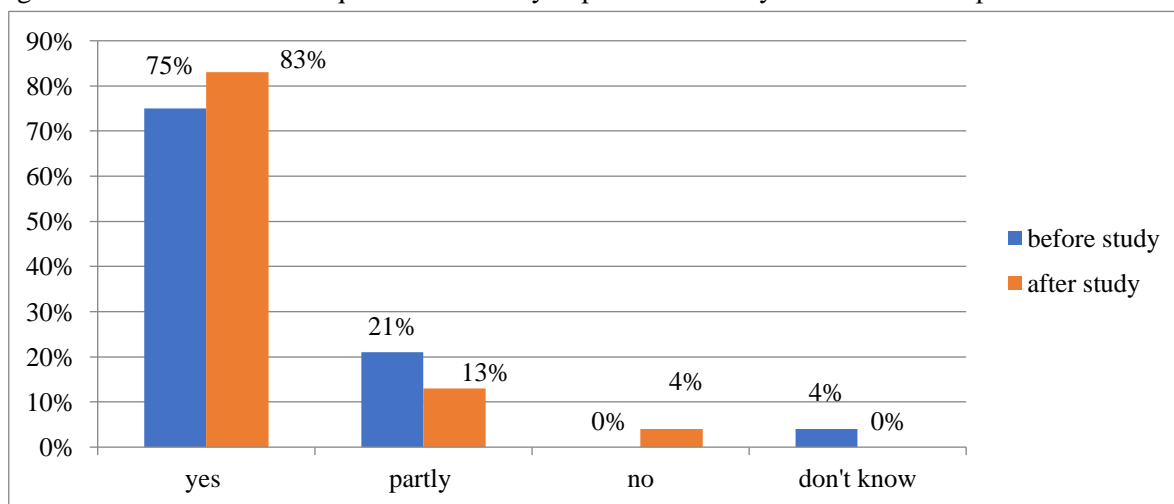
Figure 3. Respondent's opinion on educating the client in their professional work.

Currently aesthetic cosmetology professionals are dealing with important and serious issues in client care and client education. The author emphasizes that it is important that the prospective aesthetic cosmetology professional understands the importance of educating the client in the professional field of aesthetic cosmetology and is aware of the importance already during the study process.

The results showed that the majority of respondents plan to educate clients both before and after studies. However, their views have stabilized, before the study process - 75 % of respondents planned to work on client education in the professional work, 21 % partly; but after the studies, 83 % and 13 %,

respectively. During the course of studying Pedagogy in Aesthetic Cosmetology, 4 % of respondents have changed their minds compare with prior opinion when there were no point in educating the client in the professional work of aesthetic cosmetology. This can be justified by a lack of understanding the specific nature of the chosen profession as well a lack of professional competence. However, after the graduation, these 4 % of respondents do not plan to educate their clients at all.

After assessment of the results, the author concluded that the majority of respondents plan to educate their client in the field, which is an important aspect of the professional field of aesthetic cosmetology.

Figure 4 visualizes answers to question 4 – "Would you be able to transfer your professional knowledge to the client?"
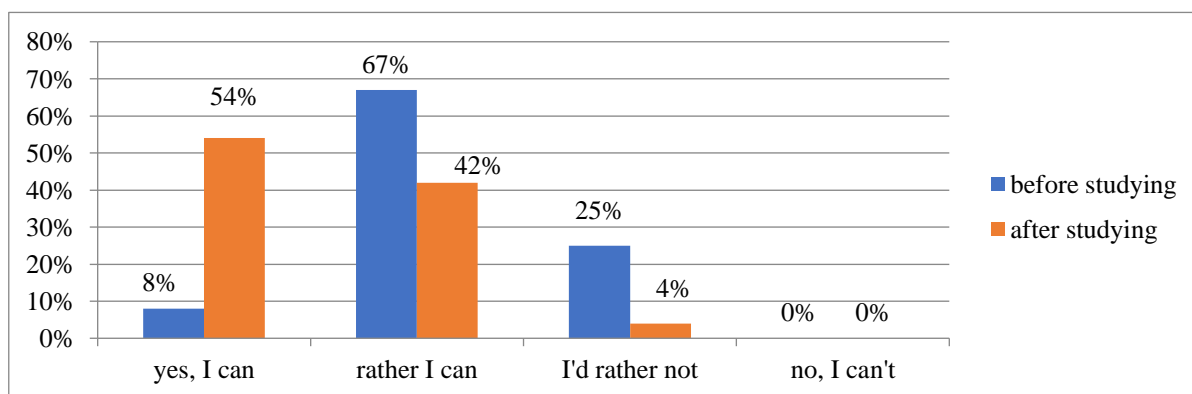
Figure 4. Respondents' opinion on transfer of professional knowledge to clients.

The results indicate that, prior to study course, 25 % of respondents believe that more likely they will not be able to transfer knowledge to their clients after the study course. After the graduation, share of this opinion plummeted to 4 %.

There is a big difference in confidence in being able to transfer the professional knowledge to clients prior and post studies, 8 % and 54 % respectively.

The authors have concluded that although prospective professionals are doubtful regarding their ability to share knowledge to their clients prior the study course, post study course professionals indicate major share of opinions being able to share their knowledge to clients.
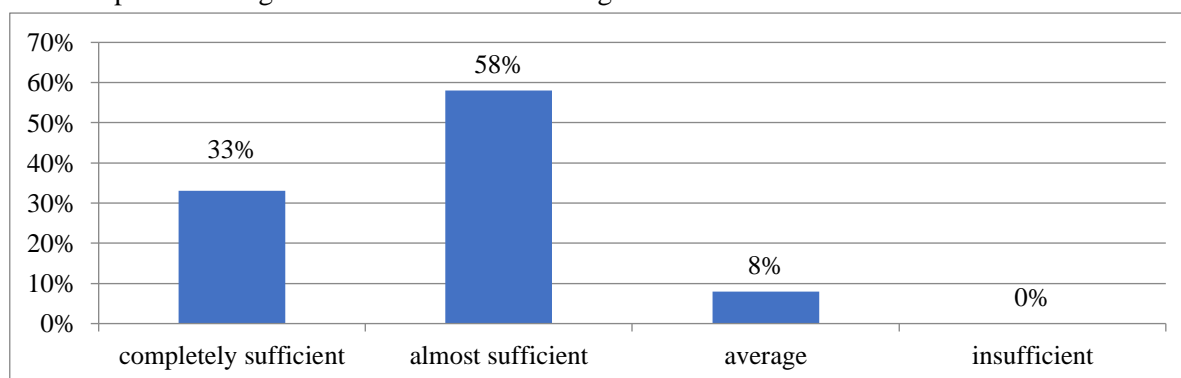
Figure 5. Self-assessment of respondents' pedagogical competence after studies.

The results (Figure 5) indicate that the majority of respondents evaluated positively their pedagogical competence after the studies – completely sufficient (33 %) or almost sufficient (58 %). The research also revealed respondents' awareness of constant improvement of pedagogical competence throughout their professional work.

Small share of respondents (8 %) indicate their pedagogical competence as mediocre.

After the authors' assessment of results, it can be concluded that the majority of respondents assess their pedagogical competence after studies as almost sufficient or completely sufficient, thus, learning the study course has improved respondents' self-assessment of their pedagogical competence.

Conclusions

- Health is a top priority for the public, which affects quality of life. The cause for poor health is lack of public knowledge about physical and mental health, as well as careless attitude to own health.

- Pedagogical competence is a part of health care specialists' professional competence which consists of knowledge, skills and attitude. The pedagogical competence of anaesthetic cosmetologist is the ability to listen, analyse and assess client issues and questions regarding skin health, prevention and a healthy lifestyle. Ability to motivate the client to be co-responsible for obtaining and securing the outcome of the procedure.

- University of Latvia P. Stradins medical college prepares aesthetic cosmetologists – medical practitioners who are in close connection with theoretical and practical training. Students in the professional training environment acquire knowledge, skills of care-taking, improve communication, and develop professional skills. University of Latvia P. Stradins medical college is the only state educational institution in the Republic of Latvia that teaches and prepares prospective aesthetic cosmetologists.

- Research show opinion of aesthetic cosmetologists regarding the need for pedagogical competence. Results have shown that the public is not sufficiently (46 % of respondents) and nearly sufficiently (33 %) informed regarding the needs of improving and preventing skin and overall health.

- Respondents' views on the need for pedagogical competence in the specialty have changed. The need for pedagogical competence is shared by half of the respondents (50 %) prior to studies and 63 % after. Students have gained awareness for the need for pedagogical competence in their Professional development.

- After the studies in the study course "Pedagogy in Aesthetic Cosmetology" most respondents plan to carry out customer education (83 %), which indicates the need for pedagogical competence for aesthetic cosmetologists in their professional lives.

Bibliography

1. Ahmettshina E., Husnutdinova V. (2014). Theoretical – methodological approach to the definition of the role of the health category in the system of factors of the life quality of the population. *In the World of Scientific Discoveries*, 382-394.
2. Brizga D., Peks L. (2014). Workplace wellness and specialists' attitude to work safety. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 7.* Jelgava: LLU, 90-96. Retrieved from https://llufb.llu.lv/conference/REEP/2014/Latvia-Univ-Agricult-REEP-2014proceedings-90-96.pdf
3. Cameron K.A. (2009). A practitioner's guide to persuasion: An overview of 15 selected persuasion theories, models and frameworks. *Patient Education and Counseling*, *74*(3), 309-317. doi: 10.1016/j.pec.2008.12.003
4. Chilicka K., Maj J., Panaszek B. (2017). General quality of life of patients with acne vulgaris before and after performing selected cosmetological treatments. *Patient Preference and Adherence*, *11*, 1357-1361. doi: https://doi.org/10.2147/PPA.S131184
5. Council Recommendation on Key Competences for Lifelong Learning. (2018). European Commission. *Official Journal of the European Union*, *189*(1). Retrieved from https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018H0604(01)&from=EN
6. Čolovič O., Leičič-Toševski D., Mandič-Maravič V., Tošković O. (2017). Depressive, anxious and somatization symptoms and quality of life in stress – related disorders. *Vojnosanitetski Pregled, 74*(10), 927.-940. Retrieved from http://www.vma.mod.gov.rs/vsp-10-2017.pdf
7. Hamachek D.E. (1985). *Psychology in Teaching. Learning and Growth.* Boston, MA: Allyn and Bacons.
8. Hill W.F. (2002). *Learning: A survey of psychological interpretation.* Boston, MA: Allyn and Bacon.

9. Johnston J.L., Cupples M.E., McGlade K.J., Steele K. (2011). Medical Students' Attitudes to Professionalism: An Opportunity for the GP Tutor? *Education for Primary Care, 22*(5), 321-327. doi: 10.1080/14739879.2011.11494026

10. Key Competences for Lifelong Learning. (2019). European Commission. Luxembourg: Publication Office of the European Union. doi: 10.2766/569540

11. Levterova B.A., Levterov G.E., Dragova E.A., Grudeva T.S., Kostourkov Y.L. (2017). Bulgarian version of the audit of diabetes – depedet quality of life (ADDQoL-19). *Biotechnology & Biotechnological equipment*, *31*(3), 581.-590.

12. *LU P. Stradiņa medicīnas koledžas publiskie gada pārskati un ziņojumi* [Public annual reports and reports of P. Stradins College of Medicine, University of Latvia]. (2017). Retrieved from https://www.psk.lu.lv/par-koledzu/parskati (in Latvian)

13. Norlien K.G., Landsteiner A., Williams A., Carlson A. (2017). Occupational health Survey of Cosmetologists in Minesota. *Journal of Environmental Health, 79*(9), 8-14.

14. Nyström S., Dahlberg J., Edelbring S., Hult H., Abrandt-Dahlgren M. (2017). Continuing professional development: pedagogical practices of interprofessional simulation in health care. *Studies in Continuing Education, 39*(3), 303-319. doi: 10.1080/0158037X.2017.1333981

15. Ovsyanitskaya L.Y. (2018). Pedagogiceskije znakomernosti i principi formirovanija informacionnoi kompetentnosti specialistov zdravoohranenija v uslivijah cifrovaoi transformacii processov v obrazovanii i zdravoohranenii [Pedagogical Regularities and Principles of Health Professionals' Information Competence Formation in the Conditions of Digital Transformation of Processes in Education and healthcare]. *Tomsk State University Journal, 433,* 152-157. doi: 10.17223/15617793/433/21 (in Russian)

16. Pukite M., Pukitis A. (2011). Formation of the Pedagogical Competences of Medical Students during Study Process. In V. Lubkina, G.I. Marinosson (Eds.), International Scientific Conference on *Society, Integration, Education, 1*, 217-228. Rezekne: Rezekne Higher Education Institution.

17. Puķīte M. (2012). *Medicīnas studentu pedagoģiskās kompetences veidošanās studiju procesā* [Development of medical students' pedagogical competence in the study process]. (Doctoral Thesis, University of Latvia, Riga.) Retrieved from https://dspace.lu.lv/dspace/bitstream/handle/7/4678/20716-Margarita_Pukite_2012.pdf (in Latvian)

18. Rasnacs O., Vitins M. (2018). Opportunities to Improve the Digital Skills of Health Care Specialists. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 11*, 88-93. Jelgava: Latvia University of Life Sciences and Technologies. doi: 10.22616/REEP.2018.010

19. Raudsepp M. (2006). Sustainable development as an ambiguous regulative idea: a qualitative study in Estonia. *Education and Sustainable Development: First Steps Towards Changes, 1*, 31-42. Daugavpils: Daugavpils university academic press "Saule"

20. Skyvell-Nisson M., Pennbrant S., Pilhammar E., Wenestam C.G. (2010). Pedagogical strategies used in clinical medical Education: an observational study. BMC Medical Education, *10*, Article 9. doi: 10.1186/1472-6920-10-9

21. *Terminology of European education and training policy* (2nd ed.). (2014). CEDEFOP. Luxembourg: Publications Office of the European Union. Retrieved from https://www.cedefop.europa.eu/files/4117_en.pdf

22. *The Definition and Selection of Key Competencies. Executive Summary*. (2005). OECD. Retrieved from https://www.oecd.org/pisa/35070367.pdf

23. Tulza K. (2017). Factors associated with health– related quality of life among Nepalese patients with type 2 diabetes mellitus: a cross sectional study. *Journal of Institute of Medicine 39*(1), 75-85.

24. *Vocational Education.* (2014). Ministry of Education and Science. Retrieved from https://www.izm.gov.lv/en/education/vocational-education

25. *Vocational education and training in Latvia*: *Short description*. (2015). Luxembourg: Publications Office of the European Union. Retrieved from https://www.cedefop.europa.eu/files/4134_en.pdf

Ethnic Identity and Sustainable Development

Valērijs Makarevičs[1] Dr. psych.; **Dzintra Iliško**[2] PhD
Daugavpils University, Latvia
valerijs.makarevics@du.lv[1]; dzintra.ilisko@du.lv[2]

Abstract: The relationship between ethnic identity and sustainable development is not one dimensional. A person is viewed as a central focus of the sustainable development. **The topicality of the study** is determined by an interest to explore various manifestations of personality, and, in the study, by the ethnic aspect of identity. Researchers pay close attention to such aspects of ethnical identity as mother tongue, ethnic character, ethnic values, and ethnic culture. **The aim of this study** is to explore the aspects of ethnic identity, particularly, the differences in the self-assessment of ethnic characteristics of respondents in the group of the Latvian language speaking and Russian speaking respondents. The first subscale that reflects manifestations of ethnic identity. The second subscale reflects ethnic features. **Methodology.** The authors designed a research methodology that explored such manifestations of ethnical identity. The methodology includes both a quantitative and a qualitative method. The questionnaire consists of three subscales. The first subscale that reflects manifestations of ethnic identity. The second subscale reflects ethnic features. The third subscale was *Ethnic consciousness and culture*. Respondents were asked to reflect what traits of character and what values are inherent in their ethnos. A list of five-character traits (self-confidence, initiative, responsibility, sacrifice, submission) and three values (family, religious, friendship between people) were offered. This article analyses results gained as a result of conducting a questionnaire that focuses on the study of respondents' self-esteem. The participants of the study were inhabitants from the Eastern part of Latvia. They were divided into two subgroups. The first group included respondents with the Latvian as their native language. The second involved respondents whose who had Russian as a native language. **The obtained results of the study** indicate that there are statistically significant differences in the self-assessment of ethnic characteristics of respondents of these two groups. At the same time, statistically significant differences were not found in the ethnic self-assessments of men and women in each of these groups.

Keywords: sustainable development, ethnic identity, ethnic character, native language.

Introduction

The contemporary world needs to be seen as a complex system. On the one hand, the requirements of a globalized economy and the availability of modern means of communication remove all barriers, including ethnic, cultural and linguistic ones. Therefore, the idea that the division of people into ethnic groups can impede the further development of a globalized economy sometimes is reflected in the scientific literature (Blanton, 2015). On the other hand, each nation has millennia-old cultural traditions that influence the perception and understanding of world political and social processes by its representatives. The presence of contradictions between the historical experience of the ethnos and the changing conditions of the global socio-economic system gives rise, in particular, to structures such as the famous Seven or the Visegrad Group. The concept of sustainable development involves caring for a wellbeing of future generations. What is the role of the ethnic groups in these plans? - today this question remains open. Therefore, the objectives of our study are the following:

- to analyse various definitions of ethnic identity;
- based on this analysis, to determine the fundamental characteristics of ethnic identity; by the use of these characteristics to choose appropriate research methods;
- to explore the relationship among ethnic identity and sustainable development goals, which will emphasize the relevance of the study;
- to determine the place of ethnic character in the structure of ethnic identity;
- by taking into account obtained results and the fact that the ethnic group is associated with the language, to conduct the study on a self-assessment of representative of ethnic traits in two language groups, by taking into account gender and age differences of respondents.

The concept of ethnos and ethnic identity

According to J.V. Bromley, an ethnos is a stable set of people with a common language, culture, behaviour and mental characteristics. Moreover, individuals belonging to a particular ethnic group are aware of these features (Bromley, 1983). H. Berking formulated the most general concept of ethnic identity: ethnic identity is a form of human being that determines the dominant form of communication (Berking, 2003). According to J.D. Eller, ethnic identity is an integral part of a person who identifies and symbolizes the social boundaries of any group (Eller, 2009). Ethnic identity is a phenomenon that is difficult to conceptualize. As noted by J.S. Phinney and A.D. Ong, ethnic identity is a multi-dimensional dynamic construct that evolves over time (Phinney, Ong, 2007).

The authors also wrote that "ethnic identity is distinct in some ways from other group identities, such as racial identity, but it also shares aspects of both personal and group identities" (Phinney, Ong, 2007, 271). Ethnic identity is manifested as extra personal (behaviour), and intrapersonal (self-awareness), as an aspect of one's personality. Ethnic identity, however, is a structure that can exist without the dimension of behaviour (Phinney, Ong, 2007, 272). Therefore, researchers sometimes distinguish between internal (self-awareness) and external (behaviour) ethnical identity (Kwan, Sodowsky, 1997). Today there no consensus about ethnic identity (Volkov, Kurczewski, 2013, 19). According to psychologists, ethnicity, and hence ethnic identity, cannot be selected by an individual (as opposed to a personal identity), but is determined by birth or assigned by ethnicity or phenotype (Phinney, Ong, 2007, 272).

Theories and studies of ethnic identity

In regards to theories of ethnic identity, as well as empirical and theoretical studies of identity, we can state the presence of certain methodological difficulties have not yet gained their unambiguous resolution. These difficulties were discussed in the work of E.P. Belinskaya and T.G. Stefanenko (2000) "*Ethnic Socialization of a Teenagers*" Firstly, the authors pointed to the initial lack of clear definitions of the very concept of identity (both, its personal and social hypostases), which began with the E.H. Erikson (1994) concept, and, in further empirical research, turned into a kind of methodical discussion. As a result, the identity was investigated and explored by the use of a variety of methodological tools - from free self-descriptions to clinical personality tests, while E.H. Erikson (1994) himself considered the method of clinical conversation to be the only adequate method for this issue. Secondly, in addition to the methodological difficulties associated with the variety of conceptual positions in identity research, there are also specific difficulties in the study of ethnic identity itself.

It is noted that when the researcher addresses this issue as a central methodological problem, there is a need for a clear definition of the level at which it will be studied. Namely, "from the standpoint of an ethnic community as a whole (as an ethnic identity of a group) or in the centre will be a person as a carrier of ethnic characteristics (as an ethnic identity)". Finally, the series of difficulties in the methodological development of the issue of identity is associated with its interdisciplinarity (Iliško, 2018; Jensen, Arnett, McKenzie, 2011; Kesbi, 2017; Katane, Laizane, 2012; Katane, Katans, Vāvere, 2012; Iliško et al., 2017). Today, the category of identity is widely used not only by psychologists, but also by sociologists, philosophers, historians, and information technology specialists (Cucina, 2009; Der-Karabetian, 1980; Gamsakhurdia, 2017). This poses a challenge for researchers to correlate the methods of different sciences.

Today, the methodological approaches of psychology, ethnography, and sociology intersect in study of ethnic identity, which necessarily requires each researcher to have a certain level of methodical reflection: to accurately determine the goals and objectives of the study, to know the possibilities and limitations in applying a particular technique, and the ability to correlate it content with a particular theoretical concept. (Belinskaya, Stefanenko, 2000). Researchers report that most of the work in the field of study of this phenomenon aims to disclose the ethnic identity of members of a minority group. Representatives of an ethnic majority tend to be less interested in their ethnicity than members of an ethnic minority (Hjort, Frisen, 2004). At the same time, members of an ethnic minority may have strong or weak identifications with both cultures, both with a majority culture and with an ethnic one.

Accordingly, four dimensions for ethnic identity can be considered: • integrated (strong identification with both the basic culture and its ethnic group); • assimilated (strong identification with the basic culture, weak - with its own); • isolated (weak identification with the basic culture, strong - with its

own); marginal (poor identification with both basic and ethnic cultures. Theories of ethnic identity can be divided into several groups. The first group includes theories where the emphasis is on the existence of common and unique characteristics of representatives of different ethnic groups. Researchers include common identities, a sense of belonging to an ethnic group and a sense of pride of their group, as well as behavioural participation (Phinney, 1990; Phinney, Ong, 2007).

Self-identification is manifested in the fact that a person speaks of his/her belonging to a particular ethnic group. A sense of belonging is manifested in one's behaviour (language, choice of friends, ethnic religion, maintaining ethnic traditions, interest in ethnic culture and history, participation in events organized by his/her ethnic group). The main indicator of ethnic pride increases a self-esteem due to belonging to one's ethnic group. Moreover, the greatest difficulties arise in the study of ethnic pride. One can also single out a group of theories and studies that focus on the study the manifestations of ethnic identity and its connection with other factors. Thus, the theory of identity formation proposed by Phinney and colleagues suggests a positive correlation between ethnic identity and psychological well-being. Many studies support this assumption: strong and secure ethnic identities positively correlate with adequate self-esteem, coping, and optimism (Phinney, 1992; Roberts et al., 1999; Iliško et al., 2017). The studies on the relationship between ethnic identity and ego identity indicate to a strong negative correlation between diffusion status and ethnic identity (Hjort, Frisen, 2004).

Recent military conflicts also affect the formation of ethnic identity. As noted by H. Hjort and A. Frisen survivors of the war are guided in their development by a common religion, ethnic or regional affiliation. Thus, the internal cohesion of the group is enhanced by an external threat (Hjort, Frisen, 2004). The next group of theories deals with the problem of the plurality of ethnic identity. Today, there are practically no countries with a mono-ethnic population (Iliško, 2018).

The problem of relations between the ethnic majority and ethnic minorities becomes relevant in the second half of the twentieth century. The most significant studies of this phenomenon have been conducted in the United States of America. The American nation is called a "melting pot" comprising many, mainly European, ethnic groups. The subject of the study determines the relation of ethnic and American identity. The findings were contradictory. Studies have shown that the connection between ethnic and American identities can be both positive and negative (Luconi, 2003; Der-Karabetian, 1980; Ting-Toomey, 1981; Zak, 1973). These studies are interesting since they make a distinction between ethnic and national identity. In our early research, we noted that an ethnic group is a product of the cultural and historical development of humankind, and a nation is the result of a political decision to unite ethnic groups based on a single language and relevant legislation (Makarevičs, 2012). In these studies, the issue of inconsistency and consistency of multiple ethnic identities is relevant in the context of this study. The process of formation of multiple (double) identities was studied in detail in the work of A. Kesbi (2017) "*Language, Ethnicity and Identity*". One of the goals of this work was the connection of language and ethnic identity by the use the Amazigh people living in Morocco as an example.

Historically, the geographical conditions of residence (mountains, plains) did not contribute to the preservation of the single language of people. Today there are three varieties of it. However, they understand each other very well. They have common traditions, holidays and folklore. Three linguistic branches of this nationality make a single ethnic identity.

The Islamization of the territory on which the state of Morocco is located today, began in the XIV century. Islamization is associated with the Arabic language. And the Arabic language is the language of the Qur'an, the main book of Muslims. The adoption of Islam as a religion meant an indispensable mastery of the Arabic language, which was used in mosques. Thus, historically, there was a situation when one language was used in public relations, and another at home and in communication with neighbours (Kesbi, 2017).

The situation is not unique. The main input of the study was conclusions drawn by the author:
- language defines the boundary between We and They; mastering the languages of other nations can erase these boundaries;
- language determines belonging to a particular social group; however, a social group is not limited to ethnic characteristics;
- religion can serve as a unifying factor in the process of formation of both ethnic and national identity (Iliško, 2018);

- multiple identity is a necessary component of national identity when an ethnic minority understands that isolation from social processes occurring in the state impedes their career and personal growth;
- linguistic changes resulting from globalization can affect the development of a person's ethnic identity (Jensen, Arnett, McKenzie, 2011).

Multiple ethnic identity theories are linking linear and two-dimensional models of this phenomenon. The linear model involves a gradual transition from an identity associated with one's own ethnic group to another identity associated with a majority ethnic group and its culture (Simic, 1987).

The authors of an alternative or two-dimensional model of multiple ethnic identity suggest that the second, associated with the identity of the majority ethnic group, develops independently from the first one. Here, the ratio of the levels of development of identities is important. They are determined by Strong-Strong dichotomies; Strong-Weak; Weak-Strong; Weak-Weak dichotomies. In the first case, the connection is manifested in such social phenomena as acculturated, integrated, bicultural. Secondly - ethnically identified, ethnically embedded, separated, and dissociated. In the third case, as assimilated, in the fourth, as marginal (Phinney, 1990, 502).

However, the initial ethnic identity is preserved only in three cases, as assimilated people abandon their identity (Kesbi, 2017). The difficulty in constructing a theory of ethnic identity also lies in the fact that some researchers consider it as a form of social identity (Tajfel, 1981), while others consider it to be part of personal identity (Steele, 1988). Ethnic identity is understood either as a desire to belong to a particular social group, or as an attempt to answer the question "Who am I?" This can be assumed that these are different stages in the development of the phenomenon. The notion that ethnic identity as a kind of social one lies at the heart of the claims of social constructivists that ethnic identity as a social construct, and the result of interpersonal interaction between people of a particular social group (Gjerde, 2014). At the same time, interpersonal interactions, the result of which is ethnic identity, occur in the context of the culture of a social group (Kiang, 2014).

Ethnic identity is associated with values and manifests itself in ethnic character. V. Gamsakhurdia, examining the identity of Georgians, notes that the most striking sign of Georgian identity is that they have the strongest attachment to the family and close relatives (focus on family values). Georgian identity is manifested in a demonstrative manner as a self-expression. This behavioural characteristic is independent of religion (Gamsakhurdia, 2017).

Some studies show that women are more likely to participate in ethnic identity issues as compared to males. The features of ethnic identity are more distinct to women. Women are the guardians of ethnic identity (Makarevičs, 2012). In contrast, a Bosnian study there is an evidence that women are more indifferent than men in relation to the issues of ethnic identity (Hjort, Frisen, 2004). There are many approaches to analyse ethnic identity. But these approaches do not answer the main question: is it possible to create a universal theory of ethnic identity? The answer is most often negative: Researchers come to the conclusion that the approach in which "one model fits all" is limited (Swenson, Prelow, 2005).

Ethnic identity and sustainable development

The notion of sustainability is based on the need to preserve the natural resources to preserve them for the future generations. This should also be applied to nurturing one's identity which plays a key role in shaping both, individual's wellbeing and community's identity. The concept of sustainability is linked both, to the concepts of durability and permanence, and a dynamic change like one's cultural and ethnic identity that contains its unchanging essence and at the same time is in constant development.

The relationship of ethnic identity and sustainable development is not straightforward. Researchers emphasize that the ideal of any national government is to have a nation without any radical linguistic, ethnic and racist diversity, the nation that is loyal to a national identity. The Sustainable Development Strategy of Latvia until 2030, focuses on a peaceful coexistence of diverse cultures and ethnic groups in one territory (Sustainable Development…, 2010).

Since ethnic differences can potentially be a source of temporary tension or the formation of tensions with long-term consequences for a national security (Moradpour, 2016). There are almost no mono-

ethnic countries in the modern world. Moreover, globalization creates a new social and cultural reality to which a person needs to adapt. The adaptation process is associated with the revision and restructuring of one's ethnic identity. If this does not happen, there may be a fear of losing the traditional ethnic identity and increasing social tension in society (Samalavičius, 2005).

How is this possible to maintain a balance between the interests of different ethnic groups within the framework of sustainable development? Researchers offer different solutions to the problem. For example, M. Cucina, notes that social and economic transformations in a multi-ethnic society are possible if we meet the needs of the entire community. Otherwise, the sustainable development goals that meet the interests of representatives of different ethnic groups will not be achieved (Cucina, 2009). The representative of multi-ethnic Iran E. Moradpour believes that two factors are important for the sustainable development of his country: a common religion (Islam) and an increase in the number of political leaders who represent ethnic minorities (Moradpour, 2016). What is the role of ethnic identity for sustainable development? Researchers note that ethnic identity provides a safe and sustainable sense of self-esteem (Phinney, Ong, 2007), which, in turn, helps address sustainable development challenges.

The aim of this study is to explore the aspects of ethnic identity, particularly, the differences in the self-assessment of ethnic characteristics of respondents in the group of the Latvian language speaking and Russian speaking respondents.

Methodology

For the study of ethnic identity researchers used both, quantitative and qualitative methods of research. Qualitative methods include content analysis of diaries, conversations with one's friends, semi-structured interviews, sorting photographs of representatives of various ethnic groups, and analysis of subjects' comments and others (Santos, Umaña-Taylor, 2015).

Among quantitative methods, The Multigroup Ethnic Identity Measure (Phinney, 1992) and its modifications are popular among researchers. The basic version of the methodology includes 14 questions that must be answered by the use of a 4-option scale: from completely agree to completely disagree. The components of ethnic identity such as a sense of belonging, the level of development of ethnic identity, and participation in ethnic practices are measured. Ethnic values and beliefs are not included in the methodology, since it is believed that they differ in groups.

The authors of this study have developed their own methodology for the study of identity. The methodology includes both a quantitative and a qualitative method. Questionnaire consists of three subscales.

The first is a subscale that reflects manifestations of ethnic identity. It includes four open questions: What does it mean to be Latvian (Russian)? Which national group do you consider as closest to your ethnic group? What unites you? What makes you different?

The second subscale is called Ethnic Features. Respondents were asked to reflect what traits of character and what values are inherent in their ethnos. A list of five-character traits (self-confidence, initiative, responsibility, sacrifice, submission) and three values (family, religious, friendship between people) were offered.

Respondents' traits of character and values were evaluated in a five-point scale, where 5 points meant the maximal manifestation of a particular trait or value in the structure of ethnic identity, and 1 point contains its minimum manifestation. In addition, the respondents were asked to add some other values to the list of traits and values.

The third subscale was: "*Ethnic consciousness and culture*." This subscale consisted of open questions and statements: What are the literary works that, in your opinion, most vividly describe the ethnic characteristics of your people? What are the main traditions of your people? Can you name the stereotypes how people of other nationalities characterize your people?

Each participant of the research provided the following information about oneself: citizenship, father's nationality, mother's nationality, mother tongue, knowledge of other languages, gender, age, and religious affiliation. Differences between both groups were determined by the use of Mann-Whitney U-test.

Unfortunately, the format of this article does not allow the authors to present all the results of the survey. Therefore, we confine ourselves to the part that relates to ethnic character. The study involved

60 respondents in the age range from 18 to 56. All of them were inhabitants of Latgale (Eastern part of Latvia). Latgale is a multi-ethnic region. In order not to complicate the procedure for the analyses of the obtained data, the entire sample was divided into two subgroups according to the language criteria. The group of respondents who had Latvian as their native language comprised 27 people. The group of respondents who pointed to Russian as their native language comprised the group of 29 people. Latvian and Russian are the dominant languages of the region. Four respondents who indicated both Russian and Latvian as their native language, at this stage of the study were not included in any of those groups and their results were not considered.

Results and Discussions

The result section of the article summarizes the results gained in the questionnaire on a self-esteem in a group of respondents with the Latvian as their native language (Group 1) and in a group of Russians as their native language (Group 2).
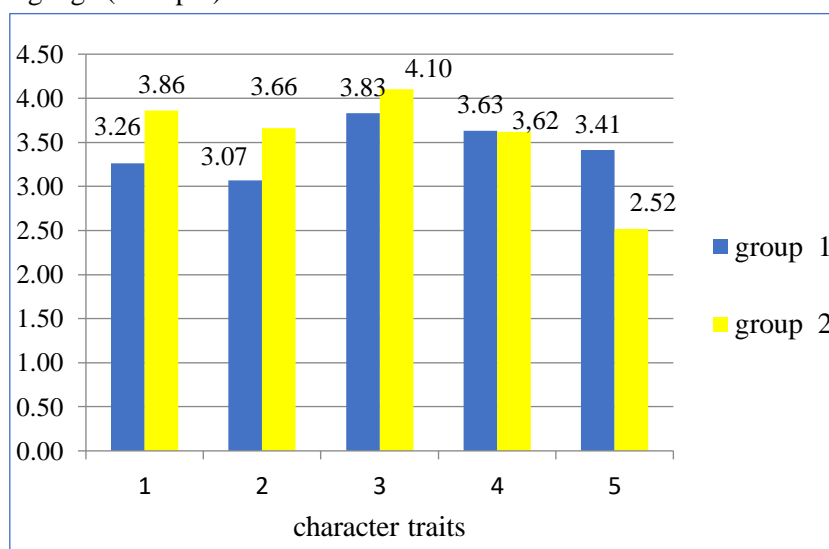
Figure 1. The average self-esteem in groups of respondents with the Latvian as their native language (Group 1) and Russian as their native language (Group 2).

In the Figure 1, the names of ethnic features are located horizontally as following: 1 – self-confidence; 2 – initiative; 3 – responsibility; 4 – self-sacrifice; 5 – submission. Vertical – the average value of self-esteem in groups (maximum value – 5, where 5 is completely agreed). Differences between both groups were determined by the use of Mann-Whitney U-test. The results are presented in Table 1.

Table 1

Mann Whitney U-test, calculated for each ethnic group

№ п/п	Feature of one's character	U-Criterion	The level of significance of difference
1.	Self confidence	225,5	1 %
2.	Initiative	238,5	1 %
3.	Responsibility	382	Insignificant difference
4.	Self-sacrifice	391,5	Insignificant difference
5.	Subordination	238,5	1 %

(The boundary values of U-criterion for 5% significance = 290, for 1% of significance = 259).

Figure 1 reflects that both groups value responsibility. At the same time, statistical differences in estimates are insignificant. The largest statistically significant differences are observed in relation to such trait of character as a self-confidence. The representatives with Russian as their native language evaluated their self-confidence higher. Both groups were divided into two subgroups. The first subgroup included males, the second – women. The subgroup of respondents with their native Latvian language comprised 6 males

and 21 females. The subgroups the respondents with the native Russian language comprised 6 males and 23 females. In each subgroup, the average values of self-assessments of the level of manifestation of character features were calculated. Statistical differences were determined in the self-esteem of males and females in each group. In the first group, according to a Mann-Whitney U-test values ranged from 40 (subordination) to 69 (self-confidence). None of these values were statistically significant.

In the second group (who had Russian language as native), the values of the Mann-Whitney U-test were in the range from 42 (initiative) to 63.5 (subordination). None of these values are also statistically significant.

At the third stage of processing the obtained data, the correlation between one's ethnic self-esteem and age was studied. For this purpose, each group of respondents was divided into two subgroups. The first subgroup included respondents in the age group below 30. In the second – after 30. Since some of the respondents did not indicate their age, their results were not considered. Thus, in the subgroups of respondents with the native Latvian language comprised 19 people under 30 and 8 people after 30 years. In the subgroups of respondents with the native Russian language, respectively, was from 15 and 11.

The average value of self-esteem of ethnic features in each of the subgroups was calculated by the authors by the use of Mann-Whitney U-test. No statistically significant differences were found in the group of respondents who had Latvian as their native language. In the group of respondents with the native Russian language, statistically significant differences were discovered in relation to self-assessment of subordination (U = 43.5; significant at 5% level). A subgroup comprising respondents up to 30 years old displayed better results (an average self-esteem was rated as 2.93) than in a subgroup after 30 (the average of self-esteem was 2.00). No other statistically significant differences were found in other self-assessments calculations.

Conclusions

The study has disclosed various understandings of ethnic identity as defined in the scientific literature. The authors disclosed the relationships among the ethnic identity and sustainable development goals by determining the place of ethnic character in the structure of ethnic identity.

The authors have explored the characteristics of the ethnic identity of respondents belonging to two language groups, namely Latvians and Russians, by taking into account both, gender and age differences among respondents.

The results of the study showed clearly that there are significant differences in the self-assessment of an ethnic profile. The proposed features did not cover the entire spectrum of ethnic manifestations significant for respondents. Therefore, respondents had the opportunity to supplement the list with other features that are important to them.

A subgroup of respondents with Latvian as their native language suggested to supplement the list with the following traits of character: perseverance, pride, diligence (diligence), hard work, aggressiveness. All offered suggestions came from women. A subgroup of respondents with the Russian language as native language, suggested the following additions: emotionality, responsibility, creativity, freedom (proposed by females); justice, honesty (suggested by males).

These results indicate that the ideas about the ethnic character of females and males have their own characteristics. At the same time, an analysis of differences in ethnic self-esteem between males and females has not yielded results. This could be explained by a small sample of males who participated in this study: there were six males in the first and second subgroups, while the group of women comprised 21 and 23, respectively.

In the literature on ethnic identity, there is an indication that ethnic identity a dynamic phenomenon. To verify this statement, both subgroups of respondents were divided into two parts. The first included respondents under 30, in the second - after 30. The age limit was chosen in connection with person's crisis of 30, when there is a reassessment of one's strengths, capabilities, and an increased interest in one's personality. Similarly, as in the previous cases, no statistically significant differences were found

An exception was self-esteem by respondents in a subgroup with Russian as their native language. With 5 % of significance for the Mann-Whitney U-test, in the so-called "gray zone," does not provide an affirmative answer about the existence of differences.

The results obtained in this study, allow one to clarify the content of subsequent studies. The list of the traits of character offered for a self-assessment should be supplemented. To determine the age characteristics of self-assessment of ethnic traits in the sample, this is necessary to distinguish among several subgroups: up to 20 years, from 20 to 30, from 30 to 40, from 40 to 60, and after 60.

Bibliography

1. Belinskaya E.P., Stefanenko T.G. (2000). Eticeskaja socializacija podrostka [Ethnic sicialization of the teenagers]. Moskva: Moskovskij psihologo-socialnij instityt. Voronez: Izdatelstvo "Modek". (in Russian)

2. Berking H. (2003). "Ethnicity is Everywhere:" On Globalization and the Transformation of Cultural Identity. *Current Sociology*, *51*(3-4), 248-264. doi: 10.1177/0011392103051003006

3. Blanton R.E. (2015). Theories of Ethnicity and the Dynamics of Ethnic Change in Multiethnic societies. In The *Proceedings of the National Academy of Sciences of the United States of America (PNAS), 112*(30), 9176-9181. doi: 10.1073/pnas.1421406112

4. Bromley J.V. (1983). Ocorki teorii etnosa [Notes on ethical theory]. Moskva: Nauka (in Russian).

5. Cucina M. (2009). The Worth of Cultural Identity in Sustainable Development Process. In *Congrés UPC Sostenible 2015: la Recerca en Sostenibilitat: Estat Actual i Reptes de Futur. "UPC Sostenible 2015"* Barselona: Centre per a la Sostenibilitat. Retrieved from http://hdl.handle.net/2099/8153

6. Der-Karabetian A. (1980). Relation of Two Cultural Identities of Armenian-Americans. *Psychological Reports, 47*(1), 123-128. doi: 10.2466/pr0.1980.47.1.123

7. Eller J.D. (2009). *Cultural Anthropology Global Forces Local Lives*. New York, NY: Routledge. Retrieved from https://kulturiskvlevebi.weebly.com/uploads/1/8/3/7/18376403/jack_david_eller_cultural_anthropology_global_forces.pdf

8. Erikson E.H. (1994). *Identity and the Life Cycle* (3rd ed.). New York: W.W. Norton & Company.

9. Gamsakhurdia V. (2017). Quest for ethnic identity in the modern world - The Georgian case. *Cogent Social Sciences, 3*(1). doi: 10.1080/23311886.2017.1309735

10. Gjerde P.F. (2014). An evaluation of ethnicity research in developmental psychology: Critiques and recommendations. *Human Development,*57(4), 176-205. doi: 10.1159/000362768

11. Hjort H., Frisen A. (2004). Ethnic identity and reconciliation: Two main tasks for the young in Bosnia Herzegovina. *Adolescence*, *41*(161),141-163. Retrieved from https://www.questia.com/library/journal/1G1-145526479/ethnic-identity-and-reconciliation-two-main-tasks

12. Iliško Dz. (2018). Building bridges over troubled waters or learning "to Live Together" sustainably. In E. Aslan, M. Rausch (Eds.), *Religious Education*. Wiener Beiträge zur Islamforschung. Wiesbaden: Springer VS, 187-201. doi: 10.1007/978-3-658-21677-1_13

13. Iliško Dz., Dedels O., Badjanova J., Juhnevica J., Igantjeva S. (2017). Teaching sustainable resource Governance in a transdisciplinary discourse: Identifying the potential for transformation in higher education. In L.G. Chova, A.L. Martínez, I.C., Torres (Eds.), The Proceedings of the International Conference on *Education and New Learning Technologies (EDULEARN17), 9,* 3723-3729. Barcelona: IATED Academy. doi: 10.21125/edulearn.2017.1810

14. Jensen L.A., Arnett J.J., McKenzie J. (2011). Globalization and Cultural Identity. In S.J. Schwartz, K. Luyckx, V.L. Vignoles (Eds.), *Handbook of identity theory and research*. New York: Springer Publishing. 285-301. doi: 10.1007/978-1-4419-7988-9_13

15. Katane I., Katans E., Vāvere G. (2012). Environment of distance learning for humanization and democratization of education: the historical aspect. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *5*. Jelgava: LLU, 35-42. Retrieved from https://llufb.llu.lv/conference/REEP/2012/REEP-2012-proceedings-E-ISSN-2255-808X.pdf

16. Katane I., Laizāne A. (2012). Cross-school mentoring as a facilitator of sustainable development of rural schools in Latvia. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *5*. Jelgava: LLU, 43-50. Retrieved from https://llufb.llu.lv/conference/REEP/2012/REEP-2012-proceedings-E-ISSN-2255-808X.pdf

17. Kesbi A. (2017). Language, ethnicity and identity. *Revue Interdisciplinary*, *1*(3), Retrieved from https://revues.imist.ma/index.php?journal=Revue-Interdisciplinaire&page=article&op=view&path%5B%5D=10492&path%5B%5D=5998.

18. Kiang L. (2014). Ethnicity and ethnic identity in context. *Human Development, 57*(4), 213-221. doi: 10.1159/000363399

19. Kwan K.L.K., Sodowsky G.R. (1997). Internal and external ethnic identity and their correlates: A study of Chinese American Immigrants. *Journal of Multicultural Counseling and Development, 25*(1), 51-67. doi: 10.1002/j.2161-1912.1997.tb00315.x

20. Luconi S. (2003). Forging an Ethnic Identity: The Case of Italian Americans. *Revue française d'études américaines, 2*(96), 89-101. doi: 10.3917/rfea.096.0089

21. Makarevičs V. (2012). Psychological Research of Ethnic Identity: The Context of the Latvian Integration. In V. Volkov (Ed.), *Ethnicity: Ethnic Identities and Integration of the Society, 6*, 62-81. Retrieved from http://www.fsi.lu.lv/userfiles/Et_NR6.pdf

22. Moradpour E. (2016). Ethnicity and Sustainable Development. *International Journal of Humanities and Cultural Studies, Special January,* 1395-1404. Retrieved from http://www.ijhcs.com/index.php/ijhcs/article/view/1735/1621

23. Phinney J.S. (1990). Ethnic Identity in Adolescents and Adults: review of research. *Psychological Bulletin by the American Psychological Association*, *108*(3), 499-514. Retrieved from https://europepmc.org/article/med/2270238

24. Phinney J.S. (1992). The Multi group Ethnic Identity Measure: A new scale for use with diverse groups. *Journal of Adolescent Research*, *7*(2), 156-176. doi: 10.1177/074355489272003

25. Phinney J.S., Ong A.D. (2007). Conceptualization and Measurement of Ethnic Identity: Current Status and Future Directions. *Journal of Counseling Psychology*, *54*(3), 271-281. doi: 10.1037/0022-0167.54.3.271

26. Roberts R.E., Phinney J.S., Masse L.C., Chen Y.R., Roberts C.R., Romero A. (1999). The Structure of Ethnic Identity of Young Adolescents from Diverse Ethnocultural Group, *The Journal of Early Adolescence*, 19(3), 301-322. doi: 10.1177/0272431699019003001

27. Samalavičius A. (2005). *National identity, culture and globalization: Lithuania wakes up to a new social and cultural reality.* Retrieved from https://www.eurozine.com/national-identity-culture-and-globalisation

28. Santos C.E., Umaña-Taylor A.J. *(Eds.).* (2015). Studying ethnic identity: methodological and conceptual approaches across disciplines. *Washington: American Psychological Association.* doi:10.1037/14618-000

29. Simic A. (1987). Ethnicity as a career for the elderly: The Serbian American case. *Journal of Applied Gerontology, 6*(1), 113-126. doi: 10.1177/073346488700600109

30. Steele S. (1988). On being Black and middle class. *Commentary*, *85*(1), 42-47. Retrieved from https://www.commentarymagazine.com/articles/on-being-black-and-middle-class/

31. *Sustainable Development Strategy of Latvia until 2030*. (2010). Riga: Saeima of the Republic of Latvia. Retrieved from https://www.pkc.gov.lv/sites/default/files/inline-files/LIAS_2030_en_1.pdf

32. Swenson R.R., Prelow H.M. (2005). Ethnic identity, self-esteem, and perceived efficacy to psychosocial outcomes among urban adolescents. *Journal of Adolescence, 28*(4), 465-477. doi: 10.1016/j.adolescence.2004.09.005

33. Tajfel H. (1981). *Human groups and social categories*. Cambridge: Cambridge University Press. Retrieved from http://class.guilford.edu/psci/mrosales/race/Human%20Groups%20and%20Social%20%20Categories.pdf

34. Ting-Toomey S. (1981). Ethnic identity and Close friendship in Chinese American College students. *Journal of International Relations, 5(*4)*,* 383-406. doi: 10.1016/0147-1767(81)90049-3

35. Volkov V., Kurczewski J. (2013). The Latvians, Russians and Poles of Present-Day Daugavpils: Integration, Acculturation and Historical Reconciliation. Rīga: Zinātne. Retrieved from https://www.russkije.lv/files/images/text/PDF_Files/Volkov-Kurczewski.pdf

36. Zak I. (1973). Dimensions of Jewish-American Identity. *Psychological Reports*, *33*(3), 891-900. doi: 10.2466/pr0.1973.33.3.891

Nutrition Education on Graceful Aging among Staff in Senior Secondary Schools in Lagos State Nigeria

Ruth O. Oyegunwa[1] PhD; **Joy B. Osedume**[2]
Christiana T. Gbadebo[3] PhD; **Victoria T. Aladewolu**[4] PhD
Federal College of Education (Technical) Akoka, Yaba, School of Vocational Education,
Department of Home Economics Education, Lagos State, Nigeria[1,2,4]
University of Ilorin, Faculty of Agriculture, Department of Home Economics and Food Science,
Ilorin, Nigeria[3]
toyinoyegunwa@yahoo.com[1,2]; gbadebo.ct@unilorin.edu.ng[3]; temiwolu@gmail.com[4]

Abstract: The study investigated Nutrition Education on Graceful Aging among Senior Secondary School Staff in Mushin Local Government Area of Lagos State, Nigeria. The aim of the study is to investigate nutrition education on graceful aging of senior secondary school staff in Mushin Local Government area of Lagos State, Nigeria. The study adopted a descriptive survey design. The population of this study is one hundred and ninety-one (191). Sample size for the study comprised one hundred (100) staff. The instrument used in carrying out this study is questionnaire titled - Nutrition Education on Graceful Aging. The study revealed that majority of respondents agreed to the statement that nutritional education can promote graceful aging, teaches that over nutrition causes problem such as obesity, similarly, majority of respondents also agreed that source of nutrition education and graceful aging are gotten from their academic background and also agreed that nutritional education and graceful aging campaign should be intensified through various media such as radio, television programme, and social media among others with. It is also revealed that majority of respondents agreed that skipping meals and eating more than adequate is against nutrition education and graceful aging and also responded that considering all the junks that can be on social media, is important to properly research all information pertaining to nutrition and graceful aging before utilizing it. It was revealed that there is a difference statistically in male teacher's educational background and that of their female counterparts as the hypothesis was rejected. Having analysed the survey data, it is possible to say nutrition education plays a pivotal role in graceful aging and that education attainment is also a key factor in enjoying graceful aging.

Keywords: nutrition education, graceful ageing, school staff, adult education.

Introduction

The nutrition education is the process of teaching the science of nutrition to an individual or group of persons. The nutrition education is any combination of educational strategies, accompanied by environmental supports, designed to facilitate voluntary adoption of food choices and other food- and nutrition-related behaviours conducive to health and well-being. According to J. McNulty (2013), nutrition education is delivered and involves activities at the individual, community, and policy levels. The nutrition education provided within family can be significantly affected by tradition, including the various elements of cultural heritage such as traditional food, traditional methods of its preparation, and finally eating habits. The impact of culture is the reason for the existence of separate ethnic cuisines, including national cuisine, regional cuisine, and even the family cuisine. The food culture is to a high extent determined by the natural resources of flora and fauna, climate and the presence of water reservoirs. The process of its formation is also influenced by religion and both historical and social changes. Other factors that have influence on the development of food culture are wars, business contacts or political relations with other nations (Jezewska-Zychowicz, 2018).

The art of nutrition education is the breaking down of a large body of knowledge into small, individual components that are represented a rate and level, at which they are able to absorb and use the information by the recipients. Effective nutrition education is making nutrition information available and usable in an everyday setting. Nutrition education is part of Applied Nutrition that focuses its resources toward learning, adaptation and acceptance of healthy eating habits, according to one's own food culture and scientific knowledge in nutrition, all with the ultimate aim of promoting health of the individual or community. It is very useful in health promotion and primary prevention to further the acquisition of healthy eating habits. It is also

a useful strategy in the adoption of therapeutic dietary prescriptions and secondary prevention (McNulty, 2013). One of the most important factors determining human health and quality of life is proper nutritional habits, whereas unbalanced nutrition impacts the development of certain diseases, incidence of chronic non-infectious diseases (e.g. diabetes mellitus, cardiovascular diseases, etc.) as well as increases mortality. Nutrition is becoming a very important factor affecting all age groups. Assessing the pathogenesis of many diseases in every stage of life, balanced nutrition and proper habits have a favourable impact on human health (Cecchini et al., 2010). For a nation economic and sustainable development to be guarantee, its employable individuals must be healthy and one way of achieving healthy lifestyle is through nutrition education.

Nowadays people are living longer, healthier lives thanks to public health advances and medical research breakthroughs. Humanity is on the border with the "Longevity Revolution". More than one in five Americans is over the age of 65 and potentially more than one million are centenaries. By turning our attention to understanding aging and age- related diseases we can extend the healthy, active lives of older adults and limit the economic and personal burdens of an aging nation (Kaslec et al., 2005).

When people talk about getting older, it's not uncommon for them to use the term 'aging gracefully'. Aging gracefully is often used as a euphemism. People may use the phrase to mean, "Looking old, but embracing it" or "Showing signs of aging, but still powering forward with life." In this way, the term feels almost negative or backhanded - it's the phrase we use to describe someone who is not looking as good as they once did (The America Society…, 2013). Graceful Aging is America's leading video network for boomers and older adults. Discover great ways to a vibrant senior life and gain important caregiver advice on elder care. It is important to stay informed on assisted living (Graceful aging, 2019). Experts say the keys to successful aging include accepting changes and finding meaningful activities (Kam, 2019). Graceful aging is a topic of interest to many as it affects almost everyone during their lifetime. There are many suggestions on how to make old age beautiful and live a meaningful life (Morrison, 2010; Colino, 2015; Michaels, 2018; How to Live…, 2019; National Council…, 2019). Perhaps aging gracefully doesn't necessarily have to refer to age or appearance, but rather the attitude people have as they go through the various stages of life. For any nation or country to attain sustainable development its citizens must be aware of graceful aging and age gracefully, hence this study becomes important and relevant.

Home Economists learns and teaches which nutrients are necessary for human health and maintenance of life and which food includes such nutrients, as well as the knowledge, skills and techniques related to cooking that make it possible to enjoy eating foods without reducing the nutrient value, which in turn result to adequate and balance diet for individual. It is as a result of the foregoing views this study examined nutrition education on graceful aging among staff (teaching and non-teaching) in Senior Secondary Schools in Mushin Local Government area of Lagos State, Nigeria. Good nutrition is paramount in maintaining life and is an activity encouraged to be shared by everyone all around the world. However, while some people suffer from hunger, other people suffer from lifestyle-related illnesses due to ignorant of nutrition education. Food and nutrition education is given to people to improve people's dietary habits and educate them on the timing of food consumption, but in our society of Nigeria, it is not impossible that these services rendered in the advanced nations are not well given a priority by so called the home economists especially to the aging ones. It is as a result of this the urge emanated to investigate nutrition education on graceful aging among staff in senior secondary schools Mushin Local Government area of Lagos State, Nigeria.

The main purpose of the study is to investigate nutrition education on graceful aging among staff in senior secondary schools, Mushin Local Government area of Lagos State, Nigeria. Specifically, the main purposes are:
- to examine nutrition education on graceful aging among staff in senior secondary schools,
- to investigate if educational background affects nutritional practices and graceful aging among male and female staff in senior secondary school.

Methodology

Research Design

The study adopted a descriptive survey research design method, which include mean and t-test. The following research questions were raised to guide the conduct of the study:
- what is the effect of nutrition education on graceful aging among staff in senior secondary schools;

- does educational background affect nutritional practices and graceful aging among male and female staff in senior secondary schools.

Research Hypothesis

There is no significant difference in nutrition education background among male and female staff in senior secondary schools.

Population of the Study

The population of this study comprised of all senior secondary schools' staff in seven senior secondary schools in Mushin Local Government, Lagos State, Nigeria. A total number of one hundred and ninety-one (191) staff from seven senior secondary schools in the area formed the population for this study. Staff of the senior secondary schools includes, teachers (teaching staff), cleaners, clerical officers on duty and security officers (non-teaching staff).

Sample and Sampling Techniques

A sample size of one hundred (100) staff was selected for the study, making a total of 52 % of the population. Simple random sampling technique was used to select the sample.

Instrument of Data Collection

The instrument used in carrying out this study is a fifteen (15) items structured questionnaire titled *Nutrition Education on Graceful Aging.* The questionnaire consists of Section A and section B, section A is the personal characteristics of the respondents while Section B contains questions on nutrition education and graceful aging among staff in senior secondary school. The questionnaire was structured using Likert scale items Strongly Agreed (SA) = 4, Agree (A) = 3, Disagree (D) = 2 and Strongly Disagree (SD) = 1, respectively. The staff took part in the study voluntarily, and the questionnaire was anonymous so that the respondents could express their viewpoints unreservedly. The goal and methodology of the research were explained to the staff.

To research nutrition education of staff in senior secondary schools, a theoretical analysis of scientific literature was conducted first and accordingly and a modified Likert Scale questionnaire was created. The questions were about personal characteristics of respondents, nutrition education and educational background. The statistical data were processed using the SPSS (Statistical Package of Social Sciences, 20.0) programme.

Results and Discussion

More than half of the surveyed staff of Senior Secondary School are female with 57 % while male is 43 %. Majority (34 %) of respondents are within the age 0f 30-35 years, 31 % are 20 - 25years of age, while 22 % are of the age 25 - 30 years and 13 % are within the age of 30-35 years and above. Educational qualification of the respondents Senior School Certificate Exam (SSCE) is a certificate for individual who has passed through a 3years post primary school at the junior secondary school and 3 years in senior secondary. Nigeria Certificate in Education (NCE) is having completed a 3years programme in a college of education in the country while National Diploma (ND) is a diploma certificate from any reputable polytechnic in the country. Higher National Diploma (HND) is as the name implies in a reputable in a polytechnic with two years programme for each programme respectively. Bachelor in Education is a certificate obtained after completion of a four years programme in the university while Master in Education (M.Ed.) is obtained on completion of a post graduate programme in education for a period of eighteen (18) months. Finding from the research shows that majority which is 39 % of the respondents has NCE/ ND certificate, while 27 % has HND certificate, 17 % has Bachelor in Education, 12 % are with SSCE and only 3 % has M.Ed. certificate. Among the selected respondents, 49 % – non- teaching and 51 % – teaching staff. Service years of respondents which depict that majority which is 60 % within 6-10 years, 28 % has below 2-5 years while 12 % has 11years and above. Having analysed the surveyed data, it is possible to state that most staff acquired their nutrition education from their academic background.

Finding shows in the Table 1 about nutrition education on graceful aging. It is revealed that majority of respondents agreed to the statement that nutritional education can promote graceful aging (mean is 3.57),

teaches that over nutrition causes problem such as obesity, hence not aging gracefully (3.40). Nutrition education is a precursor graceful aging with a mean of 3.42 respectively.

Analyse of the research Question One: What is the effect of nutrition education on graceful aging?

Table 1

Distribution of respondents' answers to the first research question

Questions	SA	A	D	SD	Mean	Standard Deviation
Nutrition education can promote graceful aging	59	40	-	1	3.57	0.56
Nutrition education teaches that over nutrition causes problem such as obesity hence not cause problem as such obesity hence not aging gracefully.	43	54	3	-	3.40	0.55
Nutrition education is a precursor graceful aging	52	38	10	-	3.42	0.67
My source of nutrition education and graceful aging are gotten from my academic background.	31	47	22	-	3.10	0.73
Nutrition education and graceful aging campaign should be intensified through various media such as radio, television programme, and social media among others.	66	34	-	-	3.66	0.48
Skipping meals and eating more than adequate is against nutrition education and graceful aging.	37	46	5	12	3.08	0.95
Considering all the junks that can be on social media, is important to properly research all information pertaining to nutrition and graceful aging before utilizing it.	39	40	20	1	3.17	0.78

Similarly, majority of respondents also agreed that source of nutrition education and graceful aging are gotten from their academic background with a mean opinion of 3.10 and also agreed that nutritional education and graceful aging campaign should be intensified through various media such as radio, television programme, and social media among others with a mean of 3.66. It is also revealed that majority of respondents agreed that skipping meals and eating more than adequate is against nutrition education and graceful aging and also responded that considering all the junks that can be on social media, is important to properly research all information pertaining to nutrition and graceful aging before utilizing it with a mean of 3.08 and 3.17 respectively.

Analyse of the research Question Two: Does educational background affect nutritional practice and graceful aging?

Finding shows in the Table 2 about educational background on nutritional practice and graceful aging. It is revealed from the study that majority of respondents agreed emphatically that the level of education can positively affect nutritional practice hence graceful aging and also agreed that their nutrition education and graceful aging, information is supported by their educational background and that their educational background help them to have positive awareness as regards nutrition education and graceful aging with a mean of 3.11; 3.30 and 3.54 respectively.

Table 2

Distribution of respondents' answers to the first research question

Questions	SA	A	D	SD	Mean	Standard Deviation
Level of education can positively affect nutritional practice hence graceful aging	43	38	6	12	3.11	1.00
My nutrition education and graceful aging information is supported by my educational background	36	58	6	11	3.30	0.58
My educational background helps me to have positive awareness as regards nutrition education and graceful aging	57	40	3	-	3.54	0.56

Hypothesis testing descriptive statistics are shown in Table 3.

Table 3

Descriptive statistics

Gender	N	Mean	Standard Deviation
Male	43	3.442	0.983
Female	57	3.614	1.130

The Table 4 shows the t-test statistical difference in nutrition education background of male and female on graceful aging among senior secondary school staff**.** It was revealed that there is a difference statistically in male staff nutrition education background and that of their female counterparts as the hypothesis is rejected t (99) = -27.596, p = 0.00.

Table 4

T-test statistics

	Mean	Standard Deviation	t	Df	Sig. (2-tailed)
Gender _ Educational background	-2.000	0.724	-27.596	99	0.000

Since $p < 0.05$ level of significance, we hereby reject the hypothesis and conclude that there is a significance difference in male nutrition education background and that of their female counterparts in their nutritional education on gracefully aging among senior secondary school staff**.**

From research question one, it was revealed that majority of respondents agreed to the statement that nutrition education can promote graceful aging, teaches that over nutrition causes problem such as obesity, hence not aging gracefully. This is in direct agreement with (Chang, Roberts, 2008) that asserted that, Nutrition education has the potential to encourage the older adults to consume a variety of foods and lead a healthy life. I. Kepaliene and D. Gudaviciute asserted that in modern society healthy nutrition is a particularly topical issue as it is one of the key elements of a healthy lifestyle which determines a person's well-being. According to their research results two important factors determining unhealthy nutrition are: lack of time and lack of will (Kepaliene, Gudaviciute, 2019).

Findings from research question two showed that majority of respondents agreed emphatically that their level of education can positively affect nutrition practice hence graceful aging and also agreed that their nutrition education and graceful aging, information is supported by their educational background and that their educational background help them to have positive awareness as regards nutrition education and graceful aging. N.C. Van Nie-Visser directly supported the claim when opined that, among risk factors associated with malnutrition, level of education which plays a pivotal role in nutritional status as it can affect the ability to make reliable and aware of food choices (Van Nie-Visser et al., 2014). Other scientists claimed that elderly education level had a significant effect on their nutritional status (Abdelwahed, Algameel, Tayel, 2018). In the research (Donini et al., 2013; Leslie, Hankey, 2015) it is mentioned that the majority of elder patients presented with nutritional inadequacies and malnutrition were of lower educational levels. This might be justified that lower level of education and limited literacy hindering elderly people from access to proper nutrition related information.

Findings from the hypothesis concluded that there is a significance difference in male staff nutrition education background and that of their female counterparts on graceful aging.

Conclusions

- The place of studies is closely related to the study, the place of work often affects nutrition education. During the study period, staffs were aware that nutrition education can promote graceful aging and that academic background had been a good source of nutrition education to the staff. Is also very important to note that, it was revealed statistically that there is a difference in male teacher's educational background and that of their female counterparts as the hypothesis was rejected.

- For a nation economic and sustainable development to be guarantee, its employable individuals must be healthy and one way of achieving healthy lifestyle is through Nutrition Education.

- Nutrition education plays a pivotal role in graceful aging and that education background is also a key factor in enjoying graceful aging.

- Graceful aging involved staying informed on assisted living, accepting changes, finding meaningful activities and as aging is a topic of interest to many as it affects almost everyone during their lifetime.

Bibliography

1. Abdelwahed A.Y., Algameel M.M.M., Tayel D.I. (2018). Effect of a Nutritional Education Program on Nutritional Status of Elderly in Rural Areas of Damanhur City, Egypt. *International Journal of Nursing* Science, *8*(5), 83-92. Retrieved from http://article.sapub.org/10.5923.j.nursing.20180805.02.html

2. Cecchini M., Sassi F., Lauer J.A., Lee Y.Y., Guajardo-Barron V., Chisholm D. (2010). Tackling of unhealthy Diets, Physical Inactivity and Obesity: Health Effects and Cost- Effectiveness. *Lancet*, *376*, 1775-1784. doi: 10.1016/S0140-6736(10)61514-0

3. Chang C.C., Roberts B.L. (2008). Feeding difficulty in older adults with Dementia. *Journal of Clinical Nursing*, *17*(17), 2266-2274. doi: 10.1111/j.1365-2702.2007.02275.x

4. Colino S. (2015). The Modern Guide to Aging Gracefully. Retrieved from https://www.realsimple.com/beauty-fashion/makeup/aging-gracefully?slide=5217#5217

5. Donini L.M., Scardella P., Piombo L., Neri B., Asprino R., Proietti A.R., Carcaterra S., Cava E., Cataldi S. Cucinotta D., Di Bella G., Barbagallo M., Morrone A. (2013). Malnutrition in elderly: Social and economics determinants. *Journal of Nutrition, Health and Aging, 17*(1), 9-15. doi: 10.1007/s12603-012-0374-8

6. Graceful aging. (2019). Retrieved from http://www.gracefulaging.com

7. How to Live Your Life as You Age. (2019). Retrieved from https://www.healthline.com/health/aging-gracefully#tips

8. Jezewska-Zychowicz M. (2018). Cooking Methods, Social Relations and Situations Related to Food as a part of Nutrition Education within Family. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment Education Personality (REEP), 11*. Jelgava: Latvia University of Life Sciences and Technologies, 261-268. doi: 10.22616/REEP.2018.032

9. Kam K. (2019). The Art of Aging Gracefully. Retrieved from https://www.webmd.com/healthy-aging/features/the-art-of-aging-gracefully#1

10. Kaslec A., Arumi A.M., Immerwahr J., Barry L. (2005). The Science of Aging Gracefully. New York: Public Agenda. Retrieved from https://www.afar.org/docs/migrated/AFARScienceofAgingGracefully.pdf

11. Kepaliene I., Gudaviciute D. (2019). Research of Nutritional Habits of Prospective Teachers. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment Education Personality (REEP), 12*. Jelgava: Latvia University of Life Sciences and Technologies, 225-230. doi: 10.22616/REEP.2019.029

12. Leslie W., Hankey C. (2015). Aging, Nutritional Status and Health. *Healthcare 3*(3),648-658. doi: 10.3390/healthcare3030648

13. McNulty J. (2013). Challenges and Issues in Nutrition Education. Rome: Nutrition Education and Consumer Awareness Group, Food and Agriculture Organization of the United Nations. Retrieved from http://www.fao.org/publications/card/en/c/4e5e1987-7c4b-50a4-b8e7-8cf1ca17ebeb

14. Michaels J. (2018). Your Self- Care Guide to Aging Gracefully. Retrieved from https://www.success.com/your-self-care-guide-to-aging-gracefully/

15. Morrison A.M. (2010). Aging Gracefully, the French Way. Retrieved from https://www.nytimes.com/2010/07/15/fashion/15French.html

16. National Council for Aging Care. (2019). 10 Tips to Age Beautifully. Retrieved from https://www.aging.com/ten-tips-to-age-beautifully/

17. The America Society for Aesthetic Plastic Surgery. (2013). What does aging gracefully mean? Retrieved from https://www.surgery.org/consumers/plastic-surgery-news-briefs/aging-gracefully-mean-1051522.

18. Van Nie-Visser N.C., Meijers J., Schols J., Lohrmann C., Bartholomeyczik S., Spreeuwenberg M., Halfens R. (2014). Which characteristics of nursing home residents influence differences in malnutrition prevalence? An International comparison of the Netherlands, Germany and Austria. *British Journal of Nutrition, 111*(6), 1129-1136. doi: 10.1017/S0007114513003541

Challenges of Sustainable Development for Children in Kinship Care Families

Aiga Romāne-Meiere Mg.soc.d.
University of Latvia, Latvia
aiga.romane-meiere@lu.lv

Abstract: Children taken out of biological families can be placed in kinship care, foster families or in institutions. International and national political documents determine that placement close to family is a basic priority. On the other hand, kinship care families experience multiple risk factors with impact on the child sustainable development. The aim of the study is to identify resilience factors in kinship care families. To identify resilience factors in kinship families multiple case study methodology is used. There are 3 general cases – grandparents kinship families, other relative kinship families and non-relative kinship families. In order to explore selected sub-cases and its broader context participant observation in six support groups observation in four summer camps, unstructured in-depth interviews with 16 kinship family members, and posts in social networks are used. The analysis shows that main factors can be divided in levels starting from individual traits and communication with biological parents to cooperation with institutions and juridical legislation. Resilience factors differ in each sub-case in such aspects as generational gap or similarity, common identity and experience, belonging, cooperation with institutions. To attain sustainable development for children in kinship care families support for each caregivers group should be differenced.

Keywords: sustainable development, kinship care, resilience factors.

Introduction

The National Development Plan 2014–2020 is related to the Sustainable Development Strategy of Latvia until 2030 (National Development Plan…, 2012). A Vision of Latvia in 2020 defines that parents have become active and responsible participants in the educational process and children left without parental care are taken in by trustworthy and responsible families. Kinship care is a domestic or living arrangement in which a biological family member or fictive kin (a non-biological relative with a strong emotional tie to a child) assumes care for a child (Denby, 2016). The concept of kinship care is used in different versions - kinship care (USA, New Zealand), kin and kin care (Australia), relative care (Ireland), family and friends care (UK) or relative foster care (Sweden, Norway) (O'Brien, 2012; Winokur, Holtan, Batchelder, 2014). In all used terms it is understandable that it means care of child in family placement with relatives or close friends.

If child is taken out of biological family there are three child care forms possible – kinship care, foster families and institutional care. There are powerful traditions of kinship care from soviet times in Latvia. Civil law defines that "a child's guardian is a person appointed to protect the rights and interests of a child left without parental care. The guardian substitutes for the child's parents and represents the child's personal and property interests" (The Civil Law, 1937). Kinship or guardianship is still the oldest and largest form of child care. The largest part - 66 % of children live in kinship care families, 17,5 % in foster families and 15,5 % in institutional care (Pārskats par lietām…, 2018). It is declared that every child has rights to grow up in family. It means that kinship care should be accepted as a resource used within the child welfare system during process of deinstitutionalization. Even more, international political document UN Convention on the Rights of the Child (Convention on the Rights…, 1989) determine that child care in environment close to family is a basic priority (Green, Goodman, 2010, 1358; Nandy, Selwyn, 2011, 4).

A child can be placed in kinship families in cases when biological parents are died or because of addictions, physical or emotional abuse, neglection of child, mental illnesses of parents or parents are under-age. Mentioned problems are complex, connected with dysfunctional roots in extended family system and connected with child welfare system in Latvia.

Most of available researches provide evidence of advantages of kinship care - improved safety for child, stability, increased sense of belonging and connection, greater social and emotional well-being (Denby, 2016; Winokur, Holtan, Batchelder, 2014). Despite advantages kinship caregivers tend to be older, less educated, of poorer physical health (Messing, 2006), at the same time having fewer resources and

support than non-relative foster families (Lin, 2014, 35) what can result as a kinship breakdown (Parolini et al., 2018) and negative impact on child development.

Theoretical framework used to analyse process of identifying risk and protective factors in kinship families is the theory of resilience in eco-systemic perspective. Poetically can be said that "resilience is the science of mastering life`s greatest challenges" (Southwick, Charney, 2012). In recent years number of definitions of resilience has been developed. One of theoretical framework is M. Ungar (2008) social ecological interpretation of resilience what defines resilience in broader way "*In the context of exposure to significant adversity, resilience is both the capacity of individuals to navigate their way to the psychological, social, cultural, and physical resources that sustain their well-being, and their capacity individually and collectively to negotiate for these resources to be provided and experienced in culturally meaningful ways*". Understood this way, resilience is the qualities of both the individual and the individual's environment that potentiate positive development (Ungar, Liebenberg, 2011). Resilience arises from researches that aims to understand healthy and sustainable development or positive adaptation despite adverse conditions more commonly associated with negative outcomes (Bottrell, 2009). Resilience can be understood as a personal trait, process or as a result (Collins, 2016; Rutter, 2012; Van Breda, 2018). In eco-systemic framework, professor of social work M. Ungar (2011) explains that resilience results from a cluster of ecological factors that predict positive human development more than individual traits, and that the effect of an individual`s capacity to cope and the resources he or she has is influenced by the nature of the challenges the individual face (Ungar, 2011, 14). This definition leads to broader understanding of influential factors in kinship families. Criteria of assessment of positive or mal-adaptation is embedded in socio- cultural assumptions and historically specific societal expectations (Bottrell, 2009). Social policy and social environments have a significant role in eco-systemic perspective (Ungar, 2008; Yıldırım, Hablemitoğlu, 2013).

The social profile of kinship caregivers and traumatic experience of child taken in care or trauma in a whole extended family system include certain risk factors in individual or family system level while social policy, economical situation, traditions and public discourses are source of contextual factors. The aim of the study is to identify resilience factors in kinship care families with influence on sustainable development of a child.

Methodology

Traditionally in qualitative research case study designs are particularly suited to situations involving a small number of cases with a large number of variables, for example, resilience factors in three sub-cases. The approach is appropriate for the investigation of cases when it is necessary to understand parts of a case within a context of the whole (De Vaus, 2001, 231; Yin, 1993). Selected cases must be seen and analysed within the context. Resilience factors in kinship care families are interconnected with child welfare system in Latvia. "By examining this context fully, the researcher can gain a fuller and rounder picture of the causal processes surrounding a particular phenomenon" (De Vaus, 2001, 235).

To identify resilience factors in kinship families multiple – case study design is used with tree theoretically different sub-cases. Sub-cases are strategically selected according to already existing division in Latvia what is based on relationship with a child in care 1) grandparent kinship care, 2) other relative kinship care, 3) non-relative kinship care.

There were three criteria to involve family in research. First, care is formally established with official decision. Second, families in each sub-case had specific differences (lives in city or in rural areas, ethnic differences, gender differences, age of caregivers and age of child in care). Third, informed agreement what includes possibility to refuse participation in any stage of research is signed.

Case studies are done parallel from February 2018 and incorporate a context and a retrospective time dimension. Reconstruction of the past in the light of the present (De Vaus,2001, 228), family's history cannot be escaped because kinship care is consequences of traumatic processes in biological family of a child and past experience influence on resilience of family.

Typically, different kind of methods of data collections can be used within case studies. In order to explore selected sub-cases and its broader context participant observation in six support groups and

observation in four summer camps, unstructured in-depth interviews with 16 kinship family members and posts in social networks are used.

Observation was possible in six support groups of kinship caregivers (average number of participants is 6, organised in Riga, led by social worker, each participant informed about confidentiality nuances). Influential factors were observed in four summer camps where approximately 50 families gathered and during interviews. Unstructured in-depth interviews were conducted with 16 family members from different sub-cases – 9 care givers and 7 children living in kinship care (older than 12 years). Two of kinship caregivers were male, six of them living in small villages, three caregivers were under 65, two speaking only in Russian. Specific differences allow to explore complexity of kinship families. Children and care givers posts in social networks were used only in situations when it was accepted from authors. Multiple source of evidence is a major strength of case studies. To analyse influential resilience factors in each sub-case data triangulation and data content analyse was used.

During gathering data special attention was paid to ethical nuances. No data is worth it if there are risks to make situation more painful or difficult for participant. Stories in interview include traumatic experience in biological family and difficulties in kinship families. Participants were informed that they decision to withdraw from research in any stage will be respected. Researcher caused dynamic changes of whole family system and results of the research as well. For example, to understand better capacity to recover quickly from difficulties there were defined some questions: "What do you see in future?", "Which person can inspire you in difficult moments?", "Can you describe the place where do you feel the most powerful?"

Research questions 1) what are tendencies of alternative care in Latvian context, 2) what risk factors and protective factors influence resilience in kinship care families, 3) what is the interaction among identified factors, 4) what are differences in grandparent's kinship families, other relative kinship families and non-relative kinship families?

Results and Discussion

Traumatic events throw our lives into turmoil in unpredictable ways; two people will not respond to them in exactly the same manner (Southwick, Charney, 2012). Some social groups are more liable to misfortunes and confronted with threats and significant sources of stress. Statistics, observations and process of study confirm that in Latvia kinship caregivers is vulnerable social group.

There should be kept in both – in researcher and social work mind that "resilience and family resilience perspective is grounded in deep conviction of potential of all families to gain positive growth out of adversity, even those who have experienced severe trauma or very troubled relationships can forge healing and transformation across the life course and the generations" (Walsh, 2016, 18). Usage of language and used questions is powerful part of qualitative research. On resilience theory-based communication, when researcher is truly interested in potential, moments of success, resources and strengths, can encourage caregivers to share their stories more honestly.

In case studies great varieties of resilience factors were recognised with some similarities in all sub-cases and some specific factors in different case. Factors relevant to sustainable development of children in each case are divides in personal level, family system level and community level (Table 1).

In all studied sub-cases kinship care families still experience great amount of risk factors – behavioural problems of child, unsolved puzzle of trauma, poverty, conflicting relationships into the family system, especially with biological parents of a child, lack of social support and information about rights, frustrations caused by threats of control from institutions, feeling of discrimination compering to foster families. Identified risk factors confirm concerns of limits of sustainable development for children in kinship care. Risks are connected with traumatic experience in family system. Life stories from kinship family members contain situations with sexual and physical violence, alcohol or drug addictions in the past, or in some cases it still continues.

Table1

Resilience factors in kinship care families

Grandparents families	Relatives families	Non-relatives families
Attachment Difficulties to manage rules Overprotection Destructive emotions Financial problems, poverty Behavioural problems of child Generational gap Differences in digital skills	Common identity Responsibility Realistic expectations	Feeling of mission Tendency to change identity of child Optimistic view on future High level of expectations Unclear motivation
Belonging to family system Conflicts with biological parents Common memories, traditions (positive and negative) Difficulties to manage communication with biological parents	Belonging to family system Unclear roles Common memories, traditions Challenges to manage personal life	Tendency to minimize contact with biological parents Ignorance to feelings of loss Possibility to develop new traditions Comparison with biological parents
Lack of social support and training Shame, tendency to hide problems from society and institutions	Pressure from society Lack of training about child needs Cooperation with institution	Avoidance of cooperation with institutions Lack of training and social support

Harmful memories can cause dynamic in family system. There are aspects in family history what contain essential information to understand causality in kinship families, at the same time researcher has responsibility to minimize potential risks to make situation less dysfunctional. For example, sexual violence happened ten years ago, but memories of that period can arise again the same feelings and emotions.

Grandparents kinship care

As population age rapidly, intergenerational family relations become more and grandparent's investment include different types of support (Tanskanen, Danielsbacka, 2019). Grandparents may increase children`s wellbeing during risks situations, including parental death, divorces (Carlson et al., 2014). If child is taken out from biological family with decision of custody court, it means support from grandparent or other relatives were not sufficient. Dysfunctional roots can be developed through generations.

In the cases when child was raised by grandparents there were exposed such emotions as guilty for adversities in past, anxiety, fears from future, fears from institutions, anger to biological parents what are risk factors for child development and hope, attachment, forgiveness, willingness to resolve mistakes as a protective factor. Compering grandparents, other relatives and non-relative kinship families, in grandparents' family's emotions were identified as more important factor. In grandparents' families main issues are unsolved conflicts with biological parents if they are alive. Child can be used as mediator in conflicting triangle. There are difficulties to protect child from abusive parents, sometimes all three generations are still living in the same apartment. Unsecure family environment has negative impact on development of child in care. Problems raise low level of living conditions, poverty, and low level of education of care giver. In that situation education and wellbeing can have minimized or exaggerated value.

Position of neutral "outsider" can provoke willing maintain an 'empathic distance' and `absence of language sensitivity` (Berger, 2015). It is always an important question which person is called a father or mother in kinship care family. What term should be used during interviews? Especially, if there are cases when child is not informed that caregiver is not his biological parent. It can be confusing for a child and cause strong dynamic in further relationship if during the first interview guardian or kinship caregiver is called "mother". Grandparents have possibility to perform role of parents, but in cases when story about biological parents is kept in secret for a child, and caregivers pretend to be a biological parent, it is an important risk factor for sustainable development.

Generational gap is directly connected with differences according to social norms and digital skills. It is impossible to image educational process without usage of technologies nowadays. The contemporary family is progressively a network family, adopting a variety of digital technologies to coordinate their lives,

to be connected throughout the day, and to bond and share moments online (Casimiro, Nico, 2018). If grandparents do not use internet and social networks it makes limits in communication – part of information of child in care is not available. Phone calls are mostly used to get information about educational success.

Other relatives kinship care

Other relatives as caregivers can be described as more resilient – their story include more positive emotions comparing to grandparents and non-relative caregivers. If brother or sister becomes a caregiver there rise difficulties to perform parental role. Person has double roles at the same time. American social work professor R. Denby has highlighted brothers and sisters as a special group of caregivers with special needs of support (Denby, 2016), because in that case child and care parson has the same generation. They share the same relations towards biological parents who were not able to continue their parental duties. They have similar traumatic experience what causes belongingness. Deep connection strengthens well known dysfunctional patterns. Professional support develops skills to manage every day routine in a way that fosters sustainable development of a child in care.

Aunts and uncles usually have their own nuclear families already. Pressure from society causes the decision to become a caregiver even it has negative consequences to their family functionality. On the other hand, aunts and uncles have distance from dysfunctional family system and it is easier to build new patterns of behaving and connections.

Non-relative kinship care

Statistics explain that half of non-relative caregivers were known persons for a child before. These persons can be neighbours, friends, teachers. In these cases, resilience factors are similar to other relatives. Motivation of persons not known for child before are still raises concerns. There is possibility to become a foster family with more adequate financial and social support, regular training.

Non-relative caregivers tend to protect privacy, avoid cooperation with institutions – social services, custody court, what recalls that there is not biological ties between parents and children. There is a risk of safety of a child.

In all cases kinship caregivers spoked about frustration according to control – felling of evaluation all the time. Frustrations connected with control and possibility that child can be taken out of kinship family, minimize chances to receive necessary social support:

> *"Professionals from child welfare system once decided that I am able to take care for a child. Actually, we don't have other options for placement or other relatives. But every year child has to answer to the same question – do you still want to live with your caregiver? And if we will really have serious problems – what will happen then? It is threatening situation. I always carefully think what I tell to other people."*

In this example to maintain stability and minimize confusion caused by child care system caregivers use strategy of secrecy.

In all regions support groups for kinship caregivers formally should be organised in Latvia. Interviewed caregivers have no information about them. Group support can be important protective factor to maintain resilience, but interviews show that none of caregivers have attended them before, because caregivers have interpreted participating in these groups as a risk factor for their safety

Social networks are often mentioned in theoretical literature as important protective factor. "*Linkages with the social world are vitally important for family resilience. Networks helpfulness depends on the quality of the relationships. Some are better with practical assistance, others with emotional support*" (Walsh, 2016, 77). Networks should provide sense of belonging, security and solidarity. Unfortunately, kinship caregivers in Latvia are reserved towards networking. Effective social work in community can create trustful networks that lead to individual resilience, family resilience and resilience of social group. Blaming grandparents who are kinship caregiver for their insufficient parental competences is dominant attitude in public discourse in Latvia. Quite often representatives from institutions repeat this dominant attitude. Grandparents are blamed for prolonged dysfunction in family system. Social context promotes vulnerability of caregivers that should be kept in mind during field work.

In all cases as a risk factor was mentioned sense of inequality comparing with foster families in such categories as social support, educational trainings and financial support. Trainings to develop parental competences before child is placed in family are available only for foster parents, financial support for foster families is approximately three times larger. The social support is possible only if problems arise but then there is doubts "Am I good enough to continue to take care for a child?" Kinship caregivers feel discriminated compared to foster families:

> "*We do the same job. We take care for children whose parents are not able to do it. Our children have the same needs. So, why foster families have such a support – materially, financially, social services, summer camps for children, appreciative attitude? While we (kinship families) are still ignored.*"

Conclusions

Resilience factors are visible when adversity or risk factors are present and there are concerns about sustainable development of a child. In case of kinship care families, part of risks comes from experience in biological family – addictions, sexual and physical abuse, neglect, mental or other illnesses, and death of biological parent. Despite traumatic events that in some cases still continue, family system is searching strategies to function. Every family has different risk factors and protective factors. In kinship care sub-cases similarities and differences were found.

Kinship families have complex family structure where relationships are conflicting, confusions of parental responsibilities, especially in cases if biological parents are nearby in community. Most of identified factors can be risk factors and protective factors for family system, depending on concrete context. Variations of interaction of influence factors can be observed. In grandparents' families main resilience factors are attachment, belonging to family system, common memories and traditions, minimized feeling of loss. In relatives' families resilience can be built from common identity, responsibility, realistic expectations, belonging, common memories, and cooperation with institution. Non-relative families have feeling of mission, optimistic view on future, higher level of expectations, possibility to make new traditions. To promote sustainable development of a child support system should be flexible according to individual needs of members of family.

Kinship caregivers recognised discrimination comparing with foster families – they are lacking social services, financial support, trainings, supportive attitude from society. Actually, no non-governmental organisation exists in Latvia that works for interests of kinship caregiver. Kinship caregivers are social group without voice in social policy and media. Despite tendency to develop foster care system social campaigns in media most of children taken out of biological family are still living in kinship care. Social ignorance disempowers caregiver's ability to protect children`s interests that has negative impact on further development.

Bibliography

1. Berger R. (2015). Now I see it, now I don't: researcher's position and reflexivity in qualitative research. *Qualitative Research*, *15*(2), 219-234. doi: 10.1177/1468794112468475
2. Bottrell D. (2009). Understanding Marginal Perspectives: Towards a Social Theory of Resilience. *Qualitative Social Work*, *8*(3),321-339. doi: 10.1177/1473325009337840
3. Carlson M.J., Meyer D.R., Dunifon R.E., Ziol-Guest K.M., Kopko K. (2014). Grandparent coresidence and family well-being: Implications for research and policy. *The ANNALS of the American Academy of Political and Social Science*, *654*(1), 110-126. doi: 10.1177/0002716214526530
4. Casimiro C., Nico M. (2018). From object to instrument: technologies as tools for family relations and family research. In B.B. Neves, C. Casimiro (Eds.), *Connnecting families? Information and Communication Technologies, generations, and the life course*. Bristol: Policy Press, 133-156. doi: 10.1332/policypress/9781447339946.003.0008
5. Collins S. (2016). Social Workers and Resilience Revisited. *Practise.29*(2), 85-105. doi: 10.1080/09503153.2016.1229763
6. Convention on the Rights of the Child. UN General Assembly. (1989). Retrieved from https://www.refworld.org/docid/3ae6b38f0.html
7. De Vaus D. (2001). *Research Design in Social Research*. London: Sage.

8. Denby R.W. (2016). *Kinship care. Increasing child well-being through practise, policy, and research*. New York, NY: Springer Publishing Company.

9. Green Y.R., Goodman C.C. (2010). Understanding birthparent involvement in kinship families: Influencing factors and the importance of placement arrangement. *Children and Youth Services Review*, *32*(10), 1357-1364. doi: 10.1016/j.childyouth.2010.06.003

10. Lin C.H. (2014). Evaluating Services for Kinship Care Families: A Systematic Review. *Children and Youth Services Review*, *36*, 32-41. doi: 10.1016/j.childyouth.2013.10.026

11. Messing J.T. (2006). From the child's perspective: A qualitative analysis of kinship care placements. *Children and Youth Services Review*, *28*(12), 1415-1434. doi: 10.1016/j.childyouth.2006.03.001

12. Nandy S., Selwyn J. (2011). *Spotlight on kinship care.* University of Bristol. Retrieved from http://www.bristol.ac.uk/media-library/sites/sps/migrated/documents/execsum.pdf

13. National Development Plan of Latvia for 2014-2020. (2012). Riga: Cross-Sectoral Coordination Centre. Retrieved from https://www.pkc.gov.lv/images/NAP2020%20dokumenti/NDP2020_English_Final.pdf

14. O'Brien V. (2012). The Benefits and Challenges of Kinship Care. *Child Care in Practice18*(2), 127-146. doi: 10.1080/13575279.2012.657610

15. Parolini A., Shlonsky A., Magruder J., Eastman A.L., Wulczyn F., Webster D. (2018). Age and other risk factors related to re-entry to care from kin guardian homes. *Child Abuse and Neglect,79*, 315-324. doi: 10.1016/j.chiabu.2018.02.024

16. Pārskats par lietām par bērna aprūpes un aizgādības tiesību atņemšanu un atjaunošanu vecākiem [Overview of the cases of parental disqualification and restoration of parental rights]. (2018). Bāriņtiesu statistika par 2017. gadu. Retrieved from http://www.bti.gov.lv/in_site/tools/download.php?file=files/text/bt.stat_2017.pdf (in Latvian)

17. Rutter M. (2012). Resilience as a dynamic concept. *Development and Psychopathology*, *24*(2), 335-344. doi: 10.1017/S0954579412000028

18. Southwick S.M., Charney D.S. (2012). *Resilience. The Science of Mastering Life`s Greatest Challenges*. UK Cambridge: Cambridge University Press. doi: 10.1017/CBO9781139013857

19. Tanskanen A.O., Danielsbacka M. (2019). *Intergenerational family Relations. An Evolutionary Social Science Approach.* London*:* Routledge. doi: 10.4324/9781315107806

20. *The Civil Law*. (1937). *Valdības Vēstnesis*, *41*. Retrieved from https://likumi.lv/ta/en/en/id/225418

21. Ungar M. (2008). Resilience across cultures. *The British Journal of Social Work*, *38*(2), 218-235. doi: 10.1093/bjsw/bcl343

22. Ungar M. (2011). Social Ecologies and Their Contributions to Resilience. In M. Ungar (Ed.), The Social Ecology of Resilience. A Handbook of Theory and Practise, 13-31, Springer, New York, NY. doi: 10.1007/978-1-4614-0586-3_2

23. Ungar M., Liebenberg L. (2011). Assessing Resilience Across Cultures Using Mixed Methods: Construction of the Child and Youth Resilience Measure. *Journal of Mixed Methods Research 5*(2) 126 -149. doi: 10.1177/1558689811400607

24. Van Breda A.D. (2018). Reclaiming Resilience for Social Work: A Reply to Garrett. *British Journal of Social Work, 49*(1), 272-276. doi: 10.1093/bjsw/bcy010

25. Walsh F. (2016). *Strengthening Family Resilience* (3rd ed.). New York: The Gouldford press.

26. Winokur M., Holtan A., Batchelder K.E. (2014). *Kinship care for the safety, permanency, and well-being of children removed from the home for maltreatment: A Systematic Review*. Oslo: The Campbell Collaboration. doi: 10.4073/csr.2014.2

27. Yin R.K. (1993). *Application of Case Study Research.* Beverly Hills and London: Sage+

28. Yıldırım F., Hablemitoğlu S. (2013). Ecological literacy for a sustainable future: proposal of an "Eco-sociologicl model". In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 6.* Jelgava: LLU, 46-50. Retrieved from https://llufb.llu.lv/conference/REEP/2013/Latvia-Univ-Agricult_REEP_2013_ISSN_2255-808X-46-50.pdf

Competency-Based Approach to Educational Content for Sustainable Development in Latvia

Daina Vasilevska[1] Dr.sc.admin.; **Andrejs Geske**[2] Dr.oec.
Liepaja University, Latvia[1]; University of Latvia, Latvia[2]
daina.vasilevska@gmail.com[1]; andrejs.geske@lu.lv[2]

Abstract: Sustainable development is a civilizational strategy recognized by the world community, within the framework of which environmental impact does not go beyond the natural possibilities. The transition to sustainable development is a complex and requires a change in the very foundations of social life. Education is essential in achieving sustainable development. An important role in the implementation of education for sustainable development belongs to teachers. For this, teachers must have appropriate professional competencies. The purpose of the study is to determine how well teachers are prepared for the changes themselves and whether they have enough knowledge to successfully implement this educational strategy in the process of teaching students in high school. As a result of the survey, it was shown that the ideas of sustainable development in the education system as a whole are perceived positively, but the urgent need is professional training and advanced training of teachers for their implementation. The article concludes with practical suggestions to strengthen teachers' educational capacities for sustainable development.

Keywords: teacher, education for sustainable development, competency-based approach.

Introduction

Education at any level is an essential component of the growth strategies of the Organisation for Economic Co-operation and Development (OECD) countries towards overcoming the economic crisis. To ensure the effective implementation of measures to improve the quality of education in the long term, it is necessary to provide all students with access to high-quality educational services, to contribute to the acquisition of skills, abilities and knowledge that they will need for effective integration into society and the labor market.

The concept of modernization of teacher education is based on the fact that it is the teacher who is intended to provide training and education for the younger generation at all levels of the education system, considering the realities of the present and future prospects for its development, ensuring modernization processes that are sustainable innovative development of the country. Sustainable is understood as such development that satisfies the needs of the present, but does not imperil the ability of future generations to satisfy their own needs, that is, in which the impact on the environment does not go beyond the natural capabilities (Transforming our world…, 2015).

The importance of introducing education for sustainable development has been emphasized over the years. In 2012, the UN Conference on Sustainable Development was held in Rio de Janeiro. Her declaration, "The Future We Want," contains a section on "Education," which emphasizes the need to expand educational systems in terms of training people to solve the problems of sustainable development (SD), including through improving teacher training (The United Nations…, 2012).

In 2013, the UNESCO General Conference formulated proposals for the Global Program of Action for Education for Sustainable Development (ESD) beyond 2014 (Proposal for a Global…, 2013). Teachers are one of the priority areas along with politics, a general institutional approach, youth and local communities. There is an urgent need to build the capacity of teachers, lecturers, instructors, educators, activist's voluntary pedagogical organizations and others capable to realize sustainable development face changes. To do this, ESD should be integrated into the training of teachers and administrators of formal, additional and informal education (enlightenment).

At the first stage, it was proposed to include the topic of ESD in specific subject areas, but then move on to implementing ESD as a cross-cutting topic. Sustainable development prospects should be more widely integrated into postgraduate education, advanced training and retraining (including corporate programs) of specialists, leading employees, government employees, business workers, and the media.

State governments should create the conditions for the provision of training, professional training and advanced training for teachers and other education system workers in order to effectively integrate ESD. The ESD implementation roadmap provides among the expected results, in particular, the introduction of ESD principles in professional educational programs, the introduction of certification standards and an accreditation system in accordance with the concept of ESD (Ten years of…, 2016).

The main goal of education for sustainable development is that everyone would receive the appropriate knowledge and motivation to achieve and live in compliance with the principles of sustainable development. Education for sustainable development is designed to answer the question: what should students know and be able to do by the time they graduate from school, college, university, what knowledge and skills adults need to acquire in order to be as useful as possible to improve the quality of life and solve the problems of their community, including harmonization of relations between society and nature?

One of the key tasks for ESD is the development by teachers of knowledge that enables them to include sustainable development issues in the subjects they teach. Most schools in Latvia have a good experience of implementing environmental education. The Guidelines for Sustainable Education do not contradict the Environmental Education Guidelines, but take them in a broader context (Table1) (Hume, Barry, 2015; Rydén, Migula, Andersson, 2003).

Table 1

The main differences between environmental education and ESD

No.	Environmental education	Education for Sustainable Development
1	devoted to problems of the environment	considers environmental protection in a complex, efficient use of natural resources, maintaining ecosystems that are successfully functioning society and economics
2	at the core of environmental problems – human activities and their impact on the environment	the general issue is the contradiction between people goals: environmental, social, cultural and economic
3	in the spotlight – biodiversity	the focus on cultural, social, economic and biological diversity
4	purpose of action: an enabling environment for generations	high quality of nowadays life and for future generations
5	environmental action	lifestyle motivation is based on important moments of privacy
6	environmental education is conducted in local and global context	ESD should be applied and based on local economic, social, cultural and environmental conditions and communities, followed by regional, national and global context
7	taught within individual items	Integrated in all aspects of teaching, learning and school life

A reform of the content of school education "School 2030" has begun in Latvia, which will affect pre-school, primary and secondary education. It is gradually being introduced at the pre-school education level and in the first grade, from September 1, 2019, it will concern primary schools, and from September 1, 2021 – secondary education (National Reform…, 2019).

A competency-based approach to education is based on the principles and values that underpin sustainable development; takes into account all three aspects of the environment (nature, society and economics); based on lifelong learning; finds a compromise between evolving nature and the concept of sustainability; enhances civic engagement, greening governance, improving quality of life; It is interdisciplinary, provides the integration of various academic disciplines, traditional and innovative training programs.

Summarizing the conclusions of a number of researchers, it can be assumed that education for sustainable development is the process and result of forecasting and the formation of human qualities (knowledge, skills, relationships, competencies, personality traits, the style of people and communities), providing an increase in the quality of life within the natural capacity of natural ecosystems (Lice-Zikmane, 2018; Cyrankowska, Kostecka, Mazur-Paczka, 2019).

Since none of us knows what life will look like in a future society, it is not possible to give ready-made recipes for life, but a teacher can help students learn to think independently. It does require a re-evaluation of teaching approach. Teaching for sustainable development requires the teacher to be independent in judgment, open and flexible thinking, readiness to perceive with each new look, the ability to distinguish between facts and judgments, willingness to reconsider his judgment and non-receptive decisions as final and unchanging; have the ability to help students become so.

Education for sustainable development should consider that the learning process should be learner-centred (based on the learner's experience and questions), processes (focus on regularities), action (develop action competence), assessment (promote critical thinking and position), society (involve students in identifying and addressing real problems) and addressing issues holistically (including economic, environmental and social aspects).

The main task of the authors was to find out how teachers themselves evaluate their level of preparation for implementing the objectives of education for sustainable development.

Methodology

The study uses data from a survey conducted by the Education and Information Services of Riga City. The authors participated as consultants in the design and analysis of the survey. The EDURIO survey platform (edurio.com) was used to create the survey.

The survey took place from May 2018 and was attended by teachers from 12 schools in Riga. The survey was completed by 217 teachers. The survey consisted of 20 questions on various aspects of the implementation of sustainable education. The survey included both open-ended and closed items. Teacher responses were assigned numerical values (5 – excellent, 4 – very good, 3 – good, 2 – fair, 1 – poor) and calculating the average from these values. Data are given as a percentage of the total number of respondents. The Likert scale was used for fixed response items, with responses ranging from 1"no" to 5 "yes". Data analysis and processing was done using Microsoft Excel 2010 charting software for simpler calculations and IBM SPSS Statistics 24.

The questionnaire does not contain information about respondents (age, gender, length of service), so the impact of these factors on the results will not be addressed in this research, although it is likely to exist.

Results and Discussion

Currently, the world community has become aware that it is education that plays a vital role in improving the relationship between man and the environment. And in this sense, the "ecological" model of education is quite real, which, however, cannot be reduced only to the model of environmental education, since it is absolutely obvious that none of the viable solutions to environmental problems can be implemented without changes at all levels of education. Environmental education alone will not solve the environmental problem if it is divorced from other types of education. However, as well as the solution of the environmental problem, in principle, it is impossible without a positive shift in the whole complex of global problems. A person, as a rule, the more educated he is, the more likely he is to take actions to ensure environmental safety. It is no coincidence that the highest level of environmental awareness is observed among the most educated part of the population - the intellectual elite. In the interests of sustainable development, it is the pedagogical community that must ensure the continuity of education at all its levels: from preschool to higher education and for adult education, including formal, additional and non-formal education.

Under this context, greening is supposed to solve problems of overcoming various kinds of crises of the global world on the basis of the formed "life position, values and environmental culture as an integral part of the general culture of the world that incorporates universally recognized human values and human forms" (Policy Document for…, 2015). In this context, education for sustainable development can contribute to the formation of the worldview of the individual; building a general picture of the world; education of deep morality through universal values. This raises the question of what is the real situation with the understanding and acceptance of this phenomenon by the pedagogical community.

In order to answer these questions, a study was conducted among Latvian teachers.

Most of the respondents (74.1 %) are aware of the need to implement ESD in all educational institutions, at all levels of education. The main sources of information in this case are pedagogical publications (27.1 %) and other mass media (25.9 %), colleagues (15.3 %), the administration, and the management of an educational organization (15.0 %). Some (13.4 %) learned about this during domestic and foreign conferences, seminars, internships, and refresher courses.

Only 3 % of teachers are familiar with the educational documents for sustainable development at the international level. Only 2 % of teachers defined education for sustainable development. 13 % of teachers answered that education for sustainable development can change the world, what is needed for this: to formulate goals specifically to obtain real results for sustainable own development, development of the school, local community; study the theory of SD; enrich the content with ideas of SD; improve methods, educational technologies for sustainable development; encourage the need of students in self-education, self-realization, while creating the necessary conditions.

In the vast majority (79.1 %), teachers positively assess the need for ESD (17.9 % found it difficult to answer, no negative answers). Among the reasons for the importance of ESD are the conservation of the biosphere and life on the planet; the survival of mankind, the possibility of the existence of future generations; the need for a prudent attitude towards natural resources; conservation of the world, harmonious, co-evolutionary development of man and the environment (nature, society, economy); the need to create environmental awareness and increase the level of ecological culture of citizens, the diverse development of the personality of students, the modernization of education in general (integrated approach, innovative forms of training, modern pedagogical approaches and methods, project method).

The following may be referred to such methods: heuristic conversation, "brainstorming", role-playing and "business" games, trainings, case-method, project method, group work with illustrative material (Learning for the future…, 2012).

Teachers are a real driving force for change. They using various educational methods and activities and capable the promotion of sustainable development ideas. It is necessary to ensure high-quality training of teachers, as well as to provide an opportunity for their education throughout life, for the acquisition of competencies in continuing education programs. It is necessary to use such teaching methods that promote learning on the basis of competencies, and not just the transfer of knowledge. It can be such methods as: heuristic conversation, "brainstorming", role-playing and "business" games, trainings, case-method, project method, group work with illustrative material (Learning for the future…, 2012).

Among other things, network communities, social activities, the study of all educational disciplines from the standpoint of ecology, and computer games are also noted. Obviously, out-of-class work and the work of children's associations of continuing education are currently the most accessible form of ESD.

Perhaps one of the reasons for the insufficient study of sustainable development issues in the framework of subject education is the lack or inaccessibility of the necessary teaching materials, which are available only for less than half (34.5 %) of the respondents. Moreover, in most cases (64.2 %), previously published manuals (non-fiction books or books for reading) are used; 28.3 % of teachers have special educational and methodological complexes. The rest use materials published in the methodological journal, newspaper, collection (46.4 %), as well as developed independently or by colleagues (25.2 and 26.7 % respectively).

In general, only 9.5 % of teachers assess the level of their methodological training as sufficient for the implementation of ESD (56.1 % – insufficient, 28.4 % found it difficult to answer). At the same time, would you like to improve your qualifications in ESD 78.4 % of respondents; only 3 people (1.4 %) answered negatively, 16.2 % found it difficult to answer. Among the preferred forms of continuing education are thematic continuing education courses on ESD (50.0 %); seminars, conferences (58.7 %); exchange of experience with colleagues, visiting open classes, master classes (58.6 %); independent study of methodological literature (21.9 %).

So, the results of a survey of teachers working in the field of ESD show that the ideas of sustainable development in the education system are generally perceived positively. However, the urgent need is for vocational training, advanced training of teachers for the implementation of ESD.

This situation, of course, requires special attention and a completely different look at this problem appears; in our opinion, the need is for its solution through such proposed changes, such as:

- rethinking approaches to the organization of educational activities;
- redesigning the content of education;
- transition to productive methods, methods, technologies for organization educational activities;
- revision of approaches to the formation of teacher competencies.

Now consider the possibilities of solving these problems. Rethinking approaches to the organization of educational activities, considering the foregoing, should be based on:

- basic principles and certain values, underlying sustainable development;
- considering the features and patterns of interaction between nature, society and the economy;
- increased civic engagement in solving specific regional problems;
- development of environmentally oriented management to maintain and improve the quality of life;
- ensuring the integration of the content of educational subjects, educational programs;
- use of the potential of formal (mandatory), additional and informal (enlightenment) education;
- openness, considering the context of global change and local priorities;
- promoting transformation and transformation in the education system and in society.
- this is a gradual transition from education as preparation for economic life to education as the basis for creating a sustainable society, economy and environment; from education as a product (qualification) to education as a process of creating competence; from education as instruction to education as an accessory to learning.

We also need to make changes in the curriculum, content and learning process: from the curriculum as a final outline to the curriculum as experience, situational learning; from fixed knowledge to changing knowledge; from abstract knowledge to real knowledge; from a single learning model to multivariate learning models; from passive education to active learning; from lack of sustainable development to learning development ideas.

Such content is based on the key ideas of education for sustainable development. This is the idea of "the values of human life and safety in all surrounding environments (natural, social, technological, cultural, educational; the idea of human quality in all manifestations of his life; the idea of environmental quality; the idea of the value of human health and the health of the environment his surroundings; the idea of the quality of human life in the environment" (Keles, 2012).

To introduce education for sustainable development, a transition to productive methods and technologies for organizing educational activities, we need other learning models. These include: learning through discovery; cooperative learning; problem-integrative training; interdisciplinary training; learning based on critical thinking; training based on a system-activity approach.

To implement all of the above-mentioned methods for solving the problem, it is necessary to revise approaches to the formation of professional competencies of a teacher.

Experts developed approximate competencies of a teacher who can work in the context of education for sustainable development. These competencies correspond to three main characteristics: "a holistic approach focused on integrative thinking and practice; anticipation of change involving the study of alternative options for the future, learning from previous experience and the desire to participate in modern life; implementation transformations" (Pipere, Veisson, Salīte, 2015).

Thus, in the competency-based approach, content lines of education for sustainable development can be formed around "key (general cultural, educational, cognitive, informational, social-civic, communicative, personal competences); environmental, as well as specific for education for sustainable development (holistic approach, focused on integrative thinking and practice; anticipating changes, involving the study of alternative options for the future, learning from previous experiences and the desire to participate in modern life; implementing transformations) competencies."

The main one is environmental competence, "designed to realize the biospheres function of mankind in the conservation and sustainable reproduction of life on Earth." From the point of view of N. Roczen, F.G. Kaiser, F.X. Bogner, M. Wilson "ecological competence, for example, of secondary school students allows put into practice the key principles of environmental education for sustainable development: the transition from abstract environmental problems to real ones, from global environmental problems to local ones, from environmental problems to personal environmental safety problems" (Roczen et al., 2014). This begs the question – what role does the teacher's environmental competence play in the context of education for sustainable development?

Education for sustainable development contributes to the reorientation of professional competencies. At the same time, such competence is necessary, which is not only special, narrowly subject, but encompassing all academic subjects, universal, cross-cutting for all subject teachers, since the ideas of sustainable development concern everyone. Cross-teacher environmental competence is the totality of all groups of teacher competencies, united by common ontological, epistemological and axiological foundations of a culture of sustainable development, which provide the ability of teachers of various specialties to solve the methodological and value-semantic problems of self-identification, self-determination, self-realization, self-development in a society striving for sustainable development. Such a cross-cutting (penetrating) ecological competence of a teacher will be focused on a continuous learning process, the study of complex problems related specifically to education for sustainable development.

Education for sustainable development can be seen as a common perspective, and as a process taking place in a changing world. The long-term goal is to live your life in the best possible order in a way that does not harm others, the environment and society in time, nor in space. At the same time, the ability to act is required from a specific person to achieve sustainable development, which implies the availability of appropriate knowledge, opportunities and motivation.

The task of the teacher is to help students achieve specific or set goals. Teachers working in different pedagogical conditions can use the following universal, according to the authors, didactic approaches (Girvan, Conneely, Tangney, 2016):

Student-centered – students are responsible for their learning and learn from their own experience and questions.

Process Oriented – focuses on relationships and systems. The main thing in learning process-oriented – the search for a solution to a problem, singly, or jointly, and not the result as such. Community and nature oriented – students get involved in events real life and everyday processes taking place in society.

Comprehensive – a single approach, including various objects and methods. An integrated approach involves obtaining knowledge about the environmental framework, systematization, energy flows, various waste management systems, relationships in nature and biological diversity, as well as knowledge about human needs, language, culture and creation.

School as a learning environment. A school is an "institution that teaches." The management of buildings and the surrounding area is an integral part of education.

Thus, in the competency-based approach, ESD content lines can be formed around the following competencies: key (general cultural, educational, cognitive, informational, social-civic, communicative, personal growth and development); environmental, as well as specific for ESD (learning from previous experience and desire to participate in modern life; implementation of transformations). The leading one is environmental competence.

A competency-based approach ensures the continuity of ESD at the level of general and vocational education. Latvia has developed a state educational standard for a school curriculum on "Environmental studies", which includes, for example, the formation of competencies, such as "the development of practical recommendations for nature conservation and sustainable development", "educational and methodological planning of environmental education and upbringing activities for sustainable development. At the level of university education, experience in the practical implementation of the competency-based approach is also applied. For example, Riga Technical University is implementing an environmental education curriculum.

In the future, it is necessary to develop a model of specialist competencies in the field of sustainable development, and to develop a concept and technology for additional professional ESD.

The main result of education for sustainable development is a conscious socially significant activity aimed at harmonizing relations with the environment.

The immediate result of education for sustainable development should be an understanding of the need for not only environmental, but also socio-economic changes in economic management (on a global scale, individual states, regions, settlements, organizations and educational institutions) that strictly comply with environmental requirements.

The long-term result is the implementation of the axiological basis of education for sustainable development - post-material values (characterizing a society capable of replacing a consumer society), including: humanism, liberty, creation, moral, focus on dialogue and cooperation (rather than power, status and hierarchy), professionalism, self-realization, the quality of life; understanding of its role in nature and responsibility for its restoration and conservation for future generations.

Thus, education for sustainable development is built with an orientation on the features of post material civilization:
- decrease in the role of material production;
- development of production sectors that create services and information;
- increasing the role of knowledge and greater flexibility of the education system, corresponding to a society that responds promptly to changes in the environment and accordingly changes the management system.

The fundamental difference between planning in the context of sustainable development and planning, which tried to force the environment to be reconstructed to meet human needs, is to respond in a timely manner to deviation of environmental parameters (impact) by changes in the socio-economic system, which should be reflected in training courses.

Conclusions

Training teachers to educate future generations is a key factor in achieving the sustainable development goals. It is necessary to ensure high-quality training of teachers, as well as to provide an opportunity for their education throughout life, for the acquisition of competencies in continuing education programs. It is necessary to use such teaching methods (heuristic conversation, "brainstorming", role-playing and "business" games, project method, group work) that promote learning on the basis of competencies, and not just the transfer of knowledge.

According to the results of the survey, only 9.5 % of teachers assess the level of their methodological training as sufficient for the implementation of ESD, more than half of the respondents consider their level of training insufficient, one third of the teachers were not able to evaluate their training. These results indicate that teachers rather critically assess their level of training and almost 80 % would like to improve qualifications in ESD.

Among the preferred forms of continuing education are thematic continuing education courses on ESD seminars, conferences, exchange of experience with colleagues, visiting open classes, master classes and independent study of methodological literature. A survey of teachers working in the field of ESD shows that the ideas of sustainable development in the education system are perceived positively.

Education for sustainable development can be implemented in the form of training courses or their components, however, the most appropriate reorientation of the entire education system. The concept of sustainable development is to be able to play the role of an "umbrella" for various branches of knowledge, a system-forming factor in the education system, focused on solving existing and preventing new social, economic, and environmental problems.

Bibliography

1. Cyrankowska M., Kostecka J., Mazur-Paczka A. (2019). The Role of Relationships in Teaching Content Important for Sustainable Development. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality. (REEP), 12.* Jelgava: Latvia University of Life Sciences and Technologies, 34-39. doi: 10.22616/REEP.2019.004

2. Girvan G., Conneely C., Tangney B. (2016). Extending experiential learning in teacher professional development. *Teaching and Teacher Education*, *58*, 129-139. doi: 10.1016/j.tate.2016.04.009

3. Hume T., Barry J. (2015). Environmental Education and Education for Sustainable Development. *International Encyclopedia of the Social and Behavioral Sciences* (2nd ed.), 733-739. doi: 10.1016/B978-0-08-097086-8.91081-X

4. Keles R. (2012). The Quality of Life and the Environment. *Procedia - Social and Behavioral Sciences 35*, 23-32. doi: 10.1016/j.sbspro.2012.02.059

5. *Learning for the future: Competences in Education for Sustainable Development.* (2012). United Nations Economic Commission for Europe Strategy for Education for Sustainable Development Retrieved from http://www.unece.org/fileadmin/DAM/env/esd/ESD_Publications/Competences_Publication.pdf

6. Lice-Zikmane I. (2018). Handicraft in the Context of Sustainable Education. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality. (REEP), 11.* Jelgava: Latvia University of Life Sciences and Technologies, 296-303. doi: 10.22616/REEP.2018.036

7. *National Reforms in School Education.* (2019). Retrieved from https://eacea.ec.europa.eu/national-policies/eurydice/content/national-reforms-school-education-34_en

8. Pipere A., Veisson M., Salīte I. (2015). Developing Research in Teacher Education for Sustainability: UN DESD via the Journal of Teacher Education for Sustainability. *Journal of Teacher Education for Sustainability, 17*(2), 5-43. doi: 10.1515/jtes-2015-0009

9. *Policy Document for the Integration of a Sustainable Development Perspective into the Processes of the World Heritage Convention.* (2015). World Heritage and Sustainable Development. Retrieved from https://whc.unesco.org/document/139747

10. *Proposal for a Global Action Programme on Education for Sustainable Development as follow-up to the United Nations Decade of Education for Sustainable Development (DESD) after 2014.* (2013). Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000224368

11. Roczen N., Kaiser F.G., Bogner F.X., Wilson M. (2014). A competence model for environmental education. *Environment and Behavior, 46*(8), 972-992. doi: 10.1177/0013916513492416

12. Rydén L., Migula P., Andersson M. (Eds.). (2003). *Environmental Science: Understanding, protecting and managing the environment in the Baltic Sea Region*. Uppsala: Baltic University Press. Retrieved from http://urn.kb.se/resolve?urn=urn:nbn:se:uu:diva-195717

13. *Ten years of the UNECE Strategy for Education for Sustainable Development. Evaluation report on the implementation of the UNECE Strategy for Education for Sustainable Development from 2005 to 2015.* (2016). New York and Geneva: United Nation. Retrieved from https://www.unece.org/fileadmin/DAM/env/esd/ESD_Publications/10_years_UNECE_Strategy_for_ESD.pdf

14. *The United Nations Conference on Sustainable Development, Rio+20.* (2012). Retrieved from https://sustainabledevelopment.un.org/rio20

15. *Transforming our world: the 2030 Agenda for Sustainable Development*. (2015). United Nations. Retrieved from https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf

Starting and Maintaining Smoking: A Qualitative Study of Tobacco Use in High School Students

Aija Zobena[1] Dr.soc.; **Anete Skrastina**[2] Mg.sc.pol.
University of Latvia, Latvia
aija.zobena@lu.lv[1]; anete.skrastina@lu.lv[2]

Abstract: Despite the detrimental impact of smoking to health, its prevalence remains high. Most students who smoke start to do so regularly around the age of 16-18. Although the proportion of smokers in Latvia is decreasing, the share of electronic cigarette users among young people is growing prematurely, which indicates a change of habits among young people. The aim of the study is to investigate the motives for starting smoking, the factors that contribute to smoking initiation and how high school students become "regular smokers" from "trying" tobacco products. In February 2019, two focus group discussions were organized to obtain information on young people's smoking experience. In each of them, high school students (aged over 18) and students took part. The participants of the focus group discussion were chosen by the "snowball" method. Social factors and the social and psychological characteristics of adolescents have a major impact on the transition from the first cigarette smoked by peers to regular smoking. According to the study, so-called social smoking is prevalent among young people, where smoking is one of the elements of starting and maintaining a relationship, and the smoker himself feels that he is not addicted to smoking and does not think it is necessary to quit.

Keywords: adolescent smoking, social smoking, smoking behaviour, electronic cigarettes, heated tobacco.

Introduction

Studies of smoking habits have concluded that smoking is not only an addiction to physical manifestations (overwhelming need to smoke, difficulty concentrating, insomnia, weight gain after quitting smoking), it is also associated with maintaining social bonds and social rituals (peculiar initiation rituals for young people, smoking situations) as well as emotional and physical enjoyment (Bevan, 2016).A quantitative study comparing smokers and non-smokers found that the impact of the social context on smoking initiation and the transition to regular smoking is significant. Smokers are more likely to live with smokers, have more friends who smoke, partners with smokers, while non-smokers have less contact with smokers (Johnson et al., 2019).

In Latvia, like in many other new EU Member States the lack of data is the main cause, which prevents comprehensive and objective analysis of the burden smoking causes to society (Kokarēviča, 2015). A new and relatively little studied phenomenon is the use of electronic cigarettes and heated tobacco. From a health point of view, most authors recommend to apply caution in promoting these products (Egbe, Parry, Myers, 2019), claiming that these tobacco products, such as electronic cigarettes (e-cigarettes), are more attractive to young people and contribute or may contribute to nicotine addiction in children / adolescents, to accustom them to the smoking ritual.

However, studies have not directly confirmed this claim Thus, according to a survey conducted in Finland in 2014, only 2 % of all respondents (N = 7000, 3485 respondents) smoke e-cigarettes, while 12 % have ever, even once, tried them. Share of respondents with lower levels of education and social status, unemployed is higher among e-cigarette smokers than among non-smokers. On the other hand, there are more young people and students among those who have just tried e-cigarettes but do not smoke at present (Ruokolainen, Ollila, Karjalainen, 2017). A study from the UK also shows that while young people's experimentation with e-cigarettes has increased in recent years, regular use is still low. Only 1.7 % of smokers under the age of 18 smoke e-cigarettes weekly or more frequently. Among young people who have never smoked before, only 0.2 % regularly use e-cigarettes. Although more and more young people are experimenting with e-cigarettes, the decisive fact is that regular use is still low and particularly low among those who have never smoked (Regular e-cigarette use…, 2019), suggesting that young people rarely start smoking directly with e-cigarettes. There is currently insufficient evidence that smoke free products encourage young people to start smoking.

Research on the subculture of e-cigarette smokers reveals how e-cigarette users socialize with each other, discuss the advantages or disadvantages of various accessories. However, the prevailing view is that these products are intended for those who cannot quit and are aware of e-cigarettes as a "healthier" tobacco use, a way to reduce passive smoking. So, very often, e-cigarette users are well aware of the harms of smoking and look for ways to avoid at least some of the negative side effects of tobacco use - unpleasant odours, yellow stains on their fingers, passive smoking - and also consider e-cigarettes as a way to quit or at least reduce smoking (Bevan, 2016).

Both smokers and non-smokers alike are relatively well aware of the harmful health effects of smoking, and smokers have no illusions that smoking can be compatible with a healthy lifestyle (Fitz, Kaufman, Moore, 2015), and thus the ability to maintain social and pleasure functions, while limiting the harmful effects of cigarette smoke on both the smoker and those around him. Nicotine-containing tablets, patches are discreet in use, while e-cigarettes, heated tobacco use allows the maintenance of social rituals associated with tobacco use as well as the enjoyment of taste and the use of various accessories, making the smokeless tobacco products less harmful to the environment, while perceiving it as a peculiar substitute for these social and hedonic aspects of tobacco use (Bevan, 2016).

As part of the Global Youth Tobacco Surveillance System since 2002 surveys are conducted regularly in Latvia to assess the dynamics of smoking among young people. Although the data of the Centre for Disease Prevention and Control of Latvia show that the proportion of young people smoking in Latvia has decreased, the share of smoking in Latvia is still very high. The analysis of the study data shows that the proportion of regular smokers among 15-year-oldsdecreased by 12% over four years and returned close to the 1995 survey when17% of the surveyed 15-year-olds smoked regularly (Gavare, Lepiksone, 2017). Quantitative data analysis does not provide information on subjective smoking experience and habits, motives initiating or cessation of smoking.

Smoking cessation is much more difficult than not to initiate smoking at all. Interventions targeted at teens, including those that address social and environmental influences, are clearly still needed to prevent escalation of smoking as they move toward young adulthood (Lenk, Erickson, Forster, 2018) The aim of the study is to investigate the motives for starting smoking, the factors that contribute to smoking initiation and how high school students become "regular smokers" from "trying" tobacco products.

Methodology

The main method of data acquisition used in the study is focus group discussion. In February 2019, two focus group discussions were conducted to obtain information on smoking experience among young people, tobacco use patterns and attitudes toward alternative tobacco products. It was planned to invite 6-8 participants (smokers) - adult pupils and students - to the discussion for about one and a half hours. The participants of the discussion were warned in advance and agreed to the recording of the discussion in an audio recording. At the beginning of the discussion it was made clear that the information obtained would be anonymized and used only in aggregate form. The discussion took place in a free, relaxed atmosphere.

The participants of the focus group discussion were selected using the "snowball" method. Involvement of participants of age under 18 would be difficult because their participation would require parental authorization, but at this age many teenagers from parents hide the fact that they smoke. It would also be difficult to organize such a discussion at school, because the attitude of teachers and classmates non-smokers to smokers often is negative.

The focus group discussion included questions on how and why young people initiate smoking, their smoking experience and habits, their choice of tobacco products, how they are perceived by others (friends, classmates, family members, teachers), attitudes towards smoking restrictions in public environment and cessation of smoking, treatment of tobacco products alternative to traditional tobacco smoking (e-cigarettes, heated tobacco). The focus group of students was organized because the beginning of studies often involves leaving parents' homes and starting independent living in dormitories or rented accommodation, forming a new circle of acquaintances, starting work, planning independent spending of money. Open smoking is often perceived as one of the hallmarks of independent living. Participants of the student focus group discussion are described in Table 1.

Table 1

Participants of the student focus group discussion

Participant	Smoking history (years)	Smoking intensity	Tobacco products used
Female student 1	5-6	regularly	Cigarettes, **heated tobacco**
Female student 2	5-6	irregularly	**Cigarettes**, heated tobacco
Male student 1	4-5	regularly	Cigarettes, e-cigarettes, **heated tobacco**
Male student 2	4	regularly	**Cigarettes**, e-cigarettes

The high school last year students are 18-19 years old, have recently reached adulthood and thus have the opportunity to legally buy tobacco products. Teachers have a negative attitude towards smoking and smoking is prohibited in and around the school. Participants of the high school student focus group discussion are described in Table 2.

Table 2

Participants of the high school student focus group discussion

Participant	Smoking history (years)	Smoking intensity	Tobacco products used
Female high school student 1	2	regularly	**Cigarettes**, rolling tobacco, hookah and e-cigarettes
Female high school student 2	2,5	irregularly	**Cigarettes**, rolling tobacco, hookah and heated tobacco
Male high school student 1	1	regularly	**Cigarettes**, e-cigarettes, hookah, heated tobacco
Male high school student 2	1,5	regularly	**Cigarettes**, e-cigarettes, hookah
Male high school student 3	1,5	quit smoking two weeks ago, then smoked regularly	**Cigarettes,** heated tobacco, e-cigarettes, hookah, cigars, pipe tobacco

Young people are a very heterogeneous social group. Compared to other peers, Riga high school students and students are generally better financially aware, more aware of the negative effects of smoking, motivated to pursue a professional career, to lead a healthy lifestyle. Smoking habits of young people from less favourable social backgrounds with lower education, low-skilled, unemployed may differ significantly (Johnson et al., 2019) from those of the participants in these focus group discussions.

Results and Discussion

The focus group participants were selected by the "snowball" method, addressing students of the University of Latvia and Jāzeps Vītols Latvia Academy of Music, and high school students from Riga (age 18+). Public attitudes to smoking are ambiguous, smoking in public places is limited, and information on the harmful effects of nicotine-containing products is widely available, which may have failed to reach the intended number of participants. Some invited participants who initially agreed to attend did not appear.

The discussion was attended by pupils from the gymnasium in the centre of Riga, where admission is by competition. During the discussion it became clear that most of their classmates did not smoke. The situation may be different in Riga district schools. Although some participants of the focus group discussion work, their income is irregular, cigarettes are mainly bought for the pocket money given by their parents.

Participants of the discussion had different smoking history and intensity; they prefer different tobacco products. In this study at least 5-7 cigarettes (smoking times) per day were considered to be regular smoking, occasionally - a few times a week, at parties, in stress situations.

Smoking history refers to the time since one smoke regularly, every day. The first episodic smoking experience for all participants was a few years earlier. The earliest smoking experience was for a female student 1 (at the age of thirteen), others smoked for the first time with friends aged 14-15.

The first focus group discussion was attended by two female students and two male students with different smoking experiences. Female student 1 started smoking 5-6 years ago, now she smokes regularly. She started smoking cigarettes but now switched to heated tobacco. Female student 2 started smoking 5-6 years ago. She prefers cigarettes but has also tried heated tobacco. She smokes irregularly. Male student 1 has started smoking with e-cigarettes but now switched to heated tobacco, he has also smoked cigarettes. He smokes regularly.

The second focus group discussion was attended by two female high school students and three male high school students. Female high school student 1 initiated smoking two years ago, now she smokes cigarettes regularly. She has tried also rolling tobacco, e-cigarette and hookah. Female high school student 2 initiated smoking two years ago, now she smokes cigarettes irregularly. She has tried also rolling tobacco, e-cigarette and hookah. Male high school student 1 initiated smoking a year ago, now he smokes cigarettes regularly. He has tried also rolling tobacco, e-cigarette and hookah. Male high school student 2 smokes fairly intensely - three packs of cigarettes a week, he initiated smoking a year ago. He has tried also e-cigarette and hookah. Male high school student 3 had quit smoking two weeks ago, previously smoked two packs of cigarettes a week. He initiated smoking more than year ago. He has tried also e-cigarettes, heated tobacco, hookah, pipe tobacco, cigars.

Analysis of **smoking experience and habits shows** that almost all participants in the discussion started smoking a few years after their first "try". Most high school students start smoking regularly at the age of 16. The high school students and students alike have similar experiences with smoking initiation - social motivation predominates. First-time smoking experience is most often among friends. Female high school student 2 told: *"From the beginning, of course, it all started so jokey. There with friends to try and so. For half a year now, I have been smoking alone, not just with my friends."* Male high school student 3 told: *"I had a childhood friend, and with him I started smoking. At first it just seemed attractive as such, and also... it may sound ridiculous, but also masculine in some ways. And I started communicating with him somehow, then every now and then one cigarette. "*Male student 1 told: *"...at the age of 14 I met my friend, a little older than me. I was such a very right kid (smiles) ... Then I probably tried to do everything I hadn't done before and started smoking. Yes, but it was only one summer when we spent time together, then I smoked, but then it just continued. Well, after a while because classmates smoked a lot and, well, that was how it was - to go to meet somewhere after school or before school and smoke and do something."* These experience stories show that smoking during adolescence is often a way to fit in with peers, to be like others, to assert their masculinity, their adult status. Smoking is still perceived by some young people as "stylish, cool".

There were not many people who developed an overwhelming smoking addiction. Most participants of the discussion do not yet smoke very intensively. Only two high school students mentioned that they smoke 2-3 packs of cigarettes a day. Male high school student 2 told: *"Well, the body's need for cigarettes is beginning to emerge. I would say that the first year of smoking was so, if I did not want to, then I could quite easily not smoke. Then it really was more of a ritual function."* For others, smoking is more a social activity or one of the elements of maintaining a relationship.

Generally speaking, so-called social smoking is prevalent among young people, when the smoker himself/herself feels in control of the situation and does not depend on smoking, does not think that it is necessary to quit the habit. The study on social smoking concludes that social smokers expect to quit smoking at some point or in the future when their social status and environment change, such as when they finish school, when there is no social tension (Debevec, Daimond, 2012). In practice, this most often turns out to be a switch to regular smoking. Female high school student 2 told: *"I was thinking of quitting sometime, and in the near future, but not there at age of 30, of course. I don't really think about it until I finish school because I have stress. I'm the kind of person who can't just relax in some way, and it's one of those ... It's such an important part of my day. Going to school is pretty hard, so I don't want to bother myself with dropping out, because it is such a difficult process. I want to quit just because it is unhealthy and I want it as fast as I possibly can. Somewhere up to 22 or 21, because the lungs are still there. They are still developing, so they can clean themselves up a little bit."*

Starting an independent life after leaving parent's home can lead to regular smoking. Male student 2 told: *"I have been smoking since the age of 16. I also tried it for the first time at the age of 16. After the first cigarette I had not smoked for another half a year, and then I bought the first pack of cigarettes for Christmas party, then I smoked them, then half a year very rarely. I smoke once a month, and then for*

the first time in six months I for the first time moved to Riga. I lived in Riga in the summer, then I started smoking regularly. That is ... seven or eight cigarettes a day, and now I smoke more, 10 cigarettes a day."

Very often young people have a psychological motivation to smoke. Smoking is often seen by young people as a way to relieve stress, relax and also make contacts - overcoming insecurity by starting communication with strangers such as future co-workers. Male high school student 3 told: *"... It culminated in the moment I started working somewhere, because it was a chance to get to know my colleagues faster, and also easier to deal with work stress. Sometimes something complicated that tends to flip over my nerves."*

Analysis of **relations with others in relation to smoking** shows that the attitude towards smoking has always been ambivalent in society. Although smoking has long been considered harmful and it is restricted in public places, smoking is widespread. In families, the attitude to teenagers and adolescents smoking is generally negative, even if the parents themselves smoke. Male student 2 told: *"...I have pressure from my mom. Mom has those ironic jokes about smoking in general. She does it herself, she knows she is doing bad things, then she condemns me too. Dad's really like ... He defines it as my free choice"*.

The attitude of those around them to smoking is more of a concern to high school students. What teachers and classmates think of smokers? Not all high school students smoke. Often non-smoking classmates are intolerant to smokers. Female high school student 1 told: *"I'm the only smoker in the class. Some of my classmates have such a negative attitude towards it."*

The public does not condemn adolescent smoking. This is evidenced by the stories of the participants of the discussion about how they purchased cigarettes when they were younger than the legal age to buy cigarettes. Female student 1 told: *"I live in a very favourable area – there are a lot of small shops with friendly salespeople who are not interested in how young you are and if there is still a girlfriend who looks older… Sold almost always."*

High school students, including non-working students, do not always have enough money to buy cigarettes. Then they may also buy cigarettes for lunch money. Female high school student 1 told: *"Sometimes you might regret that some of your parent's money goes into cigarettes for something they would definitely not be happy with."*

Analysis of the part of the discussion related to **smoking restriction** show that even smokers themselves, including high school students and students, have no illusions that smoking can be combined with a healthy lifestyle. Male high school student 2 told: *"However, you realize that this [smoking] is nothing really good, and also in some way feeling when you smoke... [is not good]. In principle, I have found that I feel best when I do not smoke, but there is some need for those cigarettes…"*

However, these thoughts are typical manifestations of social smoking. The phenomenon of "social smoking" emerged in the past decade as an important area of research, largely due to its high prevalence in young adults (Villanti et al., 2017).Female high school student 2 told: *"About the future, then maybe if the thought goes so far as to quit, then I don't smoke every day, then I know for sure, even if I don't smoke every day, I will definitely when there will be some celebration, when I will drink something out of the ordinary, then I'll smoke. I don't see myself giving up completely every day."* Most participants in the discussion are typical social smokers who intend to quit smoking for some uncertain future, while retaining the opportunity to smoke in various situations - at parties, in the company of friends, when using alcohol, and so on.

A high school student who has been abstaining from smoking for two weeks believes that there are many conditions in the urban environment that encourage smoking. Male high school student 3 told: *"You don't have that environment around you at home... you can't smell that smoke. ...in the city where you feel them to some extent. Accordingly, you do not look specifically at people who smoke, but somehow your subconscious catches that they have cigarettes in their hands, and that also drives you to the point that you need to smoke.*

The concluding part of the discussion focused on the **awareness of young people about alternative tobacco products** (e-cigarettes, heated tobacco). Almost all participants of the discussion have tried a wide range of tobacco products and smoking devices, are aware of the prices and options available to purchase these products. This confirms the findings of research carried out abroad that young people are well-informed about market news and want to try those (Cooper et al., 2017). These studies conclude that while young people are curious, dynamic and therefore inclined to try new tobacco products, most

cigarettes and roll-your-own tobacco are preferred in most cases. The information gathered in the discussions generally confirms these findings.

E-cigarettes have been tried by almost everyone in the discussion, but none are currently being used. Only one participant in the discussion smokes an e-cigarette when meeting old school-time friends who do not live in Riga. However, he is also critical of them. Male student 1 told: *"I smoke even better electronic cigarettes because they are tastier, but I noticed that electronic cigarettes can be smoked a lot because, for example, a [traditional] cigarette or IQOS has a certain amount of smoke that you can pull up to the next time, but you can smoke the electronic cigarette virtually non-stop.* "The views expressed in the focus group support the findings of other studies that those using e-cigarettes more frequently and those with friends using e-cigarettes perceived e-cigarette use as having a positive social effect (Wallace, Roche, 2018).

The question of whether or not electronic cigarettes encourage young people to smoke is very critical. Male high school student 3 told: *"For example, I started [smoking] when those e-cigarettes were not yet popular. I don't know if I'll be able to judge it. Maybe there are young people who are just starting out with e-cigarettes, but at least that's how our generation starts with cigarettes, then try e-cigarettes and then come back to cigarettes anyway."* Female high school student 1 told: *"The thing about electronic cigarettes was that it was popular for a while. I have never smoked them after 18, but it was stylish at a time when they were still available without documentation and when you are not 18."*

Traditional cigarettes are more accessible - they can be stolen from parents, etc., but e-cigarettes must be bought. Male student 1 told: *"It doesn't seem to be like that, because for such very young people, if they want to smoke an electronic cigarette, they have to buy it. They're not that cheap, but I could buy a cigarette when I was a kid. It was possible to steal from parents, to settle for a few lats, euros and buy it that way. Electronic cigarette, it is instantly an investment. This way, cigarettes… are easier to get started with because they are easier to access."* To sum up, participants in the discussion conclude that, in their view, electronic cigarettes are beginning to "go out of fashion" because they are not comfortable to use, and it is difficult to regulate the amount of smoking, though attractive in many tastes.

Heated tobacco and devices for its use are becoming increasingly popular. Almost everyone in the discussion had tried it, two students switched to using it after a classmate gave it a try. However, the use of heated tobacco devices by young people seems to be uncomfortable compared to traditional cigarettes. Female student2 told: *"More and more heated tobacco devices are used in my circle of friends because they really say they almost no longer smoke because these devices need to be recharged, then they also needs to be cleaned. You always have a pack of cigarettes, and those cigarettes are always available."*

Although young people are well-informed about new developments in the tobacco market, they want to try them, but in most cases traditional cigarettes are preferred. According to participants of the discussion, young people most often start smoking with traditional cigarettes. This is the experience of the participants of the discussion as well as their observations among peers. Both heated tobacco devices and e-cigarettes are more difficult to access just to try smoking, and expensive devices have to be purchased at specialized outlets.

Conclusions

Smoking in adolescence is often a way to fit into the peer environment, to be like the rest, to prove your masculinity, the status of an adult person.

A lot of young people consider smoking as "cool".

Young people are predominantly so-called social smoking, when the smoker himself feels that he is in control of the situation and does not depend on smoking, does not think it would be necessary to give up this habit. Social smoking is regarded as one of the elements in starting and maintaining relationships.

Young people often have psychological motivation to smoke. Smoking is often seen by young people as a way to relieve stress and relax.

While some of the participants in the discussion said that they were not affected by advertising that points to the negative health effects of smoking, they do not speak about the motivation to quit smoking, they argued with the health damage to smoking.

Parents against teenagers smoking are most often negatively treated even when they smoke, but young people do not always consider their parents' opinions.

Youngsters are generally tolerant of smokers - young people are friends with both smokers and non-smokers.

While selling tobacco products to minors is forbidden, small shop assistants sell and "helpful" adults help young people buy these products them.

Although youth funds are limited, the preferred brand for good product quality is preferred for the purchase of cigarettes.

While young people are well aware of the news on the tobacco market and they want to try it out, but in most cases traditional cigarettes are preferred.

According to the participants of the discussion, electronic cigarettes start to "go out of fashion" because they are not comfortable to use, it is difficult to regulate the amount of smoking, although it seems attractive in many and different flavours.

Both the experience of the participants in the discussion and their observations in the peer show that young people most often start smoking with traditional cigarettes. To simply try smoking, both tobacco heating devices and e-cigarettes are more difficult to access, and you need to purchase a high-end device at special outlets.

Although many participants said that tobacco heating devices are stylish and have a number of advantages (can be used indoors, have no unpleasant odours, some discussion participants considered it healthier compared to traditional smoking, etc.), everyone admitted that they should get used to it.

According to the discussion participants, tobacco heating devices are too expensive for teenagers to start smoking with this device.

Bibliography

1. Bevan I. (2016). E-cigarettes: Smoking Pleasure Reinvented? The Manu Faces of harm Reduction in France. Contemporary Drug Problems, 43(3), 228-241. doi: 10.1177/0091450916657348
2. Cooper M., Loukas A., Harrell M.B., Perry C.L. (2017). College students' perceptions of risk and addictiveness of e-cigarettes and cigarettes. *Journal of American College Health,* 65(2), 103-111. doi: 10.1080/07448481.2016.1254638
3. Debevec K., Daimond D.W. (2012). Social smokers: Smoking motivations, behavior, vulnerability, and responses to antismoking advertising. *Journal of Consumer Behaviour, 11*(3), 207-216. doi: 10.1002/cb.1373
4. Egbe C.O., Parry C.DH., Myers B. (2019). Electronic cigarettes: the solution or yet another phase of the tobacco epidemic? *South African Journal Psychology, 49*(2) 199-205. doi: 10.1177/0081246318794828
5. Fitz C.C., Kaufman A., Moore Ph.J. (2015). Lay theories of smoking and young adult nonsmokers' and smokers' smoking expectations. *Journal of Health Psychol*, *20*(4) 438-445. doi: 10.1177/1359105313502694
6. Johnson A.L., Villanti A.C., Williams V., Rath J.M., Vallone D.M., Abrams D.B., Hedeker D., Mermelstein R.J. (2019). Smoking Trajectory Classes and Impact of Social Smoking Identity in Two Cohorts of U.S. *Young Adults. Emerging Adulthood, 7*(4) 1-12. doi: 10.1177/2167696818763949
7. Kokarēviča A. (2015.) The Economic Burden of Tobacco use and the Life Quality among the Latvian Working Age Population. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *8*. Jelgava: LLU, 222-229. Retrieved from https://llufb.llu.lv/conference/REEP/2015/Latvia-Univ-Agricult-REEP-2015proceedings-222-229.pdf

8. Lenk K.M., J. Erickson D.J., Forster J.L. (2018). Trajectories of Cigarette Smoking From Teens to Young Adulthood: 2000 to 2013. *American Journal of Health Promotion, 32*(5) 1214-1220. doi: 10.1177/0890117117696358

9. *Regular e-cigarette use remains low among young people in Britain*. (2019). Public Health England. Retrieved from https://www.gov.uk/government/news/regular-e-cigarette-use-remains-low-among-young-people-in-britain

10. Ruokolainen O., Ollila H., Karjalainen K. (2017). Determinants of electronic cigarette use among Finnish adults: Results from a population-based survey. *Nordic Studies on Alcohol and Drugs, 34*(6), 471-480. doi: 10.1177/1455072517736618

11. Gavare I., Lepiksone J. (Eds.). (2017). *Smēķēšanas izplatība un sekas Latvijā 2016. gadā* [Prevalence and consequences of smoking in Latvia in 2016]. (5th ed.). Rīga: Slimību profilakses un kontroles centrs. Retrieved from https://www.spkc.gov.lv/upload/Zinojumu_faili/sm%C4%93%C4%B7%C4%93%C5%A1anas_izplat%C4%ABba_un_sekas_latvij%C4%81_2016._gad%C4%81.pdf (in Latvian)

12. Villanti A.C., Johnson A.L., Rath J.M., Williams V., Vallone D.M., Abrams D.B., Hedeker D., Mermelstein R.J. (2017). Identifying "social smoking" U.S. young adults using an empirically-driven approach. *Addictive Behaviors, 70*, 83-89 doi: 10.1016/j.addbeh.2017.02.004

13. Wallace L.N., Roche M.J. (2018). Vaping in Context: Links Among E-cigarette Use, Social Status, and Peer Influence for College Students. *Journal of Drug Education: Substance Abuse Research and Prevention, 48*(1-2), 36-53, doi: 10.1177/0047237918807706

Design and crafts

Development of Design Thinking in the Field of Design and Crafts

Baiba Briede[1] Dr.paed.; **Zane Beitere-Selegovska**[2] Mg.paed.
Aija Pridane[3] Dr.paed.; **Laura Boldisevica**[4] Mg.oec.
Latvia University of Life Sciences and Technologies, Faculty of Engineering,
Institute of Education and Home Economics, Latvia
baiba.briede@llu.lv[1] ; zane.beitere@llu.lv[2]; aija_pridane@inbox.lv[3]; laura.boldisevica@llu.lv[4]

Abstract: Design thinking is a complicated and time-consuming process that consists of various stages. It helps planning business development. Design thinking is centred on the solution of the problem and creation of desirable outcome. Design thinking is revealed as critical, creative and analytical way of thinking oriented towards reaching better results and improves one's life. The aim of the study is to analyse design thinking concepts and stages in relation to modern design nature, and reflect the invention of design thinking at university and school in the field of design and crafts. The methods used in the study are: the theoretical analysis of design thinking concepts and its stages, and empirical investigation of the usage of learning of design thinking in the particular courses for design and crafts students at Latvia University of Life Sciences and Technologies (LLU) and in the lessons of home economics and technologies at Jelgava Secondary School No. 4. As a result of the theoretical analysis, the authors assessed which definition and which stages of design thinking are the most appropriate for the implementation of the empirical study. The results were obtained from LLU study curriculum "Design and Crafts" courses and school subject "Home Economics and Technologies". The significance of the results manifests in comparison and assessment of design thinking concepts and stages, and opportunities of their implementation at university courses and school subject as well as reflects the holistic picture and reveals pluses and minuses in the learning process.

Keywords: design thinking, design thinking stages, design and crafts education.

Introduction

Solving complex problems is an everyday life almost for every person who is oriented towards reaching career goals. A situation becomes more complicated when an individual starts business and makes products. It means that more effective ways of reaching goals should be found out and design thinking is one of that tools. Design thinking is a way how to think and act, and a design professional should go through a number of stages starting from investigation of clients' needs up to implementation of product making and selling by meeting customers' demands.

Design is a strategic development process that provides a way to see and deal with different types of problems. In both business and academic environments, design is described as an instrument for creating and delivering innovative solutions. This innovation–driven resource is a major competitive advantage that can bring economic added value to public organizations, benefit regions and boost competitiveness in the business environment, and also promote learners' skills in the educational process to address challenges and create new ideas. Moreover, when a design is fully integrated into the innovation process, it can create added value in the development of products and services (Thomson, 2012).

From the year 2020/2021 the acquisition of a new competence-based education standard and curriculums are launched in Latvian schools. The subject "Design and Technologies" is developed instead of the subject "Home Economics and Technologies" (Noteikumi par valsts…, 2018).

Unlike the currently existing curriculum in which pupils learned a variety of tools for crafting and producing a variety of products, the new curriculum "Design and Technologies" enables basic school pupils (form 1-9) to gain understanding of how design solutions useful for people such as products, services, information and environmental solutions can be developed practically. Therefore, the training process focuses heavily on the deliberate planning and implementation of design steps, addressing the design process challenges, testing a number of possible solutions and producing prototypes to reach a complete outcome. Similarly, a key part of the learning process is the reflection of work process by recording and documenting the most important stages of development (searching for information on the specific situation/problem, creating ideas, sketches, drawings, attachments, recipes as well as planning, developing and testing.

The secondary school in Latvia is passing over to three levels: basic, optimal and higher. This enables students to continue to know the different aspects of global affairs (products) and digital solutions, producing not only handmade products using tools and devices but also machines and automated means. The experience of engineering and technological challenges acquired in basic education the secondary school pupils develop interdisciplinary which is a result of several teaching fields co-operation. They acquire technologies in close connection with science and mathematics. The students form an understanding on technological processes in industry, practical usage of science achievements in the development of technologies. They also learn to assess the usage of technologies and products in line with the principles of sustainable development, ethics and economics as well as draft recommendations for their improvements. The students have to work out interdisciplinary projects for the development of entrepreneurship in the frame of in-depth courses. They can be training companies, exhibitions of their products, markets et cetera. The students on the secondary school optimal and higher levels have a planned opportunity to choose acquiring of several modules in line with their future career goals in particular higher schools of study curriculums (Noteikumi par valsts…, 2019).

Seven stage model of design thinking (Bušmanis, Bušmane, Adamoviča, 2018) could be recognised both in the curriculums in high and higher schools as well as in business. It is a convenient and compact way of thinking and a tool for reaching goals.

LLU Bachelor's Curriculum "Design and Crafts" comprises three directions: wood, metal and textiles design. The development of directions is focused on the usage of modern technologies, findings in the field of design and creative strategies and techniques how to develop design thinking. For instance, an informative example is in the direction of textiles where production of smart textiles of healthcare (Mečņika et al., 2014) is necessary and prospective nowadays' industry.

That is why the aim of the study is to analyse design thinking concepts and stages in relation to modern design nature, and reflect the invention of design thinking at university and school in the field of design and crafts.

Methodology

The task of the study was to analyse theoretically the concept of design thinking and its stages, The method used was an empirical investigation of the usage of learning of design thinking in the particular courses for design and crafts students at Latvia University of Life Sciences and Technologies and in the lessons of home economics and technologies at Jelgava Secondary School No. 4.

The study had been carried out from January 2019 to November 2019.

The theoretical analysis on design thinking is based on P.G. Rowe (1987), K. Best (2006), R. Razzouk and V. Shute (2012), Ch. Bušmanis, E. Bušmane, S. Adamoviča (2018), T. Brown (2020), R.F. Dam, Y.S. Teo (2020) scientific findings.

The nature of design thinking

The European Design Leadership Board established in 2011 promotes design and innovations in European. The Board considers design "..as an activity of people-centred innovation by which desirable and usable products and services are defined and delivered. A sector in its own right of specialised, professional economic activity by trained and qualified practitioners and as a tool for business and organisational growth at the highest strategic level. In addition to its economic benefits, design also encompasses sustainable and responsible behaviour contributing positively to an innovative society and improved quality of life" (Thomson, 2012).

Talking about design oriented to a client's needs and wishes often is started with ideas by industrial designer Tim Brown who developed "user-centred" design as well as the concept of "design thinking" (Great Design Thinking…, 2017). He substantiates that the space of design thinking is "desirability, viability and feasibility". These three key words originate from the definition that "Design thinking is a human-centered approach to innovation that draws from the designer's toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success" (Brown, 2020).

There are several recognisable findings describing the development of design thinking and which are used in the educating designers. P.G. Rowe (1987) developing design thinking in architecture and urban

planning outlined a systemic understanding of design process offering the analysis of case studies of designers in real situations, and the importance of such design thinking key words as *problem solving skills, attitude, creativity, finding of coherence, context, invention of ideas, decision making* and others. They are crucial on every stage of design thinking and a lot of strategies are used to train becoming designers to reach multi-sided understanding of them and be skilful in various situations.

In the article on design thinking R. Razzouk and V. Shute analysed "the nature of design thinking, experts' behaviour in design, and differences between novice and expert designers". After deep analysis of findings, the authors summarize that "Having good design thinking skills can assist in solving really complex problems as well as adjusting to unexpected changes. Although the design process involves in-depth cognitive processes which may help our students build their critical thinking skills (e.g., reasoning and analysis) – it also involves personality and dispositional traits such as persistence and creativity" (Razzouk, Shute, 2012).

The scope of design thinking is wide and deep enough and it causes systemically organised approach in design education through a number of stages covering the development of all necessary qualities of the 21st century designer.

Design thinking is a methodology for practical and innovative solutions to problem situations. It includes the process of generating ideas, targeting and market analysis, the development, production and promotion of concepts and prototyping.

The ideas from the European Design Leadership Board (Thomson, 2012), K. Best (2006) and Kantar (How Design Thinking…, 2011) home page are that design thinking is an essential strategy both in business and education. It combines a number of ideas, research and management methods in a specific order to achieve the maximum possible effectiveness. It combines both the creative and analytical way of thinking, which sets out a crucial role in designing, producing, artworks, services and business models. Creative processes are transformed into practical and functional solutions. In addition, design thinking as a method makes it easy to understand and organise innovation in the development of new ideas. Design thinking is an effective method in design education that helps students to create innovative product concepts, generate new ideas and develop existing ones. This method helps to focus on user and sustainability-oriented solutions, taking into account the social, ethical and technological context of progress. Design thinking involves overcoming challenges, providing experience and creating motivation.

Ch. Bušmanis, E. Bušmane, S. Adamoviča (2018) define design thinking as a user-focused problem and challenge-solving methodology. It contains seven stages (understanding essence; "digging" deeper with going into details; creating an idea of a solution; creating a prototype making it effective; checking to users; presenting persuading people; implementation in life) and it is not a liner process because when an individual receives feedback and has to investigate definite things deeper rather than other ones.

A non-linear process also is a five-stage model. It includes the following stages: empathise; define a problem; ideate; prototype and test (Dam, Teo, 2020).

Results and Discussion

Seven stage design thinking model is used in the study because it is quite popular and convenient for usage and its implementation in curriculums helps to develop a way of systemic thinking how to manage one's business:

- stage 1 *Understanding essence* means going deeper in understanding of context, -self, others and situations;
- stage 2 *Digging deeper with going into details* means getting to know the specifics and checking assumptions concentrating on several points of interest;
- stage 3 *Creating an idea of a solution* means generating ideas and finding solutions of challenges;
- stage 4 *Creating a prototype making it effective* means testing ideas and expressing views;
- stage 5 *Checking to users* means testing solutions on customers and collecting their opinions and repetitive testing again;
- stage 6 *Presenting persuading people* means getting support from stakeholders;
- stage 7 *Implementation in life* means usage of various resources and experience to get success.

A brief outlook on design thinking concept and stages is given before starting action strategies in each stage. The inclusion of design thinking stages in the LLU programme's "Design and Crafts" courses is graphically depicted in Table 1.

Table 1

Acquiring of design thinking stages in the curriculum "Design and Crafts" at LLU

Stage Study course	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7
Introduction in Studies			x				
Interactive Methods and Professional Communication	x	x	x				
Product Design	x	x	x	x	x	x	x
Interior Design	x	x	x				
Experimental Visual and Creative Thinking	x	x	x	x	x		
Fundamentals of Design and Product Registration	x	x	x				
Basics of Crafts	x	x	x	x	x		

During the first stage students acquire techniques how to understand context, others and situation. They use techniques how to find a contact with people and comprehend their view, ideas, dreams and challenges. It is crucial perspective in this stage that a focus is on a client's ideas and imagination rather than a designer's professional knowledge. It is because the designer has to come closer to the client's thinking and step by step both parts create the final solution. That is why becoming design specialists have to use techniques of observing people and trying to understand and make notes on their taste and motivation of usage particular products. They also use the technique of making the potential clients' profiles describing their interests, values, goals, needs, habits, capabilities, occupations, age and ways how they could improve their well-being. So, it is possible to make the clients' register.

The first stage also involves the investigations of designers' personality. Here the SWOT (strong and weak sides, opportunities and threats) technique and description of one's future business is practised. Students write about their future companies personalising them. It means that they describe such companies' interests, values, hobbies, dreams, favourite products, groups of interest, activities and favourite media. It helps a professional to understand how he/she differs from clients and opportunities to inspire them.

The second stage comprises deeper understanding of one's interests and students perform a task about their company, time management. The students learn to create interviews and how to use questions as well as drawing and analysing "a problem tree" by means of which try to understand deeper the causes of problems and consequences.

During the third stage students try a lot of creative methods in many courses. For example, in the course "Interactive Methods and Professional Communication" they complete tasks using "Mind Map" (Sicinski, 2018), "Mind Provocation" (Creative Provocation, Reverse…, 2018), "Morphological Box" (Burge, 2016), "Osborn's Checklist" (Osborn, 1963; Osborn's Checklist, 2020) methods. Whereas in courses "Introduction in Studies" and "Basics of Crafts" they are working on associations through creativity and innovation training methods, such as exercises to develop creative thinking by de Bono (2007) or different gamestorming methods (Gamestorming is a set…, 2020).

A lot of methods in study course "Introduction in Studies" are used by working in groups which are mixed each time because groups are more likely to solve the problem than individuals. In turn a group work trains students for a real work environment, understanding how hard it is to work in a team or with clients.

During the prototyping stage students are exploring idea realization. They are testing materials, technologies, shape and ergonomics aspects to get the best result.

During the fifth stage students give made prototype to test to family, friends and course-mates or real client if it is possible. For best results testing is productive on strangers and course-mates are excellent auditorium for it because they are quite critical to each other.

For getting best results this is a moment when previous stages have to be revised to look for better solutions. First prototype never is the best result, but in study process not always are possibilities and time to repeat process more times so sometimes students are asked to make conclusions on how they would upgrade product without real upgrades. Repetition is an important step in the design process that allows for better adaptation of specific context, quickly understand errors and make improvements.

During the last stages students are thinking about strategies to implement product in market, making visual materials and presentations to reach target market.

In nowadays school learning of seven design thinking stages is implemented in the subject "Design and Technologies".

First, in order to create ideas, pupils should be aware of their own and other needs and opportunities in the context of the creation of a specific product. The pupil also should be aware of his/her capacity and the availability of resources (materials, technologies, time and tools) necessary for specific activities.

The next step is looking for ideas and selecting a solution. Pupils have to learn the usage of variety of ideas considering whether the intended product will be necessary, sustainable, up to date, will not consume redundant materials and whether the same or similar solutions are already available on the market. The pupils also should prepare to consider alternatives of materials and techniques and justify their choice.

During the planning phase the pupil has to plan resources for sequent actions and solutions. Then the producing development phase follows in which the pupils practice skills to use particular techniques of material processing and then to make a product independently.

During the evaluation phase the pupils train to assess their skills in the work process and improve their performance quality. They also assess their design solution according to defined criteria.

During the testing and development phase of the design solution, in line with the predefined product characteristics and associated functionality, pupils learn to plan and perform the testing process, analyse results obtained by identifying the necessary changes to the design and output process of the product.

The final – instruction phase of the design solution involves presentation (narration, exhibition, product exposition, digital presentation or demonstration).

Pupils should find answers on the questions "How?", "With what?", "Why?" acquiring every theme in the subject "Design and Technologies".

When answering the question "How?" the pupil understands that products are created in the design process, that solutions are developed by means of specific work steps that begins with identifying the problem and creating ideas and ends with implementation the solution.

When answering the question "With what?" the pupil understands the importance of the choice of suitable and safe materials and technologies as well as the level of knowledge and skills to achieve a specific result.

In response to the question "Why?" pupils understand that design solutions depend on the needs, expectations and capabilities of a particular consumer and society. In this context the pupil has to figure out where to look for inspiration to find new solutions and how they can affect society and environment.

The goal of the subject "Design and technologies" is to enable the pupil to develop practical skills by working with a variety of technologically increasingly sophisticated tools, electrical tools and devices. The pupil gets skills to work with hand-tools and simple materials and in elementary school the pupil learns working with electrical tools and devices as well as uses technological devices such as sewing machines, lathes, programmed machine tools and household appliances.

This creates an understanding of what is learned, the advantages and disadvantages of hand work, the use of technologies and how to prefer them in different situations. Pupils learn the increasing scope of material processing gradually, so they are able better to choose the best suited technology for developing their ideas and creating the products of higher quality.

Development of design thinking in learning situations should be practised considering challenges, necessities and problems in everyday work-life in companies. Conclusions and recommendations from the companies is a significant factor of revising design thinking ideas and techniques in learning situations.

McKinsey & Company's study on design leaders responsibilities a stress is on "the organisation's design ambition, and to clarify the leadership needed to deliver it.." (Dalrymple, Pickover, Sheppard, 2020). Three "interconnected interventions" to raise the organisation's "design ambition" are recommended by the authors:

- "embrace user-centric strategies, improving not only products and services but also the full user experience and, in some cases, the organisation itself;
- embed your senior designer into the *C-suite* while cultivating a collaborative top-team environment in which your design leader will thrive;
- make the most of user data through a balance of quantitative and qualitative design metrics and incentives that enhance user satisfaction and business performance" (Dalrymple, Pickover, Sheppard, 2020).

The three interventions could be an effective tool for senior designers to promote design quality and entire business of every company.

In the Programme *Mastering Design Thinking* of Michigan Institute of Technologies nine steps of the development of design thinking are taught: learn concepts that derive design thinking, identify customer needs and user groups, create a prototype, analyse the economics of the innovation, present your final idea, get real-time feedback, submit your project ideas around user innovations, translate needs into product specifications, build out the product architecture, choose the right development process. The Programme is focused on both team and individual product developers and it helps business people to become more effective in thinking systemically, implementing product development, meeting customers' needs and challenges as well as overcoming obstacles in the problem-solving process (Management Executive Education, 2020).

Conclusions

Design thinking helps to systematize thinking and guidelines how a product can be developed and reach a customer. It is a methodology for practical and innovative solutions to problem situations. It includes the process of generating ideas, targeting and market analysis, the development, production and promotion of concepts, prototyping and implementation of production.

The implementation of the stages of design thinking develops deep knowledge and skills, and learning of them from the basic education means that pupils and students train both professional, social and meta- skills.

Design thinking has a universal character and it can promote goal reaching in every field of life rather than design.

The significance of the results manifests in comparison and assessment of design thinking concepts and stages, and opportunities of their implementation at university courses and school subject as well as reflects the holistic picture of learning design thinking.

Bibliography

1. Best K. (2006). *Design Management: Managing Design Strategy, Process and Implementation*. Switzerland: Ava Publishing SA.
2. Brown T. (2020). *Design Thinking Defined*. IDEO Design Thinking. Retrieved from https://designthinking.ideo.com/
3. Burge S. (2016). *The Systems Thinking Tool Box*. Rugby, UK: Burge Hughes Walsh. Retrieved from https://www.burgehugheswalsh.co.uk/Uploaded/1/Documents/Morphological-Box-Tool-v1-0.pdf
4. Bušmanis Ch., Bušmane E., Adamoviča S. (2018). *Design thinking toolkit by "Design Elevator"*. Retrieved from https://www.fold.lv/en/2018/12/design-thinking-toolkit-by-design-elevator/
5. *Creative Provocation, Reverse Brainstorming, and Analogy.* (2018). Retrieved from https://www.allaboutlean.com/creative-provocation-and-others/
6. Dalrymple M., Pickover S., Sheppard B. (2020). Are You Asking Enough from Your Design Leaders? *McKinsey Quarterly, February.* Retrieved from https://www.mckinsey.com/~/media/McKinsey/Business%20Functions/McKinsey%20Design/O

ur%20insights/Are%20you%20asking%20enough%20from%20your%20design%20leaders/Are-you-asking-enough-from-your-design-leaders.ashx

7. Dam R.F., Teo Y.S. (2020). *Five Stages in the Design Thinking Process*. Retrieved from https://www.interaction-design.org/literature/article/5-stages-in-the-design-thinking-process

8. De Bono E. (2007). *How to have creative ideas: 62 exercises to develop the mind.* UK: McQuaig Group.

9. *Gamestorming is a set of co-creation tools used by innovators around the world*. (2020). Retrieved from https://gamestorming.com/

10. *Great Design Thinking by Tim Brown*. (2017). Retrieved from http://www.digitallysquared.com/great-design-thinking-by-tim-brown/

11. *How Design Thinking Can Enrich Marketing and Business Innovation. Added Value.* (2011). Retrieved from http://added-value.com/2011/11/08/how-design-thinking-can-enrich-marketing-and-business-innovation/

12. *Management Executive Education.* (2020). MIT Management Executive Education. Retrieved from https://executive-ed.mit.edu/mastering-design-thinking.php

13. Mečņika V., Hoerr M., Krieviņš I., Schwarz A. (2014). Smart textiles for healthcare: applications and technologies. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *7*. Jelgava: LLU, 150-161. Retrieved from https://llufb.llu.lv/conference/REEP/2014/Latvia-Univ-Agricult-REEP-2014proceedings-150-161.pdf

14. *Noteikumi par valsts pamatizglītības standartu un pamatizglītības programmu paraugiem* [Rules on the National Standard of Basic Education and Samples of the Programmes of Basic Education]. (2018). Ministru kabineta noteikumi 747. Retrieved from https://likumi.lv/ta/id/303768 (in Latvian)

15. *Noteikumi par valsts vispārējās vidējās izglītības standartu un vispārējās vidējās izglītības programmu paraugiem* [Rules on the National Standard of General Secondary Education and Samples of the Programmes of General Secondary Education]. (2019). Ministru kabineta noteikumi 416. Retrieved from https://likumi.lv/ta/id/309597 (in Latvian)

16. Osborn A.F. (1963). *Applied Imagination: Principles and Procedures of Creative Problem-Solving*. New York: Charles Scribner's Sons.

17. *Osborn's Checklist.* (2020). University of Cambridge. Retrieved from https://www.ifm.eng.cam.ac.uk/research/dmg/tools-and-techniques/osborns-checklist/

18. Razzouk R., Shute V. What Is Design Thinking and Why Is It Important? (2012). Review of Educational Research, 82(3), 330–348. doi: 10.3102/0034654312457429

19. Rowe P.G. (1987*). Design Thinking*. Cambridge: MIT Press.

20. Sicinski A. (2018). *The Complete Guide on How to Mind Map for Beginners*. Retrieved from https://blog.iqmatrix.com/how-to-mind-map

21. Thomson M. (2012). *Design for Growth and Prosperity: Report and Recommendations of the European Design Leadership Board*. Helsinki, Finland: DG Enterprise and Industry of the European Commission. Retrieved from http://europeandesigninnovation.eu/wp-content/uploads/2012/09/Design_for_Growth_and_Prosperity_.pdf

Craft Entrepreneurship and Created Value

Anzelika Smagina[1] Mg.oec.; **Iveta Ludviga**[2] Dr.sc.admin.
Transport and Telecommunication Institute[1]; RISEBA University of Applied Sciences[2], Latvia
anzelikasmagina@gmail.com[1]; iveta.ludviga@riseba.lv[2]

Abstract: Craft making is growing and regaining its position both: as hobby and business. Craft industry is experiencing a renaissance and there is evidence of the "third wave of crafting", still research on the craft sector is scarce and craft sector entrepreneurs are little understood in terms of their practices and actions resulting in certain type of value. This study aims to provide an overview of multiple types of value created by craft entrepreneurs in the process of their entrepreneurial actions. Research question addressed by this study is the following: what types of value are created by entrepreneurs in the craft sector in Latvia? This study is explorative, of qualitative nature, based on a case study research strategy. It explores 15 cases, representing craft entrepreneurs and their ventures in Latvia. The results of the study show that craft entrepreneurs create different types of value ranging from materialistic to idealistic by nature and from economic to transformational by the impact: economic and regenerative on one end to symbolic and developmental on the other end of the continuum. The findings of this study can serve as a valuable lens through which to improve an overall understanding of the craft entrepreneurship for entrepreneurs, investors, sponsors and governmental bodies in order to facilitate and support the development of entrepreneurship in the sector and to assess the growth and development potential of the emerging craft ventures.

Keywords: entrepreneurs, craft entrepreneurship, created value, craft sector.

Introduction

Today's world is about economic transformation. Many countries are rediscovering the value and dignity of manual labour, and craftsmanship is, therefore "a sector that is truly capable of leading the local economy, "connecting" important development goals to it" (Bettarini, 2014, 9). Global arts and crafts market is expected to reach USD 50.9 BN by 2024 (Value Market Research, 2018). Recognition of the contribution made by the craft sector in developed countries suggests that it produces an immense non-material value important for the country to sustain its creative potential, facilitate national development while preserving national traditions and cultural heritage (Chapain, Comunian, 2010). Besides, within the broader context of support for small and medium-sized companies in the EU, the European Commission has emphasised support for craft makers and micro-companies established in the industry to revitalise the sector (Bettarini, 2014).

Up to date research on the craft sector is scarce and therefore the sector is less visible than other sectors of the economy. In particular, entrepreneurship in the craft sector calls for better exploration as it is distinguished by a different structure, work conditions, legislation and production of goods which are mostly handmade and have significant input of creativity, national traditions and cultural meanings (Kouhia, 2012). As noted by D. Jakob (2013), craft sector entrepreneurs are little understood in terms of their entrepreneurial practices. Craft entrepreneurship as a niche area has not been in focus of entrepreneurial research, moreover, researchers have identified that understanding the value and impact of the craft sector as probably the most important issues facing the field today (Jakob, 2013). Thus, this study seeks to address this research gap by exploring craft entrepreneurship from a value creation perspective.

Entrepreneurship is the process of creating value and most of the studies and policy documents address created value as an economic variable expressed in economic or financial gain (Baumol, 1990; Birch, 1979; Kirzner, 1973; Acs et al., 2009), which determines the importance of the sector and national initiatives towards its development. However, many entrepreneurs, and it is especially noticed in the creative sectors, do not limit themselves only to the financial interests of the company and in many cases strive for a different impact (McWilliams, Siegel, 2001).

In response to the constantly growing demand for products with not only functional characteristics but also aesthetically pleasing and emotionally engaging (Rintamäki, Kuusela, Mitroen, 2007), the necessity for a new type of entrepreneurial ventures satisfying these new demands has emerged. This, in turn, initiated discussions regarding the necessity to differentiate craft businesses from other types of business

(Culture Label Agency, 2014). Since the craft sector combines both – commercial and artistic characteristics, entrepreneurship in the craft sector is expected to evolve differently.

Moreover, as noted by D. Jakob (2013), the current generation of crafters aims to "change the world" and transform global capitalism, labour, and social conditions. Therefore, taking into consideration that craft is about handmade objects based on the individual talent and skills of the craft maker, its economic value doesn't seem to be the only value produced (Pret, Shaw, Dodd, 2016). Therefore, this research aims at exploring different types of value created by craft entrepreneurs in the sector.

Crafting and Craft Entrepreneurship

Depending on national legislation, different countries have different specifications of the professional activities in the craft sector. Understanding what craft is has been changing over the years and up until now, there is no common definition agreed by experts in the area (Tregear, 2005; Ratten, Ferreira, 2017; Lucie-Smith, 1981; Dormer, 1997). Some mention it is about manual work and functionality, although, others argue it is about creativity, innovation, traditional skills and techniques used to produce craft objects (Risatti, 2007).

According to Oxford dictionary craft is "an activity involving skill in making things by hand" or "work or objects made by hand" (LEXICO, 2019). Similarly, the craft is defined by Merriam Webster dictionary as "an occupation or trade requiring manual dexterity or artistic skill" (Merriam-Webster, 2019). Traditional craft is hand-made; however, contemporary crafting includes also machinery (Mečņika et al., 2014). However, researchers stress the use of only hand-controlled machines in the crafting process (Pöllänen, 2009). In crafting the degree of hand-made can vary, but there must be some features made by hand (Zulaikha, Brereton, 2011). Probably the most concise definition is "craft involves the application of human skill and invested time" (Rosner, 2009, 1).

As there is no common definition of crafts, there is no one common definition of craft entrepreneurship, although it is considered to be the driving force of the development of economies. For the purpose of this research, we combine nowadays available broad definitions of entrepreneurship as creation, organisation and managing a business venture (Gartner, 1990) and above-mentioned definitions of crafts and propose the following meaning of craft entrepreneurship – creation, organisation and managing a business venture which involves application of human skills and hand-work and involve the creation of utilitarian products or services with some degree of aesthetic value. Thus, a craft entrepreneur is someone, who earns his/her living by creating something of value partly using hand-work.

Entrepreneurship and Value Creation

There are many definitions of entrepreneurship arguing if it is about behaviour or outcomes; if it is part of the commercial sector or the not-for-profit one; if it is about small or individual ventures (Gartner, 2001; Hébert, Link, 1982; Kirzner, 1983), however, the very central role in the discussion is given to the importance of opportunity recognition and setting up enterprises. Analysing the nature of entrepreneurship from Kizner's perspective (Kirzner, 1983), entrepreneurship consists of the competitive behaviours that drive the market process and without outcome, there is no entrepreneurship. According to (Gangi, 2015), a reciprocal exchange of value exists between markets and businesses. In this sense, value-creating outcomes are very important. A. Klamer (2011) mentioned that value is a notion, which has not yet been well defined. He explored the cultural-economic perspective of value from a historical perspective and pointed out that in origin, value is coming from the perspective of classical economics and it signifies the "worth of a thing".

As stated by D.G. Sirmon (Sirmon, Hitt, Ireland, 2007), value creation begins by providing some kind of value to customers, however, entrepreneurs may want to create also value that goes beyond economic interest, something that contributes to community and society. Value or outcome of entrepreneurial actions can be viewed in terms of "total wealth" which is a combination of economic and social wealth and includes tangible and intangible outcomes. Tangible could be defined as products or services, and intangible as happiness, motivation, general well-being and other types of value. As mentioned by A. Klamer (2011), there is a need to distinguish other values (for example, social and cultural) from economic values. While the economic perspective can be presented in figures and hard evidence, this perspective is quite limiting and doesn't take into consideration the "soft" nature of the outcomes

produced. For instance, the value created in arts and culture is defined as intrinsic value – values which make people feel, engage in experiences, establish emotional connections (Mowlah et al., 2014).

As stated by cultural economist D. Throsby (2008), values can be created in different forms and come from different contexts. Because of the elusive nature of the term, it is better to study it in a real-life setting – where it is created and where people perceive it as something valuable. Not all the enterprises in the craft sector are the same and not all create the same value. Understanding the different forms of value created by craft entrepreneurs would contribute to a better understanding of the sector.

Thus, the aim of this study is to identify types of value created by craft entrepreneurs in the process of their entrepreneurial practices and actions.

Methodology

Following an initial pilot study about entrepreneurship in the craft sector in Latvia, it was identified that value created in the craft sector had not yet been studied in detail and field is in need of development and better understanding. Thus, addressing this gap in the research, the following research question was put forward: "What types of value are created by entrepreneurs in the craft sector in Latvia?".

Thorough literature review on entrepreneurship in the craft sector was carried out to identify the boundaries of the research and to choose appropriate research design and methodology. Thus, exploratory qualitative research methodology with grounded theory approach, which is the most suitable to investigate a field not yet explored in detail, was chosen. Grounded theory approach involves generating research framework, themes, categories (variables) and building a theory from the data obtained directly from the field in the process of conducting research (Corbin, Strauss, 1998). One of the ways to use grounded theory approach is the case study method, which includes multiple techniques of data collection – observation, interviews, analysis of secondary data and others. It allows gathering in-depth information and evidence from real life situations, thereby allowing to conceptualize the findings directly from the field (Yin, 1994).

Cases have been chosen to provide for a diverse view on the practices of Latvian craft entrepreneurs of different professions, ages as well as types of business. The purposeful sampling strategy has been used to identify information-rich cases to provide a full set of details with a limited number of the chosen craft cases (Patton, 2002). In order to ensure validity of data, cases were identified and selected on the basis of the following criteria: founder of the venture or his venture is identified as belonging to the craft sector; core activity of the venture (craft making) involves significant input of manual labour, venture is registered in Latvia (for the purposes of this article). In selecting the cases it was assumed that founders of any type of craft business all have economic (i.e. financial) objectives. Not-for-profit sector (i.e. charities, voluntary and public sector) organisations were not included in the research. To enrich the body of the research and to identify common patterns and characteristics on different levels of analysis, cases of self-employed craft entrepreneurs as well as small and micro enterprises have been explored. New cases had been identified and analysed until theoretical saturation was reached.

Multiple sources of data about the cases were used to come out with the findings; however, primary data about the cases was collected using semi-structured interviews with the craft entrepreneurs – founders of their own craft ventures. Interviews with the elements of a narrative approach were conducted in order to give the interviewees the possibility to provide as many details as they felt comfortable to share. Interviews with the 15 entrepreneurs were carried out in Latvia, in the native language of the interviewees (Latvian or Russian) during the period of 6 months from January to June 2019. Interviews were recorded and transcribed. Taking into consideration the different motivations and actions of craft entrepreneurs, when engaging in entrepreneurial undertakings, the aim of the interviews was to explore diversity of value created in the sector. To better understand craft entrepreneurs and their value-creating actions, during interviews, entrepreneurs were asked a series of structured questions regarding themselves, their business and experience. Further, entrepreneurs were asked to describe the value they create in running their business in the craft sector as well as reason why they do so (sample questions: How would you describe the value created by your craft business and its impact on different levels? Who can benefit from it and how? How is it connected to the "philosophy" of your business and your personal motivation? What is important for you in terms of creating value? and so forth).

Collected data was processed and analysed by means of NVivo software. It was coded and analysed using iterative process going back-and-forth in between the stages of analysis to identify relevant themes and concepts and conceptualize the findings (types of value), which are presented in the section of findings. Direct quotation technique was used to describe each type of the created value.

Results and discussion

The focus of this research was to explore and conceptualize the value created by entrepreneurs in the craft sector. Most of the previous studies indicate that value can be placed on a continuum between the two types – economic and social. However, taking into consideration that the craft sector is different in comparison to other sectors, this study explored if craft entrepreneurs create other types of value. The findings suggest that the continuum between economic and social values should be extended adding other types of value created in the craft sector. Further, description of each type of value is presented. It is illustrated by presenting extracts from the interviews with the entrepreneurs.

Economic Value. One of the features of craft good is its financial value, which can be very high not because of their functional characteristics but their uniqueness, aesthetics, name of the creator, trends in society, and others. As one of the interviewees mentioned:

> *I see a new trend in society – suddenly there is such a high demand for traditional wear and people are ready to pay a very high price to get a tailor-made dress, which would be unique, especially with elements of the national costume. I do not prioritise financial gains over quality and message I like to convey with my products, but I make a good living out of this (Case 7).*

Despite the common perception that creative people are poor, craft entrepreneurs who set up their enterprises and are successful, prove that being an entrepreneur in the Craft sector allows for one to successfully combine being creative and earning a living. As confirmed by the interviewee:

> *I am excited about my "job" and it works well for me, although, I would like that the craft sector in Latvia to develop and craft goods are fairly priced and appreciated. I believe it has a much higher value than what we sell at the moment. Take Scandinavian countries… there, crafts are quite expensive… and one can earn a much better living (Case 13).*

Entrepreneurship is about the creation of value and craft entrepreneurship is not different in this sense, as it is about developing a certain opportunity, setting up a business venture while initially pursuing an economic value in order to make it feasible and sustainable. However, we conclude that economic value pursued by craft entrepreneurs is more functional – it serves the purpose of creating a financial pillar and allowing creative entrepreneurs to pursue other values, which, as indicated by the cases, are more important for them than the economic one. The craft sector in Latvia also contributes to national wellbeing, however, not yet to its full potential. Still, the Craft sector's direct impact is reflected in its contributions to the budget, formation of new business ventures and employment.

Regenerative Value. Regeneration benefits accrue craft entrepreneurs take part in national events, markets, workshops, festivals and cultural manifestations organized in different urban and regional locations. Such events draw attention and bring people to these places, thus promoting the location and facilitating its development. Craft markets are a great example of how places become crowded with locals and tourists alike contributing to the development of the area – allowing other businesses there to benefit in terms of increased sales, better visibility (more people see the place and consequently use its services and products – for example, cafes, shops, restaurants, located near the venue).

The presence of craft shops, galleries, workrooms, studios or craft markets improves the image of a city and creates a positive atmosphere so that locals and also tourists perceive it in a better light. It draws the attention of people to arts, crafts, national and cultural traditions, and heritage. It has a positive effect on being a new emerging trend as well as engaging people in the life of their city, making them "connected" to their locale. Thus, having a positive and pleasant experience when being in their area, people become more loyal and supportive of their development. For instance, one of the interviewees mentioned:

> *Riga used to be crowded with young people having parties and making the city unattractive for other tourists and locals… now it all changed… all the cultural events, festivals, and craft markets brought forward a different image of Riga. We are so proud to contribute to the nomination of Riga as a capital of culture in 2014 (Case 3).*

Environmental Value. The empirical evidence from the cases indicates that most craftsmen use local, environmentally friendly materials. As interviewee from C9 implied:

> *I am very serious about the quality of my products and therefore the materials I use have to be of appropriate quality. Mostly, I buy from local producers and use raw materials. Sometimes, I can even collect stones and pieces of wood myself. In doing so I feel connected to nature and living in balance with it (Case 9).*

Across the cases, it was observed that craftsmen also like to get across that their products are "eco" and environmentally friendly and confirm it by special certificates certifying its quality. They also use it as one of their selling points. For instance, one interviewee positions his product in the following way:

> *The idea behind my product is to produce high-quality goods with a touch of nature, thus, using environmentally friendly materials and complying to the environmentally cautious ways of production and restoration (Case 4).*

Although Latvia has a lot of forests that cover more than 50 % of the land, Latvians are very cautious about it. Wood as a source of natural material is widely in craft practices, although, respondents mentioned it is also important for them to "give it back to nature" (Case 10):

> *We have a fantastic nature in Latvia and can use local materials. The birch and oak I use for my craft are of great quality and my customers appreciate that…. And in Latvia, we use it a lot, but we also replant new trees and take care of the forests' vitality and health (Case 3).*

Thus, as noted by L.E.E. Walley and D.W. Taylor (2002), all green businesses also contribute towards the move to a sustainable society.

Educational Value. The educational value of the Craft sector was highlighted when informants spoke about training and transferring knowledge to their apprentices. Especially in the Craft sector, it is important to teach all the specifics of the process to make sure it is done properly. The crafting process involves a significant manual input (products are hand-made) and it is important to pass on all the knowledge so that important details are not lost over time and apprentices learn many traditional forms of craft. Craftmanship is about mastering traditional skills and techniques and teaching those to younger people to help preserve traditional craftsmanship and assist younger generations to learn from the past:

> *A lot of traditions have been lost over the years and it is very sad; therefore, in my work, I strive to preserve traditional practices and keep it "old style". I also organize small workshops for children and others interested in my craft so that I can share my knowledge and preserve traditional practices (Case 9).*

However, the educational value is not only about teaching and learning, but it also facilitates an interest in craftsmanship and, consequently, people learn more about the cultural heritage of craft. Such learning is the most tangible manifestation of inter-generational skills transfer:

> *Everything I do in my workshop is observed by my children… sometimes they help me… it is extinctions as they are learning from me meaning they would be able to practice it latter (if they wish so) (Case 5).*

Besides, several respondents mentioned that working with apprentices as well as learning and practicing craft helped them become more confident, skilled and eventually more professional.

Innovation/creation Value. Even though the craft is perceived as something traditional, rooted in the past, many craftsmen take advantage of the new advanced materials and technologies to improve their products and services. And these new combinations of traditional and contemporary practices nourish creativity and facilitate innovation in the craft sector. As one of the interviewees indicated:

> *Latvia is a small country and it needs to encourage the production of goods with high added value based on creativity and innovation (Case 11).*

The craft sector can offer goods with high added value. In the process of creation and production innovation and creativity emerge as a spill-over effect into other sectors and industries of the economy. As one interviewee observed:

> *Value in the craft sector is different – it is a value, which emerges as the result of individual creativity and the unique way of production practiced by craft makers. It is what makes it so*

valuable not only for the craft maker but also for society. Innovative goods and practices emerging in the craft sector can be transferred into other sectors of the economy (Case 14).

Another entrepreneur confirmed in the same way:

Some people think that all my baskets are the same, however, that is wrong. As I do each one by hand and from natural materials, every basket is different. I don't have a fixed plan of how and what to produce…when I have inspiration, I create something new…I might also incorporate different objects, colours, materials in my work… it all depends on how creative I feel on a certain day [big smile] (Case 8).

Besides, as was noticed by some respondents, craft makers are like artists – they also look for inspiration and find it in the work of their peers, in attending galleries, markets, cultural events, and festivals. Thus, by appreciating the work of others they capitalize on that creative output to create their own.

Another key contribution was mentioned by the respondent from *Case* 1:

Being involved in craft making every day helps me to sustain and develop my creative spirit. It is my craft and I am not limited… I can create it as I like and how I feel (Case 1).

Also, another entrepreneur confirmed the same view:

I have chosen to set up my own business because I can create… I don't need to discuss my work with anyone and I am free to let my creativity and talent work for me… if I see I can't sell it, I might think how to change it… but consistent with my way of seeing and creating (Case 8).

Cultural Value. Some interviewees mentioned they would like to contribute to the development of their city by making it attractive for tourists as well as locals as a place where a lot of cultural events happen:

I like to be part of that creative atmosphere in the craft markets organized by the City Council around Christmas. It makes me proud of what I do and I feel I can contribute to my city image as a "capital of culture" and help tourists realize we have a very rich cultural heritage (Case 7).

Craft enterprises are creative by nature and all new shops, studios, galleries, and workshops strengthen the cultural image of cities, attracting more creative people to join. As mentioned in several cases, recent years have seen a developing trend whereby people come to Latvia because of the possibilities it offers in terms of culture and arts. They appreciate the exhibitions, concerts, festivals as well as the many shops and craft markets offering hand made products.

Social Value. People are social beings and they tend to associate themselves with a certain group. Even though many craft entrepreneurs establish micro-companies they spend time with other craft makers to practice their art together or attend different workshops and events. As was mentioned:

When I meet with my colleagues from the craft sector, I feel I belong to a group of people I understand, and I am comfortable with it. We appreciate each other's work, support and praise each other – it is very important for our small community (Case 11).

Another entrepreneur acknowledged:

Knowing each other in our field is important… network is everything… thus, our craft brings us together to collaborate and partner in some cases (Case 13).

Craft entrepreneurs described their social value in terms of helping individual craft makers in terms of employment, referrals, and sales of products. Many craft makers are entrepreneurs and they appreciate those who help them find their customers and sell what is created and produced. As stated by the entrepreneur:

In our field referrals are important – we trust our peers and we engage in short term projects if needed. It suits me well – I always get offers and I can decide if I want to take part or not (Case 12).

Engagement of people in cultural events is a great example of how craft entrepreneurs contribute to community development.

However other interviewees mentioned that relations between entrepreneurs and individual craft makers they deal with in business are not easy:

Creative people need a special approach and attitude… they need to be inspired, motivated, supported. Motivation is different for them and I always have to be patient, "nice", encourage them… It helps me develop my social skills a lot [laughing] (Case 8).

Crafts entrepreneurship helps to sustain the creative community of craftsmen by getting them involved in associations, building connections with other industries thereby creating a sort of cluster for craft makers to practice their craft and prevent social exclusion, isolation or "loneliness" of the creative person.

Aesthetic Value. Respondents mentioned that creating a product, which is beautiful and aesthetically pleasing, is part of their work:

> *Craft is about art, creativity, and aesthetics. It just has to be beautiful and spark positive emotions (Case 2).*

Another respondent added:

> *I like to change things for the better and in my business, I have the possibility to make unique, tailor-made things so that people appreciate the beauty of how it looks. I like to see this positive change and the emotions expressed in response (Case 6).*

Although aesthetic value is not the most important one mentioned by respondents, it is placed very high in their hierarchy of created values. All respondents mentioned that their craftwork is aesthetically pleasing and reflects their identity, which is expressed in its meaning, intentions, and purpose. Besides this external characteristic of the product, the aesthetic aspect conveys the quality of the product in terms of professional production, high-quality materials as well as the technical competence of the craft maker. As an interviewee stated:

> *In my pictures, I try to catch people when they look natural, relaxed and therefore beautiful. Everyone is beautiful but in his/her own way. I try to show it by capturing these moments and show people themselves but from a different angle… and they usually like what they see [big smile] (Case 14).*

Heritage Value. Craft entrepreneurs help to preserve cultural heritage, especially in cases of practicing the traditional craft. Such craft objects convey cultural meanings, traditions in its colours, style, functionality, and aesthetics. Also, the way of production is based on ancient, traditional techniques as well as a significant manual contribution. Craft objects reflect the social practices of the country - very popular images used in craft objects are people dancing, singing together, celebrations, Midsummer rituals, and others. They reaffirm the identity of the people of the country and bring them together.

Respondents noticed that they would like to promote the Latvian way of living, our national cuisine, and history and see them reflected in traditional craft objects and in the stories told by craft practitioners. The interviewee exemplified this:

> *Nowadays people look for inspiration in the old days – they look at what our grandparents did, what they valued and what traditions they had. Now creative entrepreneurs want to bring it all back and pass it on to future generations sharing with peers, children, the younger generation, as well with the international community (Case 12).*

Other comments expressed by respondents regarding the value of their products were in relation to its long-term value – value, which won't vanish in a few years. That is why they like to embed culture, traditions and national symbols in their products – to make them sustainable and valuable in the long run. As stated by the entrepreneur:

> *Latvian craft sells well; it is highly appreciated by people, who value high quality and traditionally designed products (Case 11).*

In several cases, respondents confirmed their determination and willingness to promote Latvian traditions, and rituals. Many of the creative entrepreneurs' products include Latvian symbols, reflecting Latvian nature, people, traditions, and others. Most of the craft entrepreneurs mentioned they would like to promote Latvia and products made here. As one of them stated:

> *It seems that a lot of Latvian heritage has been lost over time – partly because of historical events and partly because of the transition to mass production. We need to restore it and pass it along to the next generations…. It is important for me to contribute to it (Case 5).*

Artistic Value. Artistic value as expressed by the respondents is a value, which respondents attributed to their crafts as being a piece of art. In this respect, craft entrepreneurs appear to be like artists who acting increase opportunities to enjoy and appreciate aesthetic beauty (Gangi, 2015). As one of them indicated:

> *We all have a creative spirit and soul. We are all artists and our craft is an art. It might not sell for millions, but it definitely has all the characteristics of what art is (Case 4).*

As further explained by the interviewees, craft making involves the same processes as art and the only difference is that craft objects are also functional whereas art is not. Artistic value is about the value artists are putting into their works. These properties are unique for each piece of art and even if, in the case of art one piece might be reproduced in some quantity, it still represents a unique product made by the individual craft maker. Artistic value is also about the person who produced the craft object. It reflects their achievements, experience, and reputation. And this individual artistic value might be reflected in different ways. The Case 6 respondent said:

> I worked hard to achieve what I have and now I can offer my craft not only as a beautiful piece of art but also as something produced by me… I think people recognize me as a good artist already (Case 6).

In fact, both, arts and crafts are considered to be based on the creative input of the individual, however, the difference is that art is something closely connected to emotions, unstructured and subjective, meanwhile, craft has a sort of tangible and useful output – a piece of craft which has functional value. Another difference mentioned by the respondents is that *"art is the creation of the soul and heart while the craft is the creation of mind and skills" (Case 4).* Therefore, when these two dimensions meet, they create synergies and consequently creative and innovative products and solutions.

Symbolic Value. The symbolic value embedded in goods is based on the entrepreneurs' intention to convey a certain meaning. Values people assign for certain things depend on their identity and the way they see the world (as indicated by Case 7). In some cases, these meanings are unique to the local context and if placed in a different environment could have another interpretation. The symbolic value is of special importance for the craft sector as it conveys value embedded in culture, traditions, and history. As confirmed by the respondent in Case 14, people assign a certain symbolic value to a product and it serves them as a token or memento of certain events, experiences, people, feelings, and others. In addition, the respondent in Case 9 added:

> When I sell my souvenirs, I like to tell stories about the past… it is because I like people to remember it and I like that my souvenir will be associated with my stories and people will remember (Case 9).

However, the symbolic value assigned to their products by the customers might be different – the story attached to the product can be real or imagined, related to place or event or to symbolic item, it can be even transnational or transcendental.

Developmental Value. Personal development and transformation is an important part of any process and all respondents confirmed that they appreciate the possibility of personal development when practicing their craft. It gives them freedom of expression, self-fulfilment and talent development, which is a major motivator for engaging in entrepreneurial practices. Respondents highlighted the value of the lifestyle they have chosen (run their own enterprise) and the value of practicing their craft at their own pace and style. In their handmade craft objects, they have the possibility to express their emotions, feelings, likes, and dislikes as well as the philosophy they wish to convey to the external world. Respondents also referred to self-discovery and a better understanding of others, which comes from making craft objects. As one of the respondents stated:

> When I am making my "pieces of art" I feel and understand myself better. The process gives me the possibility to think and create, like and dislike… I think about it... and it also helps me to understand others better… I see what people like and how they perceive my craft. I know we are all connected… the things I create inspire others and I get inspired by what they offer… it is an ongoing process of creation based on inspiration and the internal drive to create… that helps me sustain my business and develop my talent and skills (Case 2).

Craft entrepreneurs reported the importance of self-fulfilment and self-realization in their professional life. As confirmed by many cases (3, 5, 6, 8, 9, 12, 13) that is what they are able to realize when working in the craft sector. This intangible value expressed in terms of personal satisfaction is why creative entrepreneurs engage in business. As reported by the interviewee in Case 5:

> My business brings me happiness and makes me proud of what I am doing. I feel my talent is appreciated and it is what drives me more than making money. It is, probably, one of the most important outcomes of my business for me (Case 5).

Framework of Values Created in the Craft Sector

On the basis of interviews, observations and other information available about the cases of this study, framework of different types of value created has been built (Table 1). Although, the interviewed entrepreneurs mentioned multiple types of created value, for the purposes of this study the authors ranked those in terms of significance as perceived by the entrepreneur. Values have been ranked from 1 (the most significant) to 3 (the third significant) in order to provide a comprehensive overview of the types of value and be able to compare the cases and notice certain commonalities. The table also presents the continuum of the values, flowing from tangible or materialistic to intangible or idealistic values. Even though the cultural or artistic value could still be expressed as tangible, subjective value has purely of an intangible, non-materialistic nature (Table 1). Offered framework of values also offers 4 broad categories of values: economic, social, artistic and transformational along the continuum from materialistic to idealistic values.

Table 1

Values Created by Entrepreneurs in the Craft Sector

Case No	Case characteristics	Materialistic										Idealistic	
		Economic	Regenerative	Innovative	Educational	Environmental	Social	Heritage	Cultural	Aesthetic	Artistic	Symbolic	Developmental
		Economic										Transformational	
C1	Jewellery design	1									2		3
C2	Floral design, craft clutches, accessories									2		3	1
C3	Installation, repair, renovation of roofs		1			2			3				
C4	Furniture, interior design, restoration					2		3			1		
C5	Restoration of musical instruments				3				2		1		
C6	Face and body art					2				1		3	
C7	Folk wear and accessories							2	1			3	
C8	Decor set up, design, event management	1	2									3	
C9	Pottery, woodfired clay tableware	3					2				1		
C10	Beekeeping, honey bee production	1				2							3
C11	Wool, willow processing and weaving						1	2					3
C12	Sauna rituals							1				2	3
C13	Boatbuilding and restoration	1					2						3
C14	Photo frames and postcards				2		1					3	
C15	Chocolate making	2		3									1

In fact, offered framework of values indicates that categories and types of value are not completely disparate and, in many cases, types of value prioritised by entrepreneurs overlap or correspond to multiple groups.

Conclusion, Limitations and Future Research

In a time of increasing global connectedness, albeit with growing uncertainty, ambiguity and chaos; people turn towards known products and services, which have not only functional characteristics but can also satisfy their aesthetic and emotional needs. The increasing focus on creativity and innovation in business, including new approaches towards business operations and its aesthetic components in recent years, gave rise to the interest in craft and draw attention to entrepreneurial undertakings of the craft makers and value created in the sector. Thus, the main research question of this study was to reveal types of value created by craft entrepreneurs in the craft sector in Latvia. The authors answered this question by integrating various bodies of the literature with in-depth qualitative research using data obtained using grounded theory approach, incl. field study and semi-structured interviews.

According to the results of the study, which involved different entrepreneurs, it was noticed that they all mentioned economic and developmental values as those that are integral components of the entrepreneurial process. However, they didn't place them first in their hierarchy of values but indicated that they are an integral part of what they do. Besides, most of the entrepreneurs mentioned cultural, aesthetic, artistic and traditional values, which leads to the finding that these values could distinguish the craft sector from the other sectors of the economy. As revealed during the study, craft entrepreneurs make a significant impact in value categories such as cultural, aesthetical, artistic, traditional and symbolic leading to the conclusion that the craft sector has great potential in terms of creative power, while helping to sustain national traditions and cultural heritage. The study indicated that craft entrepreneurs create different types and forms of value, from materialistic to idealistic by nature and from purely economic to social, cultural and transformational by the impact. Besides, the value created contributes differently across levels of impact (from personal to national and even international) facilitating tourism development and promoting the country and Latvian lifestyle overseas.

All research has limitations and in the present study, as in the majority of academic works, retrospective nature is the most common limitation. It makes the study vulnerable to bias as interviewees can comment on the outcomes of their actions in the past. Although cases selected for the study represented different types of businesses in the craft sector and there was an extensive diversity in the profile, the scale of business, and age of the entrepreneurs, those still represent only the chosen enterprises and only ones established in Latvia. Taking into consideration the great variety of studies in the field of entrepreneurship, the focus of this study was limited to value created by entrepreneurial ventures as perceived by entrepreneurs. For future research, it would be beneficial to explore other contexts (countries), to consider also other factors influencing value created – for instance, the influence of external context on entrepreneurial decisions or the specific instruments needed for better support of entrepreneurship in the craft sector in Latvia. Also, longitudinal as well as quantitative research would be beneficial to facilitate understanding of opportunity development in the local craft sector.

This study did not set an objective to insist on the validity of the findings - "prove" the results. This work is explorative to set the scene for future research in this direction. Nevertheless, this study provides a significant foundation for a more detailed analysis of entrepreneurship in the craft sector in Latvia to further probe its peculiarities.

Bibliography

1. Acs Z.J., Braunerhjelm P., Audretsch D.B. Carlsson B. (2009). The knowledge spillover theory of entrepreneurship. *Small Business Economics, 32*(1), 15-30. doi: 10.1007/s11187-008-9157-3
2. Baumol W.J. (1990). Entrepreneurship: productive, unproductive, and destructive. *Journal of Political Economy*, *98*(5), 893-921. Retrieved from https://www.jstor.org/stable/2937617
3. Bettarini G. (2014). *The Artistic Crafts Sector in Europe: Operative Plans and Strategic Visions.* Florence: Innocrafts. Retrieved from https://issuu.com/ancitoscana/docs/3-eng
4. Birch D.L. (1979). *The job generation process.* Cambridge, MA: MIT Program on Neighbouring and regional Change.
5. Chapain C., Comunian R. (2010). Enabling and inhibiting the creative economy: The role of the local and regional dimensions in England. *Regional Studies*, *44*(6), 717-734. doi: 10.1080/00343400903107728
6. Corbin J., Strauss A. (1998). *Basics of Qualitative research.* London: Sage. doi: 10.4135/9781452230153
7. Culture Label Agency. (2014). *Cultural Innovation and Entrepreneurship in London*. London: City of London Corporation. Retrieved from https://issuu.com/airbeem/docs/cultural-innovation-and-entrepreneu
8. Dormer P. (1997). Introduction. The salon de refuse? In P. Dormer (Ed.), *The Culture of Craft*. Manchester: Manchester University Press, 2-16.
9. Gangi J. (2015). The Synergies of Artistic and Entrepreneurial Action. *The Journal of Arts management, Law, and Society*, *45*(4), 247-254. doi: 10.1080/10632921.2015.1088912
10. Gartner W.B. (1990). What are we talking about when we are talking about entrepreneurship? *Journal of Business Venturing, 5(*1), 15-28. doi: 10.1016/0883-9026(90)90023-M
11. Gartner W.B. (2001). Is there an elephant in entrepreneurship? Blind assumptions in theory development. *Entrepreneurship: Theory and Practice*, *25*(4), 27-39.
12. Hébert R.F., Link A.N. (1982). *The Entrepreneur: mainstream views and radical critiques.* New York: Preager.

13. Jakob D. (2013). Crafting your way out of the recession? New craft entrepreneurs and the global economic downturn. *Cambridge Journal of Regions, Economy and Society, 6*(1), 127-140. doi: 10.1093/cjres/rss022

13. Kirzner I.M. (1973). *Competition and Entrepreneurship.* Chicago, IL: University of Chicago Press.

14. Kirzner I.M. (1983). Entrepreneurs and the entrepreneurial function: a commentary. In J. Ronen (Ed.), *Entrepreneurship.* Lexington, MA: Lexington Books.

15. Klamer A. (2011). Cultural entrepreneurship. *The Review of Austrian Economics, 24*(2), 141-156. doi: 10.1007/s11138-011-0144-6

16. Kouhia A. (2012). Categorizing the meanings of craft: A multi-perspectival framework for eight interrelated meaning categories. *Techne Serien - Forskning i Slöjdpedagogik och Slöjdvetenskap*, *19*(1), 25-40. Retrieved from https://journals.hioa.no/index.php/techneA/article/view/395

17. LEXICO. (2019). *Dictionary*. Retrieved from https://www.lexico.com/en/definition/craft

18. Lucie-Smith E. (1981). *The Story of Craft. The Craftsman's Role in Society.* Oxford: Phaidon. Retrieved from https://archive.org/details/storyofcraft00luci

19. McWilliams A., Siegel D. (2001). Corporate social responsibility: A theory of the firm perspective. *Academy of management review, 26*(1), 117-127. doi: 10.5465/amr.2001.4011987

20. Mečņika V., Hoerr M., Krieviņš I., Schwarz A. (2014). Smart textiles for healthcare: applications and technologies. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *7*. Jelgava: LLU, 150-161. Retrieved from https://llufb.llu.lv/conference/REEP/2014/Latvia-Univ-Agricult-REEP-2014proceedings-150-161.pdf

21. Merriam-Webster. (2019). *Craft*. Retrieved from https://www.merriam-webster.com/dictionary/craft

22. Mowlah A., Niblett V., Blackburn J. Harris M. (2014). *The value of arts and culture to people and society - An evidence review* (2nd ed.). Manchester: Arts Council England. Retrieved from https://www.artscouncil.org.uk/sites/default/files/download-file/The_value_of_arts_and_culture_to_people_and_society_an_evidence_review.pdf

23. Patton M.Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks: CA: SAGE.

24. Pöllänen S. (2009). Contextualizing craft: Pedagogical models for craft education. *International Journal of Art Design*, *28*(3), 249-260. doi: 10.1111/j.1476-8070.2009.01619.x

25. Pret T., Shaw E., Dodd S.D. (2016). Painting the Full Picture: The Conversion of Economic, Cultural, Social and Symbolic Capital. *International Small Business Journal*, *34*(8), 1004-1027. doi: 10.1177/0266242615595450

26. Ratten V., Ferreira J.J. (2017). Future research direction for cultural entrepreneurship and regional innovation. *International Journal of Entrepreneurship and Innovation*, *21*(3), 163-169. Retrieved from https://www.inderscience.com/info/dl.php?filename=2017/ijeim-5077.pdf

27. Rintamäki T., Kuusela H., Mitroen L. (2007). Identifying competitive customer value propositions in retailing. *Managing Service Quality*, *17*(6), 621-634. doi: 10.1108/09604520710834975

28. Risatti H. (2007). *A Theory of Craft: Functional and Aesthetic Expression.* Chapel Hill: University of North Carolina Press.

29. Rosner D.K. (2009). *Considering Craftsmanship.* Berkeley: UC Berkeley School of Information.

30. Sirmon D.G., Hitt M.A., Ireland R.D. (2007). Managing firm resources in dynamic environments to create value: Looking inside the black box. *Academy of Management review, 32(*1), 273-292. doi: 10.5465/amr.2007.23466005

31. Throsby D. (2008). The concentric circles model of the cultural industries. *Cultural Trends*, *17*(3), 147-164. doi: 10.1080/09548960802361951

32. Tregear A. (2005). Lifestyle growth or community involvement? The balance of goals of artisan food producers. *Entrepreneurship and Regional Development*, *17*(1), 1-15. doi: 10.1080/08985620420002497777

33. Value Market Research. (2018). *Global Arts and Crafts Market Report By Product (Drawing Pen, Paints And Stains, Craft Tools, And Others), Application (Home Use, Commercial Use, And Educational Use) And By Regions - Industry Trends, Size, Share, Growth, Estimation and Forecast, 2017-2026.* Retrieved from https://www.valuemarketresearch.com/report/arts-and-crafts-market

34. Walley L.E.E., Taylor D.W. (2002). Opportunists, Champions, Mavericks…? A Typology of Green Entrepreneurs. *Greener Management International*, *38*(1), 31-43. doi: 10.9774/GLEAF.3062.2002.su.00005

35. Yin R.K. (1994). *Case study research - design and methods* (2nd ed.). Thousand Oaks, CA: Sage Publications.

36. Zulaikha E., Brereton M. (2011). Innovation strategies for developing the traditional souvenir craft industry. In C: Cowled (Ed.) in Proceedings of International Postgraduate Conference on *Engineering, Designing and Developing the Built Environment for Sustainable Wellbeing* (*eddBE2011), 1.* Brisbane: Queensland University of Technology, 53-58. doi: 10.13140/2.1.3121.8886

Development of professional education

and career

Supervision for School Career Counsellors: Supervisors' Opinion

Rita Burceva Mg.paed., Mg. hrm.
Rezekne Academy of Technologies, Latvia
rita.burceva@rta.lv

Abstract: Supervision is a relatively new form of support for employees in Latvia, and there are still no put in practice ideas on their positive role in strengthening the potential of human resources. Topicality and problem of this research is following there is a lack of knowledge and experience in the provision of supervision for providers of career support, therefore it is difficult to take an advantage of this important development and support tool for the professional development of employees. The objective of research – to study the role of supervision as a development and support tool for the professional development and support of – school career counsellors within the framework of the ESF project "Career Development Support at General and Vocational Schools", gathering information on the views of supervisors of the carried-out supervisions. Research methods: theoretical literature analysis, primary data collection (interviews with supervisors). In the supervisors' view the most important benefits for school career counsellors are the following: confirmation of the direction taken by school career counsellors, recognising their strengths and weaknesses, making new contacts, support from and communication with colleagues, dealing with similar problem situations, new ideas and information, planning of work skills, active sharing of experiences, gathered information on the specific professional activity of school career counsellors in relation to the provision of the project's activities. A significant role in the professional development of school career counsellors is played by the ability to reflect and to perceive this process as a necessary ingredient for self-development, therefore the State Education Development Agency must position supervision publicly as an efficient tool for the professional development and support of school career counsellors, and as a concept for the promotion of improvement of professional competence of school career counsellors in a short span of time through skilful, timely and systematic use of this tool. As a result of the research a proposal was formulated to recommend revising the professional standard of career counsellor, establishing the requirement of supervision as a development and support tool for the perfection of competence and quality of professional activity.

Keywords: school career counsellor, supervision, supervisors' opinion, school education.

Introduction

In the dynamic work environment of today new requirements are set out for employees – not only they must be able to tackle the urgent assignments in the present, but they should also be able to see a wider context and project acceptable solutions in situations which are yet to develop in the future. In addition to the provision of education in its classic sense, we are constantly in search of new support and training tools for employees allowing them to keep pace with the development trends in the sector, to broaden their experience, to receive support in complex situations of their professional activity. Such tools are mentoring, coaching, master classes, professional conferences, business games, training in various fields, webinars, internet resources (recordings of interviews, e-books), supervisions. Their purpose is to broaden the understanding of employees on the variety of available resources at their disposal to carry out their work assignments, to demonstrate and to allow them to test the most efficient methods in tackling complex situations, to make the professional experience of other sectors more accessible, to reduce their stress levels and the risks for burnout, to stabilise team relationships and to unite members of the teams for joint projects, to facilitate to the understanding of the goal and the change of action, to develop their planning skills, to adjust behaviour.

In 2016 the State Education Development Agency (SEDA) started implementing the project "Career Development Support at General and Vocational Schools" funded by the European Social Fund (ESF). In the local authorities with active collaboration agreements with the SEDA, there are schools and Vocational Education Competence Centres (VECC) that employ school career counsellors. They are ready to work, however the required supervision in this profession is still inadequate. There is also a lack of support mechanisms, which would allow taking new challenges more boldly, learning to get satisfaction from their work and to assess their success, facilitating to their professional development.

Being fully aware of these risk factors, supervision is one of the planned activities in the area of support and professional development for school career counsellors within the framework of the ESF project "Career Development Support at General and Vocational Schools". Supervision is a relatively new form of support for employees in Latvia, and there are still no put in practice ideas on it's positive role in strengthening the potential of human resources. Although it works efficiently in the sphere of business and it is also used in some care professions (social pedagogue, psychologist, medical practitioner), nevertheless employers in the education sector not only lack the understanding of educational nature and role of supervision for the professional development of their employees and the development of human resources, the specifics of the process, as there is a very limited practical experience in this field, but they also don't appreciate its significance in terms of the provision of overall quality of work for school career counsellors in the field. The set of circumstances highlight the topicality and problem of this research – there is a lack of knowledge and experience in the provision of supervision for providers of career support, therefore it is difficult to take an advantage of this important development and support tool for the professional development of employees. For the purpose of the project, they are school career counsellors, for whom the educational and support function of supervision plays an important role in their professional development.

The author's personal interest in the study of this project is determined by her previous experience in the development of the professional standard for career counsellors and involvement in the implementation of activities of the ESF project "Career Development Support at General and Vocational Schools" now.

The aim of research – to study the role of supervision as a development and support tool for the professional development and support of school career counsellors within the framework of the ESF project "Career Development Support at General and Vocational Schools", gathering information on the views of supervisors of the carried-out supervisions.

Methodology

The tasks of research:
1) Analysing the scientific literature on the theoretical aspects of professional development and supervision as a form of support and educating,
2) Conducting a qualitative research (interviews with supervisors), establishing the view of respondents on the present professional and personal benefits of the supervision experience, the acquired problem-solving techniques, attitude towards supervision, the future aspirations in terms of supervision for the purpose of professional development.

The questions of research:
1) What are the most important professional and personal eventual benefits of school career counsellors in the context of development and support in the supervision process?
2) To what extent school career counsellors are satisfied with their supervision?
3) What are the differences in terms of professional and personal benefits and satisfaction with supervision between school career counsellors of comprehensive schools and those of the VECCs?
4) What topics should we cover by future supervisions for school career counsellors in order to promote the development of employees in the sector and to ensure the necessary support?

Research methods:
1) Theoretical literature analysis,
2) Primary data collection methods (interviews with supervisors).

The empirical research was conducted during the period between October 2018 and October 2019, when supervisions for school career counsellors were held. In the research four supervisors, who conducted supervisions for school career counsellors within the framework of the ESF project "Career Development Support at General and Vocational Schools", were interviewed. The interviewed supervisors conducted 2-24 supervisions for school career counsellors. The aim of these interviews was to collect the supervisors' opinions on the importance of the conducted supervisions for the development and support of school career counsellors. A semi-structured interview was used as this format allows including details, which would have been left unaddressed during the process of structured interviews.

Results and Discussion

Supervision is an interaction between two or more persons, where relationships and their manifestation develop in a harmonious way and this format allows participants to "open up" and to cooperate in a supporting way for the purpose of providing and receiving feedback on what they have experienced, heard, observed and understood. Upon the analysis of processes within a supervision group, B. Proctor notes the importance of the provision of an individual environment for reflection to each participant for successful feedback (Proctor, 2000), understanding it as supportive attitude, mutual acceptance, willingness to immerse themselves into it to establish the true nature of events or emotional experience. The pace of an individual participant of the supervision should not come into dissonance with the common pace of the group, the key principles of supervision and the ability to fit in the group's structure of development. This concept is further developed by L. Āboltiņa, who asserts that respecting and developing an environment for reflection is a priority in the context of development and training needs of supervision participants and random presenters (Āboltiņa, 2012). Each participant reflects about an event seeking its meaning. Any information affects a person's behaviour to the extent he has revealed his personal meaning (Dharmadasa, 1994).

Reflection activity skills not only form the basis for the analysis of one's personal experience, but also for critical thinking skills. During the process of reflection an individual is able to adjust his views, attitude, behaviour and plan his further activities much more successfully, taking into account the newly acquired findings as a result of processing a complex situation. L. Ērgle and L. Rutka declares the teachers need regular and deep support, which would offer a transformative learning environment characterised by reflection and self-evaluation (Ērgle, Rutka, 2016). Supervision takes place in an inclusive dialogue format. The benefits, the philosophical, social and ethical aspects of dialogue are described in a number of authors' studies (Anderson, Cissna, Arnett, 1994; Brockbank, McGill, 2006; Soika, 2017). These aspects are important in the supervisor's work. The ability to reflect is also important in communication with difficult clients, when it is required to provide a complicated explanation according to the level of their perception.

Empathy is one of the highest valued personal characteristics of a school career counsellor, because not only it allows performing the algorithmically correct actions in the process of counselling a client, but it also allows them getting to the root of the problem, thus coming up with the most suitable individual solution for a particular person. Owing to the sense of empathy, people can resonate with other or another person's wellbeing at various levels, and we expect pieces of advice and support from these people because they are usually more responsive, caring and noble human beings. For all that, working systematically in the mode of constantly making themselves familiar with other person's problems, the psychological resources of an empathetic person can run low and the burning out may commence. It becomes difficult for them to manage their own emotions, quick tiredness and the feeling of being low are observed, because they also have to listen to negative experiences of their clients or they suffer from what they have experienced themselves, such as through the interaction with less responsible colleagues or persons outside their team, they may start to feel being taken advantage of and undervalued, and it creates preconditions for depression. Suffering of the loss of strength, they cannot help other people because they need to get their priorities right in the first hand before they can start tackling problems of other people. Supervision is a suitable tool for the prevention of risks of professional burnout. Through the reflection on their activity, school career counsellors are given an opportunity to receive encouragements and support from a supervisor and colleagues.

There is a number of theoretical researches for supervisor work outlining that a triad of functions within professional supervision is commonly recognized (Hawkins, Shohet, 2012; Inskipp, Proctor, 1988; Kadushin, 1976). It is notable, that with regard to supervisor's essential role in communicating both upwards and downwards in an organization, mediation as a fourth function is added to the three core elements, namely management, development and support (Morrison, 2005). It needs to be pointed out that the language describing these functions also varies in literature pertaining to supervision, on one hand, reflecting professional cultures but on the other hand, adapting to changing expectations (Patterson, 2019), as for instance, P. Hawkins and R. Shohet have intentionally dealt with developmental, resourcing and qualitative functions to point out shared responsibility between supervisor and supervisee (Hawkins, Shohet, 2006; Hawkins, Shohet, 2012). In theoretical researches, there are also some formulated ideas on the connection between supervision and a person's self-actualisation, professional identity and autonomy in his professional activity, expanding of creative skills, and the improvement of individual competences in the course of career development.

Foreign experience reveals that supervision may also function independently as one of the forms of lifelong learning. The efficiency of supervisions continues to improve, because, according to I. Stankus-Viša, the notion of supervision is becoming clearer and supervision is conducted within a certain framework of already established professional standards and quality systems. It must be noted that supervision plays an increasing role in professional development of the work force nowadays, because supervision is practiced along with other forms of professional consulting (Stankus-Viša, 2017).

A. Hodge (2007) indicates in relation to the significance of professional development in the process of supervision that supervision is interpersonal learning in an emotional safe environment, and the common creative activity developing relationships and mutual support. It provides a forum for reflection – the environment promoting emotional and professional wellbeing, which broadens the professional perspective through dialogue and giving and receiving feedback.

The main key functions of supervision - administrative or normative, support or strengthening and educational or formational - are defined by E. Apine, indicating the overall aim to achieve highest possible work quality of a consultant within an organization. With respect to the aforementioned, E. Apine argues that the supervisor impersonates a number of roles, such as the educator, supporter, consultant, colleague, expert, competence specialist, all of which leave an impact on the style of work of a supervisor and his interaction with the supervisee (Apine, 2017).

The needs of its participants, current and required resources are discovered during the process of supervision and the supervisor as a specialist develops and changes at the same time too. However, the supervisor is a process manager, so it is his task to create a free and safe environment for supervision, to make sure that the rules of the working group are observed, to pay attention to the raised problem questions and defined objectives, to choose the most suitable methods in supervision and to provide feedback for all those present. The sense of safety and freedom create such mutual attitudes, which open up broader opportunities for the generation of new solutions, testing of ideas through discussion, it provides suitable microclimate for participants to share their experience, to offer help to one another and to support others. At the end of the supervision the benefits of the session are summarised, changes in thinking are established; successful ideas are clarified, returning to the initial objectives.

As a result of the content analysis of the interviews with supervisors, who conducted supervisions for school career counsellors within the framework of the ESF project "Career Development Support at General and Vocational Schools", the author of the research obtained broader answers to 4 questions raised in this research.

1. What are the most important professional and personal eventual benefits of school career counsellors in the context of development and support in the supervision process?

In the supervisors' view there are the following most important professional benefits for school career counsellors: confirmation of the direction taken by school career counsellors, recognising their strengths and weaknesses, making new contacts, colleague support and communication with them, dealing with similar problem situations, new ideas and information, planning of work skills, active sharing of experiences, gathered information on the specific professional activity of school career counsellors in relation to the provision of the project's activities.

The most important personal benefits of school career counsellors in the course of supervisions: the provided support, recommendations, proposed examples, received feedback, support and encouragement. Created a comfortable and safe environment for conversation, free and unconstrained atmosphere, using humour. Created possibility of communication with less known colleagues, promoted sense of unity and self-esteem, and the understanding that colleagues deal with similar problems.

2. To what extent school career counsellors are satisfied with their supervision?

Supervisors indicate that the attitude and satisfaction of school career counsellors with supervision differ. Those who have been working in the sector professionally for a long period of time are more interested in receiving specific information and clarifying details. Whereas, those who have joined the project recently value every piece of information they can get to help them understand the ways of implementing career counselling at their school.

The school career counsellors, who are genuinely keen on their work and do it at their own initiative, have a positive attitude towards supervision as a form of development and support. However, there is also a small minority of school career counsellors, who received the certificate of a school career counsellor and joined the project at the school management's request; therefore, their interest in professional development through supervision is lower. The lack of positive attitude towards supervision can also depend on the misunderstanding of the essence and value of this form of development, and the lack of experience.

3. What are the differences in terms of professional and personal benefits and satisfaction with supervision between school career counsellors of comprehensive schools and those of the VECCs?

The answers given by the supervisors provide information, which shows a common trend in the question regarding the differences between the professional and personal benefits and satisfaction with supervision between school career counsellors of comprehensive schools and those of the VECCs.

The differences stem from the condition that students of the VECCs and comprehensive schools have slightly different needs. Whilst the first ones have already taken a decision regarding the direction of their professional career, the second ones must be helped to take this decision. Therefore, school career counsellors select different service providers for the provision career support events; nevertheless, they still use the same work methods in solving different situations. Therefore, it cannot be said that the opinions of school career counsellors employed at comprehensive schools and those of the VECCs on their professional and personal benefits and satisfaction with supervision would differ much. It can be concluded that there are no significant differences in terms of needs and opinions of school career counsellors, and it is not necessary to conduct separate supervisions for these two categories of school career counsellors.

4. What topics should we cover by future supervisions for school career counsellors in order to promote the development of employees in the sector and to ensure the necessary support?

Supervisors were not asked a direct question on the desired topics of supervision, and the methodology of supervision provides for tackling the issues, which are topical to, and chosen by clients themselves. Nevertheless, upon the analysis of interview transcripts several areas emerged, where school career counsellors would appreciate additional support.

One of them is the topic of professional burnout because there are school career counsellors who work at several education establishments at the same time, and it requires excellent managerial skills, organisational talent, the ability to communicate with the managements and teams of teachers of various schools. A large majority of school career counsellors are also teachers of a subject in one or several schools, sometimes even in different counties. Performing various additional duties also follows from the project's requirements to the involved school career counsellors only (it is also confirmed by the analysis of the school career counsellor's job description). Substantial flexibility and the ability to act in uncertain situations are expected from school career counsellors. Under the conditions of increased levels of stress and responsibility, the risk of professional burnout increases, therefore it is necessary to pay more attention to this issue in supervisions.

The insecurity to talk about problem situations at work in front of their colleagues can also be related with the particular person's personal qualities, the lack of leadership skills, inadequate ability to reflect on and analyse situations, a fear of making a mistake, and it can cause even deeper unsolved problems. Participants may experience difficulties in evaluating supervision as an opportunity for gaining and creating new knowledge and transforming attitudes. Participants of supervisions must be encouraged to open up, to share their positive experience more so that each and every one of them can fix their relationship with themselves and colleagues, to receive a needed solution to their question and required support, which is one of the steps for strengthening the professional capacity of school career counsellors.

During supervisions, it is necessary to turn purposefully to the ability of school career counsellors to conceptualise some individual cases of their professional activity in order to learn to see interconnections, to set priorities, to define objectives clearer, to have a better understanding of the philosophy of career counselling.

Conclusions

Since it has been established during the research that there is no substantial difference in views of school career counsellors of comprehensive schools and VECCs in terms of professional and personal benefits and satisfaction with supervision, then for the purpose of rational use of resources it is recommended not to organise separate supervisions for the participants of these groups.For the purpose of further development and support of supervision participants it is necessary to address the topics regarding the unanswered questions, e.g. the insecurity of school career counsellors in the provision of individual counselling to pupils, episodic and poor cooperation and the lack of support from school managements, the identification of difficulties and obstacles, the communication related stress, taking new challenges, strengthening the sense of confidence and security.

A significant role in the professional development of school career counsellors is played by the ability to reflect and to perceive this process as a necessary ingredient for self-development, therefore the SEDA must position supervision publicly (in the mass media, in the conferences and seminars of the Latvian Career Development Support Association and other sector professionals, the working groups of other projects) as an efficient tool for the professional development and support of school career counsellors, and as a concept for the promotion of improvement of professional competence of school career counsellors in a short span of time through skilful, timely and systematic use of this tool.

As a result of the research a proposal was formulated to recommend revising the professional standard of career counsellor, establishing the requirement of supervision as a development and support tool for the perfection of competence and quality of professional activity.

Bibliography

1. Anderson R., Cissna K., Arnett R. C. (Eds.). (1994). *The Reach of Dialogue: Confirmation, Voice, and Community*. New York: Hampton Press.
2. Apine E. (2017). Supervīzijas process [Process of Supervision]. In K. Mārtinsone, S. Mihailova, *Supervīzija: teorija, pētījumi, prakse*. Rīga: RSU, 49–65. (in Latvian)
3. Āboltiņa L. (2012). *Reflektīvā darbība sociālo darbinieku supervīzijā* [Reflective Activity in the Supervision for Social Workers]. Promocijas darbs. Rīga: LU. Retrieved from https://dspace.lu.lv/dspace/bitstream/handle/7/4663/20124-Liga_Aboltina_2012.pdf (in Latvian)
4. Brockbank A., McGill I. (2006). *Facilitating Reflective Learning through Mentoring & Coaching*. London: Kogan Page.
5. Dharmadasa K.H. (1994). Personal Meaning in Learning: Perspectives that Influence the Discovery of Personal Meaning: A Symposium. Paper presented at the *Annual Meeting of the Mid-South Educational Research Association*. Nashville: TN, November 9-11, 1994. Retrieved from https://files.eric.ed.gov/fulltext/ED390524.pdf
6. Ērgle L., Rutka L. (2016). The Theoretical Nature and Practical Necessity of Pedagogical Supervision. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 9*. Jelgava: LLU, 66-73. Retrieved from https://llufb.llu.lv/conference/REEP/2016/Latvia-Univ-Agricult-REEP-2016proceed2255-808X-66-73.pdf
7. Hawkins P., Shohet R. (2006). *Supervision in the helping professions* (3rd ed.). Maidenhead: Open University Press.
8. Hawkins P., Shohet R. (2012). *Supervision in the helping professions* (4th ed.). Berkshire: Open University Press.
9. Hodge A. (2007). *Making the most of our coaching supervision: an appreciative inquiry workshop*. Melbourne: ICF.
10. Inskipp F., Proctor B. (1988). *Skills for supervising and being supervised*. Twickenham: Cascade Publications.
11. Kadushin A. (1976). *Supervision in social work*. New York: Columbia University Press.
12. Morrison T. (2005). *Staff supervision in social care: Making a real difference for staff and service users* (3rd ed.). Brighton: Pavilion Publishing.
13. Patterson F. (2019). Supervising the supervisors: What support do first-line supervisors need to be more effective in their supervisory role? *Aotearoa New Zealand Social Work*, *31*(3), 46–57. Retrieved from https://anzswjournal.nz/anzsw/article/view/647/657
14. Proctor B. (2000). *Group supervision: guide to creative practice*. London: SAGE Publications.
15. Soika I. (2017). Evolution of Dialogue for Students' Career Guidance in Secondary Vocational Education. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 10*. Jelgava: LLU, 481-488. Retrieved from https://llufb.llu.lv/conference/REEP/2017/Latvia-Univ-Agricult-REEP-2017_proceedings-481-488.pdf
16. Stankus-Viša I. (2017). Supervīzija mūsdienās, tās mērķi un kvalitātes kritēriji [Supervision Today, Its Goals and Quality Criteria]. In K. Mārtinsone, S. Mihailova, *Supervīzija: teorija, pētījumi, prakse*. Rīga: RSU, 19-27. (in Latvian)

Evaluation of Career Counsellors' Competences in Career Guidance

Vija Dislere[1] Dr.paed.; **Natalja Vronska**[2] Dr.paed.
Latvia University of Life Sciences and Technologies, Latvia
vija.dislere@llu.lv[1]; natalja.vronska@llu.lv[2]

Abstract: The importance of career guidance and the role of career counsellor is described and highlighted in this article. The aim of the study is to evaluate the importance of career counsellor competencies in the field of career guidance in Latvia, to develop criteria for evaluating career counsellor competence in order to achieve this goal. The self-evaluation of career counsellors regarding their competences was used. In the study 337 respondents were took part from all Latvia regions, they were graduates of the last ten years of the Career Counsellors Master's Program and other in-service career counsellors and school career counsellors working in schools, employment agencies and private consulting companies. The data were analysed statistically by using SPSS computer program: 1) rank transformation, 2) crosstab method, 3) chi-squared test. The significance of the results and the most important conclusion: the best developed professional competencies of career counsellors and school career counsellors on criteria *Career information competences* are *knowledge of updated information on employment trends, labour market, and social issues*. The best developed sub-competences on criteria *Career education competences* are *to demonstrate the knowledge of lifelong career development process* and *to use career planning and decision making in training*. The three most developed sub-competencies on criteria *Career counselling competences* are *ability to use dialogue in career guidance*, *exploration competency* and *use of counselling methods*. The three most developed sub-competencies on criteria *Career service managing competence* are *skills to cooperate effectively in a team of professionals, knowledge of (office) politics, networking ability*. The three most developed sub-competencies on criteria *Generic competence* are *observing ethical standards*, *communication and listening* and *empathy, insight*.

Keywords: competences, career counsellors, career guidance, career education.

Introduction

The importance of career guidance and the role of career counsellor

The rapid changes in the economic and labour market structure, the diversity of study programs and the relevance of education outcomes to the labour market, have led to the development of a system to help individuals better integrate into the education process and into the labour market at national and international levels. Career guidance is implemented through the organization of a range of activities that include career guidance, career education and information on education and on work opportunities as well as on inter-relation between them. The results of the study show that the availability and quality of information about education and job opportunities, involving employers, provided by career counsellors, positively influences the person to choose the education and career path that suits his / her interests and abilities (Jaunzeme, 2011, 126). It shows the importance of career guidance.

Promotion and advocacy of career development for individuals is ensured regardless of age, culture, mental/physical ability, ethnicity, race, nationality, religion/spirituality, gender, gender identity, sexual orientation, marital/partnership status, military or civilian status, language preference, socioeconomic status, any other characteristics not specifically relevant to job performance, in accordance with National Career Development Association policy (Minimum Competencies for…, 2009). It is important to follow to these political principles.

Career education is the systematic collaboration between educational institutions, parents, and the community to help children, adolescents, young people and adults to learn to develop and independently evaluate their careers. Career education is implemented in educational institutions. The development of students' competences in accordance with the requirements of the labour market can be promoted by implementing career education measures and integrating them into higher education studies. Recognizing the importance of career guidance in promoting student employability, more and more Universities in the European Union and Universities of other countries are introducing modular courses or activities to equip

students with general and career management skills. For example, in the United Kingdom, academic staff, staff of the career centre, social partners and students work closely together to deliver these activities (Gothard et al., 2001; Jaunzeme, 2011, 127). This model defines career services as support for academic departments to integrate employability and career management skills into curriculum content.

Modern education systems help learners to develop emotionally, socially, intellectually and physically (Karataş, Kaya, 2015). Career counsellors help students to develop and to make informed decisions, including career choices. According to K.M. Oertle and S. O'Leary (2017), guidance is about services that help students to solve problems, to make decisions, to improve their abilities and to act responsibly. The individuals that offer and maintain professional counselling services are school counsellors and other qualified experts in counselling. E. Goodman-Scott and T. Grothaus (2017) expound that counsellor' roles have evolved over time and have included mental health counselling, assessment and psychometry, career guidance, coordination, collaboration, and education among others. According to K. Karataş and I. Kaya (2015), counsellors establish vital psychological relationships with individual learners, which help in maintaining their respective development and decision-making (Hanımoglu, 2018). As a result of innovative processes taking place in modern society is developing a new system of educational values. Educational strategies involve the use of an educational competence model that provides the conditions for personality development and growth (Zhanguzhinova, Magauova, Nauryzbaeva, 2016). As a result of scientific research, several models of career guidance have been developed at our Latvia University of Life Sciences and Technologies to improve the content development of the Career Counsellor study program.

J. Pavulens worked out the *Career Management Cycle: Constructivist Model* (Pavulens, 2015, 334), which is based on the constructivist approach and includes assumptions created on the basis of several theories such as career, learning, activity and project management theory. Career management competence he described as the ability to handle career situations; to mobilize and combine personal and external resources and to use them in the implementation of appropriate activities to achieve the desired results; to cooperate with others and to be able to attract scarce resources; and to learn from experience. Life and career development consist of goal setting, career modelling, testing and optimization of different career models, testing of conditions and resources and finally the realization of the most appropriately selected model. The model suggested by J. Pavulens is recommended for use by a career counsellor.

Guidance Model for Promoting Self-Directed Career Decision-Making by Secondary School Students (Briska, Dislere, 2018, 349) focuses on secondary school students who has inability to make crucial decisions on their future profession as well as to understand themselves, their interests, abilities and needs. Using this model and encouraging action career guidance counsellors and the classroom teachers-counsellors stimulate student initiative through self-study to develop their abilities and skills, to identify their interests and talents, to set learning and career goals, to plan their work and to make responsible decisions.

The Information communication Technologies (ICT)-based Career Guidance Model (Urdzina-Merca, Dislere, 2018, 411) was developed based on both scientists' work experience and previous scientific findings. It is important to integrate the theoretical findings, the latest ICT achievements and the content of career education (professional diversity, labour market requirements and self-presentation skills) and the newest career counselling techniques (the project method, video training and company workshop visits) into career guidance activities. The authors believe that an interaction of the model's all sections: "Theories", "ICT" and "Content" in particular could yield the best outcomes in career guidance for young individuals.

To provide career support to women experiencing professional crisis, A. Racene and V. Dislere have developed the *Didactic Model of Crisis Management for Women in Professional Crisis Situations* (Racene, Dislere, 2016, 7), the target audience is women wishing or being forced to change their occupation due to a professional crisis. A type of consultation (advising, informative consultation, diagnostic consultation, formative and corrective consultation and e-consultation) is chosen on the basis of customer's wishes or the content of a career consultation. The model provides a methodology for managing a professional crisis, observing the principle of gender conformity in the course of career counselling (compliance with gender equality set in law, application of communication theories, breaking of stereotypes and raising of women's self-confidence). The developed model is recommended to use for career counsellors.

The importance of career counselling has also been studied by several authors. Providing guidance and counselling is both a practical and a theoretical approach, stemming from the social pressures of industrial

development (Patton, McMahon, 2014). Researchers have developed systems theory and studied the role of theory and practice in career development (Patton, McMahon, 2014). C. Stăiculescu, R. Livinţi, L.R. Ştefan, S. Todea, and N. Albu (2017) studied the aspect of managing the necessity of counselling and career guidance among the students. The researchers indicate that selecting the right profession and then progressing through the required steps to be a specialist is a sophisticated endeavour. They reduce dropouts, foster transition in different education levels, enhance participation, bolster social inclusion, and ensure accessibility to the labour market (Hanımoglu, 2018). Professional career counsellors offer appropriate guidance that are specific to individuals after assessing and testing a learner's intelligence, skills, personality, and interests. There are several conditions that affect a learner's choice of career; hence, it is vital to guide the learners to make informed and appropriate decisions regarding their future career (Hanımoglu, 2018).

R.S. Sharf (2014) has developed and researched career development theories in multiple dimensions, he provides important perspectives that may be useful in counselling, such as, constructivist approach that emphasize understanding clients' perceptions of the world; how individuals are influenced by others in career decision making (Phillips, Christopher-Sisk, Gravino, 2001); how behavioural approaches influences the client. The use of dialogue in career guidance of students of secondary vocational schools helps to build and develops their professional identity. Evolution of dialogue for students' career guidance in secondary vocational education is worked out by I. Soika (2017). Her experience of career guidance has shown that the meanings constructed through dialogue, develops an understanding of career planning and life designing. F. Meijers, M. Kuijpers, C. Gundy (2013) in their studies proved contribution of career dialogue in rising learning motivation, experienced fit of choice with learning tasks and experienced fit of internship.

Sustainable community development is related to the formation and development of new attitude to workplace wellness in educational process (Brizga, Peks, 2014). Workplace wellness includes the following dimensions: social, occupational, spiritual, physical, intellectual and emotional. Workplace wellness is any workplace health promotion activity or organizational policy designed to support healthy behaviour in the workplace including career counsellor workplace.

It follows from the above that the qualifications of a career counsellor are of paramount importance in order to be competent in their profession and able to apply their knowledge of the structure of the labour market and use the opportunities offered by the education system to carry out their professional work. Links between career guidance, demands of labour market and education system are explained in Figure 1.

Figure 1. Links between career guidance, demands of labour market and education system
(Katsarov et al., 2014).

A career counsellor has to be able to implement a variety of career support models and programmes to provide support to people (schoolchildren, students, adults, the unemployed) in acquiring an education or retraining, in career choices or career changes, to provide consultations, and to be understanding assistants in life choices.

What are the competencies of a career counsellor

Many scientists have been working on identifying the competencies of career counsellors and exploring their need and importance, also several studies have already been carried out: career counselling from a constructivist perspective, the analysis of school counsellors' activities is based on two directions: a) the choice of intervention strategies in relation to activities specific to the school they work in (middle school,

theoretical/technological/vocational high school), and b) professional experience (beginners or not) (Axinte, 2014); skills for career counsellor – empathy, insight, communication and listening, flexibility and tolerance (Blank, 2017); core competences – ethical behaviour, advocacy and leadership, awareness and appreciation of clients' cultural differences, integrate theory and research into practice in guidance, implement counselling programmes, awareness of own capacity, language knowledge, knowledge of updated information on educational, training, employment trends, labour market, and social issues, skills to cooperate effectively in a team of professionals, demonstrate knowledge of lifelong career development process (Hiebert, Neault, 2014); The right choice of a method and the interpretation of the counselling result could stimulate the student to make a decision based on his/her values; value identification methods help career counsellors to identify career counselling boundaries as well as act professionally, ethically and wisely in assessing any particular situation and identifying the particular kind of career guidance needed (Racene, Dislere, 2019).

In the counselling process, the counsellor uses a variety of tools, exercises and tasks, including selection and using of diagnostic methods, that aim to broaden the client's self-confidence, create and practice new behaviours and new views to support their informed decision-making. Counselling methods and tools are not aimed at diagnosing, but at building self-awareness and letting the client widely explore himself, his life and his environment, which you can call self-diagnosis (Bielecki, 2013).

The authors C.R. Ridley, D. Mollen and S.M. Kelly (2011) conceptualize counselling competence as more complex and nuanced than do traditional micro-skills models and include cognitive, affective, and behavioural components. The model consists of 4 superordinate competencies—determining therapeutic outcomes, facilitating therapeutic outcomes, evaluating therapeutic outcomes, and sustaining therapeutic outcomes—and 12 subordinate competencies: self-appraisal/ self-evaluating, structuring the therapy, building a therapeutic alliance, applying a conceptual map of therapeutic change, using therapeutic techniques, self-correcting, surmounting obstacles, leveraging opportunities, managing special situations, working with other systems of care, consulting other sources, and terminating therapy. Integral to the model is the integrated deep structure, which consists of 5 metacognitions: purposefulness, motivation, selection, sequencing, and timing.

Career counsellors have distinct personalities. They tend to be social individuals, which means they're kind, generous, cooperative, patient, caring, helpful, empathetic, tactful, and friendly. They excel at socializing, helping others, and teaching. Some of them are also enterprising, meaning they're adventurous, ambitious, assertive, extroverted, energetic, enthusiastic, confident, and optimistic (What does a career…, 2019).

A study on career competences and a factor analytic study on a large sample yielded a seven-factor structure were done based on several competences: goal setting and career planning, self-knowledge, job performance, career-related skills, knowledge of (office) politics, career guidance and networking, and feedback seeking and self-presentation. The results suggested to use this seven-factor criterion for evaluation of the validity of competences (Francis-Smythe et al., 2013).

One of the competencies of career counsellors is ability use an online tool in career counselling, helping people in need of career guidance remotely, they can get career guidance from a career counsellor no matter when or where they are (Rācene, Dišlere, 2014). Nowadays, this method is becoming more and more popular. Also, A. Racene (2017) in her study about importance of goal-setting tasks in career counselling, what was carried out involving vocational school students, revealed that the respondents most often set the following goals: starting a family, starting up a business and becoming a good specialist in the chosen profession. This research contributed to the understanding of importance of goalsetting tasks in career counselling and give insight into youth's goals in their lives. Students develop their abilities to think, to plan and to analyse and to define their life goals.

The ability to reconstruct a client's life portrait is part of a career counsellor's competence- to integrate clients' small stories into a large story, that enriches clients' self-understanding, changes perspective, clarifies what is at stake in the transition, eases decision making, and prompts client action, which is also the most important result (Savickas, 2011). R. Bobu, L. Soitu (2012) describe competences as exploration competency, planning competencies, relationship abilities – respect, motivation, project engagement that should be developed to a superior level regarding the counselled person, through the capacity to build a genuine relationship. Career counsellor roles are facilitator of personal and professional development, consultant for those seeking a job, motivator, information supplier for labour market and

occupational areas, facilitating customer access to career opportunities in the labour market, designer to initiate development activities of staff in an organisation.

R. Orbé-Austin (2010) offers five key tips to consider when developing a multicultural career counselling competence - cultural career history, outcome expectations, protected careers and self-efficacy, networking ability and awareness of our own cultural biases. Multicultural career counselling competence is always a work in progress, and our goal as career experts should be to maintain a stance of openness to learn and enhancing our knowledge, skills and awareness to adjust to the changing needs of client population (Mani, 2020). A career counsellor should have the ability to respond appropriately to individuals from diverse cultures and populations, and to be able to interact with a client in both individual and group counselling, providing targeted and sensitive support for clients/students in using the information, resources, and technologies, observing ethical standards and using supervision and professional consultations effectively (Minimum Competencies for…, 2009).

The *Network for Innovations in Career Guidance and Counselling in Europe (NICE)* (Network for Innovations…, 2019) makes a major contribution in working out career counsellor competences. NICE is an open European network for the academic training of people who practice career guidance and counselling (career practitioners). Scientists from this network presents the fields of core competences of career counsellor (Figure 2) (Katsarov et al., 2014).
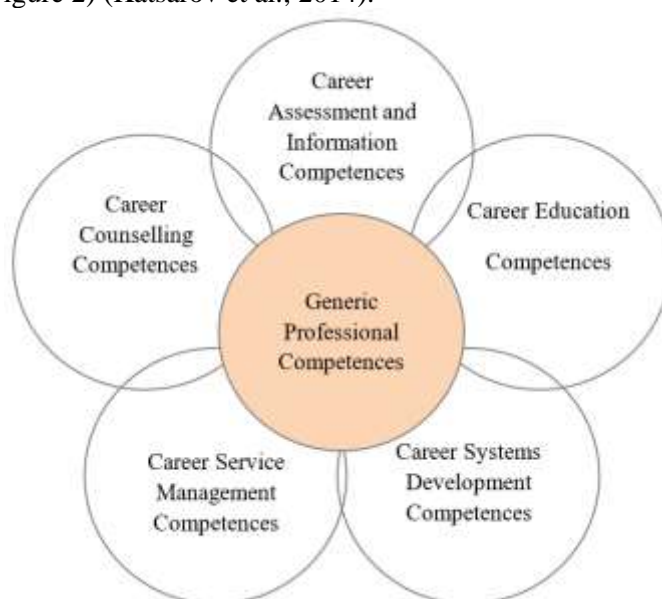
Figure 2. Core Competences should be understood as fields of competence; not as measurable competences (Katsarov et al., 2014).

In compiling and evaluating the scientific findings of the above scientists, the authors developed criteria for assessing the relevance of career counsellor competencies (Table 1).

Table 1

The criteria for assessing the competence of career counsellors

N	Criteria field of competence	Sub-competences
1	Career information competences	• knowledge of updated information on educational and training • knowledge of updated information on employment trends, labour market, and social issues
2	Career education competences	• to integrate the theory and research into practice in guidance • to demonstrate the knowledge of lifelong career development process • to use the goal setting tasks in training • to use career planning and decision making in training

N	Criteria field of competence	Sub-competences
3	Career counselling competences	• exploration competency • selection and using of diagnostic methods • use of counselling methods • to be able to interact with a client in individual counselling • to be able to interact with a client in group counselling • ability to use of dialogue in career guidance • a multicultural career counselling
4	Career service managing competence	• ability to implement a variety of career support models and programmes • ability to carry out a variety of career support models and programmes • skills to cooperate effectively in a team of professionals, • knowledge of (office) politics • networking ability
5	Generic competences	• empathy, insight • communication and listening, • flexibility and tolerance • observing ethical standards • awareness and appreciation of clients' cultural differences, • use an online tool in career counselling • workplace wellness • awareness of own capacity

The aim of the study is to evaluate the importance of career counsellor' competencies in the field of career guidance in Latvia, and to develop criteria for evaluating career counsellor competence in order to achieve this goal.

Methodology

The empirical study was developed at the Latvia University of Life Sciences and technologies at the Institute of Education and Home Economics and conducted in late 2019 and early 2020.

Questionnaires were done via emails and social networks. The questionnaires were sent to graduates of the last ten years of the Career Counsellors Master's Program and other in-service career counsellors and school career counsellors working in schools, employment agencies and private consulting companies in Latvia. For the study 826 questionnaires were sent out, 337 questionnaires were got back; 23 % of respondents are career counsellors, 77 % of respondents are school career counsellors.

Respondents were asked to fill in questionnaires and self-assess their career counsellor competencies according to the criteria developed by the authors (Table 1), where competencies were grouped into 5 fields and several sub-competences were assigned to each field using the scientific findings in the theoretical review. Respondents were asked, what career counsellor competencies do they think they have and to what extent (3-excellent; 2-good;1-poor).

Research tasks:
- to evaluate the importance of career counsellor' competencies in the field of career guidance in Latvia;
- to discover if there is a relationship between two independent samples;
- to analyse the frequency of respondent answers and to find out statistically significant prevalence.

Research methods:
- data collection methods: questionnaire;
- data processing methods:
  - rank transformation (Ranking Data in…, 2020);
  - crosstab method (Paura, Arhipova, 2002);
  - chi-square test (Arhipova, Bāliņa, 2006).

The data were analysed statistically by using SPSS Statistics software.

Results and Discussion

The criteria for assessing the relevance of career counsellor competencies were analysed below using rank transformation (Table 2-6).

Highest number of responses to the answer *good* is in sub-competence "knowledge of updated information on employment trends, labour market, and social issues" (ranked data 216). Highest number of responses to the answer *excellent* is in sub-competence "knowledge of updated information on educational and training" (ranked data 144). Overall, career information competences are well advanced and only a few respondents (24 respondents or 7.1 % and 6 respondents or 1.8 %) need to improve them (Table 2).

Table 2

Rank transformation of Career information competences

Ranked data		Answers	Sub-competences
n	%		
216	64.3	good	knowledge of updated information on employment trends, labour market, and social issues
144	42.9	excellent	knowledge of updated information on educational and training
96	28.6	excellent	knowledge of updated information on employment trends, labour market, and social issues
85	25.3	good	knowledge of updated information on educational and training
24	7.1	poor	knowledge of updated information on employment trends, labour market, and social issues
6	1.8	poor	knowledge of updated information on educational and training

Highest number of responses to the answer *good* is in sub-competence "to integrate the theory and research into practice in guidance" (ranked data 243). Highest number of responses to the answer *excellent* is in sub-competence "to demonstrate the knowledge of lifelong career development process" (ranked data 126). Only 6.5-13.4 % of respondents are required to improve these competences (Table 3).

Table 3

Rank transformation of Career education competences

Ranked data		Answers	Sub-competences
n	%		
243	72.1	good	to integrate the theory and research into practice in guidance
202	59.9	good	to use the goal setting tasks in training
191	56.7	good	to use career planning and decision making in training
187	55.5	good	to demonstrate the knowledge of lifelong career development process
126	37.4	excellent	to demonstrate the knowledge of lifelong career development process
113	33.5	excellent	to use career planning and decision making in training
100	29.7	excellent	to use the goal setting tasks in training
47	13.9	excellent	to integrate the theory and research into practice in guidance
45	13.4	poor	to integrate the theory and research into practice in guidance
32	9.5	poor	to use the goal setting tasks in training
30	8.9	poor	to use career planning and decision making in training
22	6.5	poor	to demonstrate the knowledge of lifelong career development process

Highest number of responses to the answer *good* is in sub-competence "selection and using of diagnostic methods" (ranked data 208). Highest number of responses to the answer *excellent* is in sub-competence "ability to use of dialogue in career guidance" (ranked data 127). Overall, career counselling competences are well advanced and only 8.3-27.3 % of respondents need to improve them (Table 4).

Highest number of responses to the answer *good* is in sub-competence "ability to carry out a variety of career support models and programmes" (ranked data 213). Highest number of responses to the answer *excellent* is in sub-competence "skills to cooperate effectively in a team of professionals" (ranked data 139). Only 6.2-25.5 % of respondents are required to improve these competences (Table 5).

Table 4

Rank transformation of Career counselling competences

Ranked data		Answers	Sub-competences
n	%		
208	61.7	good	selection and using of diagnostic methods
205	60.8	good	exploration competency
202	59.9	good	a multicultural career counselling
184	54.6	good	to be able to interact with a client in group counselling
177	52.5	good	use of counselling methods
176	52.2	good	ability to use of dialogue in career guidance
156	46.3	good	to be able to interact with a client in individual counselling
127	37.7	excellent	ability to use of dialogue in career guidance
119	35.3	excellent	to be able to interact with a client in individual counselling
103	30.6	excellent	to be able to interact with a client in group counselling
102	30.3	excellent	use of counselling methods
92	27.3	excellent	exploration competency
92	27.3	poor	a multicultural career counselling
63	18.7	excellent	selection and using of diagnostic methods
59	17.5	poor	selection and using of diagnostic methods
53	15.7	poor	use of counselling methods
52	15.4	poor	to be able to interact with a client in individual counselling
43	12.8	poor	to be able to interact with a client in group counselling
36	10.7	excellent	a multicultural career counselling
34	10.1	poor	exploration competency
28	8.3	poor	ability to use of dialogue in career guidance

Table 5

Rank transformation of Career service managing competence

Ranked data		Answers	Sub-competences
n	%		
213	63.2	good	ability to carry out a variety of career support models and programmes
207	61.4	good	ability to implement a variety of career support models and programmes
207	61.4	good	networking ability
201	59.6	good	knowledge of (office) politics
175	51.9	good	skills to cooperate effectively in a team of professionals
139	41.2	excellent	skills to cooperate effectively in a team of professionals
111	32.9	excellent	knowledge of (office) politics
86	25.5	poor	ability to implement a variety of career support models and programmes
67	19.9	excellent	networking ability
65	19.3	poor	ability to carry out a variety of career support models and programmes
58	17.2	poor	networking ability
55	16.3	excellent	ability to carry out a variety of career support models and programmes
40	11.9	excellent	ability to implement a variety of career support models and programmes
22	6.5	poor	knowledge of (office) politics
21	6.2	poor	skills to cooperate effectively in a team of professionals

Highest number of responses to the answer *excellent* is in sub-competence "*observing ethical standards*" (ranked data 262). Highest number of responses to the answer *good* is in sub-competence *"awareness of own capacity"* (ranked data 194). Overall, career information competences are well advanced and only a few respondents (5 respondents or 1.5 % and 3 respondents or 0.9 %) need to improve them (Table 6).

Crosstabs method is used to discover if there is a relationship between more independent samples: *sub-competences* sample and *to what extent* sample. Null hypothesis: there is not a relationship between two independent samples, while alternative hypothesis: there is a relationship between two independent samples (Table 7-11).

The *Pearson Chi-Square p-value* = 0.000 (Table 7), so the null hypothesis must be rejected and the alternative hypothesis accepted. In the criteria *Career information competences* is a relationship between *Sub-competences* sample and *to what Extent* sample.

Table 6

Rank transformation of Generic competence

Ranked data		Answers	Sub-competences
n	**%**		
262	77.7	excellent	observing ethical standards
235	69.7	excellent	communication and listening
213	63.2	excellent	flexibility and tolerance
209	62.0	excellent	empathy, insight
194	57.6	good	awareness of own capacity
191	56.7	good	use an online tool in career counselling
186	55.2	good	awareness and appreciation of clients' cultural differences
171	50.7	excellent	workplace wellness
162	48.1	good	workplace wellness
148	43.9	excellent	awareness and appreciation of clients' cultural differences
141	41.8	excellent	awareness of own capacity
129	38.3	excellent	use an online tool in career counselling
127	37.7	good	empathy, insight
121	35.9	good	flexibility and tolerance
102	30.3	good	communication and listening
74	22.0	good	observing ethical standards
17	5.0	poor	use an online tool in career counselling
5	1.5	poor	workplace wellness
3	0.9	poor	awareness of own capacity
0	0.0	poor	empathy, insight
0	0.0	poor	communication and listening
0	0.0	poor	flexibility and tolerance
0	0.0	poor	observing ethical standards
0	0.0	poor	awareness and appreciation of clients' cultural differences

Table 7

Crosstabs Chi-Square test of criteria Career information competences

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	61.471	2	0.000
Likelihood Ratio	62.235	2	0.000
N of Valid Cases	571		

The *Pearson Chi-Square p-value* = 0.000 (Table 8), so the null hypothesis must be rejected and the alternative hypothesis accepted. In the criteria *Career education competences* is a relationship between *Sub-competences* sample and *to what Extent* sample.

Table 8

Crosstabs Chi-Square test of criteria Career education competences

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	55.320	6	0.000
Likelihood Ratio	59.993	6	0.000
N of Valid Cases	1338		

The *Pearson Chi-Square p-value* = 0.000 (Table 9), so the null hypothesis must be rejected and the alternative hypothesis accepted. In the criteria *Career counselling competences* is a relationship between *Sub-competences* sample and *to what Extent* sample.

Table 9

Crosstabs Chi-Square test of criteria Career counselling competences

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	129.758	12	0.000
Likelihood Ratio	135.936	12	0.000
N of Valid Cases	2311		

The *Pearson Chi-Square p-value* = 0.000 (Table 10), so the null hypothesis must be rejected and the alternative hypothesis accepted. In the criteria *Career service managing competence* is a relationship between *Sub-competences* sample and *to what Extent* sample.

<div align="right">Table 10</div>

Crosstabs Chi-Square test of criteria Career service managing competence

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	73.202	8	0.000
Likelihood Ratio	75.736	8	0.000
N of Valid Cases	1667		

The *Pearson Chi-Square p-value* = 0.000 (Table 11), so the null hypothesis must be rejected and the alternative hypothesis accepted. In the criteria *Career service managing competence* is a relationship between *Sub-competences* sample and *to what Extent* sample.

<div align="right">Table 11</div>

Crosstabs Chi-Square test of criteria Generic competence

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	73.202	8	0.000
Likelihood Ratio	75.736	8	0.000
N of Valid Cases	1667		

Next, the frequency of respondent answers about the criteria for assessing the competence with relevant sub-competences were statistically analysed with the help of <u>chi-square test</u>, where the null hypothesis: the frequency of respondent answers is the same and the alternative hypothesis: the frequency of respondent answers not the same (Table 12-16).

Since the p-value (excellent) = 0.002 < 0.05, p-value (good) = 0.000 < 0.05, and p-value (poor) = 0.01 is less than the significance level of $\alpha = 0.05$ (Table 12), so the null hypothesis must be rejected and the alternative hypothesis accepted. The frequency of respondent answers is different. Statistically significant prevalence was: for the answer *knowledge of updated information on educational and training* at excellent choice (24.0), for the answer *knowledge of updated information on employment trends, labour market, and social issues* both at good (65.0) and poor choice (9.0).

<div align="right">Table 12</div>

Chi-square test statistics of criteria Career information competences

Answers	Residual		
	excellent	good	poor
knowledge of updated information on educational and training	24.0	-65.0	-9.0
knowledge of updated information on employment trends, labour market, and social issues	-24.0	65.0	9.0
Total	240	302	30
Chi-Square	9.600	55.960	10.800
df	1	1	1
Asymp. Sig.	0.002	0.000	0.01

<div align="right">Table 13</div>

Chi-square test statistics of criteria Career education competences

Answers	Residual		
	excellent	good	poor
to integrate the theory and research into practice in guidance	-49.5	37.3	12.8
to demonstrate the knowledge of lifelong career development process	29.5	-18.8	-10.3
to use the goal setting tasks in training	3.5	-3.8	-0.3
to use career planning and decision making in training	16.5	-14.8	-2.3
Total	386	823	129
Chi-Square	37.358	9.578	8.457
df	3	3	3
Asymp. Sig.	0.000	0.023	0.037

Since the p-value (excellent) = 0.000 < 0.05, p-value (good) = 0.023 < 0.05, and p-value (poor) = 0.037 is less than the significance level of $\alpha = 0.05$ (Table 13), so the null hypothesis must be rejected and the alternative hypothesis accepted. The frequency of respondent answers is different. Statistically significant prevalence was: for the answer *to demonstrate the knowledge of lifelong career development process* at excellent choice (29.5), for the answer *to integrate the theory and research into practice in guidance* both at good (37.3) and poor choice (12.8).

Since the p-value (excellent) = 0.000 < 0.05, and p-value (poor) = 0.000 < 0.05 (Table 14), so the null hypothesis must be rejected and the alternative hypothesis accepted. The frequency of respondent answers is different. Statistically significant prevalence was: for the answer *ability to use of dialogue in career guidance* at excellent choice (35.3), for the answer *a multicultural career counselling* poor choice (40.4). The p-value (good) = 0.070 > 0.05, the null hypothesis can't be rejected. Thus, can be concluded that the frequency of respondent answers is the same.

Table 14

Chi-square test statistics of criteria Career counselling competences

Answers	Residual		
	excellent	good	poor
exploration competency	0.3	18.1	-17.6
selection and using of diagnostic methods	-28.7	21.1	7.4
use of counselling methods	10.3	-9.9	1.4
to be able to interact with a client in individual counselling	27.3	-30.9	0.4
to be able to interact with a client in group counselling	11.3	-2.9	-8.6
ability to use of dialogue in career guidance	35.3	-10.9	-23.6
a multicultural career counselling	-55.7	15.1	40.4
Total	642	1308	361
Chi-Square	67.072	11.671	50.992
df	6	6	6
Asymp. Sig.	0.000	0.070	0.000

Since the p-value (excellent) = 0.000 < 0.05, p-value (poor) = 0.000 < 0.05 (Table 15), so the null hypothesis must be rejected and the alternative hypothesis accepted. The frequency of respondent answers is different. Statistically significant prevalence was: for the answer *skills to cooperate effectively in a team of professionals* at excellent choice (56.6), for the answer *ability to implement a variety of career support models and programmes* poor choice (35.6).

The p-value (good) = 0.349 > 0.05, the null hypothesis can't be rejected. Thus, can be concluded that the frequency of respondent answers is the same.

Table 15

Chi-square test statistics of criteria Career service managing competence

Answers	Residual		
	excellent	good	poor
ability to implement a variety of career support models and programmes	-42.4	6.4	35.6
ability to carry out a variety of career support models and programmes	-27.4	12.4	14.6
skills to cooperate effectively in a team of professionals	56.6	-25.6	-29.4
knowledge of (office) politics	28.6	0.4	-28.4
networking ability	-15.4	6.4	7.6
Total	412	1003	252
Chi-Square	82.612	4.443	63.675
df	4	4	4
Asymp. Sig.	0.000	0.349	0.000

Since the p-value (excellent) = 0.000 < 0.05, p-value (good) = 0.000 < 0.05, p-value (poor) = 0.001 < 0.05 (Table 16). So the null hypothesis must be rejected and the alternative hypothesis accepted. The frequency of respondent answers is different. Statistically significant prevalence was: for the answer *observing ethical standards* at excellent choice (73.5), for the answer *awareness of own capacity* (49.4), for the answer *use an online tools in career counselling* poor choice (8.7).

Table 16

Chi-square test statistics of criteria Generic competence

Answers	Residual		
	excellent	good	poor
observing ethical standards	73.5	-70.6	-
communication and listening	46.5	-42.6	-
flexibility and tolerance	24.5	-23.6	-
empathy, insight	20.5	-17.6	-
awareness of own capacity	-47.5	49.4	-5.3
use an online tools in career counselling	-59.5	46.4	8.7
awareness and appreciation of clients' cultural differences	-40.5	41.4	-
workplace wellness	-17.5	17.4	-3.3
Total	1508	1157	25
Chi-Square	86.621	98.710	13.760
df	7	7	2
Asymp. Sig.	0.000	0.000	0.001

Conclusions

It follows from all of the above that it is extremely important for a career counsellor to be qualified, to be a competent professional and to be able to apply the knowledge of the structure of the labour market and use the opportunities offered by the education system for doing professional work and help clients to take responsible career decisions. A career counsellor must be competent at all fields of competences: career information, career education, career counselling, career service managing and she/he must also possess generic competencies.

Analysing the results of study on career counsellors and school career counsellor's questionnaire the criteria visible in Table 1 for assessing the professional competence of career counsellors developed by authors were used. The criteria conclude 5 competence fields, each field having several sub-competences. Analysing the respondents' responses to *excellent* and *good* together, it can be concluded that the best developed sub-competencies on criteria _Career information competences_ are *knowledge of updated information on employment trends, labour market, and social issues* (n = 312, p-value = 0.000 < 0.05, residual = 65.0). The best developed sub-competences on criteria _Career education competences_ are *to demonstrate the knowledge of lifelong career development process* (n= 313, p-value = 0.000 < 0.05, residual = 29.5) and *to use career planning and decision making in training* (n = 304). The three most developed sub-competencies on criteria _Career counselling competences_ are *ability to use dialogue in career guidance* (n = 303, p-value = 0.000 < 0.05, residual = 35.3), *exploration competency* (n = 297) and *use of counselling methods* (n = 279). The three most developed sub-competencies on criteria _Career service managing competence_ are *skills to cooperate effectively in a team of professionals* (n =314, p-value = 0.000, residual = 56.6), *knowledge of (office) politics* (n = 312), *networking ability* (n = 274). The three most developed sub-competencies on criteria _Generic competence_ are *observing ethical standards* (n = 336, p-value = 0.000 < 0.05, residual = 73.3), *communication and listening* (n = 337) and *empathy, insight* (n = 336). Competences that are needed to be improved demonstrated by respondents were: a multicultural career counselling (27.3 %) and ability to implement a variety of career support models and programmes (25.5 %). In general, it can be concluded that the professional competences of career counsellors and school career counsellors are sufficiently developed in Latvia.

Bibliography

1. Arhipova I., Bāliņa S. (2006). *Statistika ekonomikā un biznesā* [Statistics on Economics and Business]. Rīga: Datorzinību centrs. (in Latvian)
2. Axinte R. (2014). The School Counselor: Competencies in a Constructivist Model of Counseling for Career Development. *Procedia – Social and Behavioral Sciences*, *142*, 255-259. doi: 10.1016/j.sbspro.2014.08.290
3. Bielecki J. (Ed.). (2013). *Methods, techniques and tools to diagnose competences*. Warsaw: National Centre for Supporting Vocational and Continuing Education. Retrieved from https://www.ess.gov.si/_files/5433/methods_techniques_and_tools.pdf

4. Blank C. (2017). *Skills for a Career Counselor*. Chron. Retrieved from https://work.chron.com/skills-career-counselor-1077.html

5. Bobu R., Soitu L. (2012). Competences and roles of career counsellors. In G.K. Zarifis, K. Martin., S. Sava (Eds.), International conference *Back to Work – The Role of Validation of Competences in Professional Counselling of Adults*. Thessaloniki, Greece: MEDIMOND, 1-4.
    Retrieved from https://www.academia.edu/2364861/Back_to_Work-The_Role_of_Validation_of_Competences_in_Professional_Counseling_of_Adults

6. Briska L., Dislere V. (2018). Guidance Model for Promoting Self-Directed Career Decision-Making by Secondary School Students. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 11*. Jelgava: Latvia University of Life Sciences and Technologies, 344-353. doi: 10.22616/REEP.2018.042

7. Brizga D., Peks L. (2014). Workplace wellness and specialists' attitude to work safety. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 7*. Jelgava: LLU, 90-96. Retrieved from https://llufb.llu.lv/conference/REEP/2014/Latvia-Univ-Agricult-REEP-2014proceedings-90-96.pdf

8. Francis-Smythe J., Haase S., Thomas E., Steele C. (2013). Development and Validation of the Career Competencies Indicator (CCI). *Journal of Career Assessment, 21*(2), 227-248. doi: 10.1177/1069072712466724

9. Goodman-Scott E., Grothaus T. (2017). School Counselors' Roles in RAMP and PBIS: A Phenomenological Investigation (Part two). *Professional School Counseling, 21*(1), 130-141. doi: 10.5330/1096-2409-21.1.130

10. Gothard B., Mignot P., Offer M., Ruff M. (2001). *Careers Guidance in Context*. London: Sage Publications. doi: 10.4135/9781446220399

11. Hanımoglu E. (2018). The perceptions of students about the role of school counsellors on career selection. *European Journal of Educational Research*, *7*(4), 763-774. doi: 10.12973/eu-jer.7.4.763

12. Hiebert B., Neault R. (2014). *Career Counselor Competencies and Standards: Differences and Similarities across Countries*. Switzerland: Springer Link. doi: 10.1007/978-1-4614-9460-7_39

13. Jaunzeme I. (2011). *Karjeras vadības un atbalsta sistēmas pilnveidošanas problēmas augstākajā izglītībā Latvijā* [The Problems of Career Guidance System Improvement in Higher Education in Latvia]. (Doctoral Thesis, University of Latvia, Riga). https://dspace.lu.lv/dspace/handle/7/4591 (in Latvian)

14. Karataş K., Kaya I. (2015). An investigation of the perceptions of school administrators towards the roles and duties of school counselors. *Eurasian Journal of Educational Research, 61*, 181-198. Retrieved from https://files.eric.ed.gov/fulltext/EJ1087612.pdf

15. Katsarov J., Lerkkanen J., Pouyaud J., Pukelis K. (2014). *Coming to European Competence Standards for the Practice of Career Guidance and Counselling*. Canterbury, UK: NICE. doi: 10.11588/nicenl.2014.0.16721

16. Mani P.S. (2020). Career Self-Management and Development of Multicultural Knowledge and Practice: Experience of Professional Counsellors. *Canadian Journal of Family and Youth, 12*(1), 124-146. doi: 10.29173/cjfy29494

17. Meijers F., Kuijpers M., Gundy C. (2013). The relationship between career competencies, career identity, motivation and quality of choice. *International Journal for Educational and Vocational Guidance, 13*(1), 47-66. doi: 10.1007/s10775-012-9237-4

18. *Minimum Competencies for Multicultural Career Counselling and Development.* (2009). National Career Development Association. Retrieved from https://www.associationdatabase.com/aws/NCDA/asset_manager/get_file/9914/minimum_competencies_for_multi-cultural_career_counseling.pdf?ver=21765

19. Network for Innovations in Career Guidance and Counselling in Europe (NICE). (2019). Retrieved from http://www.nice-network.eu/

20. Oertle K.M., O'Leary S. (2017). The importance of career development in constructing vocational rehabilitation transition policies and practices. *Journal of Vocational Rehabilitation*, *46*(3), 407-423. doi:10.3233/JVR-170877

21. Orbé-Austin R. (2010). *Multicultural Career Counseling Competence: 5 Key Tips for Improving Practice.* Retrieved from https://associationdatabase.com/aws/NCDA/pt/sd/news_article/28865/_PARENT/layout_details_cc/true

22. Patton W., McMahon M. (2014). *Career development and systems theory: connecting theory and practice*. Rotterdam, The Netherlands: Sense Publishers.

23. Paura L., Arhipova I. (2002). *Statistiskās neparametriskās metodes* [Non-parametric statistical methods]. Jelgava: LLKC. (in Latvian)

24. Pavulens J. (2015). Career Management: Towards Constructivist Model. In V. Dislere (Ed.), Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 8*. Jelgava: LLU, 329-337. Retrieved from https://llufb.llu.lv/conference/REEP/2015/Latvia-Univ-Agricult-REEP-2015proceedings-329-337.pdf

25. Phillips S.D., Christopher-Sisk E.K., Gravino K.L. (2001). Making Career Decisions in a Relational Context. *The Counseling Psychologist, 29*(2), 193-214. doi: 10.1177/0011000001292002

26. Racene A. (2017). Importance of Goal-Setting Tasks in Career Counselling. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personalit (REEP), 10*. Jelgava: LLU, 442-450. Retrieved from https://llufb.llu.lv/conference/REEP/2017/Latvia-Univ-Agricult-REEP-2017_proceedings-442-450.pdf

27. Rācene A., Dislere V. (2014). Internet Tools as a Kind of Career E-Guidance. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 7*. Jelgava: LLU, 200-207. Retrieved from https://llufb.llu.lv/conference/REEP/2014/Latvia-Univ-Agricult-REEP-2014proceedings-200-207.pdf

28. Racene A., Dislere V. (2016). Didactic Model of Crisis Management for Women in Professional Crisis Situations. *British Journal of Education, Society and Behavioural Science, 12*(1). doi: 10.9734/BJESBS/2016/20619

29. Racene A., Dislere V. (2019). Choice of a Value Identification Method in Career Counselling. In V. Dislere (Ed.), the Proceedings of the International Scientific Conference Rural Environment. Education. Personality (REEP), 12. Jelgava: Latvia University of Life Sciences and Technologies, 289-296. doi: 10.22616/REEP.2019.038

30. *Ranking Data in SPSS Statistics*. (2020). Retrieved from https://statistics.laerd.com/spss-tutorials/ranking-data-in-spss-statistics.php

31. Ridley C.R., Mollen D., Kelly S.M. (2011). Beyond Microskills: Toward a Model of Counseling Competence. *The Counseling Psychologist, 39*(6), 825-864. doi: 10.1177/0011000010378440

32. Savickas M.L. (2011). *Career Counselling* Washington: American Psychological Association.

33. Sharf R.S. (2014). *Applying Career Development Theory to Counseling* (6th ed.). Belmont, CA: Thomson Brooks/Cole.

34. Soika I. (2017). Evolution of Dialogue for Students' Career Guidance in Secondary Vocational Education. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *10*. Jelgava: LLU, 481-488. Retrieved from https://llufb.llu.lv/conference/REEP/2017/Latvia-Univ-Agricult-REEP-2017_proceedings-481-488.pdf

35. Stăiculescu C., Livinţi R., Ştefan L.R., Todea S., Albu N. (2017). Managing the need for career guidance and counselling for students' case study - The Bucharest University of Economics Studies. *Review of International Comparative Management / Revista De Management Comparat International, 18*(2), 158-170. Retrieved from http://rmci.ase.ro/no18vol2/03.pdf

36. Urdzina-Merca I., Dislere V. (2018). Information and Communication Technology Based Career Guidance Model for Young People. In V. Dislere (Ed.), Proceedings of the International Scientific Conference *Rural Environment, Education, Personality (REEP)*, *11*. Jelgava: LLU, 406-415. doi: 10.22616/REEP.2018.050

37. Zhanguzhinova M.Y., Magauova A.S., Nauryzbaeva A.S. (2016). Competence Approach in Vocational Education of Kazakhstan in Conditions of Innovational and Industrial Development of the Society. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *9*, Jelgava: LLU, 128-133. Retrieved from https://llufb.llu.lv/conference/REEP/2016/Latvia-Univ-Agricult-REEP-2016proceed2255-808X-128-133.pdf

38. *What does a career counsellor do?* (2019). Career Explorer. Retrieved from https://www.careerexplorer.com/careers/career-counselor/

Measurement and Analysis Issues in Research of Interrelation between Organizational Learning Culture and Organizational Citizenship Behaviour

Alona Eisenberg[1] Dr.oec.; **Jeļena Davidova**[2] Dr.paed.
Kiryat Bialik Municipality, Israel[1]; Daugavpils University, Latvia[2]
alonaeisenberg@hotmail.com[1]; jelena.davidova@du.lv[2]

Abstract: This research examined the interrelation between Organizational Learning Culture (further – OLC) and Organizational Citizenship Behaviour (further – OCB), the developed, adapted and practically approbated model for understanding the relationship between OLC and OCB. The developed model makes it possible to distinguish the factor structure of the phenomenon. This research selected dimensions of OLC (Employees Inclusion, Continuous Learning, Encouraging Leadership, Supporting System and Proactive Learning Environment), which defined the type of organization relative to its learning level (Learning Organization, Organization in Conflict, Outdated Organization and Organization in Evolution). According to OCB, in this study were selected three dimensions: Job Dedication, Civil Virtue, and Loyalty. This research classified employees according to their orientation toward their behaviour at work and found four groups that interpreted as Job orientation, Civil service orientation, Career orientation and Calling orientation. The empirical basis of the research was the data obtained from a survey of 529 respondents that were examined in 12 local authorities in Israel. The proposed methodology can be used to assess the type of organization according to OLC and classifying employees in relation to their organization to develop methods for improving the efficiency of the organization.

Keywords: organizational citizenship behaviour, organizational learning culture, learning organization.

Introduction

Organizational survival depends on their ability to learn to adapt themselves to changes in the environment. Globalization, information technology development, resource depletion, privatization, decentralization of budgets and economic crises lead to a search for new ways to increase organizational productivity, profitability, efficiency and to improve service, by finding internal resources. Under these conditions, where the speed of changes, their nature and impact are unexpected, the organization's ability to learn is critical (Pedler, 1996). In this atmosphere, it seems impossible for organizations to preserve their outdated structure and to transform them into a more flexible and adaptive organism. This new kind of organization structure should contain greater knowledge, flexibility, power, and learning ability and will be named as a 'learning organization', which has a positive impact, not only on the individuals but also on the effectiveness of the organization (Watkins, Marsick, 2003). Organizations that have prioritized learning and development achieve an increase in productivity and profitability. Creating learning processes and culture could attract, motivate and train employees and in this way cause them to invest in their work and to detect organizational involvement beyond the demands of the role. D.W. Organ (1990) called human behaviour that is expressed in the employees' contribution beyond the job's demands, beyond the level they are committed to and for what they are not recompensed by the organization as 'Organizational Citizenship Behaviour' (OCB).

This research suggests that the organization should look for ways of improving the OCB of its employees by generating an Organizational Learning Culture (OLC) motivated by the leadership. According to H.C. Pickford and G. Joy, employees who feel organizational citizenship will "*go the extra mile*" out of personal motivation – identifying these motivations can lead to increased performance and job satisfaction (Pickford, Joy, 2016, 1).

The aim of this research is developing a structural model the interrelation between OCB and OLC, analysing their factors and providing the practical tools for monitoring OLC, it's classifying and OCB behaviour of the employees the purpose of increasing efficiency by correcting that behaviour.

The learning organizational indices OCB can be used by the manager as evaluation tools to determine employees' levels of performance. These indices would help to identify an organization whose employees express willingness to maintain an OCB beyond the requirement in the formal role framework. This may

help to recognize the degree of success of the organization in fulfilling its objectives and especially the employees' attitude towards the organizational apparatus.

Methodology

Participants and procedure

The empirical basis of the research was the data obtained from a survey of 529 respondents from 12 local authorities in Israel. Local government has chosen to allow diversity in terms of geographical location, size, type, socioeconomic cluster, etc. The respondents were from all types of local government: municipalities, local and regional councils, from all places in the country: North, Central, and Southern, from all sizes of cities: small, medium and large, and from all types of socioeconomic status. In order to maintain anonymity, the local authorities participating in the study were given a code.

The majority of respondents 348 (65.8 %) were women, 181 respondents (34.2 %) were men. According to the number of employees in the organization, it is possible to learn that in four local authorities participating in the study, the number of employees is up to 200, which is 33 %; in three local authorities, the number of employees is 300-500, which is 25 %; in two local authorities 600-800 (16 %) and three local authorities over 1000 employees (25 %). The study provided representation for a variety of local authorities in terms of the number of employees. By level of education, the respondents were distributed as follows: 201 respondents had a bachelor's degree (BA) representing 38 % of the sample; 100 respondents had a master's degree (MA) representing 18.9 % of the sample; 228 respondents had matriculation certificate representing 43.1 %. According to time job, the absolute majority of employees were employed full-time job: 490 respondents worked full time (92.6 %) and 39 respondents worked part-time representing 7.4 % of the sample. The age of respondents varied from 24 to 72 years and half of the respondents were at least 45 years old. The average age was 45 years. The employment time of respondents varied from two months to 45 years, with an average of 13 years. A quarter of respondents had no more than five years, while the other quarter had not less than 20 years.

Measures

Data were collected through a questionnaire which contained three parts: questions for measuring the OLC, questions for measuring civic behaviour in the organization and socio-demographic details.

Independent variable: Organizational Learning Culture - OLC. Research questionnaire is based on existing questionnaire that developed by V.J. Marsick and K.E. Watkins (2003). It has been modified and adapted to suit the target population. This questionnaire's part was designed to examine the existing processes in the local government in Israel to create an organizational learning culture.

The dependent variable: Organizational Civil Behaviour - OCB. This questionnaire's part was designed to examine the existing discretionary behaviour directed at individuals or at the organization as a whole, which goes beyond existing role expectations and benefits the organization is intended to benefit it. Participants were asked to evaluate how well the description matches the reality of their behaviours. The study questionnaire is comprised of questions based on items from the study of P.M. Podsakoff (Podsakoff et al., 1990) and E. Vigoda-Gadot (Vigoda-Gadot et al., 2007). The questionnaire has a high construct validity (evaluated by confirmatory factor analysis), and each of the five sub-scales indicates good internal consistency (KMO is 0.839, Sig. of Bartlett's Test of Sphericity <0.001, the lowest value of Cronbach alpha is 0.789). The questionnaire has been tested and modified through this research studies.

Data analysis

In order to classify respondents and organizations in the space of the identified factors, a two-stage cluster analysis was carried out: clusters allocated in the OCB factor space allow respondents to be classified according to their relation to work in the organization and clusters allocated in the space of OLC factors allow classifying organizations by the level and structure of OLC. For the analysis of the relationship between the phenomena studied, a correlation-regression analysis was used. Since the nature of the distribution of factors identified as a result of factor analysis is significantly different from normal, the Pearson Correlation coefficient was used to calculate the correlations. To prove the hypotheses, one-way analysis of variance, two-factor analysis of variance, and chi-square test were used.

Results

Organizational learning culture

Organizational learning only exists if specific organizational cultural conditions enable it (Sampe, 2012). Human capital is depended on learning organization culture and organizational learning process. Without such a culture supporting learning in the organization, the efforts invested in individual learning and development will not bring the desired results (Joo, Yang, 2007). Organizational learning culture provides rules for sharing information, determining consents and acting ways. Organizational learning culture fosters learning, allows time to devote to tasks, encourages participation in team meetings and forums to share knowledge and ideas and motivates employees to share and develop knowledge with others.

M.N. Moghadam, M. Beheshtifar and M.A. Darvishzade (2012) argue that organizational learning culture is a building where employees are encouraged to train their initiatives and where individuals take personal possession in their learning and development at all levels within the organization. The goal of an organizational learning culture is an exchange of knowledge leading to innovation, improved performance, sustained competitiveness and survival for years (López, Peón, Ordás, 2005). A.K. Yeung (Yeung et al., 1999) claimed that a learning culture promotes knowledge acquisition and sharing, reciprocity, experimentation, risk-taking, and recognition of the opportunities created by change. Organizational learning culture is one of the main components related to organizational commitment and intrinsic motivation (Moghadam, Beheshtifar, Darvishzade, 2012). A learning culture is an integral part of organizational behaviour that occurs as a continuous process of improvement. A. Eisenberg, S. Ignatjeva, D. Iliško and A. Rauckiene-Michaelsson (2018) proposed five dimensions theory of the learning organization culture, which are associated with people and organizational structure (Table 1).

Table 1

Organizational Learning Culture dimensions

Dimension	Definition
Employees Inclusion	A cultural process that includes the employees of the organization makes them a part of the organizational decision making at all levels and motivates them to contribute to the organization needs and vision.
Continuous Learning	Continuous learning is a consistent process of sharing knowledge, experience, and skills and applying them to building new behaviours for the benefit of the entire organization.
Encouraging Leadership	Managerial means that encourages and supports employees to take proactive actions towards achieving the goals and vision of the organization. It focuses on the individual's strength and contributions in order to drive employee motivation and performance to a higher level.
Supporting System	An organizational environment that provides all necessary tools both in the organizational and the managerial domain in order for the employees to have all needed infrastructure for continuous learning.
Proactive Learning Environment	An organizational capability providing the employees with all technical and motivational means that encourages learning. The most significant role of proactive learning environment is to construct a learning ability, which enables anyone to learn anyplace at any time.

Source: adapted from (Eisenberg, Ignatjeva, Iliško, Rauckiene-Michaelsson, 2018).

V.J. Marsick and K.E. Watkins (2003) think that a learning process is existing at two levels: learning at the individual level and learning at the organizational level; a) individual learning is related to organizational learning though not equal to it and b) organizational culture is built by leaders and other key people, who learn from their experience, influence the learning of others, and create a learning environment. According to A. Kleiner (Kleiner et al., 1994, 36), *"without theory, method and tools people cannot develop the new skills and capability* required *for deep learning"*. It means that, if organizations involve employees in career development activities, it will increase their level of commitment, and satisfaction that encourages performance improvement stay in the organization, accomplishing organizational objectives efficiently (Ababneh, 2013). The organizational learning process is an important strategic tool for the organization's management to increase the involvement and contribution of the organization's employees to its goals, to increase efficiency, productivity and service quality.

'Organizational Citizenship Behaviour' - OCB was first described by S.A. Smith (Smith, Organ, Near, 1983), who defined the behaviours that go beyond the job's demands, beyond the level is committed. According to D.W. Organ, OCB reflects "*individual behaviour that is discretionary, not directly or explicitly recognized by the formal reward system and that is the aggregate which promotes the effective functioning of the organization*" (Organ, 1988, 4). OCB has been identified as an important indicator of employees' performance that goes beyond formal duties and has a major positive impact on long-range sustainability, organizational outcomes, effectiveness and service quality (Podsakoff, Ahearne, MacKenzie, 1997; Vigoda-Gadot et al., 2007; Pickford, Joy, 2016). OCB does not appear in any job definition. It is the result of the personal effort of employees (Kaya, 2015). Moreover, what is expected of the employee nowadays is undergoing changes: in order to learn new technologies and to work with it, the employees require new skills and need to be more creative and competent (Eisenberg, Davidova, Kokina, 2018).

T.S. Bateman and D.W. Organ (1983) graded OCB as participating in the elective meetings, helping voluntarily other employees, providing innovative suggestions to improve the organization, avoiding complaints, not taking advantage of employees' rights, and not requesting unnecessary leaves. I. Oplatka (2009) refers OCB to several elements: voluntary, beyond what is required, formal task behaviours, behaviours based on personal choice, behaviours directed towards others or the organization and avoidance of behaviours that are harmful to the organization. According to A. Eisenberg and S. Ignatjeva (2018), organizational citizenship behaviour has three dimensions: *Job Dedication, Civic Virtue and Loyalty* (Table 2).

Table 2

Organizational Citizenship Behaviour dimensions

Dimension	Definition
Job Dedication	An employee behaviour focusses on hard-working, performing according to procedures and rules, taking the initiative to solve a problem.
Civil Virtue	An employee behaviour expresses willingness to participate actively in the life of the organization, to maintain and improve it.
Loyalty	An employee behaviour which places an organizational interest above the personal, maintains an organizational interest, and identifies with the organization.

Source: adapted from (Eisenberg, Ignatjeva, 2018).

In the early years of the researches in this field, the studies focused on assessing behaviour at the individual level. To date, more researchers focus not only on individual level but on a group or team level and even system level of OCB (Somech, Drach-Zahavy, 2004; Vigoda-Gadot et al., 2007; Lai, Lam, Lam, 2013).

Recent studies deal with the practical aspect of OCB. According to D.W. Organ, P.M. Podsakoff, S.B. MacKenzie (2006), OCB contributes to innovation, pooling resources and adaptation to a changing and complex environment, which ultimately improves the efficiency of the entire organization. H. Qureshi (2015) supposes that OCB reinforces co-worker and manager productivity, free up resources for more productive purposes, help in coordinating action across workgroups, attract best employees to the organization, increase the stability of the organization's performance, and enable the organization to adapt effectively to environmental changes.

OCB research has primarily involved private sector businesses, traditional fields like human resource management and marketing. Few studies have examined this behaviour in the public sector, particularly in local authorities. In the public sector, it is more difficult to check OCB results because the final outcome is a service rather than a product.

For the analytic framework of OCB, this research used the three-category model of A. Eisenberg and S. Ignatjeva (2018). The operative definition for OCB for this study is a voluntary behaviour of the employee directed to the entire organization or to certain individuals, through which the employee expresses his readiness to perform his duties beyond the requirements of the official position and workplace.

The interrelation between OLC and OCB

Many researchers (O'Reilly, Chatman, 1996; Wayne, Shore, Liden, 1997; Jo, Joo, 2011; Islam et al., 2013; Lai, Lam, Lam, 2013; Kaya, 2015; Salas-Vallina, Alegre, Fernández, 2016; Kim, Watkins, Lu, 2017) have assumed that supportive organizational culture motivates employees to perform their job tasks beyond the required. In an organization where employees believe that this is a place where they can grow, learn, share ideas, participate in dialogue and decision making, where they can learn from mistakes without being accused, the employees will be willing to invest in their work beyond their duty. If the organization has a strong learning culture, it affects a strong motivational basis for personal activities, including employees' decisions to become engaged in prosocial activities such as OCB. The OCB dimension is not based on measuring objective economic outcomes, but it increases outputs in terms of 'service'. OCB is expressed in various levels of identification with the organization, its goals, and values. Its importance is particularly emphasized in public systems since contact with civilians often requires action beyond the definition in the formal guidelines of the position.

This research examined the concept of OLC and OCB as a context-related consequence from a multidimensional view. The present study contributes to the literature the relative effects of OLC on the emergence of OCB across Israeli municipality employees. Since studies suggest that the creation of an organizational learning culture may change and affect employee behaviour, OLC is the independent variable and OCB is a dependent variable. For the purposes of this study, organizational learning culture was described by both the structural and process dimensions of learning within an organizational context. The independent variable OLC is based on study of A. Eisenberg, S. Ignatjeva, D. Iliško and A. Rauckiene-Michaelsson (2018) that statement a multi-dimensional concept of OLC. It is described by five factors refers to learning processes at all levels of the organization: employees inclusion, continuous learning that includes sharing of knowledge, assimilation of new technologies and the participation of employees in decision-making processes, creating a supporting system, proactive learning environment and encouraging leadership.

The dependent variable OCB is based on the three-category model of A. Eisenberg and S. Ignatjeva (2018) that statement a multi-dimensional concept of citizenship behaviour. OCB refers to voluntary behaviour focuses on hard-working, performing according to procedures and rules, taking the initiative to solve a problem, active participation in the social life of the organization, setting an organizational interest above the personal. Structural model based on research of A. Eisenberg (2019) is determining the basic dimensions of both independent and dependent variables (Figure 1).
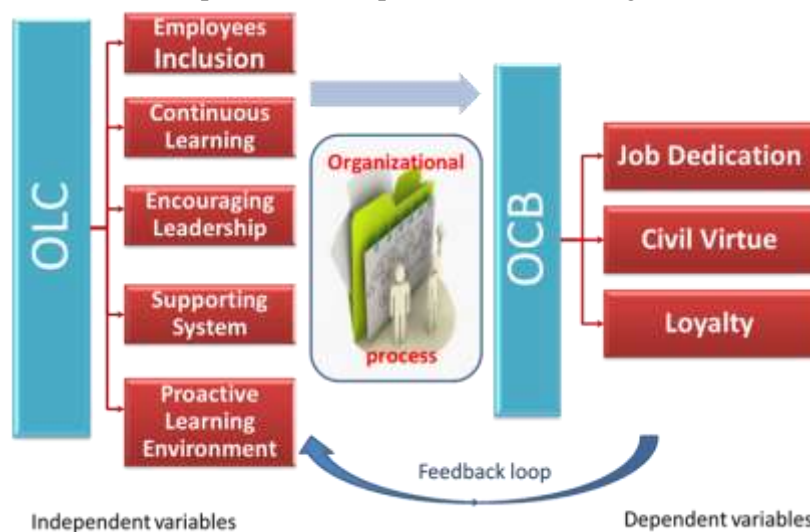
Figure 1. Structural Model of the Interrelation between OLC and OCB.

As is obvious from the structural model of research, basic dimensions of OLC as an independent variable encompass promoting Employees Inclusion, creating Continuous Learning opportunities, providing Encouraging Leadership, creating Supporting Systems to capture and share learning, establishing a Proactive Learning Environment. Basic dimensions of OCB encompass Job Dedication, Civic Virtue and Loyalty.

Cluster analysis in the space of OLC factors

Two-stage cluster analysis in the space of OLC factors allowed allocating four homogeneous clusters (OLC Cluster Group) according to the respondents' assessment of their organization into concerning to OLC phenomenon. Four types of organizations were found relative to their learning level. Selected factors can be interpreted as a *Learning Organization, Organization in Conflict, Outdated Organization* and *Organization in Evolution* (Table 3).

Table 3

Type of organizations according to OLC

Dimension	Definition
Learning Organization	An organization with constant learning and improvement orientation. The organization and the management provide all the technical and motivational means to connect the employees to the organizational goals and objectives, a process ending with improvement resulting from constant learning. The organization develops learning tools such as information technologies IT, training, sharing and knowledge transfer and 'organizational memory'. Management encourages employees to improve and learn, by providing the time and resources required, and by encouraging and rewarding success.
Organization in Conflict	An organization that has long been stagnant although the management is constantly trying (apparently unsuccessfully) to introduce methods of learning and improvement. The organization does not have the tools to enable a learning and constant improvement environment. There are no mechanisms for preservation and sharing of knowledge. Employees are indifferent and do only what is required from them.
Outdated Organization	An organization without motivation to improve and study both at the managerial level and at the employee level. A manager wants only that employees do what is required of them without initiating change and improvement, without learning and transferring knowledge, without developing tools and providing learning systems. An organization is very reminiscent of the industrial revolution - people are part of a machine - everyone has a role and must not deviate from it.
Organization in Evolution	An organization in a positive process of learning and improvement. The manager, the employees, and the stimulating organizational factors act as a strong vector of learning and improvement. However, the organizational tools that support this have not yet been developed and constitute a barrier to turning the organization into a classic learning organization.

Source: elaborated by the authors

As a result of factor analysis, aggregated estimates of factors have a standardized form (measured on a z scale). Standardized values of factors allow classifying respondents for each of the factors, depending on whether they are above or below the average. To convert the z-estimates, the following formula was determined: $z_1 = M + \sigma_z$, M is the new arithmetic mean; σ is the new standard deviation. In this paper, a transformation was used that translates the values of z into a one hundred-point T-scale using the following formula: $T = 50 + 10z$. Estimates of factors on this scale can be interpreted as indicators of the corresponding parameters of the investigated phenomena, expressed in % in relation to the maximum possible result. The value of 50 points corresponds to the average value and can be interpreted as the level of formation of the corresponding factor by 50%. In this case, the values from 40 to 60 points are interpreted as the average level, less than 40 - a level below average, more than 60 - a level above average.

Figure 2 shows average standardized values of OLC factors for respondents of different cluster groups. In the case of a Learning Organization cluster, all factors are in the average level, but all of them are above 50 and Proactive *Learning Environment* factor is very close to level above average (59.17). In the case of an *Organization in Conflict* cluster, *Continuous Learning* factor is in the level below average (38.63) and only the factor of *Encouraging Leadership* is above others (55.78), but still in the average level.

In the *Outdated Organization* cluster, the lowest factor is *Encouraging Leadership* (39.63) when other factors are lower than 50 and only *Proactive Learning Environment* is 50.25, but still low. In the *Organization in Evolution*, all of the factors are above 50 and only Proactive *Learning Environment* factor is below 50 and close to the level below average (40.98).

The respondents in the *Organization in Conflict* cluster are characterized by a significantly low factor *Continuous Learning*: lower than average for the aggregate level and lower than for respondents from

other cluster groups. At the same time, the values of the *Encouraging Leadership* factor are higher than the aggregate average (the only one among the factors in this cluster) and then respondents of other cluster groups. They also have a *Supporting System* factor lower than the average for the aggregate and lower than for respondents from other cluster groups.
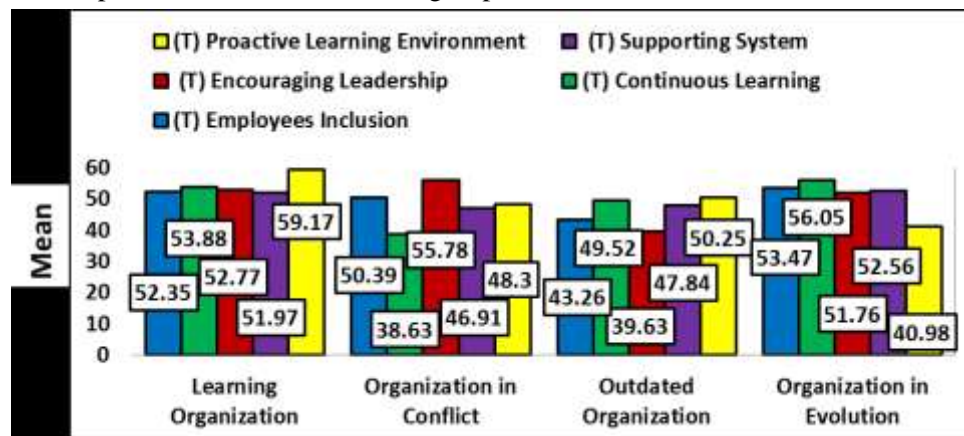

Figure 2. Average values of standardized indicators of OLC factors
among respondents from different OLC Cluster Group.
Source: *elaborated by the author according to statistical data analysis in SPSS*

The respondents of *Outdated Organization* cluster are characterized by the lowest indicators for *Employees Inclusion* and *Encouraging Leadership*, lower than the aggregate average, lower than the value of this factor in the other cluster groups. All factors except *Proactive Learning Environment* are lower than the aggregate average, but its value also exceeds the average slightly (50.25). The lowest average values in this cluster belong to *Encouraging Leadership* (39.63) and *Employees Inclusion* (43.26).

For respondents in *Organization in Evolution* cluster, the mean values of all factors except *Proactive Learning Environment* are higher than the than aggregate average, and the average value of the factor *Continuous Learning* is higher than that of respondents from other cluster groups. According to the results of a Single Factor Analysis of Variance (ANOVA), OLC factors in respondents of different OLC cluster group differ statistically significantly (Table 4).

Table 4

OLC ANOVA results

OLC	F	Sig.
(Z) Employees Inclusion	32.458	0.000
(Z) Continuous Learning	128.107	0.000
(Z) Encouraging Leadership	100.311	0.000
(Z) Supporting System	11.213	0.000
(Z) Proactive Learning Environment	144.180	0.000

Source: elaborated by the author according to statistical data analysis in SPSS.

Cluster analysis in the space of OCB factors

Two-stage cluster analysis in the space of OCB factors allowed grouping the respondents into homogeneous clusters. Cluster analysis in the space of OCB allows respondents to be classified according to employee relation toward their behaviour at work. Four types of behaviour were found relative to OCB. A. Wrzesniewski proposed three distinct work attitudes that people have: *Job Orientation, Career Orientation and a Calling Orientation* (Wrzesniewski et al., 1997). This study found one more: a *Civil Service Orientation*. Selected factors can be interpreted as *Job Orientation, Civil Service Orientation, Career Orientation and Calling Orientation* (Table 5).

Figure 3 shows average standardized values of OCB factors for respondents of different cluster groups. In the *Job Orientation* cluster, the lowest factor is *Job Dedication* (32.67) that is in level below average; when other factors are in the Average level, but they are lower than 50.
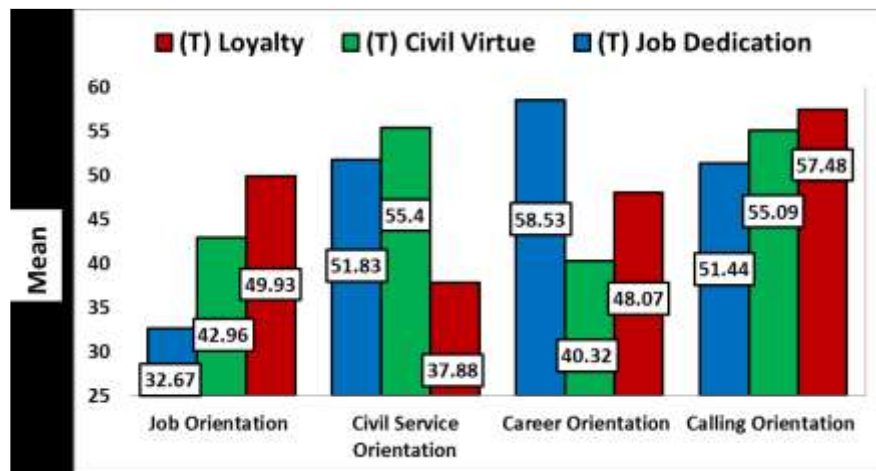
Figure 3. Average values of standardized indicators of OCB factors
among respondents from different OCB Cluster Group.
Source: *elaborated by the authors according to statistical data analysis in SPSS.*

In the *Civil Service Orientation* cluster, the lowest factor is *Loyalty* (37.88) that is in level below average, when *Job Dedication* and *Civil Virtue* are in the average level and higher than 50. In *Career Orientation* cluster all factors are in the average level with the lowest factor is *Civil Virtue* (40.32) and highest is *Job Dedication* (58.53). In the *Calling Orientation* cluster, all of the factors are above 50 but still in the average level.

Table 5

Type of employees according to OCB

Dimension	Definition
Job Orientation	Employees focus on financial rewards. For them, a job is not a major part of life. These people work because they have to. They work to receive the pay to support their life outside of work. They don't have a strong connection to the workplace or their job duties.
Civil Service Orientation	Employees who do not target one organization or another. They will make efforts to provide service and assistance regardless of affiliation to the organization. They will try their best to help their co-workers, suppliers and customers, but they will do so in any organization where they work.
Career Orientation	Employees are ambitious people. They expect to be promoted as a reward for their work. They are willing to work hard, perform the tasks, and try to impress others. They seek to reach a higher status, to receive power and influence. Usually, they are mission oriented and not people and are unwilling to invest in helping others.
Calling Orientation	Employees see their work as integral to their lives and their identity. They view their career as a form of self-expression. Those people find meaning, purpose and satisfaction in their work.

Source: elaborated by the author and adapted from (Wrzesniewski et al., 1997; Berg, Grant, Johnson, 2010; Uygur, Koç, 2010).

Respondents with OCB *Job Orientation* cluster values of all OCB factors do not exceed the average for the aggregate level. *Job Dedication* is the lowest value of this factor in all cluster groups. The Civil Virtue factor in the Job Orientation cluster had an average of 42.96, which is lower than the aggregate average, but higher than in the Career Orientation cluster, where the average value of this factor is only 40.32 points. Respondents with OCB *Civil Service Orientation* cluster are characterized by the fact that the *Loyalty* factor they have lower than the average for the aggregate and lower than for respondents from other cluster groups. At the same time, the values of the factors *Job Dedication* and *Civil Virtue* are higher than the aggregate average. For respondents with OCB *Career orientation* cluster is characterized by the highest indicator of *Job Dedication*, while the average values of the factors of *Civil Virtue* and *Loyalty* are lower than the average for the aggregate, and the average factor *Civil Virtue* is lower than in the other cluster groups. The values of the *Job Dedication* factor have the smallest variation with respect to other factors and relative to other cluster groups. In OCB *Calling Orientation* cluster's respondents, the average values of all factors are higher than the average for the aggregate, and the average value of the *Loyalty* factor is higher than that of respondents from other cluster groups.

According to the results of ANOVA, OCB factors in respondents of different OCB Cluster Group differ statistically significantly (Table 6). The exception is *Loyalty* factor in *Job Orientation* cluster and *Career Orientation* cluster. According to the Bonferroni criterion, these differences are not statistically significant (Multiple Comparisons, Bonferroni test, Sig. = 0.318).

Table 6

OCB ANOVA results

OCB	F	Sig.
(T) Job Dedication	342.271	0.000
(T) Civil virtue	144.097	0.000
(T) Loyalty	216.513	0.000

Source: elaborated by the author according to statistical data analysis in SPSS.

Demographic variables

In order to examine the effects of demographic characteristics on OCB and OLC, these items were treated as potential control variables (age, gender, education level, and employment time) in this research. The OLC and OCB Cluster groups were examined according to their geographical location, according to the size of the municipality and belonging to a particular type of local government. According to Chi-Square Tests, demographic variables were found as statistically insignificant. Only one test was found statistical significance: the respondents with *Civil Service Orientation* and *Calling Orientation* have average age higher than the respondents with *Job* and *Career Orientation*. The respondents who see themselves as *Civil Service Orientation* have the largest average age ($M = 46.81$), the smallest mean age ($M = 41.21$) is observed in the *Job Orientation* cluster. According to ANOVA those differences are statistically significant ($F = 5.772$, $Sig = 0.001$).

Hypotheses testing

To test the hypothesis and predicted relationships, analysis of regression coefficients and coefficients of multiple correlations were conducted. Direct significant correlations are observed between some of OCB and OLC factors. The *Civil Virtue* factor correlates with all OLC factors. The closest relationship is observed with the *Supporting System* factor ($r = 0.355$). The *Job Dedication* factor is related to the factors of *Employees Inclusion*, *Continuous Learning, and Encouraging Leadership*. *The Loyalty* factor is the least dependent on OLC factors: weak connections are observed with the Employees Inclusion factor and with Continuous Learning (Table 7).

Table 7

Correlation relationship between OCB and OLC factors

		(T) Job Dedication	(T) Civil Virtue	(T) Loyalty
(T) Employees Inclusion	Pearson Correlation	**0.158**	**0.215**	**0.107**
	Sig. (2-tailed)	**<0.001**	**<0.001**	**0.013**
(T) Continuous Learning	Pearson Correlation	0.**157**	0.298	0.086
	Sig. (2-tailed)	**<0.001**	**<0.001**	**0.049**
(T) Encouraging Leadership	Pearson Correlation	**0.200**	0.187	0.059
	Sig. (2-tailed)	**<0.001**	**<0.001**	0.175
(T) Supporting System	Pearson Correlation	0.005	**0.355**	0.021
	Sig. (2-tailed)	0.900	**<0.001**	0.628
(T) Proactive Learning Environment	Pearson Correlation	0.038	**0.154**	0.016
	Sig. (2-tailed)	0.385	**<0.001**	0.706

Source**:** *elaborated by the author according to statistical data analysis in SPSS*

Analysis of regression coefficients and coefficients of multiple correlations allows drawing the following conclusions:

- the most sensitive to the effects of OLC factors is the *Civil Virtue* factor; its value by 32 % is determined by the combined effect of OLC factors; at the same time, the strongest influence on *Civil Virtue* is provided by the *Supporting System* factor;
- the least sensitive to the effects of OLC factors is the *Loyalty*;
- the *Job* Dedication factor is influenced only by OLC factors such as *Employees Inclusion, Continuous Learning* and *Encouraging Leadership*.

In organizations of type *Learning organization* and *Organization in Evolution* three OCB factors as *Job Dedication, Civil Virtue* and *Loyalty* exceed the average for the aggregate level. The differences between the average values of OCB factors between those two clusters are small. In organizations of type *Organization in Conflict* and *Outdated Organization*, all OCB factors do not exceed the average for the aggregate level.

The statistical analysis method of Cross-tabulation was carried out. According to it in *Learning Organizations*, the majority of respondents belongs to *Calling Orientation* (52.67 %) or to *Civil Service Orientation* (28 %) which together account for over 80.67 % of the total population. Only 6.67 % belong to *Job Orientation* and 12.67 % *Career Orientation*. A similar image can be seen in the *Organization in Evolution*: 55.97 % are *Calling Orientation*, 22.39 *Civil Service Orientation* that together constitute 78.36 %. The percent of respondents belong to *Job Orientation* even smaller than in *Calling Orientation* and constitutes 3.73 %. In the *Outdated Organization*, the greater weight is given to *Job Orientation* and *Career Orientation* (32.03 % and 29.69 %), that together constitutes 61.72 % of total respondents. In this Cluster, *Calling Orientation* is 21.09 % and *Civil Service Orientation* is 17.19 % only. *Job Orientation* and *Career Ori*entation (25.64 % and 28.21 %) in the *Organization in Conflict* constitute 53.85 %. According to the χ^2 chi-criterion the difference is statistically significant ($p < 0.001$).

Discussion

This research defined OLC and OCB as multifactorial phenomena and their perception are multidimensional. According to the empirical research and statistical analysis of its results, *a Model of the Interrelation between OLC and OCB* has been developed. Four types of organizations were found: *Learning Organization, Organization in Conflict, Outdated Organization* and *Organization in Evolution*.

In a *Learning Organization*, *Continuous Learning* processes make employees more involved, more identified with the organization and its goals, part of the process of decision making and problem-solving. The respondents in the *Organization in Conflict* cluster are characterized by a significantly low factor of *Continuous Learning* and *Supporting System*: lower than for respondents from other cluster groups. At the same time, the values of the *Encouraging Leadership* factor are higher than respondents of other cluster groups. Because the *Organization in Conflict* it is an organization that has long been stagnant, employees are indifferent and inert, perform the minimum required, oppose any change, and especially oppose the administration's attempts to introduce new methods of learning since they do not believe in and rely on the managers. *Outdated Organization* cluster respondents were characterized by the lowest indicators for *Employees Inclusion* and *Encouraging Leadership*, lower than the value of this factor in the other cluster groups. It is an archaic organization without motivation to improve and learn both at the managerial level and at the employee level. Nowadays such an organization cannot survive for a long period, sophisticated employees will not join it and eventually, the clients will 'vote with the feet'. Values of *Organization in Evolution* are very similar to the values of different factors for a *Learning Organization*, with the exception of values of a *Proactive Learning Environment* that is the lowest value among all the clusters. In a paired correlation analysis, the correlation between *Encouraging Leadership* and *Proactive Learning Environment* is direct and significant, that is, the larger the value *Encouraging Leadership*, the higher the value of *Proactive Learning*. It means that in such type of organization, the tools that support learning processes have not yet been developed enough and constitute a barrier to turning the organization into a classic *Learning Organization*. This is a classic stage to involve an organizational consultant with expertise in organizational learning methodology and tools. Cluster analysis allowed finding four types of employees: with Job *Orientation, Civil Service Orientation, Career Orientation,* and *Calling Orientation.*

Job Dedication factor in *Job Orientation* cluster has the lowest value of this factor in all cluster groups. Such employees work because they have to. It was found a weak inverse significant correlation between

Job Dedication and *Civil Virtue* and at the same time, the direct significant correlation between *Job Dedication* and *Loyalty*. Those employees aim only at work in order to obtain material compensation. They don't have a strong connection to the workplace or their job duties. They don't see their job as a place to learn or gain experience. There is no real loyalty to work; it is a false loyalty because the employee is interested only in maintaining the job that provides him with financial reward.

Respondents in *Civil Service Orientation* cluster were characterized by the lowest factor of *Loyalty* among other cluster groups. The respondents in this cluster have an inverse significant correlation between *Civil Virtue* and *Loyalty*. For such employee, the satisfaction of the customer is above all. It is important to him that the customer is satisfied and less important is the good of the organization. Respondents in *Career Orientation* cluster were characterized by the highest indicator of *Job Dedication* and the lowest of *Civil Virtue*. Employees with *Career orientation* are ambitious people: they seek to reach a higher status, to receive power and influence. In contrast to Job *Orientation* cluster respondents, the correlation between *Job Dedication* and *Loyalty* is inverted and significant. Such employees are not loyal to the organization, but only to themselves. They will not think twice and agree to leave the organization in favour of a higher position in another organization.

In *Calling Orientation* cluster, the average values of all factors are higher than the average for the aggregate, and the average value of the Loyalty factor is higher than that of respondents from other cluster groups. There is a direct significant correlation between the factors of *Job Dedication* and *Civil Virtue* in this cluster, that is, the larger the value *Job Dedication*, the higher the value of *Civil Virtue*. Employees with *Calling Orientation* are satisfied with their professional life, do everything to improve the organization, ready to learn others, to solve customers' problems and transfer knowledge.

A correlation-regression analysis that was used in the study identified strength, nature, and significance of the relationships between OLC and OCB factors. The result of the regression analyses supports the hypothesis, which states that the OLC had a significant effect in stimulating OCB and positively related to OCB. It means that an organizational learning process enables employees at all levels to improve their performance, thereby helping to achieve the organization's goals.

The research found a significant relationship between the type of organization according to its learning culture and the behaviour of its employees. A significant link was found between OLC and OCB was not previously examined according to the proposed Model.

Most employees who discover a type of *Job Orientation* behaviour are found in archaic organizations as an *Outdated Organization*. Their numbers are decreasing but still constitute the highest percentage, in *Organizations in Conflict*. *Career Orientation* is also seen in large numbers in these organizations, respectively. Most employees who belong to *Calling Orientation* behaviour come from *Learning Organizations* or *Organizations in Evolution*. *Civil Service Orientation* behaviour is also typical for organizations from a type of *Learning Organizations* or *Organizations in Evolution* but in lower percentages. The employees who discover *Calling Orientation* behaviour come mainly from organizations that are aware of a high organizational learning culture. In these organizations, employees care about the organization, their level of service, dedication, and loyalty to the organization is high.

Demographic variables (e.g., employee time, gender, education level) were not found to be related to OLC and OCB. There is no statistically significant effect of geographical location, type of local authority or size on a type of OCB or OLC orientation group. Only one finding was statistically significant: the respondents with *Civil Service Orientation* and *Calling Orientation* have average age higher than a *Job* and *Career Orientation*.

Conclusions

The proposed methodology provides an understanding of the relationships between OLC and aspects of OCB behaviour that invaluable to managers and leaders for increasing organizational profitability, productivity, employees' involvement and service quality by creating OCB behaviour. This methodology can be used to systematically assess and identify organizational affiliation in terms of organizational learning culture and employees' behaviour in accordance with their orientation to perform their work to develop a better strategy for successful implementation change initiatives.

Methodology helps build an action plan and take steps toward becoming a *Learning Organization* that targets OCB behaviour. The suggestion of this study is that, given the OLC levels revealed in the sample, managers should implement an improvement in training and create real-time for specific courses to promote OLC and in this way OCB.

Bibliography

1. Ababneh R. (2013). Antecedents and outcomes of career development in Jordanian public sector. *Journal of Emerging Trends in Economics and Management Sciences, 4*(4), 417-426. Retrieved from http://jetems.scholarlinkresearch.com/articles/Antecedents%20and%20Outcomes.pdf

2. Bateman T.S., Organ D.W. (1983). Job satisfaction and the good soldier: The relationship between affect and employee citizenship. *Academy of Management Journal, 26*(4), 587-595. doi: 10.5465/255908

3. Berg J.M., Grant A.M., Johnson V. (2010). When callings are calling: Crafting work and leisure in pursuit of unanswered occupational callings. *Organization Science, 21*(5), 973-994. doi: 10.1287/orsc.1090.0497

4. Eisenberg A. (2019). *The interrelation between Organizational Learning Culture and Organizational Citizenship Behaviour in local government in Israel.* (Doctoral dissertation, Daugavpils University, Daugavpils) Retrieved from https://du.lv/wp-content/uploads/2019/05/Dissertation_21_03_19.pdf

5. Eisenberg A., Davidova J., Kokina I. (2018). The interrelation between organizational learning culture and organizational citizenship behaviour. In V. Dislere (Ed.), Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *11*. Jelgava: Latvia University of Life Sciences and Technologies, 354-363. doi: 10.22616/REEP.2018.043

6. Eisenberg A., Ignatjeva S. (2018). Adaptation of the organizational citizenship behaviour (OCB) dimension methodology in the Israeli local authorities' context. In M. Ņesterova (Ed.), *Social Sciences Bulletin*, *26(*1*)*, 76-94. Retrieved from http://humanitiessocial.lv/wp-content/uploads/2018/11/Socialo_Zinatnu_Vestnesis_2018_1.pdf

7. Eisenberg A., Ignatjeva S., Iliško D., Rauckiene-Michaelsson A. (2018). Adaptation of the organizational learning culture (OLC) dimension methodology in the Israeli local authorities' context. *Discourse and Communication for Sustainable Education Journal, 9*(1), 50-63. doi: 10.2478/dcse-2018-0004

8. Islam T., Aamir M., Khan S.R., Ahmad U.N.U. (2013). Organizational learning culture, social exchange relations and multi foci citizenship behaviours: A Literature survey approach. *World Journal of Management and Behavioural Studies, 1*(1), 6-13. Retrieved from https://idosi.org/wjmbs/1(1)13/2.pdf

9. Jo S.J., Joo B.K. (2011). Knowledge sharing: The influences of learning organization culture, organizational commitment and organizational citizenship behaviours. *Journal of Leadership and Organizational Culture, 18*(3), 353-364. doi: 10.1177/1548051811405208

10. Joo B.K., Yang B. (2007). *The Impact of Contextual and Personal Characteristics on Employee Creativity.* Philadelphia: Academy of Management.

11. Kaya A. (2015). The relationship between spiritual leadership and organizational citizenship behaviours: A research on school principals' behaviours. *Educational Sciences: Theory & practice, 15*(3), 597-606. doi: 10.12738/estp.2015.3.1988

12. Kim K., Watkins K.E., Lu Z. (2017). The impact of a learning organization on performance: Focusing on knowledge performance and financial performance. *European Journal of Training and Development*, *41*(2), 177-193. doi: 10.1108/EJTD-01-2016-0003

13. Kleiner A., Smith B., Roberts C. Senge P.M., Ross R. (1994). *The Fifth Discipline Fieldbook: Strategies and tools for building a learning organization*. New York: Currency, Doubleday.

14. Lai J.Y.M., Lam L.W., Lam S.S.K. (2013). Organizational citizenship behaviour in work groups: A team cultural perspective. *Journal of Organization Behaviour, 34*(7), 1039-1056. doi: 10.1002/job.1840

15. López S.P., Peón J.M.M., Ordás C.J.V. (2005). Organizational learning as a determining factor in business performance. *The Learning Organization, 12*(3), 227-245. doi: 10.1108/09696470510592494

16. Marsick V.J., Watkins K.E. (2003). Demonstrating the value of an organization's learning culture: The dimension of the learning organizational questionnaire. *Advances in Developing Human Resources, 5*(2), 132-151. doi: 10.1177/1523422303005002002

17. Moghadam M.N., Beheshtifar M., Darvishzade M.A. (2012). Organizational learning culture via creative climate. *Science Series Data Report, 4*(1), 14-20. Retrieved from http://www.flexmanager.ir/sites/default/files/download/Ssdr9c341.pdf

18. Oplatka I. (2009). Organizational citizenship behaviour in teaching: The consequences for teachers, pupils and the school. *International Journal of Educational Management, 23*(5), 375-389. doi: 10.1108/09513540910970476

19. O'Reilly C.A., Chatman J.A. (1996). Culture as social control: Corporations, cults, and commitment. In B.M. Staw, L.L. Cummings (Eds.), *Research in Organizational Behaviour: An annual series of analytical essays and critical review, 18*, 157-200.

20. Organ D.W. (1988). *Organizational Citizenship Behaviour: The good soldier syndrome*. Lexington: Lexington Books.

21. Organ D.W. (1990). The subtle significance of job satisfaction. *Clinical Laboratory Management Review, 4*(1), 94-98.

22. Organ D.W., Podsakoff P.M., MacKenzie S.B. (2006). *Organizational Citizenship Behaviour: Its nature, antecedents and consequences.* Thousand Oaks, CA: Sage.

23. Pedler M.J. (1996). *The Learning Company: A strategy for sustainable development*. England: McGrow-Hill.

24. Pickford H.C., Joy G. (2016). *Organizational Citizenship Behaviours: Definitions and dimensions*. Oxford: Saïd Business School. Retrieved from http://eureka.sbs.ox.ac.uk/6265/1/2016-31.pdf

25. Podsakoff P.M., Ahearne M., MacKenzie S.B. (1997). Organizational citizenship behaviour and the quantity and quality of work group performance. *Journal of Applied Psychology, 82*(2), 262-270. doi: 10.1037/0021-9010.82.2.262

26. Podsakoff P.M., Mackenzie S.B., Moorman R.H., Fetter R. (1990). Transformational leader behaviours and their effects on followers' trust in leader, satisfaction and organizational citizenship behaviour. *The Leadership Quarterly, 1*(2), 107-142. doi: 10.1016/1048-9843(90)90009-7

27. Qureshi H. (2015). *A Study of Organizational Citizenship Behaviours (OCB) and its Antecedents in an Indian Police Agency*. (Doctoral dissertation, University of Cincinnati, Ohio, USA). Retrieved from https://www.researchgate.net/publication/296639798_A_Study_of_Organizational_Citizenship_Behaviors_OCB_and_its_Antecedents_in_an_Indian_Police_Agency

28. Salas-Vallina A., Alegre J., Fernández R. (2016). Organizational learning capability and organizational citizenship behaviour in the health sector: Examining the role of happiness at work from a gender perspective. *The International Journal of Health Planning and Management, 32*(2), e137-e159. doi: 10.1002/hpm.2363

29. Sampe F. (2012). *The Influence of Organizational Learning on Performance in Indonesian SMEs.* (PhD thesis, Southern Cross University, Lismore, NSW:). Retrieved from https://epubs.scu.edu.au/cgi/viewcontent.cgi?article=1362&context=theses

30. Smith C.A., Organ D.W., Near J.P. (1983). Organizational citizenship behaviour: Its nature and antecedents. *Journal of Applied Psychology, 68*(4), 653-663. doi: 10.1037/0021-9010.68.4.653

31. Somech A., Drach-Zahavy A. (2004). Exploring organizational citizenship behaviour from an organizational perspective: The relationship between organizational learning and organizational citizenship behaviour. *Journal of Occupational and Organizational Psychology, 77*(3), 281-298. doi: 10.1348/0963179041752709

32. Uygur A., Koç H. (2010). Organizational loyalty and organizational commitment: An analysis in terms of political party organizations. *İşletme Araştırmaları Dergisi, 2*(4), 79-94. Retrieved from https://www.isarder.org/tr/2010cilt2no4/e55.pdf

33. Vigoda-Gadot E., Beeri I., Birman-Shemesh T., Somech A. (2007). Group-level organizational citizenship behaviour in the education system: A scale reconstruction and validation. *Educational Administration Quarterly, 43*(4), 462-493. doi: 10.1177/0013161X07299435

34. Watkins K.E., Marsick V.J. (Eds.). (2003). *Make Learning Count! Diagnosing the learning culture in organizations*. Thousand Oaks, CA: Sage.

35. Wayne S.J., Shore L.M., Liden R.C. (1997). Perceived organizational support and leader-member exchange: A social exchange perspective. *Academy of Management Journal, 40*(1), 82 - 111. doi: 10.5465/257021

36. Wrzesniewski A., McCauley C.R., Rozin P., Schwartz B. (1997). Jobs, careers, and callings: People's relations to their work. *Journal of Research in Personality, 31*(1), 21-33. doi: 10.1006/jrpe.1997.2162

37. Yeung A.K., Ulrich D.O., Nason S.W., Von Glinow M.A. (1999). *Organizational Learning Capability*. New York: Oxford University Press.

Experience and Awareness of upper Secondary School Students with Career Counselling in Czech Republic

Jitka Jirsáková[1] PhDr.,PhD; **Jiří Votava**[2] Mgr., PhD; **Kamila Urban**[3] Mgr., PhD
Czech University of Life Sciences Prague, Institute of Education and Communication, Czech Republic[1,2,3]; Institute for Research in Social Communication, Slovak Academy of Sciences, Slovakia[3]
jirsakova@ivp.czu.cz[1]; votava@ivp.czu.cz[2]; urbankamila@ivp.czu.cz[3]

Abstract: This paper focuses on the reality of career guidance in the field of Czech upper secondary vocational schools. According to official state legislation and regulations, students at the end of their school attendance should have developed the skills necessary for career management. Students should also be able to find their place on the labour market. These expectations should correspond with curricula, especially in regard to the specific, cross-sectional topic: "The Man and the World of the Work." However, the reality is not satisfactory. The aim of the study is to present the first results of a questionnaire given to 370 pupils at eight selected secondary vocational schools within the project *Design and Implementation of the Concept and Methodology of Career Learning in Vocational Education* supported by the Technology Agency of the Czech Republic, the ETA program. The preliminary outcomes of a few selected questions regarding how respondents understand the term "career learning and guidance," their experience from specific methods/forms of career guidance and in which subjects they typically meet activities connected with preparation for their future career differ between students. Students from secondary vocational education with an apprenticeship certificate experience the least career guidance activities, which could have negative impact on their career path.

Keywords: career guidance, career counselling, career learning, pupil, secondary vocational education.

Introduction

For many current upper secondary vocational students facing numerous future opportunities is significant. They can continue with their further education or they can apply for a broad variety of job offers on the labour market. Nevertheless, expectations toward employees have been changing rapidly over the last ten years. New technologies have redefined the character of the national and global economy, so career guidance is also linked to policy goals related to learning (Watts, Sultana, 2004). In this context, some experts mention that we are facing the so-called fourth industrial revolution, where an internet of items, services and people are commonplace (Národní iniciativa…, 2015, 8). Changes have a fundamental impact on qualifications that are and will be demanded by the present and future labour market. Some authors (Saulīte, Andersone, 2016; Saulīte, Koha, 2017; Saulite, Andersone, 2019) report that the significance of career management skills increases, and it has its important position also within professional education. This is the reason why educational systems have been trying to enlarge the space for career learning and guidance (CLG). Schools are now obliged to prepare young people for new conditions, including digitalization, automatization, robotic production, globalization and changes in the socio-economic landscape.

Consequently, there has been a push in the Czech Republic to design and implement efficient systems of CLG. Thanks to European support, many analyses and surveys have been conducted in the field of career counselling in primary/secondary schools (Atli, 2016; Multon, Lapan, 1995; Vintere, Balode, 2016) and labour offices (Fischer et al., 2011; Khorshid, Alaiwy, 2016; Morey-López et al., 2015). These projects investigated the needs of pupils, parents and unemployed persons. However, Czech national projects (NÚV VIP Career I. and II., RAMPS VIP III. or POSPOLU, NIDV, FDV or NTF projects) also observed the situation of counsellors, the use of counselling services and their possibilities to provide these services for different groups of clients (Drahoňovská, Eliášková, 2011; Šťastnová, Drahoňovská, 2012; Hlaďo, Drahoňovská, 2012). It is a shame that the conclusions, findings and recommendations have not been applied at the state or local level. There has also not been enough research evidence related to the true experience of CLG among school students. The authors of this paper decided to investigate the difference between the "priority" (specific parts of school curricula) and reality of educational institutions (from the student's point of view).

The project "Design and Implementation of the Concept and Methodology of Career Learning in Vocational Training", supported by the Technology Agency of the Czech Republic, aimed to develop and publish a generally applicable methodology of CLG in secondary vocational education. To reach this goal, the research team decided to distribute a questionnaire at the beginning of the project in order to find out the CLG needs and requirements of pupils and how existing institutions practiced CLG.

Career guidance (career counselling) is defined by the Organisation of Economic Cooperation and Development as a system of counselling services designed to assist individuals of all ages in making decisions regarding education, training, employment choices and career development at any point in their life (Lifelong Guidance Policy …, 2015). These are practiced through in-school activities to help pupils clarify their own career goals and understand the labour market. Career counselling also includes individual or group counselling focused on educational and professional decisions. CLG has to be perceived as interrelated system which includes a wide range of interactions between counsellors and recipients (Briska, Dislere, 2018). This complex provides services to individuals who have not yet entered the labour market, jobseekers just looking for a job and those who are currently employed. One of the features of career guidance which policymakers could ensure is that all students will have access to educational, occupational and labour market information (Watts, Sultana, 2004).

In the Czech Republic, career guidance is connected to two ministries - the Ministry of Education, Youth and Sports and the Ministry of Labour and Social Affairs. The attention of this article will be paid mainly to the educational practice at schools. CLG is organized in two main ways. First of all, the Czech legislation appoints school counsellors as administrators of CLG. At second national curricular framework programmes list what has to be taught and organized in schools.

School counsellors have responsibility in two main directions: methodical supervision and information distribution.

Consulting activities include career counselling and counselling assistance in the decisions of further educational and professional career for pupils. More specifically, this includes (Vyhláška…, 2005):
- the coordination of the main areas of career counselling: career education and diagnostic-counselling activities aimed at the educational decisions of pupils,
- basic group surveys on the choice of occupation, administration, processing and interpretation of interest questionnaires within their own professional competence and analysis of preferences in the area of choice of profession of pupils,
- occupational surveys in conjunction with individual counselling,
- advising legal guardians in consideration of pupil expectations,
- cooperation with school counselling facilities in the providing of counselling services beyond the institution's competence.

The methodology includes:
- mediation of new pedagogical diagnostics and intervention methods,
- methodological assistance to schoolteachers regarding the career decisions, integration and individual educational plans of pupils,
- the transfer of professional information to teachers in the field of career counselling and special education,
- information transfer between the school and other counselling facilities in the region,
- collection of expert reports and information on pupils under the care of other counselling facilities and their provision in accordance with data protection regulations,
- the keeping of written records to document counselling activities.

Czech career guidance curriculum focuses on pupil self-knowledge, their planning of study and careers and overall preparedness for the labour market in conjunction with *Humans and the World of Work* at Basic schools. The thematic area of *The World of Work* is compulsory for all pupils in its entirety, and with respect to its focus on the selection of future professions, it is advisable that it be included in the highest forms of secondary school. The pupil learns to work with various materials and acquires basic working skills and habits (Framework Education Programme…, 2007).

At secondary vocational schools, CLG topics are covered in the cross-curricular subject: *Man, and the World of Work*. This cross-curricular subject complements the knowledge and skills acquired by students in the professional component of education. It also complements the most important knowledge and skills related to its application in the world of work. It seeks to assist pupils in deciding for further professional and educational orientation, entering the labour market and exercising labour rights (Rámcové vzdělávací programy…, 2017).

Pupils at secondary vocational schools should develop their key competences for employment and entrepreneurial activities. The aim of education is to enable graduates to make optimal use of their personal and professional qualifications for successful employment in the world of work, thus building and developing their professional careers and lifelong learning capacity. Graduates should (Rámcové vzdělávací programy…, 2017):

- reflect a responsible attitude towards their own professional future and education,
- be aware of the importance of lifelong learning,
- be prepared to adapt to changing working conditions,
- have an overview of employment opportunities in the field,
- make purposeful and responsible decisions about their future professional and educational career,
- have a realistic idea of working conditions, compensation and other industry conditions,
- be able to acquire and evaluate information regarding job and educational opportunities, using advisory and mediation services from the world of work and education,
- communicate appropriately with potential employers,
- present their professional potential and their professional goals,
- know the general rights and obligations of employers and workers,
- understand the nature and principles of entrepreneurship, have an idea of the legal, economic, administrative, personal and ethical aspects of private entrepreneurship,
- be able to search and assess business opportunities in accordance with the reality of the market.

The topic content can be divided into the following units:

- characteristics of work and their application to employment alternatives, relation to study, learning outcomes, abilities, characteristics and health conditions,
- labour market, labour market indicators, general development trends, employers' requirements,
- links between the Czech education and various types of post-graduate education,
- the criteria for deciding on further professional and educational paths,
- written and verbal self-presentation on entering the labour market,
- labour Code knowledge
- the nature, forms, practices, laws and risks of entrepreneurship,
- information, counselling and mediation regarding State support for employment and unemployment,
- digital job searching strategies.

The aim of the study is to present the first results of a questionnaire given to 370 pupils at eight selected secondary vocational schools within the project *Design and Implementation of the Concept and Methodology of Career Learning in Vocational Education* supported by the Technology Agency of the Czech Republic, the ETA program.

Methodology

The aim of our survey was to unearth the realization of career learning and counselling in secondary vocational schools.

To explore the experiences of upper secondary vocational school students with career counselling in the Czech Republic, we distributed the questionnaire to eight high schools in four regions of the Czech Republic. The following hypotheses were established:

- H_1: We expected significant differences between students' groups – that is, students from secondary vocational education with an apprenticeship certificate (H), students from secondary vocational education with "maturita" (M) and students from secondary vocational

education with vocational training and "maturita" (L) – in their awareness of career counselling activities (Diagram of the…, 2019).

H₂: We expected significant differences between study programmes (H, M, L) in career guidance activities carried out.

H₃: We expected significant differences between teaching subjects in the activities carried out.

We operated under the assumption that vocational schools should have different priorities and ideas for counselling work compared to general education schools (i.e. grammar school). A questionnaire, containing a total of twenty-nine items, was prepared for this research purpose. In terms of respondents' classification, the school name, field, level of education, sex and age were collected. Other questions were created to determine the relevant CLG experience and knowledge acquired during their schooling. Due to the specific focus of this output, we evaluated three questions:

1.   What do students mean by career guidance?
2.   Which activities have pupils already encountered in CLG?
3.   In what subjects do student encounter CLG?

The first question was aimed at secondary vocational school students. We presumed that, if the school actually pursued vocational training, this would also correspond to the response of the surveyed population. Respondents chose from the following options: *someone will advise me which school to choose*; *I'll learn how to make a lot of money*; *I will learn how to reach a higher position at work; I will acquire the skills needed to manage my career; I discover what I like (what interests); check what I'm good at (what skills do I have); I know what job I fit; I will learn what I need to do in order to do the job I have chosen*.

The second survey question concerned the CLG activities pupils had already encountered in school. In this case, we again assumed that, if schools were to provide guidance, pupils had to have specific guidance methods and forms of experience. Respondents could choose more than one option. The following gives a specific overview of the items surveyed: individual interview with educational or career advisor; individual interview with educational or career counsellor and parents; group activities in the classroom, focused on career choice; psychological tests; lectures recognized by the school e.g. by the labour office, pedagogical-psychological counselling; programs organized outside the school (at the labour office, counselling centre or other institutions); presentation of companies at the school; excursions to companies; professional experience at contract workplaces; participation in job fairs; further education.

The question was asked to determine how the pupils' ideas and experiences about CLG may differ with other studied variables. In particular, we wondered whether there were differences in support provided to pupils in upper secondary education – who were assessed by the "maturita" examination (ISCED 354/EQF4, designated in this article in accordance with the Czech classification of letters M and L) – and those in apprenticeships (ISCED 353/EQF3, marked in this article with a letter H) (Czech Republic Overview..., 2019; Diagram of the education…, 2017). Given graduates of H programmes continue their studies at the tertiary level, it can be assumed that they will approach school counsellors or career guidance counsellors more often than apprentices. On the other hand, we expect that less attention is paid to pupils in the H category, perhaps because it is assumed that they have already opted for their profession of choice, thus directly being placed into practice after training. Group L students, meanwhile, stayed on a post-secondary level. This group includes individuals who have previously completed an apprenticeship and are subsequently completing their full secondary education with school-leaving examination ("maturita").

Last, we were interested in subjects who encountered CLG. In this case, the answers could lead to a further understanding of the extent to which both CLG and teachers are involved in counselling.

A total of 370 high school students (218 men and 152 women) aged 16 to 23 (mean age = 18.24; *SD* = 1.03) participated in the research. There were 111 students from H, 158 students from M and 101 students from L.

Results and Discussion

The data was analysed in SPSS-25. We tested the first hypothesis using the Chi-Squared test. The Chi-Squared test for independence showed no significant group differences in term knowledge,

χ^2 (6, N = 370) = 9.96, p = 0.13. All high school students from different study programmes recognized the term career counselling in the same way.

We then asked what they imagined when they heard the term: career counselling. We conducted a Repeated Measures ANOVA. Eight possible answers were entered as a within-subjects factor (repeated measures); study programmes (H, M, L) were entered as a between-subjects factor. Analyses of the effects of question number and study programme on the recognition of career counsellor practice show a significant effect of question number, F (7, 2562) = 39.81, p < 0.001, ηp^2 = 0.10, and also on group of students (H, M, L), F (2, 366) = 4.65, p = 0.01, ηp^2 = 0.025. The interaction effect was also significant, F (14, 2562) = 4.04, p < 0.001, ηp^2 = 0.02. Pairwise comparisons were used for a post-hoc test to investigate the differences between groups of pupils. Pupils from the H study programme recognized significantly fewer activities of career counselling than pupils from the other two programmes (p = 0.033 compared to M, p = 0.018 compared to L). There were no significant differences between pupils from the M and L programmes. The exact number of pupils who knew the activities can be seen in Table 1.

Table 1

Knowledge of the practice of the career counsellor

Number of pupils who acknowledge…	Group H N (%)	Group M N (%)	Group L N (%)
Someone who will help me to choose the school	25 (22.5 %)	61 (38.6 %)	34 (33.7 %)
Knowledge how to make good money	12 (10.8 %)	11 (7.0 %)	8 (7.9 %)
Knowledge how to reach promotion at work	43 (38.7 %)	42 (26.6 %)	32 (31.7 %)
Skills needed to manage work path	38 (34.2 %)	36 (22.8 %)	40 (39.6 %)
Hobbies discover	17 (15.3 %)	31 (19.6 %)	27 (26.7 %)
Skills discover	19 (17.1 %)	45 (28.5 %)	18 (17.8 %)
Possible jobs	44 (39.6 %)	111 (70.3 %)	63 (62.4 %)
Jobs requirements	36 (32.4 %)	62 (39.2 %)	42 (41.6 %)

One of the goals of vocational guidance is to measure clients' abilities, interests and personality traits (Savickas, 2015) in order to help him/her to make the most appropriate career decisions (Sears, 1982). In our research only a small percentage of students have chosen this description of career counsellor practice. On the other hand, career means a succession of jobs held, or activities and occupational and other, constituting a life pattern, or occupation (Sears, 1982, 137). Most of the students in our research acknowledged that the career counsellor will present them possible jobs and jobs requirements. Skilled counsellor knows the discipline and provides multiple services to clients. Career counsellor should also be there for students when they may have problems to express and share with their families (Jahn, 2018).

To investigate the counselling activities carried out in schools, we conducted a Repeated Measures ANOVA. The possible activities were entered as a within-subjects factor (repeated measures). Study programmes (H, M, L) were entered as a between-subjects factor. Analyses on the frequency of activities showed a significant effect, F (20, 7320) = 83.36, p < 0.001, ηp^2 = 0.19, meaning that some activities are conducted more often than others, the most performed being: preparation of PowerPoint presentations, writing a CV and public speaking. There was also a significant effect of the study programme (H, M, L), F (2, 366) = 4.64, p = 0.01, ηp^2 = 0.025. Pairwise Comparisons were used for a post-hoc test to investigate differences between groups of pupils. High school students from the M programme carried out significantly more activities than pupils from the H programme (p = 0.008). The interaction effect was also significant, F (40, 7320) = 5.57, p < 0.001, ηp^2 = 0.03. High school students from different study programmes performed different activities.

Significant differences were also found in those subjects for which students carry out career counselling activities. Repeated Measures ANOVA with subject as a within-subjects factor (repeated measures) and study programmes (H, M, L) as a between-subjects factor was conducted. Analyses revealed that there is a significant effect on subjects, F (8, 2928) = 165.10, p < 0.001, ηp^2 = 0.31 but there is not a significant difference between study programmes, F (2, 366) = 1.85, p = 0.16. Most activities are

carried out in social education, information communication technologies (ICT) education, economic subjects, subjects of vocational training and Czech language. The lower proportion of subjects reported by group H pupils may be related to various scopes in education in apprenticeships, such as less hours for civic education or languages (Rámcové vzdělávací programy…, 2017).

Finally, we conducted an analysis to explore counselling activities practiced by schools. To measure this, a Repeated Measures ANOVA (same factors) was performed. Analyses on the frequency of activities showed a significant effect, $F (9, 3294) = 68.46$, $p < 0.001$, $\eta p^2 = 0.16$, which means that some activities are conducted more often than others (Figure 1). There was also a significant effect of the study programme (H, M, L), $F (2, 366) = 13.01$, $p < 0.001$, $\eta p^2 = 0.07$. Pairwise Comparisons revealed that high school students from the M programme carried out significantly more activities than pupils from the H programme (p < 0.001) and L programme ($p = 0.001$). The interaction effect was also significant, $F (18, 3294) = 5.27$, $p < 0.001$, $\eta p^2 = .03$. Pupils performed in psychological testing ($p < 0.001$). High school students from study programme M more often performed the last 4 activities (Figure 1).
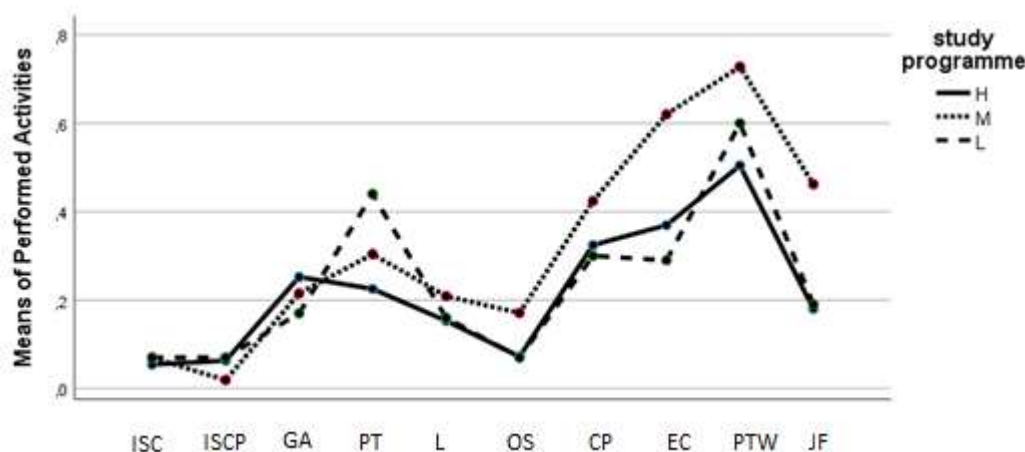

Figure 1. Activities of career counselling performed at schools.

Note: ISC means Individual session with career counsellor, ISCP means Individual session with career counsellor and parents, GA means Career-oriented group activities, PT means Psychological testing, L means Lectures at school, OS means Activities out of school, CP means Presentation of companies at school, EC means Excursions to companies, PTW means Professional training at workplace, JF means Participation at job fairs.

Conclusions

The aim of the research was to answer the question of how high school students' ideas about CLG differ between categories H, L and M. It turns that the awareness of CLG is lower among respondents from group H. A possible indication is that, in the first studied target group, the segment does not have sufficient support for CLG. Confirming this hypothesis in the wider population and identifying its possible causes is a segment of ongoing research.

The question also included the subjects in which CLG was the most common. It also explored study patterns between groups. Overall, these courses correspond to the structure of the curriculum of secondary technical schools. Some key skills, including those related to career planning and management, are acquired by pupils in general subjects (i.e. civic education, primary/foreign languages, ICT), followed by vocational subjects.

Finally, we observed CLG activities practiced by students of secondary vocational schools and whether there were differences in the experience of students from groups H, L and M. In this case, we can make two conclusions. First of all, schools pay little attention to CLG-oriented topics (i.e. determining continuing education and field interest, job exploration, and field-specific employer expectations). On the other hand, teaching and counselling is more often focused on soft skills, such as preparing presentations, performing in public or writing a CV. Secondly, again in this case, it turned out that there is a smaller range of counselling activities for the H group, which could also reduce their employability and the ability to manage their careers in competition with other high school students in the future.

Research outcomes are in line with original expectations. Many previous projects and current educational policy should show the impact on students´ knowledge and skills in the field of CLG. However, it seems that in pupils of some types of secondary vocational schools are not well prepared to move from school to the world of work and are not learning to manage their future careers. The results also confirm the importance of the ongoing project, which will result in a newly developed methodology for teaching career guidance.

Acknowledgement

Bibliography

1. Atli A. (2016). The Effects of Trait-Factor Theory Based Career Counseling Sessions on the Levels of Career Maturity and Indecision of High School Students. *Universal Journal of Educational Research, 4*(8), 1837-1847. doi: 10.13189/ujer.2016.040813

2. Briska L., Dislere V. (2018). Guidance Model for Promoting Self-Directed Career Decision-Making by Secondary School Students. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 11*. Jelgava: Latvia University of Life Sciences and Technologies, 344-353. doi: 10.22616/REEP.2018.042

3. Czech Republic Overview - Key Features of the Education System. (2019) EU: Eurydice. Retrieved from https://eacea.ec.europa.eu/national-policies/eurydice/content/czech-republic_en

4. Diagram of the education system of the Czech Republic 2019/2020. (2019) Prague: DZS. Retrieved from https://www.naerasmusplus.cz/file/5184/cz_schema_2019_20-png

5. Drahoňovská P., Eliášková I. (2011) Analýza práce a potřeb poradců v oblasti kariérového poradenství na školách [Analysis of work and the needs of advisors in the field of career guidance in schools]. Prague: Národní ústav pro vzdělávání. Retrieved from http://www.nuov.cz/uploads/Vzdelavani_a_TP/PORADCI_SKOLY_FINAL_pro_www_opr.pdf (in Czech)

6. Fischer T., Schlimbach T., Attwell G., Balica M., Preisinger-Kleine R. (2011). Careers 2.0: scenarios and personas for technology enhanced educational transitions. In L.G. Chova, D.M. Belenguer, A.L. Martínez (Eds.), The Proceedings of International Conference on *Education and New Learning Technologies EDULEARN11*, *3.* Barcelona: International Association of Technology, Education and Development, 6446-6455. Retrieved from https://library.iated.org/view/FISCHER2011CAR

7. Framework Education Programme for Basic Education. (2007). Prague: VÚP Retrieved from https://planipolis.iiep.unesco.org/sites/planipolis/files/ressources/czech_republic_framework_education_programme_for_basic_education.pdf

8. Hlaďo P., Drahoňovská P. (2012). Rozhodování žáků základních a středních škol o dalším studiu a práci v pohledu žáků i jejich rodičů. Analýza vlivů sociálního okolí a využití informačních zdrojů na základě dotazníkového šetření. [Decision-making of primary and secondary school pupils on further study and work in the perspective of pupils and their parents. Analysis of the impact of social environment and the use of information sources based on a questionnaire survey]. Praha: Národní ústav pro vzdělávání.: Národní ústav pro vzdělávání. Retrieved from http://www.nuov.cz/uploads/Vzdelavani_a_TP/KP_Volba_zaci_rodice_pro_www.pdf (in Czech)

9. Jahn S.A. (2018). Using Collage to Examine Values in College Career Counseling. *Journal of College Counseling 21*(2), 180-192. doi: 10.1002/jocc.12096

10. Khorshid E., Alaiwy M. (2016). Education for employment: a career guidance system based on labour market information. In L.G. Chova, A.L. Martínez, I.C. Torres (Eds.), The Proceedings of *International Technology, Education and Development Conference INTED2016*, *10*. Valencia: IATED Academy, 5283-5290. doi: 10.21125/inted.2016.0258

11. Morey-López M., Comas-Forgas R., Mut-Amengual T., Mas-Torello O. (2015). Validation of a questionnaire to analyse the drop-out and engagement itineraries amongst vet students: experts panel results. In L.G. Chova, A.L. Martínez, I.C. Torres (Eds.), The Proceedings of International

Conference on *Education and New Learning Technologies EDULEARN15, 7.* Barcelona: IATED Academy, 142-147. Retrieved from https://library.iated.org/view/MOREYLOPEZ2015VAL

12. Multon K.D., Lapan R.T. (1995). Developing Scales to Evaluate Career and Personal Guidance Curricula in a High School Setting. *Journal of Career Development, 21*(4), 293-305. doi: 10.1177/089484539502100403

13. Národní iniciativa Průmysl 4.0 [National Initiative Industry 4.0]. (2015). Retrieved from https://www.businessinfo.cz/navody/narodni-iniciativa-prumysl-40 (in Czech)

14. Rámcové vzdělávací programy pro střední odborné vzdělávání. [Framework Education Programme for Secondary Vocational School]. (2011-2019). (2017). Retrieved from http://www.nuv.cz/t/ramcove-vzdelavaci-programy-podle-kategorii-oboru-vzdelani (in Czech)

15. Saulite M., Andersone R. (2019). Career Education as a Set of Planned Actions Integrated in the Study Process. In V. Dislere (Ed.), The Proceedings of The International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *12.* Jelgava: Latvia University of Life Sciences and Technologies, 303-308. doi: 10.22616/REEP.2019.040

16. Saulīte M., Andersone R. (2016). Identification of career management skills related problems in the study process of podologists. In V. Lubkina, S. Usca, A. Zvaigzne (Eds.), The Proceedings of the International Scientific Conference *Society. Integration. Education., 1*, 221-230. doi: 10.17770/sie2016vol1.1484

17. Saulīte M., Koha A. (2017). Purposeful Development of Career Management Skills in the Podologists' Study Process. In V. Dislere (Ed.), The Proceedings of The International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *10.* Jelgava: LLU, 466-472. Retrieved from https://llufb.llu.lv/conference/REEP/2017/Latvia-Univ-Agricult-REEP-2017_proceedings-466-472.pdf

18. Savickas M.L. (2015). *Life-Design Counseling Manual.* Retrieved from http://www.vocopher.com/LifeDesign/LifeDesign.pdf

19. Sears S. (1982). A definition of career guidance terms: A national vocational guidance association perspective. *Vocational Guidance Quarterly, 31*(2), 137-143. doi: 10.1002/j.2164-585X.1982.tb01305.x

20. Šťastnová P., Drahoňovská P. (2012). *Jak žáci základních a středních škol vybírají svou další vzdělávací nebo pracovní kariéru. Analýza výsledků dotazníkového šetření žáků základních a středních škol.* [How primary and secondary school pupils choose their further educational or professional career. Analysis of results of questionnaire survey of primary and secondary school pupils]. Praha: Národní ústav pro vzdělávání. Retrieved from http://www.nuov.cz/uploads/Vzdelavani_a_TP/AnalyzaKP_ZSaSS_pro_www.pdf (in Czech)

21. *Lifelong Guidance Policy Development: A European Resource Kit.* (2012). The European Lifelong Guidance Policy Network. University of Jyvaskyla. Jyvaskyla: Saarijärven Offset Oy. Retrieved from http://www.elgpn.eu/publications/browse-by-language/english/ELGPN_resource_kit_2011-12_web.pdf

22. Vintere A., Balode I. (2016). Comparative Analysis of the Career Guidance Needs in the Baltic Countries. In V. Dislere (Ed.), The Proceedings of The International Scientific Conference *Rural Environment. Education. Personality (REEP), 9.* Jelgava: LLU, 275-282. Retrieved from https://llufb.llu.lv/conference/REEP/2016/Latvia-Univ-Agricult-REEP-2016proceed2255-808X-275-282.pdf

23. Vyhláška č. 72/2005 Sb., o poskytování poradenských služeb ve školách a školských zařízeních. [Decree no. 72/2005 Coll., on providing guidance in schools and school facilities]. (2005). Prague: MŠMT. Retrieved from http://www.msmt.cz/file/43482_1_1 (in Czech)

24. Watts A.G., Sultana R.G. (2004). Career guidance policies in 37 countries: Contrasts and common themes. *International Journal for Educational and Vocational Guidance, 4*, 105-122. doi: 10.1007/s10775-005-1025-y

A Professional Handicraft Teacher in the Eyes of the Student

Ene Lind[1] PhD; **Anne Vahter**[2]
Tallinn University, Estonia
ene.lind@tlu.ee[1]; anne.vahter@hotmail.com[2]

Abstract: The concept of the qualities of a professional teacher has changed over time: today, as a result of social and economic development, there are more and more features, skills, and knowledge that a good teacher needs in order to do their job and interact with the student. However, these qualities may vary depending on the age group the teacher is teaching and the subject they are teaching. Cultural differences also play a major role here. Generally speaking, the characteristics of a teacher's professionalism can be divided into three groups: a teacher as a professional in their field is best described through their general pedagogical skills, subject matter knowledge, and personal qualities. The purpose of this study was to describe the students' vision of a good handicraft teacher. A qualitative research strategy was chosen to conduct the study, and phenomenography was chosen from the research methods, because the purpose of this approach is to describe the experiences being studied, to analyse the descriptions, and to interpret them. Essay writing was chosen as the method of data collection. The sample consisted of fifteen-year-old students from three basic schools in one small town in Estonia. This age grade was chosen because they have had handicraft lessons for five years and are believed to have developed an understanding of the subject and what the teacher should be like. Eighty responses were received. When analysing the works, it was found that the students' opinions regarding general pedagogical skills are the same as those of the previous surveys. However, the expectations of the handicraft teacher differ to some extent. According to the students, the task of the handicraft teacher is to create a free and reliable working environment that requires calmness, empathy, and instructional skills. A handicraft teacher should be a friend and an equal partner who can be trusted to seek advice and discuss life problems.

Keywords: handicraft teacher, professionality, students' opinion, school education.

Introduction

The professionalism of teachers has been the subject of much research, based on different aims and aspects. The views of the first stage of study students have been mapped by K.P. Murphy, L.A.M. Delli, M.N. Edwards (2004) and A. Bakx, M. Koopman, J. de Kruijf, P. den Brok (2014). J.J. Beishuizen, E. van Hof, C.M. Putten, S. Bouwmeester, J.J. Asscher (2001) compared the perception of a good teacher among primary and basic school students and teachers. A similar study comparing the views of a good teacher among students of different age groups has also been conducted in Estonia (Läänemets, Kalamees-Ruubel, Sepp, 2012). The views of teacher education students have been studied by P. Phelan, A.L. Davidson, H.T. Cao (1992), L.B. Chonko, J.F. Tanner, R. Davis (2002) and J. Wilkins (2014).

Based on the number of researches, it can be argued that the teacher's professionalism has been evaluated by different authors on different criteria. According to a survey among teacher education students, the characteristics of professionalism are as follows: the following qualities describe a teacher as a professional in their field (Arnon, Reichel, 2007, 451):
- their subject knowledge because he has a wealth of knowledge and knows what and how to teach;
- their general pedagogical knowledge and skills (including proficiency in methodology, classroom management);
- their personal qualities, that is, they see the students as individuals and associate with each student.

Students and pupils mentioned the following aspects as the most important general pedagogical skills: a professional teacher uses a wide variety of learning methods and learning styles (Mullock, 2003), is able to establish themselves in the classroom (Beishuizen et al., 2001), teaches creatively, they can be counted on, they are able to solve unexpected problems, they can teach students by accepting the differences between them, and they try to encourage the students (Arnon, Reichel, 2007). Such teachers are constantly learning new things and doing research, and they learn from each other and from students (Brownell et al., 2006; Arnon, Reichel, 2007). Students will learn things when they are presented in an

interesting and age-appropriate manner. The teacher should structure the learning process in such a way that the students are busy learning during the lesson (Brownell et al., 2006; Dislere, 2012) and that it presents students with an intellectual challenge (Mullock, 2003). If the students are busy learning during the lesson, they are less likely to behave badly. Additionally, school stress can be prevented by offering varied and interesting lessons.

Students consider a person who is intelligent and has a thorough knowledge of their subject to be a good teacher. P. Phelan, A.L. Davidson and H.T. Cao (1992) have even noted that it is difficult for students to take seriously teachers who do not have a thorough knowledge of what they are teaching. Students do not want a teacher who gets all their information from a textbook. Instead, they want them to have different perspectives on the topic and to talk to them about various subjects (Läänemets, Kalamees-Ruubel, Sepp, 2012). Students prefer a teacher who is ready and able to help them understand the material they are learning, who takes the time to thoroughly explain the content and ideas, can make the subject understandable, and demonstrates their commitment to their teaching (Phelan, Davidson, Cao, 1992). In addition, students like teachers in whose lessons they understand the material and complex ideas, who teach interesting topics, and enable the students to solve complex problems (Montalvo, Mansfield, Miller, 2007; Mečņika et al., 2014). It is good to involve more students in lesson planning (Mullock, 2003; Läänemets, Kalamees-Ruubel, Sepp, 2012). This experience develops during teaching and teachers who have just graduated from university may not have it. Therefore, a professional teacher has some experience working with students.

According to research, a good teacher has a wide range of personal qualities: they are caring, patient, interesting, polite, and organised (Murphy, Delli, Edwards, 2004; Loogma, Kesküla, Roosipõld, 2010). S. Arnon and N. Reichel (2007) note that a good teacher is a personal role model for students. Not all of the teacher's personal characteristics mentioned in the research are related to their teaching work, such as having a sense of humour, kindness, fairness, optimism, humanity, determination, and mettle. However, some of them are certainly part of the teaching profession, such as empathy and attentiveness towards students, and their acceptance (Lehtsaar, Krips, Pulver, 2010). It is considered important that the teacher loves and listens to children, engages parents, is flexible, sensitive, forgiving and open, but sets fair boundaries. They are the leader of their class, a person of authority, self-confident and self-disciplined, and able to adapt to different situations. Good communication skills of the teacher come into play when solving behaviour problems. They should have a communication plan for various difficult situations, which requires knowledge of interpersonal communication and behavioural patterns (Lehtsaar, Krips, Pulver, 2010). M.T. Brownell, A. Adams, P. Sindelar, N. Waldron, S. Vanhover (2006) note that a good teacher notices the class as a whole and at the same time, every single student, and knows their needs. Good relationships between teachers and students have been associated with increased student motivation, improved academic performance and student participation, and a general attitude to school (Wilkins, 2014). The work of A. Bakx, M. Koopman, J. de Kruijf, P. den Brok (2014) mentions that a teacher must look appropriate, be exemplary, honest, have the ability to listen to students, and trust them.

The results of the surveys vary slightly depending on the country or stage of study in which the students were interviewed. The differences arise in exactly what one or another age group thinks is important or what are the cultural differences in the requirements of a good teacher. For example, J.J. Beishuizen, E. van Hof, C.M. Putten, S. Bouwmeester, J.J. Asscher (2001) note that basic school students considered good relationships with the teacher important and emphasized the teacher's character traits, while the younger ones focused more on teaching skills.

The aim of this study was to describe the students' vision of a good handicraft teacher, and the following research questions were posed:
- what the students think are the qualities of a good teacher;
- what are the characteristics of a handicraft teacher compared to other teachers?

Methodology

A qualitative research strategy was chosen to conduct the study, and phenomenography was chosen from the research methods, because the purpose of this approach is to describe the experiences being studied, to analyse the descriptions, and to interpret them. Phenomenography seeks to identify and

systematise the ways in which people interpret various aspects of reality (Richardson, 1999). As in phenomenography, written works can be used in addition to interviews, drawings, and activity surveys to study people's opinions (Laherand, 2008), an essay was chosen as the method of data collection.

In order to write the short essay, students were asked guiding questions which were formulated based on the categories of teacher professionalism.

- What character traits do you value in a teacher?
- Describe what qualities a handicraft teacher might have that differ from other teachers.
- Should a handicraft teacher set an example in some way?
- Describe how you think the teacher could best make the subject easier for students to understand.
- How can a handicraft teacher make their subject and lessons interesting to students?

The last question was added to enable teachers and students to make suggestions for future work based on the opinions received, as interesting lessons also increase the motivation to learn.

Sampling followed the principle of purposeful sampling (Bogdan, Biklen, 1998). The initial sample consisted of 15-year-old girls of three basic schools in one of Estonia's small towns, who had chosen the field of textile work in their subject area. This age grade was chosen because they have had handicraft lessons for five years and are believed to have developed an understanding of the subject and what the teacher should be like.

Two schools were contacted immediately, and a time was agreed for the study. The teacher from the third school, however, refused to conduct an essay-based study in their classrooms because they felt the spring students had nothing good to say about the teacher. As a result, the plan was changed to include two classes in one school and three in the other.

Prior to starting the essay writing at the school, students were informed about the purpose of the study and that the essays were anonymous. It was also mentioned that the teachers at the same school do not read these works because this way, the students dare to be more honest in expressing their thoughts. In order to ensure the validity of the study, a sample essay was initially conducted in one class, which revealed that the students had a lot of questions about one of the guiding points that was changed as a result.

Eighty essays were written. Three blank papers were also returned from students that did not have any ideas idea about the topic. The data was collected on the basis of the concept of abundance. If the data is sufficient, the replies will be repeated. With this number of essays, the students' thoughts started to repeat, so there was no need to expand the research area and ask more students for their opinion.

The essays were read only by the researchers. For a phenomenographic study, the technique of analysis can be selected in accordance with the data obtained in the study. In this study, the analysis of the research findings had to focus on how students describe a good teacher, rather than investigating and focusing on why they think so. When conducting interviews with students to determine the characteristics of a good teacher, one must always make sure whether the students are describing existing good teachers or whether they would like to have such teachers (Bakx et al., 2014). For this study, students were asked their general opinion and not to describe existing teachers. When analysing the works, it was necessary to consider that students may not understand what qualities make a teacher a professional. They may not notice different teaching methods and techniques; instead, they may only think about whether the lesson is interesting or not. For them, an unprofessional teacher may seem just plain evil and boring. Grade 8 students have had sufficient experiences with different teachers and their work, and as a result, they were expected to be able to comment on the professionalism of teachers.

Coding and categorisation of results were used to analyse the essays. It was observed that the main purpose of coding, which is to separate the text into different parts to understand it and to compose different categorisation, would be followed. According to this understanding, coding involves the constant comparison of phenomena, cases, concepts, etc. Documenting data is thus not a technical part of the research process, but also affects the quality of the data used for interpretation (Flick, 2006).

The coding of the essay was done section by section. Characteristics and activities of the teacher were written down: both what the teacher should do and what a teacher should not be like. Then, the similar codes were merged into one category. The categorisation was based on the research questions. Next, the

features and activities obtained were grouped again according to the question the students had discussed. Essays were analysed several times to compile different categories.

The research results are presented below in the order of the answers to the research questions, giving typical examples of the students' essays.

Results and Discussion

There is a wide range of answers to the question "What are the qualities of a good teacher?" The students mentioned the following answers as the most important traits of a teacher:
- explains a lot, understandably, and repeats explanations when needed (47 times);
- teaches essentials life skills, prepares specific and necessary learning content, and directs learning (32 times);
- compiles assignments that match the students' abilities (20 times);
- recognises that students are different, does not hurry, gives students autonomy, knows their weaknesses and develops them (29 times).

A professional teacher should be able to teach and use a variety of learning methods that make classes less varied and active (games, group work) so that "*we do not just have to sit all the time*".

> *"Good teaching means that the student does not have to learn independently a lot, the teacher prepares concrete notes with the necessary information, and adds fun and play to the lesson."*

> *"A good teacher must definitely take into account the child's interests. They respect the students and the students respect also them. They try to relate different topics and approaches students individually rather than the class as a whole."*

> *"Good teaching is more than just talking."*

In the students' opinion, the teacher should teach the students, rather than having the children do independent work all the time. A good teacher is smart, knows their subject matter, gives subject matter advice and answers questions, teaches in an interesting way, is experienced, and has prepared for the lesson. They should be familiar with the subject, not rely solely on the textbook. It is important that the teacher knows more than the students and is ready to answer the questions immediately. A good teacher motivates the students to learn and the students want to work hard to please them. Based on the attitude of the teacher and the feedback given to the students, it can be seen whether the teacher has faith in themselves and their abilities.

When comparing the results with previous studies, the opinion of Estonian students is relatively similar. The choice of the teacher's tasks and work, and the process of referring the student to them, determine the students' attitudes towards work and their abilities (Dweck, 1986). It is important for students that the teacher selects tasks that are of interest to them and explain the work process clearly. When teachers show interest, enthusiasm, and active engagement in teaching, rather than conveying the learning material in a dull way, the students are more likely to associate themselves with learning (Phelan, Davidson, Cao, 1992) and become good students (Malik, Bashir, 2015). Whether or not a student is interested in the subject and schoolwork depends directly on the teaching methods.

In addition, it is important for students to have fair feedback on their work and the teacher to evaluate their contribution. This shows that the teachers' feedback and attitude towards the students' abilities is crucial because it determines how students see themselves. A number of students highlighted the need for the teacher to motivate students and set an example in their work.

The students also considered it important that the teacher consider the students and their wishes, give them choices, and consider the student's effort and their interests in engaging students in the preparation of the lessons. In spite of everything, the teacher should not start doing in the classroom only what the students want and like. They care about what they convey to their students and try to bring about change in their students. In other words, passionate teachers make students work. L.B. Chonko, J.F. Tanner, R. Davis (2002) find that teaching should be based on the needs of students, and those students may not be aware of them. It is important that the teacher asks the students what they like. The teacher should ask for and take into consideration the students' opinion. Taking the students' views into account when planning the lessons, teachers will make the subject more exciting and motivating for them to work. After all, the teacher

defines the tasks for the students, gives feedback, and influences at least some of the indicators that determine the motivation to complete the tasks (Montalvo, Mansfield, Miller, 2007; Pridane, 2018).

The students found that the teacher should help with practical tasks, be active in the classroom, use different ways of communicating information (oral, written, visual), inspire students (with examples), create a relaxed working environment, and be polite in their communication. It was also highlighted that a good teacher raises their voice at the right time, does not demand perfection, can bring order to the class, is engaging and emotional, experiments with new things, and motivates students.

It is often difficult to recognise the role of a teacher as a mentor, because the mentoring can take place in a hidden way. In their essays, the students pointed out that a good teacher can be consulted and is a good example with their personality and work. It was also mentioned that a good teacher is like a friend and communicates with the student like a friend, so the student dares to ask them for help and complain to them about their concerns. Teacher education students also note that a teacher is a person who respects their students (Löfström et al., 2010). Teachers think that a good teacher notices the class as a whole and at the same time, every single student (Brownell et al., 2006).

> *"A good teacher is someone who talks to the student as an equal person, not as a person with a lower education."*

The personal qualities received the most attention from the students, indicating that the students could characterise the teacher as a person more than as an ideal subject teacher and mentor. Students think that a good teacher should have a sense of humour, be friendly, understanding, fun, talkative, and tell interesting stories about life and themselves. On the other hand, they should still be strict, able to establish themselves, have a good attitude towards the class and the students, have good listening skills, and be kind, helpful, confident, and sincere. Students value – teachers who love their job, delve into what they do, want to teach their subject, and are free in their teaching.

Students repeatedly mentioned that when a teacher is cheerful, in a good mood, and positive, it is pleasant and easy to interact with them. A good teacher is flexible, calm, patient, and with a calm voice. Many students mentioned peaceful communication, which may mean that teachers often raise their voices for no good reason. At the same time, it may not achieve the desired result in ensuring discipline (Lehtsaar, Krips, Pulver, 2010).

> *"It is not good to yell at the students, it makes us "hate" the teacher quickly."*

As in previous studies (Bakx et al., 2014), it was mentioned here that the teacher should look appropriate and nice. It is important for the students that the teacher is an interesting person, intelligent, creative, flexible with the students, and kind and caring about the students. P. Phelan, A.L. Davidson, H.T. Cao (1992) noted that successful students often mean that a caring teacher is a teacher who helps them in school matters. This kind of help shows them that the teacher is concerned about their learning and success. For students who are less successful, caring means showing interest and concern that goes deeper than just helping with schoolwork. For them, it is important for the teacher to show that they like the student as a person, among other things. A good teacher must therefore be interested and care not only for the student's academic success and schoolwork, but also for the student as a person who has their own concerns and joys.

Many students could not describe exactly what a good teacher should be like but described what a good teacher should not be like. For example, students pointed out that the teacher *should not yell, get irritated quickly, be too easy-going, but too strict either, belittle anyone in front of the class, hurry, or be evil.* We hope that their views have not been shaped by everyday experiences in the classroom.

The students' opinions on whether the handicraft teacher should be different from other subject teachers were varied. There were a few students who felt that all subject teachers can be alike, but most of the respondents thought that a handicraft teacher still has to and does differ from other teachers in their personal characteristics.

The distinctive characteristics of a handicraft teacher stemmed primarily from the content of the subject and the nature of the teaching. As the lesson is largely practical and not all students may be as skilled as the teacher would like them to be, the most important distinguishing feature of a handicraft teacher in the students' opinion is that they are calm, their reaction to different situations in the classroom is

composed, and unexpected moments in the classroom do not irritate them. Instead, they must be able to maintain peace and help the students. In addition, it was pointed out that a handicraft teacher should be patient with the students, as not everyone may succeed in the tasks at first try.

> *"The handicraft teacher should be twice as patient as other teachers, because handicraft is not easy for everyone and succeeding in it takes time."*

The relaxed character of the handicraft teacher was also mentioned in connection with the explanation of new subjects, instructions, and tasks, since it takes some students to understand the texts and drawings. The students noted that if necessary, the new topic should be explained as long as everyone understands it. It is also important that the teacher not only explains the task at the beginning of the lesson, but also during the practical work. A good handicraft teacher helps the students: verbal guidance is not enough for everyone – sometimes, the teacher must show how to do what is needed or even do the most difficult parts for the students. They should evaluate the students equally and individually in accordance with their ability. Students think that handicraft is a creative subject and that teachers should have a more relaxed approach to it.

> *"The handicraft teacher should be able to take into account the abilities of all children."*

At the same time, in the students' opinion, they cannot be too compromising all the time – "*sometimes, they have to be very strict*".

A good handicraft teacher does not spend the whole lesson behind their desk. Instead, they pay attention to what the students are doing, keep track of their progress, and tell them right away when they are doing something wrong. M.T. Brownell, A. Adams, P. Sindelar, N. Waldron, S. Vanhover (2006) point out that a good teacher notices those who are struggling and gives them personalised help. Students want the teacher to do educational games in the classroom, carry out some lessons outdoors, and implement different learning styles. In addition, students want more movement during handicraft classes as "*it is difficult for some people to stay in one place for a long time*".

> *"The lesson can be made more interesting by doing more practical work and less writing and tests. After all, it is a creative subject."*

In the essays, students pointed out that a good handicraft teacher is an example to the students in terms of knowledge, work, and personality. A good handicraft teacher should be fashion-conscious, creative, interested in handicraft, and skilled in what they do. A good role model will help students do a better job, and if the teacher is good role model, it may motivate students to choose their profession.

> *"I think a handicraft teacher should set a good example, because surely some students will choose the teaching profession because their teacher was or is so nice and friendly."*

The handicraft teacher is expected to create a good working environment in the classroom so that "*the class will be pleasant and enjoyable*". The students mentioned that the handicraft teacher should understand that not everyone is skilled in handicraft and that they are not able to do everything perfectly and, for example, postpone the deadlines in accordance with the student's abilities. It is important for the students that the teacher let them interact with each other during the practical work once the instructions have been given. In addition, the teacher should talk to the students. It was pointed out that the handicraft teacher should tell stories during their lessons and let the students interact with each other. The handicraft teacher should be a friend to the students and be treat them as equals, so the students would trust them to seek advice on things other than handicraft. Students want to be able to turn to the teacher with their concerns so that the teacher could help them.

> *"Students should be able to trust the handicraft teacher could so much that they could ask them for advice whether it is handicraft-related or not."*

They must be able to advise on the subject, teach various life skills, and set a good example because the subject is vital. It is important for students that the teacher is able to explain to them why they are learning the subject and how handicraft will help them in the future.

In terms of additional questions on making the handicraft lessons more interesting, students suggested the following:

- the teacher introduces new topics to the students in a motivating way;
- the teacher tells the students what they themselves have made in one technique or another;
- the teacher can give interesting subject-specific examples.

The lessons become more interesting as soon as the teacher teaches techniques other than the classic everyday handicraft techniques (knitting, crocheting, embroidery).

> *"Handicraft lessons can be made more interesting by having the teacher show new and exciting patterns or works."*

In addition, it was found that the teacher should give students more autonomy and develop creativity by letting them choose their own task/project and finding interesting work instructions for the lesson. Even if the teacher has prepared everything, they should give the students a choice. The choices give the student the opportunity to decide what they like the most and therefore, they have more motivation to do so. This should be the case for larger and more complex jobs (such as sewing), so that the student can choose the task and technique appropriate to their abilities. The choice of tasks by the teacher and the process of assigning the student to them determine the student's attitude towards their tasks and abilities (Dweck, 1986). Showing beautiful and well-done examples to the students is very helpful as this way, they want to do something similar by themselves as well.

Conclusions

Comparing the results of this study with previous student surveys to characterise a professional teacher, it can be said that the students' opinions on general pedagogical skills overlap. The teacher is expected to know the subject matter, master different methodologies, be motivated, be able to give fair feedback, and to establish themselves in the classroom. These qualities are important no matter what subject the teacher is teaching.

However, there is a certain difference in the expectations placed on the handicraft teacher, especially in terms of personal qualities. As handicraft lessons mainly develop creativity and manual skills, and help the students acquire the basic skills for everyday life, it is the task of the teacher to create a free and reliable working environment that requires calmness, empathy, and guidance. The students expect the handicraft teacher to be a friend and an equal partner who can be trusted to seek advice and discuss life problems.

The results of the survey cannot be generalised as the results were the opinions of the students of only two schools. At the same time, the students' thoughts started to repeat in the essays, so there was no need to expand the research area and ask more students for their opinions.

Bibliography

1. Arnon S., Reichel N. (2007). Who is the ideal teacher? Am I? Similarity and difference in perception of students of education regarding the qualities of a good teacher and of their own qualities as teachers. *Teachers and Teaching: theory and practice, 13*(5), 441-464. doi: 10.1080/13540600701561653
2. Bakx A., Koopman M., de Kruijf J., den Brok P. (2014). Primary school pupils' view of characteristics of good primary school teachers: an exploratory, open approach for investigating pupils' perceptions. *Teachers and Teaching: theory and practice, 21*(5), 543-564. doi: 10.1080/13540602.2014.995477
3. Beishuizen J.J., van Hof E., Putten V.C.M., Bouwmeester S., Asscher J.J. (2001). Students' and teachers' cognitions about good teachers. *British Journal of Educational Psychology*, *71*(2), 185-201. doi: 10.1348/000709901158451
4. Bogdan R.C., Biklen S.K. (1998). *Qualitative research for education: An Introduction to theory and methods* (3rd ed.). Boston: Allyn & Bacon. Retrieved from https://eric.ed.gov/?id=ED419813
5. Brownell M.T., Adams A., Sindelar P., Waldron N., Vanhover S. (2006). Learning From Collaboration: The Role of Teacher Qualities. *Exceptional Children, 72*(2), 169-185. doi: 10.1177/001440290607200203

6. Chonko L.B., Tanner J.F., Davis R. (2002). What Are They Thinking? Students' Expectations and Self-Assessments. *Journal of Education for Business, 77*(5), 271-281. doi: 10.1080/08832320209599676

7. Dislere V. (2012). Methodology Structure for Training Teachers of Home Economics and Technologies. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *5*. Jelgava: LLU, 201-208. Retrieved from https://llufb.llu.lv/conference/REEP/2012/REEP-2012-proceedings-E-ISSN-2255-808X.pdf

8. Dweck C.S. (1986). Motivational Processes Affecting Learning. *American Psychologist, 41*(10), 1040-1048. doi: 10.1037/0003-066X.41.10.1040

9. Flick U. (2006). *An introduction to qualitative research* (3rd ed.). London, Thousand Oaks: SAGE Publications Ltd.

10. Laherand M.-L. (2008) *Kvalitatiivne uurimisviis* [Qualitative research]. Tallinn: Infotrükk. (in Estonian).

11. Lehtsaar T., Krips H., Pulver A. (2010). The Structure of the Social Competence of Estonian School Teachers. In J. Mikk, M. Veisson, P. Luik (Eds.), *Teacher's Personality and Professionalism.* Frankfurt am Main: Peter Lang, 75-86.

12. Loogma K., Kesküla E., Roosipõld A. (2010). The Transformation of the Teaching Profession in Estonia: Changes in Professionalism. In J. Mikk, M. Veisson, P. Luik (Eds.), *Teacher's Personality and Professionalism.* Frankfurt am Main: Peter Lang, 11-30.

13. Läänemets U., Kalamees-Ruubel K., Sepp A. (2012). What Makes a Good Teacher? Voices of Estonian Students. *Delta Kappa Gamma Bulletin, 79*(1), 27-31. Retrieved from https://www.questia.com/library/journal/1P3-2759918441/what-makes-a-good-teacher-voices-of-estonian-students

14. Löfström E., Anspal T., Hannula M.S., Poom-Valickis K. (2010). Metaphors About 'The Teacher': Gendered, Discipline-Specific and Persistent? In J. Mikk, M. Veisson, P. Luik (Eds.), *Teacher's Personality and Professionalism.* Frankfurt am Main: Peter Lang, 104-121.

15. Malik A.N., Bashir S. (2015). Good teacher; student's perception about top qualities in health sciences. *The Professional Medical Journal, 22*(5), 670-673. Retrieved from http://theprofesional.com/index.php/tpmj/article/view/1309

16. Mečņika V., Hoerr M., Krieviņš I., Schwarz A. (2014). Smart textiles for healthcare: applications and technologies. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *7*. Jelgava: LLU, 150-161. Retrieved from https://llufb.llu.lv/conference/REEP/2014/Latvia-Univ-Agricult-REEP-2014proceedings-150-161.pdf

17. Montalvo G.P., Mansfield E.A., Miller R.B. (2007). Liking or Disliking the Teacher: Student Motivation, Engagement and Achievement. *Evaluation and Research in Education, 20*(3), 144-158. doi: 10.2167/eri406.0

18. Mullock B. (2003). What makes a good teacher? The perceptions of postgraduate TESOL students. *Prospect, 18*(3), 3-24. Retrieved from http://www.ameprc.mq.edu.au/docs/prospect_journal/volume_18_no_3/18_3_1_Mullock.pdf

19. Murphy K.P., Delli L.A.M., Edwards M.N. (2004). The Good Teacher and Good Teaching: Comparing Beliefs of Second-Grade Students, Preservice Teachers, and Inservice Teachers. *The Journal of Experimental Education, 72*(2), 69-92. doi: 10.3200/JEXE.72.2.69-92

20. Phelan P., Davidson A.L., Cao H.T. (1992). Speaking Up: Students' Perspectives on School. *The Phi Delta Kappan 73*(9), 695-704. Retrieved from http://www.jstor.org/stable/20404741

21. Pridane A. (2018). Development of Learning and Feedback Giving Skills in Home Economics and Technologies Education. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 11*. Jelgava: Latvia University of Life Sciences and Technologies, 321-327. doi: 10.22616/REEP.2018.039

22. Richardson J.T.E. (1999). The Concepts and Methods of Phenomenographic Research. *Review of Educational Research, 69*(1), 53-82. Retrieved from https://www.cedu.niu.edu/~walker/research/Phenomenology.pdf

23. Wilkins J. (2014). Good Teacher-Student Relationships: Perspectives of Teachers in Urban High Schools. *American Secondary Education, 43*(1), 52-68. Retrieved from https://eric.ed.gov/?id=EJ1047050

Use of Gamification as a Means of Consulting Support for Continuous Professional Development of Teachers

Zoya Lukashenia[1] Candidate of Pedagogical Sciences
Elena Levanova[2] Dr.sc. in Pedagogic Sciences; **Nina Tamarskaia**[3] Dr.Sc. in Pedagogic Sciences
Baranavichy State University, Republic of Belarus[1]; Moscow Pedagogical State University, Russia[2,3]
zvluk@mail.ru[1]; levanova.46@mail.ru[2]; nvtam09@rambler.ru[3]

Abstract: The article presents the results of the research conducted on the pedagogical faculty of Baranovichi State University on the creation of the university consulting service as an internal service to assist university teachers in solving problems of their professional practice. Gamification is presented as a form of consulting support of the process of teacher professional development directly at the workplace. Game simulation interaction influences the formation of the teachers' need for constant reflexive estimation of their activities. An educator recognizes the need for innovative change, which requires the constant study of educational activities implementation. The usage of experimental model simulation as real phenomena in pedagogical activity creates optimal conditions and prerequisites for teachers research competencies formation. It helps to produce innovative solutions in problematic situations, which may arise in the particular teacher activities. In game simulation the process of participants' personal development is intensified.

Keywords: continuous education, teacher professional development, adult education, consulting support, gamification.

Introduction

Competition in all spheres of social development provokes an educational demand for the use of technologies of high-speed continuous education by a modern teacher, ensuring the constant development of its subjects in accordance with the changing society, which is inherent in the trend of innovative development.

The transition of universities in the XXI century was accompanied by significant growth of their functions: in addition to teaching, studying and scientific researches there were actualized advisory services (internal and external) for further training (Asaad et al., 2013; Barber, 1997, 17; Realising the European…, 2003; Bologna Declaration, 1999; Bolz, 2015, 13). Realization of the principle of universal accessibility was actualized and intended the creation of forms of higher education, meeting all possible circumstances of one's life: partial or distance learning, short-term courses, independent study courses (BECTA, 2003; Common European Principles…, 2009; Kepaliene, Žygaitienė, Jakovleva, 2016; Rivero, Padrón, Izaguirre, 2012).

We support the opinion of researchers that the value of knowledge, human and intellectual capital is tested in different activities. As knowledge quickly becomes obsolete, learning must be continuous (Bogdanowicz, Bailey, 2001, 20; Kozina, Erjavšek, Kostanjevec, 2015; Kriz, 2014).

Accordingly, teachers, as subjects of educational process, have a constant need to consult on the implemented professional practice, which can be satisfied, by the consulting as an internal service of an educational institution.

We agree with the opinion of the researchers that in order to ensure the continuity of the professional development of teachers, the staff of the educational institution in which they work should be transformed into a community of communicating practitioners [trainers and trainees] (Danielson, 2016, 19), who discuss the problems of implemented educational processes in collegial conversations, without violating existing rules and regulations (Macheridis, Paulsson, 2019, 479-481).

The modern university teacher has to be constantly in the position of a researcher to meet all students, society and his personal needs. The latest ones are quite significant, as the psychological comfort of everyday professional activity ensures the success of its results. The effectiveness of the existing work system with the teaching staff nowadays is significantly dependent on the ability of filling it with new methods and forms, able to provide professional specialist development, adequate to changing operational conditions.

In the following research, we adhere to the position of modern training analysts (O.S. Anisimov, G.S. Suhobskaja, P. Drucker, R. Lynch) who characterize the teaching career as management (Anisimov, 2009; Drucker, 2007; Kuljutkin, Suhobskaja, 2013; Lynch, 2005).

In offering consulting as a mechanism for implementing continuing education of the teacher directly at the workplace, we rely on the results of the research carried out by K. Cook, K. Garza, N. Gray, M. Gerich, M. Mundy, L. Kupczynski, B. Schmitz, J. Smith (Cook, 2018; Smith, Gray, 2017; Gerich, Schmitz, 2016; Garza, Mundy, Kupczynski, 2018).

The purpose of our research is to substantiate the expediency of using the pedagogical technology of consulting, the main form of implementation of which is gamification, to support the process of continuous professional training of a teacher directly at the workplace.

Methodology

Initially the essence of the university education functioning was to preserve the intellectual profession in the human community (Jaspers, Rossman, 2013, 115). Such kind of functional tasks solving guaranteed the implementation within the university professional practice and research activities contributing to the creation of a new secular culture (Carroll, 2004, 22).

Within the study of the consulting function of the University, we believe that every teacher performs the role of a manager of his own activities, the activities of his students and the procedure of interaction between the participants of an organized process. When implementing the consulting function of the University it is expected to provide an expert assistance to specific teachers during their introduction of innovations in their ongoing training and education processes. The priority demands for analytical support management activities determined by the fact that the real professional competence of the management should not be a negative factor in teaching. Stabilization management activities are provided by the opportunity to integrate technology with teaching analytical activities. The fundamental condition for the implementation of vocational education in the world community is the improvement of the culture decision-making level with the following implementation in the adequate way.

As a means of forming of a university lecturer competence on the study implemented in their own professional innovation activity, we propose a procedure of play models, which is implemented through the series of specially organized play models events. Their content is a response to a problem or a crisis in the professional activities of a given teacher of a particular educational institution, the implementation of the installation is to improve and develop the activity and the educational system itself. The purpose of the play model event organization can also be installed on the qualitative improvement of professional and other qualities of an expert. Play model simulation can be performed in order to get additional empirical data, to implement a theoretical problem, to create an experimental model and test a theoretical hypothesis.

We support researchers in the fact that the knowledge that employees possess is a key source of sustainable competitive advantage for educational institutions (Bogdanowicz, Bailey, 2001, 21).

Play technology reproduce the interaction of real situations and relationships of participants in the model variant and construct these situations and relations as a model systems prototype. Reflexive support of all play actions creates opportunities for research, analytics, consulting, forecasting systems and development processes.

The professional activity and the accompanying participants interaction of play model events is subjected to gamification in the form of opposition and communication. In a play model events self--organizing of a participant includes the creation for himself and for the partners subjectively meaningful standards and responsibility for their implementation. Description reincarnated in prescription and requires the participant to change the type of behaviour and self-organization (Anisimov, 2009, 23).

The number of factors affecting the specific behaviour of a participant and their interaction is open to extend. The effect of a play process influences the participants and predetermined by characteristics of relationships and actions of participants at each other. During its implementation the process of socialization and acculturation runs more rapidly than in usual conditions (Anisimov, 2009, 341).

Due to its structural uncertainties, contingencies and variance play model interaction with its game approach allows participants to accept any activities, even those unrealistic and meaningless from their individual point of view. They begin to do the game activities, and therefore irresponsible enough, according to uncertain plan which allows fulfilling mistakes. As a result, there occurs a necessary situation for a free search for change, improvement and development of organizational forms, means, methods and mental activity techniques.

Using logic terms, the participants agree that what are they talking about is the subject of thoughts, and – how are they talking about is the predicate. The "Life" of a predicate in play model may be represented by the following sequence: identification of the predicate with the subject – separation in case of their inadequacy – predicate function return as a mean of thought – its return to the state of being out of use – the search for additions or refinements that would describe the subject – replacing of the original predicate (Anisimov, 2009, 344).

This algorithmic scheme expresses the technological aspects of activities implementation to resolve educational problems. It can be done either in the form of a research or in empirical way.

A consultant organizes a group from one communication stage to another (consultant logic operations positions are borrowed from a play technician). Technology schematization is adopted by the event participants during a play model at their own pace and mode. In moments of difficulties concerning the need for a schematic representation of the players way of thought, the consultant provides (with the obligatory explanation) methodologically developed tools – the alphabet and the alphabet schemes.

In the evening after the whole working day each group makes a report at the next plenary session (in schematic language only). Other participants ask questions to the report issues and express their critical judgments. The critics result is the subject of further analytical work in groups. Thus, each group receives full feedback from all the other play model participants, which allows them to improve and modify their proposed problems solutions. This mode of operation requires the utmost concentration of its participants. Constant readiness (concentrating on work) leads to the play models activity intensity.

Educational processes implementation in the form of play model suggests the participants to be in the role of researchers. The necessary precondition for modelling research order is the presence of practical activities difficulty the removal of which requires the formation of the phenomenon theoretical concept in action.

In the play model event a player is provoked to improve his own development and the need for the state of development itself. He is involved in an unusual state, and at some point, is forced to undergo cycles of development and for the reflection (Anisimov, 2009, 109). Play model event as a special socio-cultural and active mechanism assigns a function of collection of life problematic situations, socio-cultural interactions in the practice of professional activities. Its scenic design is directed at overcoming of an accidental problematic situation and creating it as a fundamental and profound.

University professors as players can stay both in the positions of an "actor" or "audience." They have to follow the deepening and disengagement of external evidence (which is typical for the empirical view of reality) and deepness of the essence (which is typical for the theoretical view of reality).

Every single play model interaction due to its afore-mentioned features is a "model" and a teacher (no matter whether he is an actor or a spectator) goes from empirical experience to essentially theoretical version and takes into account both views, uses the advantages in order to get to the bottom of the issues and get the answers.

Making and remaking of the scenario of real or intended professional activity within solving practical, consulting, research, training, diagnostic challenges is the leading process of play model technology.

The model play form determines specificity of solving management challenges. Gamification stimulates paying attention to the transformation of the original sample criteria of play activities into general settled transformations (Anisimov, 2009, 74).

New knowledge and innovative awareness occur early at the beginning of the game experience mainly spontaneous and intuitive. Play model technology increases the likelihood of their reflexive awareness and fasten the accumulation process. Reflexive processes and mechanisms implement not only

normative and critical but also a research function. Therefore, play model provokes not only changes and development acceleration of players (in the role of "actors") but spectators as well.

The constant maintenance of a state of high problematic character of the participants in a game-model event reveals reasons, consequences and results of their own actions and decisions that they make "here and now", in the semantic space of the model, that are not obvious to them. During the model process university teachers have got an opportunity to check whether their solution works. There is not simply the study of the collective stereotypes activities but also the process of personal experience acquiring. There is a continuous communication between the participants during the play model technology with collective activity as a subject. There is a simulation of options and scenarios for the development of the management system and the system of collective activities.

During the play model technology the participants work by their own reproducing those collective communication patterns of thinking, logic and communication management that are familiar and understandable to them. Their communication activities are standardized by play model rules in order to be close to the topic and to understand each other. Under the influence of play regulations there is a gradual change in players' collective thinking stereotypes and the number of ways of communication and there is a significant increase in number of collective activity management (where communication is a type of collective activity).

Communication and activities are related to each other through their ability to meaningful communication and the ability to use it. Such quality of communication as meaningfulness presupposes that players of a play model event have a developed ability to reflect.

According to G.P. Shchedrovicky during a play model technology the process of co-organization takes place (the conversion of individual activities into the collective activity) (Shchedrovicky, 1995, 116).

Originally, co-organization occurs in groups and afterwards groups act as single collective subjects in relation to the whole play model event. Group co-organization occurs as a result of cyclic experience by its members of four collective states: situation analysis, goal formulation, selection of action mode and the implementation of the action. At the end of play, model event there usually occurs co-organization of all its members. They are transformed into a collective entity.

At the moment when the members of a play model event start understanding each other's professional logic, motivational meaningful priorities, goals, interests and intentions of each other individual activities transform into collective ones. Due to this fact, communication within the team members of a play changes qualitatively and transforms into communion of understand each other people. Groups and individual subjects find their places in the model system of future activities, coordinating with other groups mutual forms and methods of cooperation.

During the period from January 2017 to January 2019 at the Pedagogical Faculty of Baranovichi State University there were organized three play model events under the guidance of professor of Occupational Psychology of Professional Activity of the Russian Presidential Academy of National Economy and Public Administration O.S. Anisimov. Play model events were implemented in the aspect of studying the problem of creating the University consulting service. Participants of the event were in both role positions of a "customer" and a "consultant".

During the implementation of the above-mentioned play model event the participants were acknowledged with the technology of a play model anticipation in methodological framework of thought (Anisimov, 2009, 257).

The work on the research problems in the frame of the play model event was organized in two basic forms: plenary and group work. At the end of the first plenary session (installation), the participants (84 persons) were divided into groups, which were prepared by the consultants in advance. Each group worked with a separate consultant. The groups work was held in open discussion, but it was not possible to change the topic and all judgments were fixed with a help of schemes.

Results and Discussion

Not all participants' thought processes were performed according to the scheme, but only those of essential significant for our issues. We established the fact that at that stage of play model a pre-correction of understanding of the thought subject took place (87 % of the participants in play model events).

The results of those play model events verified the fact that they can include any content taken from life or professional experience. It is essential that the basis of its organization is the combination of action, reflection, awareness of how to work and self-determination in the situation on stage. Play model event structure can be represented by the following components:

- play orientation corresponding t innovation targets which is implemented into the professional activity;
- play activity is a solution to a specific problem, formulation and a solution of a problem (which is incurred during implementation of innovation), the demonstration of professional activities;
- play communication is in a group or intergroup discussion;
- play reflection is in a group, intergroup, play technological and organizational.

Organizing and carrying out of game model of several empirical events in accordance with the above-mentioned cycle gives the participants some skills in common procedures implementation. Due to the survey, we have identified the following main changes in the participants caused by the participation of faculty members in play model events:

- acquaintance with the procedure of sample forecasting by converting specific cases forecasting of their practice (96 % of participants);
- getting comparison skills (identification) of scenario with thought subject of a participant (72 % of participants);
- getting ability in scenario directing (88 % of the participants);
- getting critical skills in separation of a scanned sample scenario from the thought subject (72 %).

The need for experimental modelling appears with a necessary in checking of the theoretically existing schema of professional activity educator changes into an actual algorithm for its activities. In the experimental simulation the theoretical scheme becomes the thought subject. The predicates are chosen from the participants' experiences in a play model event. It is not necessary to analyse the entire case study but only the individual elements that are synthesized before the final substantive content of the formal scheme.

The scheme which is described as a text on an empirical material with a specific subject may be considered as a scenario with an abstract theoretical concept as a basis (the productiveness ensuring of introduced innovation scheme). The embodied into reality scenario is a valid experimental model. The established on the above principles model was exposed to procedural reconstruction and its result was compared with the original theoretical scheme. If there is a discrepancy after the comparison there was evaluated and changed either the script, direction or the original scheme in the case of problematic character of its real model material. After making adjustments to the entire theoretical framework the described above cycle was repeated. The experimental simulation was considered completed only when it entirely corresponded with the theoretical and procedural reconstruction scheme and the correlation (scheme) is considered to be experimentally verified actual algorithm of the teacher's modified innovation activity.

In the process of collective discussion and the even evaluation (reflection) we were able to accommodate different opinions and views. Thus, the group of participants develop a common "language", forms a single conceptual space in which understanding is achieved. After that it is possible to neutralize interpersonal, intra-and inter-group conflicts and overcome the resistance to change in the basis of which as we discovered there is a lack of information and differences in interpretations (88 % of participants). In the participants' team of the play model event there develops a real cooperation (according to 96 % of participants).

Among the most important results of the play model study which were discussed at the meetings of the Methodological Commission and the Council of the Pedagogical faculty of Baranovichi State University, at international conferences (Belarus, Bulgaria, Lithuania, Poland, Russia, Slovakia, Ukraine) it is necessary to note the following:

- the misbalance removal between the available and relevant information (96 % of play model participants);

- starting up of converting information into knowledge mechanisms (88 %);
- formation group knowledge and experience sharing channels ("vertical" and "horizontal") (96 % of participates);
- participants' competencies acquiring in complex, systemic problems solving in the teaching practice realities (87 % of respondents);
- getting acquaintance with the analysed problems from different points of view introduces in their solving knowledge and experience. As a result, there is a new understanding of the situation, there are new details and new approaches of the problem solution appear (88 % of participants).

The play model promotes self-definition abilities and overall creativity of the event participants through the specification in the potential of a particular type of activity. Play interaction creates optimal conditions and prerequisites for innovation and creativity and self-development. The requirements mobility of the play behaviour requires a subjective self-organization and mobilization. It is prerequisite the teacher's new solutions and higher results through motivational self-definition process.

Due to the game model and improvement of the game mechanism, the subject combines individual needs and the terms of social and cultural innovation adequacy. After coming through the whole play model event, the subject feels responsible for social relationships constructing and models of introduced innovation improving the quality of the educational process.

In play model technology the model types of executive activities are performed and carried out in problem situations. Their content forces the performer to decline the usual method of executive function implementation. The meaningfulness mobility in play model technology (scenarios and plots) is a favourable foundation and condition for intensification of participants' development.

In terms of play model technology, the students are provided with the opportunities for creative self-expression, self-development, achieving innovative goals. The organization of these processes which are determined by the rules of the play prospects directedness reflection of its participants to self-certainty, self-correction, as a condition of the most effective self-organization.

Conclusions

Play model for university teacher is a means of innovative projects developing with a fundamentally new product such as programs and projects of innovative professional educator, corresponding to the long-term requirements of the surrounding society. Play model research as a form of exercise can become a supporting a person in crisis facility.

Play model world is seen as a qualitatively new, progressive form of learning characterized by a high degree of accessibility and flexibility, focused on the participant. Availability means the absence of requirements for the educational level at the initial stage of play model interaction, flexibility – plasticity and variability of all components of the educational process: the structure and content of educational programs, training and methodological support, forms of organization of training sessions, as well as place, time and pace of learning. The member of a play model event has considerable discretion when determining the objectives and the organization of the study, the individual needs and inclinations respectively.

Gamification as a part of consulting implemented as a pedagogical technology of the support of the process of university teachers' continuous education by the consultants of the same educational institution, is a productive means of improving their skills.

Bibliography

1. Anisimov O.S. (2009). *Pedagogicheskaja dejatel'nost': igrotehnicheskaja paradigma* [Pedagogical activity: game-techniques paradigm]. Moskva: LMA. (in Russian).
2. Asaad Y., Melewar T.C., Cohen G., Balmer J. (2013). Universities and export market orientation: An exploratory study of UK post-92 universities, *Marketing Intelligence and Planning*, *31*(7), 838-856. doi: 10.1108/MIP-01-2013-0007
3. Barber M. (1997). *How to Do the Impossible: A Guide for Politicians with a Passion for Education. Inaugural Lecture.* London: Institute of Education.
4. BECTA. (2003). *What the research says about ICT and motivation*. British Educational Communications and Technology Agency (BECTA). Retrieved from https://dera.ioe.ac.uk/14707/

5. *Realising the European Higher Education Area.* (2003). Communiqué of the Conference of Ministers responsible for Higher Education in Berlin. Bologna process. Retrieved from https://enqa.eu/wp-content/uploads/2013/03/BerlinCommunique1.pdf

6. Bogdanowicz M.S., Bailey E.K. (2001). *The Learning Organization: A Diverse Community of Knowledge Workers*. In Proceedings of The CASAE-ACÉÉA National Conference *Recovering Our Stories, Rallying to Change*, *20.* Quebec: Retrieved from https://www.casae-aceea.ca/~casae/sites/casae/archives/cnf2001/bogdanowicz.pdf

7. *Bologna Declaration*. (1999). Joint Declaration of the European Ministers of Education. Retrieved from http://www.magna-charta.org/resources/files/BOLOGNA_DECLARATION.pdf

8. Bolz N. (2015). *Die Zukunft gehört dem Spieler* [The future belongs to the player]. Baden-Baden: SWR2. Retrieved from https://www.swr.de/swr2/programm/sendungen/essay/swr2-essay-die-zukunft-gehoert-dem-spieler/-/id=659852/did=15338144/nid=659852/1jzcq2f/index.html (in German)

9. Carroll J. (2004). *The Wreck of Western Culture - Humanism Revisited*. Melbourne: Academic Press.

10. *Common European Principles for Teacher Competences and Qualifications*. (2009). European Commission. Retrieved from http://www.pef.uni-lj.si/bologna/dokumenti/eu-common-principles.pdf

11. Cook K. (2018). Brief Counseling Scenarios from Fictional Characters for Counselors in Training. *i-manager's Journal on Educational Psychology*, *11*(3), 43-48. doi: 10.26634/jpsy.11.3.13878

12. Danielson C. (2016). Creating Communities of Practice. *Educational Leadership*, *73*(8), 18-23. Retrieved from http://www.ascd.org/publications/educational-leadership/may16/vol73/num08/Creating-Communities-of-Practice.aspx

13. Drucker P. (2007). *Management: Tasks, Responsibilities, Practices.* New York: Transaction Publishers.

14. Garza K., Mundy M., Kupczynski L. (2018). Counselor Self-Efficacy: The Effects of Online Preparatory Counseling Programs. *i-manager's Journal on Educational Psychology*, *12*(1), 1-7. doi: 10.26634/jpsy.12.1.14374

15. Gerich M., Schmitz B. (2016). Using Simulated Parent-Teacher Talks to Assess and Improve Prospective Teachers' Counseling Competence. *Journal of Education and Learning*, *5*(2), 285-301. doi:10.5539/jel.v5n2p285

16. Jaspers K., Rossman K. (2013). *Die Idee der Universität* [The idea of the university]. Reprint [d. Ausg. Berlin, 1946]. Berlin – Heidelberg – New York: Springer-Verlag. (in German)

17. Kepaliene I., Žygaitienė B., Jakovleva A. (2016). Overview of Active Learning/Teaching Methods for Development of School Students' Entrepreneurship. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *9*. Jelgava: LLU, 81-88. Retrieved from https://llufb.llu.lv/conference/REEP/2016/Latvia-Univ-Agricult-REEP-2016proceed2255-808X-81-88.pdf

18. Kozina F.R., Erjavšek M., Kostanjevec S. (2015). Student Teachers' Perception of Teaching Competences' Development through Teaching Practice. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *8*. Jelgava: LLU, 109-114. Retrieved from https://llufb.llu.lv/conference/REEP/2015/Latvia-Univ-Agricult-REEP-2015proceedings-109-114.pdf

19. Kriz E. (2014). Training teacher at pedagogical practice of students – the partner of academic teacher. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *7*. Jelgava: LLU, 187-191. Retrieved from https://llufb.llu.lv/conference/REEP/2014/Latvia-Univ-Agricult-REEP-2014proceedings-187-191.pdf

20. Kuljutkin J.N., Suhobskaja G.S. (2013). *Myshlenie uchitelja: lichnostnye mehanizmy i ponjatijnyj apparat* [Thinking of the teacher: personal mechanisms and conceptual framework]. (2nd ed.). Moskva: Alpina Publisher. (in Russian)

21. Lynch R. (2005). *Corporate Strategy* (4th ed.). London: Financial Times / Prentice Hall.

22. Macheridis N., Paulsson A. (2019). Professionalism between profession and governance: how university teachers' professionalism shapes coordination. *Studies in Higher Education*, *44*(3), 470-485. doi: 10.1080/03075079.2017.1378633

23. Rivero I.L., Padrón A.L., Izaguirre E.Z. (2012). Didactics of the Use of ICT and Traditional Teaching Aids in Municipal Higher Education Institutions. *Journal of New Approaches in Educational Research*, *1*(1), 33-40. doi: 10.7821/naer.1.1.33-40

24. Shchedrovicky G.P. (1995). *Izbrannye trudy*. [Selected Works]. Moskva: Shkola Kul'turnoj Politiki. (in Russian)

25. Smith J., Gray N. (2017). Lifetime Achievement in Counseling Series: An Interview with Amy King. *Professional Counselor*, *7*(4), 298-304. Retrieved from https://eric.ed.gov/?id=EJ1164909

Is It Easy to Recruit Young Doctors for Military Service?

Liana Plavina[1] Dr.med.; **Mairis Hušča**[2] Professional Bachelor's degree in Military leadership
Riga Stradins University[1]; National Armed Forces[2]; Latvia
liana.plavina@rsu.lv[1]; mairis.husca@mil.lv[2]

Abstract: Health support for military personnel is a key stone for successful executing combat capacities of military personnel in time of military tasks realization. Recruitment system should provide military units with medical personnel that realize medical support and health care for military personnel and allows achieve tactical targets in peace time operations or in tactical military missions` tasks. The target of our study is to assess information level of medical students about military service that allow find gaps and identify problematic area in medical personnel recruiting process of National Armed Forces of Latvia. We have provided Questionnaire into medical students' group (N = 87) in Riga Stradins University in Latvia. Questionnaire allows to determine respondents' interests' levels about military career, their information level about military education and recruitment procedures. Questionnaire results indicated problems of recruitment system for medical personnel that are lack of information for target auditory (medical students) about recruitment procedure for military (medical) service. Recruitment of medical personnel is a challenge for recruitment system of armed forces in different countries that connect to compatible payment system and supporting professional medical a qualification system. Information about recruitment to the military medical service in National Armed Forces of Latvia should reinforce, focuses to the target auditory – medical students. Recruitment centre specialists spread activities in social media. Questionnaire data revealed that there is a potential group of young medical specialist who are interested in military medical service and are ready to connect professional medical career to National Armed Forces of Latvia.

Keywords: recruitment system of medical personnel, medical support, medical students, career.

Introduction

Medical module is a compulsory part of military unit that provide medical support of unit (Roy, Palma, Rich, 2006). Health support for military personnel is a key stone for successful executing of combat capacities of military personnel and realizing military tasks (Chen, 2007; Dick, 2007; Fazekas, 2010). Recruitment system should provide military units with medical personnel that realize medical support and health care for military personnel and allows fulfilling military tasks in peacetime or tactical operations tasks during missions (Baker, Ryals, 1999; Holmes et al., 2009; Kanev, Kostadinov, 2009; Rozenbaums, 2017; Trams, 2018). Military units have specific strategical, operational, tactical tasks that are declared in state defence program. Military personnel as well military medical personnel participate in military training together with representatives from other NATO states. Medical support is essential component for military unit during tactical operations. Recruitment of medical personnel is a serious challenge for military system in different countries (Tonev et al., 2007; McAlister, 2015; Gerboud, 2010; Lejeune, 2010; Lengvarsky, 2010; Alexander, 2010). There are various and numerous impact factors to recruitment of medical personnel in NATO countries: social, psychological, economic, financial stimuli, career and family support; career planning and individual professional development, engagement requirement. These factors have influence on recruitment of young medical doctors for military service (Eglīte, 2018; Richter, Hanhart, 2012; Miseta, Rendeki, Molnar, 2015). Civil companies as well have interests on engagement medical specialist after graduation from academic medical studies.

The aim of our study is to assess information level and interest of medical students to military service and military career, that allow assess gaps and identify problematic area in recruiting system for medical personnel, stress attention of recruitment system for getting young medical doctors for health care system in National Armed Forces that allows fulfil military tasks and decreasing expenses for health care of military personnel in peace or tactical military tasks time.

Methodology

We have provided Questionnaire about interest concerning military area into students' group (N = 87) in Riga Stradins University in Latvia. We proposed questionnaire for students in aged 20-31 years, 62 female

and 25 males, when they start planning their future medical career, their professional medical residency and medical professional employment. Questionnaire included five thematically modules (28 questions) that could be divided into: information module; military and professional education module; benefits module; specialists' qualification support module; social demographical module. The questions were answered on 5-point scale from 1 (low level) to 5 (high level). Questionnaire allows determine respondents' interest levels, their information levels about military medical career and recruitment procedures.

Results and Discussion

Questionnaire data allow get information about students' attitude and position concerning various aspects of medical military career and recruitment procedures. We found that 53.2 % of respondents have high level of interest (4-5 points from 5 points) to the military (medical) service in National Armed Forces as a military doctor, 36.2 % (3 points from 5 points) of respondents shown middle interest level to the military career in Armed forces, they preferred connect future career with civil medicine area, and 10.6 % (1-2 points from 5 points) of respondents shown low level of interest to military medical career in military service (Figure 1).
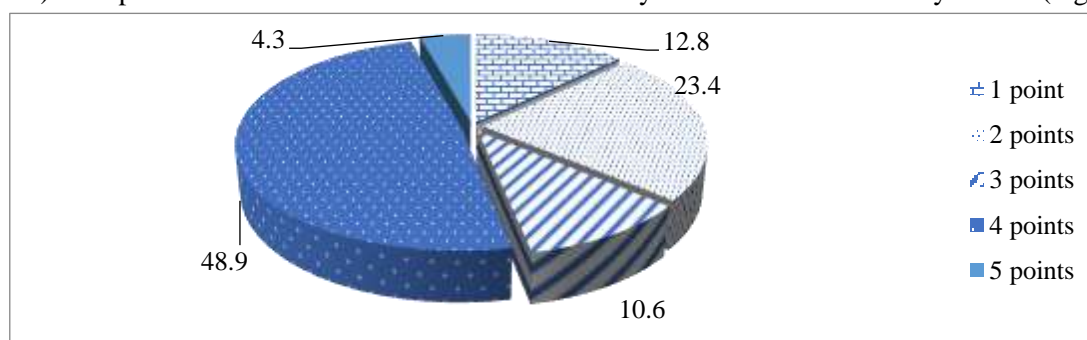

Figure 1. Distribution of respondents' answers concerning interest level (in points)
concerning military doctor career in National Armed Forces (%).
Where 1 point – low level, 5 points – high level.

Questionnaire results indicated the problem of recruitment system of medical personnel such as a lack of information for target auditory (medical students) about recruitment procedure for military (medical) service. Summary of questionnaire results shown that 38.1 % of respondents had no any information (1 point from 5 points) about recruitment procedure in National Armed Forces, as well 44.7 % of respondents had very limited information amount (2 points from 5 points) from media services about military career. According questionnaire results we found that 17 % of respondents were very well informed about recruitment procedures and shown high interest level (4 points from 5 points) to military (medical) service. Questionnaire results shown that medical students paid attention and concentrated their effort for academic medical studies. They will plan professional medical career in civil life. The information about military service was not topical for students therefore interest about National Armed Forces and recruitment system to military (medical) service is low for largest part of respondents. Recruitment centre specialists should be more active in recruiting medical personnel, work to and with a target auditory (medical students) to find and to get individuals for military medical service. As an average questionnaire results shown, the interest level to information about military service and recruitment procedures is low for male students (1.7 points from 5 points) as well female respondents (1.9 points from 5 points). Students-aged 20-22 years had less informed (1.7 points from 5 points) about military service and recruitment procedures then students (3.3 points from 5 points) aged 29-31 years that connected to generation interests and differences. Recruitment requirements included health capacity check-up that is one of the crucial points in candidates' selection process for military service. Health capacity is essential as for successful military service as well for military career. We put a question "Do respondents have information about medical check–up procedures and health capacity control procedures". Students answers shown that 77.6 % had no information (1-2 points from 5 points) about health capacity control program, which is a main part for recruitment procedure (Figure 2).

Information about health check–up procedure and its requirements is found in military website. But any way recruitment centre specialists should stress attention on health capacity control program during meetings with candidates for military (medical) service as well. Female respondents had higher average

interest level and more information (2.5 points from 5 points) about health checking program than the male students (1.9 points from 5 points). Medical students are engaged in full time studies that are hard and time consuming and are priority of medical students' life. As we noticed the information about military service and recruitments procedure are not essential for students during academic medical studies in university. But from the other side military service need high level medical specialist with corresponding level of health capacity for military position, and health capacity evaluation is conducted according requirement of regulation of Ministry of Defence. Health capacity examination and evaluation procedure for candidates to military service (as well military medical service) were conducted by civil medical specialist in civil medical institution, the final conclusion about health capacity level of candidate to military service given by medical commission of Medical support centre of National Armed Forces, as questionnaire data shown 87.3 % of students have no information (1-2 points from 5 points) about such health capacity assessment system.
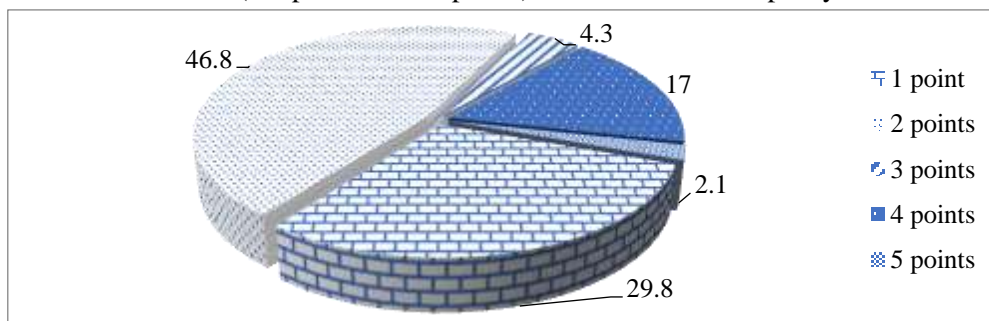

Figure 2. Distribution of respondents' answers concerning information level (in points) about health capacity control procedure for recruits in National Armed Forces (%).
Where 1point – low level, 5 points – high level.

Selection procedures for future military personnel included as well psycho-diagnostic procedures that evaluated candidate ability to work in stress situation. Special psycho-diagnostic tests are conducted by specialist of Psychological service of National Armed Forces that allow select candidates to military service. As questionnaire data shown that 89.3 % of respondents had no exact information (1-2 points from 5 points), but small part of students-respondents (8.5 %) were well informed (4 points from 5 points) about that additional control (psychological tests) procedures. There were no gender differences in respondents' answers about information level of conducting psycho-diagnostic selections and psycho-diagnostic tests for recruits. Average information level of students about additional psycho-diagnostic control procedure was low (1.8 points from 5 points). Students aged 20-22 years had less information level about psycho diagnostic selections then students aged 29-31 years. Psycho diagnostic procedures have important place in section process of military personnel as well medical military personnel. Special military environment and various risks` situations with high stress surrounding, requires personnel who can work in groups and successfully fulfil military tasks. Psychodiagnostics' procedures are effective and qualitative for selection candidates for professional military service.

Specialists of recruitment centre should include psychologists in recruitment command that explain in detail for target auditory (candidate for military / military medical service) information about psycho diagnostic procedures.

Questionnaire results lighten one more important area of information deficit concerning physical preparedness tests requirements and procedures, and 40.4 % students had no any information (1 point from 5 points) about physical fitness check–up tests and their requirement, and 46.8 % of respondents had limited notion (2 points from 5 points) about physical sports tests standards for military system, only 10.6 % of respondents shown good level of understanding (4 points from 5 points) requirements of physical sport tests and procedures. Physical fitness requirement for male and females age groups are different. Future military medical specialist should have knowledges about physical fitness requirement for male and female in different age groups. Medical students during academic studies spent long study`s hours in academic auditoriums and in clinic, they didn`t have enough time to take care about their physical fitness level. Therefore, candidates for military medical service could have a problem to pass basic physical fitness tests according recruitment procedures and requirement.

Questionnaire includes data about advertisement activities of Recruitment Centre by using social media resources that are used as information distribution about National Armed Forces. 40.4 % of medical students given positive assessment (4-5 points from 5 points) to information block in media resources, but in the same time more than half of respondents (59.4 %) had negative attitude (1-2 points from 5 points) to the advertisement campaign about military service in media resources. Advertisement campaign should be oriented annual to special periods of year than the essential information about military medical service reach target (medical students) auditory.

Information block in media resources is not effective for recruitment medical personnel for military service. Information platform for recruitment military medical personnel should contain information that is interesting or important for medical personnel (description of daily duties, place of military service/duty, pay, necessary basic military training requirement and recruitment procedure) (Richter, Hanhart, 2012).

Candidate to military medical services should graduate from basic military training course and military study program. Questionnaire data shown, that 97.7 % of respondents have lack of information (1.4 points from 5 points) about basic military training course, and 97.8 % of respondents have not any information (1-2 points from 5 points) about military medical course curriculum. Information deficit about military programs for medics and curriculum of medical specialists' course declined young medical specialists' interest level to military service and career.

As questionnaire data shown that 97.9 % of respondents had no information (1-2 points from 5 points) about the age limits for potential candidates to professional military service, 99.6 % of respondents were not introduced (1-2 points from 5 points) to enrolment rules. Therefore, recruitment specialist should provide with necessary information potential candidates to military service, distribute information booklet with information about military medical studies and professional courses, which improve military knowledge and professional skills. Respondents (91.4 %) had shown very low understanding level (1-2 points from 5 points) and notion about military medical career running in National Armed Forces for medical specialists (doctors).

Questionnaire data shown that more than 4/5 of respondents (83 %) support statement (4-5 points from 5 points) that military service gives new experience in professional medical area that could not be available in civil medicine (Figure 3).
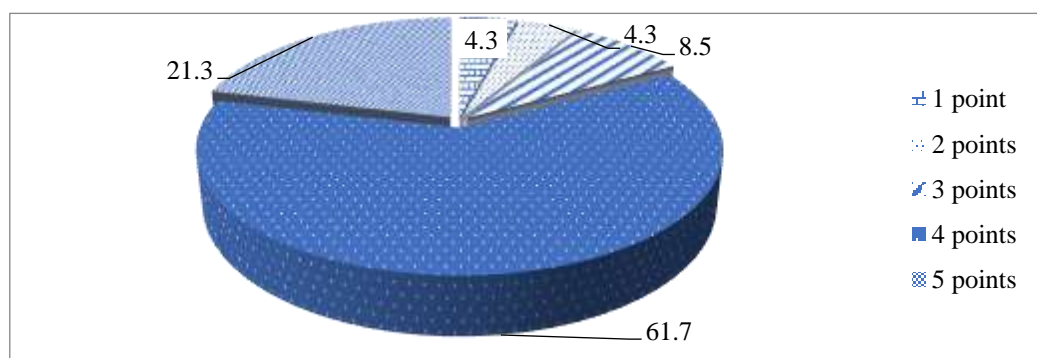

Figure 3. Distribution of respondents' data about getting new experience in professionalmedical area during the service in National Armed Forces (%).

Where 1 point – low level, 5 points – high level.

Questionnaire included several questions that allow to evaluate respondents' readiness to continue studies in new – military medical area – for getting professional knowledges and skills. As questionnaire data shown 87.2 % of respondents are ready (4-5 points from 5 points) to challenges to get professional knowledges and skills in military medical area (Figure 4).

National Armed Forces of Latvia provided opportunity for students get to basic military training in Student Battalion of Land forces and after graduation from University join to army. Questionnaire data reflect respondents' attitude: 38.5 % of respondents accepted such statement (4 points from 5 points) that basic military training should be realize during medical academic studies in university, 17 % of

respondents taken neutral position (3 points from 5 points), and 44.7 % of respondents were not interested into it at all (1-2 points from 5 points) (Figure 5).
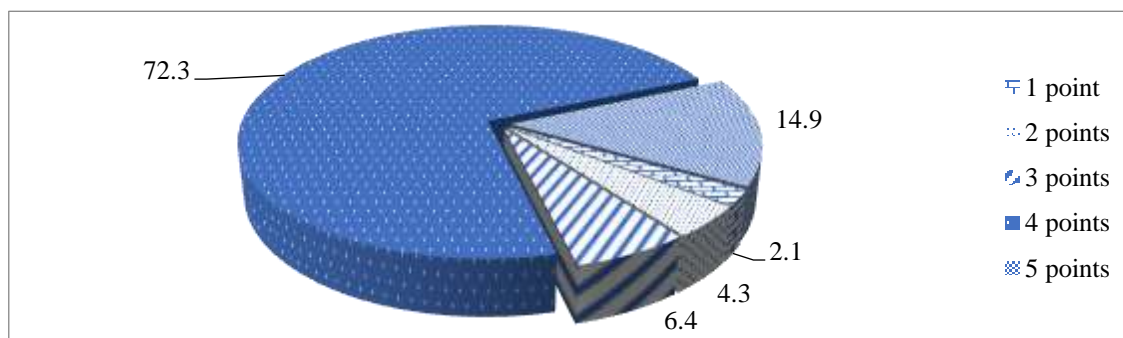

Figure 4. Distribution of respondents' answers about readiness to continue studies for getting newprofessional medical knowledges (%).

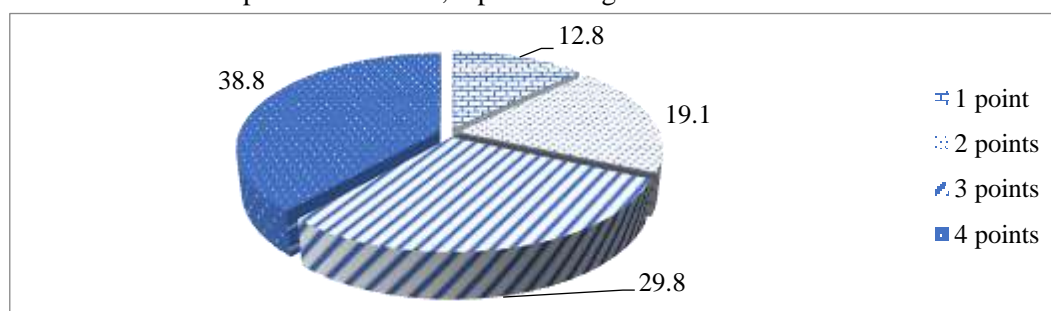Where 1point – low level, 5 points – high level.

Figure 5. Distribution of respondents' answers about readiness to participate in basic military training course before Residency in Medicine (%).

Where 1 point – low level, 5 points – high level.

Medical students have high academic load and the leisure time is very limited. Questionnaire data revealed that 38.3 % students shown readiness to support and to participate in basic military training. They were ready to join to Students battalion of Land Forces during academic studies in university (Figure 6).
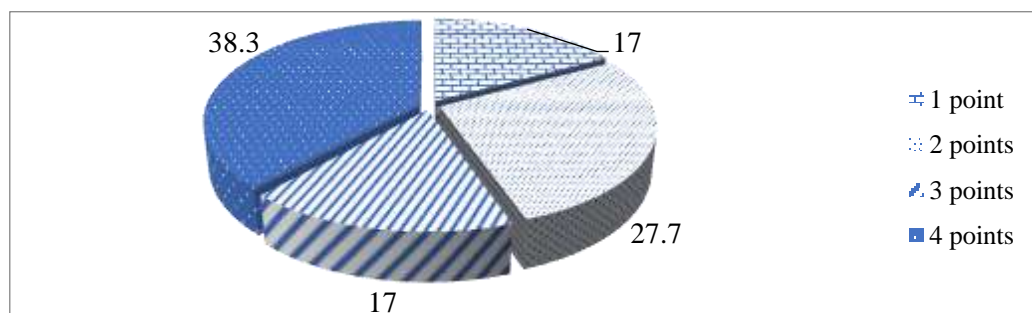
Figure 6. Distribution of respondents' answers about readiness to participate in military training in Student battalion of Land forces (%).

Where 1 point – low level, 5 points – high level.

Students should be integrated in military service during their academic studies that allow increase in future number of young doctors who shown willingness join to National Armed Forces.

Conclusion

Recruitment of medical personnel is a challenge for recruitment system of National Armed Forces of Latvia. Military service connects to impact of various military surrounding factors that have impact and form a risk for health capacity. Medical support module is essential for each military unit. Recruitment system should

stress attention to getting young medical doctors for Armed forces. Medical academic studies in Latvia are realized in Riga Stradins University and in Latvia University, where the numbers of students of medical program increased from year to year. Young medical doctor after his academic medical studies continues studies in residency. Information about military medical service in National Armed Forces should be reinforced and focused to the target auditory – medical students. There are 17 % potential young medical specialists (doctors) who are interested in military career and military medical service and are shown readiness to participate in peacekeeping operations and connect their future professional medical career to National Armed Forces. As questionnaire data shown that 53.2 % of respondents have high level of interest to the military (medical) service in National Armed Forces as a military doctor, and 83 % students' respondents agree with statement, that military service gives new experience in professional medical area that could not be available in civil medicine. Students get opportunity to get basic military training in Student Battalion of Land Forces academic studies, that allow to continue military medical career in National Armed Forces; 38.3 % students are ready to participate in basic military training. Recruitment centre specialist spread activities in social media due to provide with essential information for medical students during academic studies in university. Recruitment system of young medical specialist should change and use new approach to solving problem how to get medical doctors for Armed Forces.

Bibliography

1. Alexander P. (2010). Main features of the medical services of the armed forces of Australia. *Medical Corps International Forum, 3*(4), 14-19.
2. Baker M.S., Ryals P.A. (1999). The Medical Department in Military Operations other Than War, Part I: Planning for Deployment. *Military Medicine*, *164*(8), 572-579. doi: 10.1093/milmed/164.8.572
3. Chen W. (2007). Modularized Medical organization and Handling of Origination Modules. *International Review of the Armed Forces Medical Services*, *80*(4), 199-204.
4. Dick J. (2007). Medical support to NATO operations. *Medical Corps International Forum, 3*, 35-39.
5. Eglīte Dž. (2018). Kļūt par kara ārstu Latvijā. [How to be a military doctor in Latvia]. *Tēvijas sargs, 5*, 14-16. Retrieved from https://www.sargs.lv/sites/default/files/2019-10/2018.gada_maijs.pdf (in Latvian)
6. Fazekas L. (2010). Multinational approach in medical support to NATO operations. *Medical Corps International Forum, 1*(4), 60-62.
7. Gerboud J.M. (2010). Human Resources of the French Military Health Service. *Medical Corps International Forum, 2*(4), 58-60.
8. Holmes S.L., Lee D.J., Charny G., Guthrie J.A., Knight J.G. (2009). Military Physician Recruitment and Retention: A Survey of Students at the Uniformed Services University of the Health Sciences. *Military Medicine, 174*(5), 529-534. doi: 10.7205/milmed-d-01-6508
9. Kanev K., Kostadinov R. (2009). Multinational Military Cooperation in field of Disaster. Medicine. *Medical Corps International Forum*, *3*, 48-49.
10. Lejeune D. (2010). Formations in the French Military Health Service Health Service. *Medical Corps International Forum, 2*(4), 60-62.
11. Lengvarsky V. (2010). The Slovakia Military Medical Services Health Service. *Medical Corps International Forum, 1*(4), 9-16.
12. McAlister V. (2015). Rebuilding Postgraduate medical Education Programmes in Afghanistan. *Medical Corps International Forum, 2*, 23-24.
13. Miseta A., Rendeki S., Molnar T.F. (2015). Potential Role of University medical schools in Civil-military cooperation (CiMiC). *Medical Corps International Forum, 2*, 24-25.
14. Richter G., Hanhart N. (2012). *Factors Affecting Attraction, Recruitment, and Retention of NATO Military Medical professionals.* NATO Science and Technology organization, Technical report AC/323(HFM-213)TP/480,20. Retrieved from https://apps.dtic.mil/dtic/tr/fulltext/u2/a581222.pdf
15. Roy M.J., Palma J., Rich N. (2006). Certification in military Medicine the time is now. *International Review of the Armed Forces Medical Services, 79*(1), 46-53.
16. Rozenbaums R. (2017). Rekrutēšana - izaicinājumi un sadarbība [Recruitment - Challenges and cooperation]. *Tēvijas sargs, 1*, 12-13. Retrieved from https://www.sargs.lv/sites/default/files/2019-10/2017.gada_janv%C4%81ris.pdf (in Latvian)
17. Tonev S., Kanev K., Varbanov G., Katzarov K. (2007). Bulgarian military doctors in the end of 19th and beginning of the 20th century. *Medical Corps International Forum, 4*, 11-13.
18. Trams T. (2018). Militārā medicīna jāattīsta visai Latvijas sabiedrībai kopā [Military medicine should be developed by all Latvian Society together]. *Tēvijas sargs, 3,* 6-7,11. Retrieved from https://www.sargs.lv/sites/default/files/2019-10/2018.gada_marts.pdf (in Latvian)

Career Guidance for First-Year Students in Work-Based Learning

Kristine Rutina[1] Mg.ed.; **Inita Soika**[2] Mg.paed.
Vocational Education Competence Centre "Riga Technical College", Latvia[1]
Latvia University of Life Sciences and Technologies, Latvia[2]
kristine.rutina@gmail.com[1]; inita.soika@llu.lv[2]

Abstract: The research focuses on the problem that first-year students of secondary vocational schools have an urgent need for informative, educational and counselling guidance, pointed on identifying their career needs and learning about the industry from the first day of studies. The aims of the study are firstly, to identify and evaluate the support needed for first-year learners to successfully integrate into work-based learning and develop their career management competences; secondly - to develop guidance program for first-year students and make an expert assessment of its effectiveness. The study was carried out by assessing the current situation in the field of career guidance for first-year students in vocational secondary education, as well as by interviewing first-year students, teachers, and employers involved in work-based learning. Evaluating their views and reflecting on the authors' personal experience has provided the basis for the development of a first-year career guidance program. The most significant findings indicate that by identifying first-year students' career needs and adjusting them to career guidance activities, they will develop their career management skills to better cope with the challenges and transition from education to work. Career guidance in work-based learning will be useful if all stakeholders - students, a group teacher, subject teachers, practice supervisors, career guidance professionals and employers - work together. The results of the study point to the importance of the impact of the education and work environment on the career development of first-year students. As a result, a career guidance program has been developed, the content of which will encourage first-year students to understand themselves and the significance of their learning in their chosen profession.

Keywords: career guidance, first-year students, work-based learning, vocational education.

Introduction

The guidelines of European Union (Reform of Educational…, 2015; Seven Questions about…, 2018; Implementing a Holistic…, 2019; Guidance: Supporting Youth…, 2019) and Latvia (Par karjeras izglītības…, 2015; Darbības programmas…, 2016) provides for the mandatory provision of career guidance for students in vocational secondary education able to develop and plan their careers and successfully enter the labour market. This reasoned indication relates to the following adverse trends. Firstly, the stereotype is that young people who choose to pursue secondary vocational education after leaving primary school have already made their career choices and are no longer in dire need of guidance. Secondly, the first-year students have to undergo a difficult period of adaptation to fit in new learning and living conditions. Therefore, they need support not only from families and group educators but also coordinated support from educators involved in organizing of work-based learning. This would help build confidence in students about the need to pursue a chosen profession or change if the wrong choice is made.

The relevance of the study was also determined by the European Union declaration on priorities in vocational education and training - promoting work-based learning, involving the social partners, businesses, industry association councils and vocational training providers (EU Policy in…, 2019; The Future of Education…, 2018). The authors' long-term professional experience in secondary vocational education suggests that first-year students lack accurate career information and specific career education activities to enhance their career management competence.

According to the self-evaluation data of the Vocational Education Competence Centre "Riga Technical College" (Pašvērtējuma ziņojums…, 2018), almost half – 49 % – of first-year students fail to continue their studies for various reasons. This suggests that they lack self-cognitive skills that hinder both personal and career development, as well as the ability to study the labour market, plan their daily lives and make informed career choices. In addition, in work-based learning, students have been found to lack motivation to do simple tasks, to communicate and solve problems, and to lack a sense of responsibility. The mentioned problems hinder the students to acquire the profession in the work environment successfully. Therefore, one solution is to provide targeted educational and psychological guidance, whereby

workplace-based tutors and educators interact with first-year students and help them adopt new learning and living conditions from the first day of study. Studies conducted in vocational secondary education by Dutch scientists (Kuijpers, Meijers, Gundy, 2011) has shown that as a result of dialogic career guidance activities, students have a better understanding of learning and work paths and choices, and are therefore more motivated to acquire a profession. One also has to agree with Danish scholar L. Hojdal (2019) that productive career guidance is when complex, multidimensional and individual, as well as contextual factors are taken into account as they influence people's perceptions and actions about their career choices.

The aim of the study is to justify the need for career guidance for first-year students in work-based learning and to develop and evaluate a career guidance program.

Methodology

The research included two questions: 1) What kind of career support is needed for first-year students to successfully initiate and continue learning in secondary vocational education? 2) In what ways does a career guidance program encourage first-year students to develop their career management skills to successfully integrate into work-based learning?

Methods of the research included a theoretical study, analysis of scientific literature, reflection of authors' personal experience, a survey of students and employers as well as data descriptive statistics and Friedman's test are used. The study involved 45 first-year students who have mastered the work-based learning.

The study includes the following stages: Stage 1 includes research, analysis and evaluation of scientific literature; Stage 2 includes a survey on career guidance for first-year students and employers in work-based learning; Stage 3 - developing a career guidance program based on the survey results; Stage 4 is carried out expert evaluation of career guidance program and their adjustment according to expert advice. The obtained results are analyzed for program approbation.

The survey included both open questions and questions to which answers were provided. The surveyed students were aged between 16 and 17 years. The survey was conducted in the second half of the school year when first-year students had already formed an opinion and gained first-hand experience of work-based learning. Employers whose companies provide work-based learning for first-year students are also surveyed.

The Career Guidance program for first-year students of vocational secondary education was developed at the Institute of Education and Home Economics, Latvia University of Life Sciences and Technologies within the Master study program Career Counsellor. The program was approbated at the Riga Technical College. The career guidance program for first-year students was evaluated by five competent experts and their ratings were subjected to statistical analysis using Friedman test. The experts were asked to evaluate the given criteria in the four-point scale: yes (4), rather yes than no (3), rather no than yes (2), no (1).

Results and Discussion

Theoretical Framework for First-year Students Career Guidance in Work-Based Learning

Nowadays, more and more young people, after leaving primary school, opt to continue their studies in secondary vocational education because of it an opportunity to enter the labour market faster and become self-sufficient. This is facilitated by the gradual introduction of a new form of vocational education and training – work-based learning – into secondary vocational education (OECD Skills Strategy…, 2019). Work-based learning is considered to be an important factor in career development and support because the acquisition of knowledge, skills, and competencies takes place according to the actual job requirements of the profession to be acquired (Procedures by which…, 2016; Work-Based Learning…, 2014; Katane, Katans, Īriste, 2016).

All life of young people and personality development are linked to preparation for adult life through secondary vocational education. It continues the young person's professional self-determination and readiness for independent professional activity, which helps to understand whether the profession has been chosen correctly and to consider different options of career development (Zeer, 2006; Elkonin, 2011). The development of a young person's value system is influenced by the peculiarities of educating in the family, as well as peculiarities of the cultural and socio-economic development of a certain society. The development of self-awareness is also influenced by the formation of worldview, which is related to the search for answers to existential questions of life. The young person's worldview also

includes his/her subjective attitude towards work, people, the world of things and nature. D. Elkonin recognizes that guiding values and real opportunities influence young people's career choices. However, they may not be compatible with the necessary personality traits in the relevant profession group, which may sooner or later lead to dissatisfaction with the choices made. To prevent this, it is important for young people themselves to be aware of their career needs (Elkonin, 2011). Both the emergence of career choice issues, the efforts to match career choice with self-esteem, the awareness of the diversity of options and the formulation and testing of self-hypotheses, and the search for a teacher as a trusted supporter are all noteworthy features of career guidance for first-year students.

The development of career management competence is one of the aims of career guidance of students in secondary vocational education (Gravina, Lovšin, 2012). To make it happen, a series of flexible information, education, and counselling activities must be undertaken that are integrated into the educational process (Par karjeras izglītības…, 2015), which can be implemented not only face-to-face but also through various online tools, such as communication and discussion on the Internet (Racene, Dislere, 2014). The acquired career management competence ensures the development of the student's self-knowledge and adequate assessment of one's abilities; research and evaluation of diverse labour market offerings; planning own career, setting goals, and making well-considered decisions to start meaningful activities, to realize them, and to stick to own choices (Soika, 2014; Hawkin, 1999). Also, decision-making ability is crucial in career choice and management processes, because properly weighted decisions provide maximum the best possible result, whatever the individual's professional field (Lifelong Guidance Policy…, 2012). First-year students can acquire career management competence with the help of teachers, parents, friends, employers, and colleagues. It can be developed by combining formal and non-formal education with one's experience. But not all students succeed. Therefore, there is a need for educational, informative and advisory activities whose content is capable of meeting first-year students' professional interests and career needs and motivating them to learn.

Substantiation of the need for career guidance for first-year students

Both practice and theory show that the main difficulties in career development at a young age are associated with *inadequate self-knowledge* and *difficulties in decision-making* (Greenhaus, Callanan, Godshalk, 2009). The authors agree with H.M. Knoff's recognition that young people's social competence and self-esteem is largely shaped by the accumulation of positive learning experiences and interpersonal relationships with peers. If young people integrate successfully into the social environment, they will easily learn not only to accept their new social roles but to be comfortable with themselves and able to accept themselves and others. The young person learns mutual responsibility and help; he/she develops a capacity for cooperation and trust; he/she is dominated by feelings of security and self-worth (Knoff, 2003). Communicating with others creates awareness of oneself, one's intentions and desires. For educators and other stakeholders to perceive students as equals and to understand their needs in work-based learning, it is necessary to build and maintain peer-to-peer collaboration that enables each of them to reflect upon and weight out on their new experiences (Soika, 2015; Soika, 2017).

It is important for first-year students *to adapt to the new learning and living environment* by starting their studies at a vocational secondary school. According to the authors' experience, the greatest difficulties encountered at the start of the school year by the first-year students are the differences in the organization of the learning process compared to the elementary school, such as the layout of the classes, the monthly certification, and the pace. This requires not only timely and appropriate support from career professionals but also the support of vocational teachers and general education teachers because they help to understand and adapt to new learning conditions. This is also noted by the vast majority of first-year students surveyed - out of 45 students 36 - who wish *to receive career development support specifically for their profession* as they go to study with their employer. This would ensure a faster and more successful assessment of the chosen profession and facilitate the harmonious development of the students' personality. Until recently, the main supporters were group teachers (Kuijpers, Meijers, 2017; Soika, 2014).

The authors' observations suggest that very broad and general career guidance is available so far for the first-year students, but that there is a lack of specific activities that students might acquire the career management skills needed to successfully adapt and start learning at workplace. For example, to evaluate own personality and own learning style; to explore a profession in connection with the subjects; to study

the labour market requirements of the sector; to develop an action plan for getting to know one's work environment in the company. Therefore, career counsellors should more often inform teachers and students about the possibility of engaging in integrated career guidance activities in the learning process that educates them in career management skills, and of using individual and group counselling services.

The collected survey data show that:

- the first-year students would be more successful in adapting if they received support from the first days of schooling. This would provide more detailed information and a clearer understanding of the profession and industry being studied. It is noted by 32 of the surveyed 45 students.
- sixteen respondents feel that they have lacked support to acquire general education subjects and understand their importance in their chosen profession.
- two-thirds, or 30 first-year students, recognize the need for support in missing knowledge in order to succeed in learning.
- twenty respondents need support from the company' supervisor.
- in turn, twenty-eight out of 45 respondents would like to receive support from teachers of professional subjects.
- twenty-three out of 45 respondents admit that they need individual career counselling to facilitate their learning in work-based learning. This shows that the students are aware of the problems associated with learning and career development and an inability to deal with them themselves, so their solution is necessary for the advice of career counsellors.
- only four respondents indicated that the received guidance is sufficient.
- twenty percent or 9 first-year students surveyed lack of family support. This can be explained by the fact that students from all over Latvia study at Riga Technical College, so there are students who stay in a dormitory.

Also, first-year students recognize that potential employers and internships want them to be *responsible, motivated*, *disciplined* and *communicative*. This coincides with the employer's point of view. Their most demanded competences from students are *professional motivation, ability to quickly absorb new information, purposeful drive for results, communication skills*, and *ability to work independently, ability to meet deadlines, organizational skills*, and *language skills.* This demonstrates that first-year students know what skills and character traits they need to develop to be successful in their chosen professional field.

Characteristic of First-Year Career Guidance Program

A career guidance program for first-year students in work-based learning was developed to address the challenges described above. It has been developed based on the career guidance stages of vocational secondary education (Karjeras izglītība profesionālās…, 2006). The thematic planning of the program is based on the learning process of the first-year students and the provision of the necessary career support. The number of classes in each topic depends on the needs of the group and students. Career guidance activities are integrated into the learning process and in extracurricular activities. School career counsellors and teachers of theoretical and practical subjects, and work-based supervisors are involved in implementing the content of the guidance program. The program is based on the principles of the U. Bronfenbrenner's Ecological Approach to Education (Bronfenbrenner, 1979) where student development is viewed as a progressive process of interaction between the environment and the student himself. The aim of the career guidance program is to facilitate the integration of first-year students into work-based learning and to develop their career management competence. The program was developed by the authors of this article (Rūtiņa, 2019). Career guidance activities are carried out from the first day of studies and will continue throughout the study year. Topics, objectives and results are shown in Table 1. The topics of the career guidance activities are described above, indicating the need for learning and emphasizing the benefits of first-year students in their career development. Recommended methods and forms of learning organization are also indicated, as well as those responsible persons for organizing the acquirement of the topic.

Mastering the first topic, *'Social Adaptation in New Conditions'*, is needed to enable first-year students to adapt to the new learning environment. The first-year students must lay a secure foundation for their educational environment during the adaptation period. This can be successfully done by providing timely quality psychological, educational and career support. Successful adaptation in a group contributes to students' learning and integration into the collective, getting to know each other and form

close cooperative ties in all learning time, which later may develop as a network that promotes the professional learning and further career development. Methods and forms of a learning organization: presentations, dating games, group work, questionnaires, tests, discussions. Responsible persons and implementers: group teacher, school career counsellor, subject teachers.

Table 1

Thematic planning of first-year students' career guidance program for work-based learning

Topic	The aim	Achievable result and development of career management skills (CMS)
1. Social adaptation in the new environment	To develop an experience of mutual cooperation in new learning and living conditions	1) Able to understand changes and adapt to new circumstances. 2) Knows what guidance is available in an educational institution. *CMS: self-knowledge, self-esteem and self-development*
2. Get to know the chosen profession	To understand the opportunities and requirements of the industry's market	Knows the labour market requirements of the industry in the chosen profession and understands their importance. *CMS - an exploration of the profession*
3. Understanding of values	To promote a deeper self-knowledge	1) Is able to define his / her values and understand how they can be useful in the profession. 2) Knows that values need improvement *CMS: self-knowledge, self-esteem, self-development, and analysis of the results*
4. Defining of learning styles	To be able to evaluate one's abilities and created opportunities in the learning process	Knows learning styles and understands own learning style *CMS: self-knowledge, self-esteem, self-development, and analysis of the results*
5. My strengths and character traits that are useful for my profession	To be aware of own strengths and weaknesses	1) Able to discover and analyse own strengths and weaknesses. 2) Knows strategies for promoting self-esteem. *CMS: self-knowledge, self-esteem, self-development, and decision-making*
6. Formation of Digital Portfolio	To create and use a digital portfolio that will help the career decision-making	Able to create and enrich a digital career portfolio using the varied resources of ICT. *CMS: selection, analysis, compilation and visualization of information; self-knowledge*
7. Role of study subjects in the acquisition of a profession	To understand the importance of the study subjects in the acquirement of profession	Able to see the connection between the study subject and the profession. *CMS: occupational research in the field of study subjects*
8. Introductory day at the company	To give a concept about the specifics of work in the industry	1) Have a picture of the company where the training will take place. 2) Is aware of the tasks and requirements set out in the individual plan. *CMS: research into the world of work; decision-making; developing an action plan.*
9. Development of social skills for work-based learning	To promote the development of social skills and the ability to use them in the work environment.	1) Able to present oneself, make contacts and collaborate with colleagues in the work environment. 2) Is able to solve work-related problems. 3) Is able to improve the skills necessary to carry out work in the chosen profession. *CMS: self-knowledge, self-evaluation; decision-making, development of competencies.*
10. How to deal with doubts and uncertainty?	To be able to deal with doubts and make the right decision.	1) Know where to get career guidance. 2) Able to make informed decisions. *CMS: self-knowledge; study of labour market conditions in the sector; decision-making.*

The second topic, *'Get to Know Your Profession'*, allows first-year students to get to know the profession in more detail and get more accurate information about the job market in their chosen profession and the latest industry news. This usually takes the form of work-based learning, supervised by the manager from the school, and meetings with graduates and employers. Methods and forms of learning organization: presentations, narration, review, discussions, questions and answers. Responsible persons and implementers: school career counsellor, supervisors of work-based learning in the educational institution and representatives of employers.

The third topic, *'Understanding of Values'*, should be acquired by first-year students to enhance their understanding of the educational value, knowledge, skills, abilities, attitudes, and characteristics that they need to acquire and use in order to be successful in their chosen profession. Methods and forms of the learning organization: game of values, discussion and group work. Responsible persons and implementers: group teacher and school career counsellor.

The fourth topic, *'Defining of Learning Styles',* is a topical issue because students usually lack the skills to learn in new settings. During the lesson, students can learn about their dominant learning style and how it affects their learning and working in the group, as well as their relationships with others. Methods and forms of the learning organization: a test of learning styles, discussions, brainstorming. Responsible persons and implementers: group teacher and school career counsellor.

During the fifth topic, *'My Strengths and Character Traits'*, students learn to evaluate their strengths and weaknesses and to identify which traits should be further developed in their chosen profession. Students will be able to motivate themselves if they know their strengths and weaknesses. Methods and forms of the learning organization: SWOT analysis, individual work, discussions, role-playing games. Responsible persons and implementers: group teacher and school career counsellor.

Acquiring the sixth topic *'The development of Digital Portfolio'*, will enable the young person to create their own life story using information and communication technology tools such as the *YouRock* tool. It offers students the opportunity to show their various working skills, which are often "hidden" in their daily activities, and to name them in the language of their employers. Young people have the opportunity to create full-fledged, dynamic profiles on the *YouRock* website that give employers insight into their skills (YouRock, 2019). The development of portfolio is the individual work of each student. Responsible persons and implementers: group teacher, school career counsellor and computer science teacher.

Acquisition of the seventh topic *'Role of study subjects in the acquisition of a profession'* develops students' understanding of why a subject should be learned and how it will benefit them. It helps first-year students identify what skills they can develop and where they can be used to further their careers. Methods and forms of the learning organization: mind map on the importance of subjects in the chosen profession, visualization, situational games, brainstorming, discussions. Responsible persons and implementers: subject teachers.

The aim of the eighth topic, *'Introductory Day at the Company'*, is to introduce first-year students to the real world of work in the company so that they feel safe from the first day of studies. This is the student's first meeting with his / her learning manager at the company. The student is introduced to the individual plan for mastering the relevant work tasks, company' employees and work discipline. Methods and forms of a learning organization: study tour, presentations, and discussions. Responsible persons and implementers: management of companies and supervisors of the work-based learning in educational institution and companies.

The ninth topic, *'Developing Social Skills for Work-Based Learning'*, is needed to help students learn to collaborate with colleagues in the work environment, to engage in collective and independent problem-solving, and to learn how to achieve and how to motivate them self to reach them. Methods and forms of the learning organization: business games, group work, brainstorming, discussions, and mapping. Responsible persons and implementers: group teacher, school career counsellor and supervisors of the work-based learning in educational institutions and companies.

Acquisition of the tenth topic, *'How to Deal with Doubts'* provides individual career counselling to help students make informed career choices about their chosen profession and career development. Responsible persons and implementers: school career counsellors and career counsellors.

Expert Evaluation of the of first-year students' Career Guidance program

The authors wanted to find out whether pursuing a career guidance program would enhance first-year students' career management skills so that they could successfully integrate into work-based learning. Experts were therefore asked to evaluate it. Five experts with experience in vocational education (A, B, D), career guidance (B, C, D, E) and work-based learning (D, E) were involved in the evaluation of the career guidance program. Questionnaires were sent to the experts to assess the usefulness of the career guidance program for the adaptation of first-year students to work-based learning. The maximum possible score is 20 points per question.

Analysing expert evaluations, it should be noted that the first question of the experts' questionnaire "Does the theme of the classes facilitates the adaptation of the first-year students to the new learning conditions?", has the lowest total score, that is 18 of all questions. Two experts responded to this question with "rather than no". Expert C recommends attracting mentors from senior courses to help first-year students become more comfortable with the new learning and living environment.

To the second question, "Do the goals set for the classes match the results to be achieved?" all experts have given the highest rating - 4 points (yes), with the exception of experts C. This expert answered "Rather yes, than not", pointing out that research of sector-specific of the labour market is equally important in identifying its strengths and character traits (Topic 5) and dealing with their doubts and uncertainties (Topic 10). This would facilitate the process of individual consultations. The evaluation of both topics is three points. The other experts gave the highest rating – four points.

To the third question, "Are the proposed methods sufficient to achieve the goal?" expert C answered, "Rather yes than no". Expert C recommends using visualization techniques, such as creating a company portfolio as a poster. The other four experts have given the highest rating - 4 points.

Four experts gave the highest rating to the fourth question "Are the topics and number of lessons sufficient to support first-year students in work-based learning?" However, expert E has rated it with three points, stating that lessons need to be more practiced in the corporate work environment for first-year students to better understand which knowledge and skills are most needed to successfully integrate into work-based learning.

Four experts also gave the highest evaluation to the fifth question "Is the program generally acceptable and suitable for first-year learners in work-based learning?". However, expert C rated it with three points, stating that an annual survey should be conducted to understand the career needs of first-year students. This would give the opportunity to understand which career guidance activities are implemented in solving students' career issues.

Expert A has welcomed the lessons learned and recommends that this type of career guidance program be extended to third-year and fourth-year students to better prepare them for the transition from education to the labour market. Expert B is welcomed that it is designed for individual career counselling because they generally lack both time and professional competence of career specialists to carry out. In turn, an expert D notes that the topics promotes modular training system for secondary vocational education, where the module "Social and civic competences" offers similar topics. The expert evaluation's data were processed using the SPSS program and Friedman test (Table 2). This is a nonparametric test for several paired groups. The test is used for interval and ordinal scale data.

Table 2

Friedman test statistics

Test statistics	
Number (N)	5
Chi-Square	11.64
Degree of freedom (Df)	4
p - value (Asymp.Sig.)	0.20

The p-value $= 0.20 > \alpha = 0.05$, acquired in the result of secondary processing of the data allows concluding that there were no significant differences in ratings among the experts. Overall, the experts have highly evaluated the career guidance program for first-year students, which indicate that it is appropriate for the intended purpose.

Conclusions

The results of the study show that first-year students of secondary vocational education needs career guidance that facilitates their adaptation to new learning and living conditions - work-based learning and facilitates the development of the necessary career management skills:

- to promote deeper self-knowledge and self-exploration;
- to understand themselves as future professional;
- to understand the industry's market opportunities and requirements;
- to get to know profession in a real working environment;
- to develop the social skills needed for work-based learning;
- to be able to cope with the doubts and make the right decisions;
- to understand the role of learning in the profession and in career development;
- to obtain a diverse and high-quality learning experience in a real work environment.

This kind of career guidance provides more flexibility in the implementation of vocational education programs by acquiring theory in an educational institution and practical skills and competences - in an enterprise.

The content of the career guidance program underlines the need to engage and collaborate in its implementation with the teaching staff of the vocational educational establishment - group teachers, career guidance specialists (career counsellors and school career counsellors) and subject teachers, as well as with representatives of employers and the managers of work-based learning.

First-year students' career guidance requires the use of a variety of methodological techniques and forms of learning that develop communication and collaboration skills, self-presentation skills, and research and critical thinking skills to make the right decisions.

There is no significant difference in experts' evaluations for first-year students in career guidance. This indicates that career guidance program facilitates the integration of first-year students into work-based learning and enhances their career management competence.

Bibliography

1. Bronfenbrenner U. (1979). *The Ecology of Human Development: experiments by nature and design.* Cambridge: Harvard University Press.
2. *Darbības programmas "Izaugsme un nodarbinātība" 8.3.5. specifiskā atbalsta mērķa "Uzlabot pieeju karjeras atbalstam izglītojamajiem vispārējās un profesionālās izglītības iestādēs" īstenošanas noteikumi* [Operational Program "Growth and Employment" 8.3.5. Implementing Provisions for the Specific Support Objective "Improving Access to Guidance for Learners in Education and Training"]. (2016). Rīga: MK noteikumi Nr. 359. no 07.06.2016. Retrieved from https://likumi.lv/ta/id/283023 (in Latvian)
3. Elkonin D.B. (2011). *Detskaja psihologija* [Child psychology]. Moskva: Izdatel'skij centr „Akademija". (in Russian)
4. *EU Policy in the Field of Vocational Education and Training*. (2019). European Commission. Retrieved from https://ec.europa.eu/education/policies/eu-policy-in-the-field-of-vocational-education-and-training-vet_en
5. Gravina D., Lovšin M. (2012). *Career Management Skills: Factors in Implementing Policy Successfully*. ELGPN Concept note No. 3, Jyvaskyla: Finnish Institute for Educational Research. Retrieved from http://www.elgpn.eu/publications/browse-by-language/english/Gravina_and_Lovsin_cms_concept_note_web.pdf/
6. Greenhaus J.H., Callanan G.A., Godshalk V.M. (2009). *Career Management* (4th ed.). Thousand Oaks: SAGE Publications, Inc.
7. *Guidance: Supporting Youth to Manage Their Careers.* (2019). CEDEFOP. Retrieved from https://www.cedefop.europa.eu/et/printpdf/toolkits/vet-toolkit-tackling-early-leaving/intervention-approaches/guidance-supporting-youth-manage-their-careers
8. Hawkin P. (1999). *The Art of Building Windmills. Career Tactics for the 21st Century.* Liverpool: Graduate into Employment Unit.
9. Hojdal L. (2019). *Career Counselling. Themes and Methods.* Copenhagen: Libert Hojdal.
10. *Implementing a Holistic Approach to Lifelong Learning: Community Lifelong Learning Centres as a Gateway to Multidisciplinary Support Teams.* (2019). Lifelong Learning Platform, CEDEFOP. Retrieved from https://www.cedefop.europa.eu/files/2226_en.pdf
11. *Karjeras izglītība profesionālās vidējās izglītības iestādēs. Skolotāja rokasgrāmata* [Career education in vocational secondary education institutions. Teacher's Guide]. (2006). Rīga:

Profesionālās izglītības attīstības aģentūra. Retrieved from http://viaa.gov.lv/files/news/722/prof _karjeras_izgl_rokasgr_skolot.pdf (in Latvian)

12. Katane I., Katans E., Īriste S. (2016). Workplace-Based Learning in Theory and Dual System of Professional Education in Practice. In V. Lubkina, R. Bubnys (Eds.), The Proceedings of the International Scientific Conference *Society. Integration. Education*, Rezekne: RTA, 125-136. doi: 10.17770/sie2016vol1.1506

13. Knoff H.M. (Ed.). (2003). *The Assessment of Child and Adolescent Personality.* London: The Guilford Press.

14. Kuijpers M., Meijers F. (2017). Professionalising Teachers in Career Dialogue: an Effect Study. B*ritish Journal of Guidance and Counselling, 45*(1), 83-96. doi: 10.1080/03069885.2015.1121203

15. Kuijpers M., Meijers F., Gundy C. (2011). The Relationship Between Learning Environment and Career Competencies of Students in Vocational Education. *Journal of Vocational Behavior*, *78*(1), 21-30. doi: 10.1016/j.jvb.2010.05.005

16. *Lifelong Guidance Policy Development: A European Resource Kit.* (2012). The European Lifelong Guidance Policy Network. University of Jyvaskyla. Jyvaskyla: Saarijärven Offset Oy. Retrieved from http://www.elgpn.eu/publications/browse-by-language/english/ELGPN_resource_kit_2011-12_web.pdf

17. *OECD Skills Strategy Latvia: Assessment and Recommendations. OECD Skills Studies.* (2019). Paris: OECD Publishing. doi: 10.1787/74fe3bf8-en

18. *Par karjeras izglītības īstenošanas plānu valsts un pašvaldību vispārējās un profesionālās izglītības iestādēs 2015.-2020. gadam* [About the Career Education Implementation Plan for State and Municipal General and Vocational Education Institutions for 2015–2020]. (2015). MK rīkojums Nr. 821 no 30.12. 2015. Rīga: LR MK. Retrieved from https://likumi.lv/ta/id/278999 (in Latvian)

19. *Pašvērtējuma ziņojums izglītības programmu „Enerģētika un elektrotehnika. Elektronika. Telekomunikācijas. Programmēšana. Datorsistēmas, datubāzes un datortīkli. Autotransports. Metālapstrāde. Kokizstrādājumu izgatavošana" akreditācijai* [Self-assessment Statement for the Educational Programs "Energy and Electrical Engineering. Electronics. Telecommunications. Programming. Computer Systems, Databases and Computer Networks. Road transport. Metalworking. Wood Production" Accreditation]. (2018). Rīga: Profesionālās izglītības kompetences centrs "Rīgas tehniskā koledža". Retrieved from http://www.rtk.lv/?fails=1519905092.pdf (in Latvian)

20. *Procedures by which Work-based Learning is Organised and Implemented.* (2016). Rīga: Republic of Latvia, Cabinet of Ministers, Regulation No. 484. Retrieved from https://likumi.lv/ta/en/en/id/283680

21. Rācene A., Dislere V. (2014). Internet Tools as a Kind of Career E-Guidance. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference Rural Environment. Education. Personality (REEP), 7. Jelgava: LLU, 200-207. Retrieved from https://llufb.llu.lv/conference/REEP/2014/Latvia-Univ-Agricult-REEP-2014proceedings-200-207.pdf

22. *Reform of Educational Systems: European Policies for Lifelong Guidance to Fight Early School Leaving and Unemployment.* (2015). European Parliament. doi: 10.2861/608356

23. Rūtiņa K. (2019). *Karjeras attīstības atbalsts 1.kursa audzēkņiem darba vidē balstītās mācībās.* [Career Guidance for First-Year Students in Work-Based Learning]. (Master Thesis, Latvia University of Life Sciences and Technologies, Jelgava). (in Latvian)

24. Seven Questions about Apprenticeships. Answers from International Experience. (2018*).* In *OECD Reviews of Vocational Education and Training*. doi: 10.1787/9789264306486-en

25. Soika I. (2014). Development of Student's Career Management Competency in Vocational Secondary Schools. In A. Aboltins (Ed.), The Proceedings of the International Scientific Conference *Engineering for Rural Development*, *13*. Jelgava: LLU, 511–516. Retrieved from http://www.tf.llu.lv/conference/proceedings2014/Papers/87_Soika_I.pdf

26. Soika I. (2015). Entity of Dialogue in Career Guidance of Secondary Vocational Schools. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 8*. Jelgava: LLU, 338-346. Retrieved from https://llufb.llu.lv/conference/REEP/2015/Latvia-Univ-Agricult-REEP-2015proceedings-338-346.pdf

27. Soika I. (2017). Evolution of Dialogue for Students' Career Guidance in Secondary Vocational Education. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP), 10*. Jelgava: LLU, 481-488. Retrieved from https://llufb.llu.lv/conference/REEP/2017/Latvia-Univ-Agricult-REEP-2017_proceedings-481-488.pdf

28. *The Future of Education and Skills. Education 2030.* (2018). Paris: OECD Publishing. Retrieved from https://www.oecd.org/education/2030/E2030%20Position%20Paper%20(05.04.2018).pdf

29. *Work-Based Learning. A Handbook for Policy Makers and Social Partners in ETF Partner Countries*. (2014). Turin: European Training Foundation. Retrieved from http://www.etf.europa.eu/sites/default/files/ m/8EFD210012D6B04EC1257CE60042AB7E_Work-based%20learning_Handbook.pdf

30. *YouRock*. (2019). Retrieved from https://yourock.jobs/en

31. Zeer E.F. (2006). *Psihologija profesii* [Occupational Psychology]. Moskva: Akademicheskij project, Fond „Mir". (in Russian)

Goals of the Dialogue of Students Career Guidance in Vocational Secondary Education

Inita Soika Mg.paed.
Latvia University of Life Sciences and Technologies, Latvia
inita.soika@llu.lv

Abstract: Nowadays dialogue is recognized as one of the main tools for individual career development and life designing because encouraging reflection and decision-making. The intent of the dialogue has always been aimed at understanding. The main goal of dialogue of students' career guidance in vocational secondary education is to build mutual dialogical interaction among the students, teachers, employers, career professionals, and school leadership. Such understanding provides the basis for a common set of goals and direction on how to help students to explore the labour market, learn to plan their career and make the right decisions in work-based learning. The aim of the study was to assess the findings of theoretical and empirical cognitions and to analyse the goals of dialogue from several points of view in students' career guidance: first of all, the model of the fields of conversations of W. Isaacs is used to reveal how the dialogue is developing; secondly, - the stages of career guidance and, thirdly, - work-based learning for understanding the educational context of students' career development and life designing in vocational secondary education. A theoretical and empirical study was conducted. The empirical research was based on the methods of survey and experience reflection. There was used a survey questionnaire. The survey sample included 96 first to fourth-year students from six secondary vocational education schools of different regions of Latvia. During data processing the obtained results are statistically significant. Results show that only one-third of the respondents have established a dialogue with the career guidance stakeholders of secondary vocational education. Goal setting and achievement in dialogue development enables all career guidance professionals to understand, what support is needed for students of vocational education training schools. The hierarchical and successive nature of the goals in the development of the dialogue highlights the need for cooperation and common understanding among the persons involved in the development of students' careers.

Keywords: dialogue, goals, objectives, work-based learning, career guidance.

Introduction

Dialogue always causes change because occur mutual learning. This has been recognized by several dialogues' researchers in their studies (Bohm, 2004; Habermas, 2015; Peavy, 2004). The purpose of the dialogue is to transform and improve the current situation, which has been facilitated by the ability of involved persons to agree on a common understanding of the problem, common goals and actions. For all that, the daily situation of career guidance in vocational secondary education shows that, due to different circumstances, there is no deliberative dialogue between students and organizers of career guidance - teachers, school management and potential employers. Engaging in dialogue indicates persons' awareness and interest in solving problems. In this way, they acquire new knowledge, experience, and attitude. It is a learning process in which individuals are constantly and responsibly exploring themselves, nature and society. This process is facilitated by social interactions and the responsiveness of the surrounding community (Pedagoģijas terminu skaidrojošā…, 2000). It can also be applied to the dialogue on support for the career development of students in vocational secondary education, where the acquisition of a profession takes place in work-based learning (ESF projekts…, 2019).

In essence, the goal is the desired outcome of the action, which is sought to achieve, and which gives direction to a particular action and expresses its meaning. The goal is the basic tool that underpins all planning and strategic activities. Precisely defined goals are the rationale and result of any action. They must be specific, measurable, achievable, realistic and limited in time (Doran, 1981).

Goals can be strategic, closer and concrete (Pedagoģijas terminu skaidrojošā…, 2000). *Strategic goals* are comprehensive and general. They indicate direction and desired result, provided the person or group of people and accompanied by all the efforts to achieve it. In addition to the desired result, such a generalized goal includes plans and commitments that will ensure that the goal is fruitful. *The closest*

goals describe the turning points in the overall progress towards the strategic goal. *The specific objectives* are targets that result from a specific quantitative or qualitative result (Pedagoģijas terminu skaidrojošā…, 2000). The specific objectives are what an individual or group plan to do or achieve within a given time period with available resources and allows them to feel more motivated when they are achieved and when they are approaching strategic goal that at first may seem very difficult to reach. Such a hierarchical breakdown of goals is also used in this study because dialogue as a process involves different types of conversations that contribute to achieving the desired outcome in the students' career guidance. Every goal, including the goals of dialogue, has an impact on both the individual and the processes in the environment. The *strategic goal of the dialogue* is to promote cooperation between persons involved in students' career guidance of secondary vocational education in order to advance their career development and life designing.

The aim of the study is to explore and evaluate goals of the dialogue in students' career guidance of secondary vocational education.

Methodology

The goals of the dialogue in the career guidance of students are described based on the stages of career development in vocational secondary education. The study sets out the goals and objectives of the dialogue, integrating them into the W. Isaacs' model of conversational fields (Isaacs, 1999). This model shows how dialogue is developed through different types of conversation and thinking.

The following research questions were raised in order to assess the goals of the dialogue on student career guidance in vocational secondary education: 1) what goals are needed to develop in the dialogue of student' career guidance in vocational secondary education? 2) What are the benefits of achieving the goals of the dialogue on student career guidance in vocational secondary education?

The methods of the research: 1) studies, analysis and evaluation of scientific literature; 2) reflection on experience; 3) questionnaire of 96 first to fourth-year students from six secondary vocational education schools of different regions of Latvia participated in the survey. A total of 1487 answers of students were evaluated. The survey questions were chosen according to the traits of the conversational fields of W. Isaacs' model (Figure1). Student responses indicated which stage of dialogue they are in. Student confidence was assessed as one of the basic conditions for dialogue. Based on the characteristics of each field of conversation and the educational context in which the student's career guidance takes place, it was possible to determine what the goals of the dialogue are necessary for the students' career development and life designing.

Results and Discussion

Goals of the dialogue points to the benefits those are associated with the expectations that will be filled when the goals will be achieved. Building of confidence among participants is one of the key benefits of moving towards the goals of dialogue. It is the basis for mutual cooperation, conflict resolution, promoting reflection, and inspiring new, creative ideas and actions. The four conversations' fields that define the goals of the dialogue are described below. Goals of dialogue are shown in Figure 1. Survey data reveal students' views on whether they confide to persons involved in career guidance - teachers, peers, career counsellors, school leaders, and practice' mentors in enterprises.

Twenty-five percent of the answers given by students show that they are not ready to talk about their future intentions with persons involved in career guidance because they are not sure whether they currently acquire the right profession; they don't know what they really want; they are afraid to make a mistake in the presence of others; they do not trust own future dreams and aspirations to others (Isaacs, 1999). This is the first field of conversation in which the *downloading of dialog* takes place. In the case of a career dialogue, the concept of downloading is to be understood as sending information from major objects to smaller individual units. It may be informed what students receive from persons involved in providing his or her career guidance. Based on the findings of W. Isaacs (Isaacs, 1999), the first field of conversation is characterized by unstable and volatile communication. There is mutual distrust and extremely low energy of dialogue because individuals have quite different expectations. They don't disclose what they really think and feel, but they talk about what the others want to hear. Only a single monologue of

individuals gives the opportunity to move on to the debate others (Isaacs, 1999). Based on the characteristics of this field, it can be assumed that the goal of the dialogue is to animate the conversation and form the basis for the development of dialogue. D.R. Traum and J.F. Allen (Traum, Allen, 1992) write that it means inviting various persons to start tackling acute issues. It means to encourage students and involved persons in conversation. The *objectives* of this field of conversation are two: firstly, to be polite and to refer to a formal conversation; secondly, to get information from the persons involved in the dialogue in order to understand the nature of the communication. The *benefits* of the involved persons in achieving the goal of the dialogue in the first field are as follows: as seen, heard and experienced, they are aware that collaboration can contribute student' career development and life designing (Figure 1).

Eighteen percent of students' statements suggest that there has been a desire to express their views on issues related to their career and future intentions. It is - _debate_ - the second field of conversations others (Isaacs, 1999), where students begin to dare to say what they think, even if it is not like the others, and each maintains own position; but if the person is convinced, he can also change his mind. This means that there are debates with both him and others. They begin to listen to others (Isaacs, 1999). Participants of the conversation start adapting to a particular environment. They have a desire to take their position because everyone has an opinion, but they are more concerned about how to express their opinions than to challenge the opinions of others. It does not help to solve the problem, because it does not create confidence and expectations that are essential for stimulating reflection. P. Senge (Senge, 2006) and C.O. Scharmer (Scharmer, 2016) emphasizes that debate forms a space of conversation for a new agreement. But persons have to feel confident, so that to change their view. D. Boom (Bohm, 2004) recommends helping them stop expressing their opinions. It means that the individual should receive timely, quality support that helps to move to space of collective reflection (Isaacs, 1999). When the participants of the conversation guess that the problem has to be solved, a secure dialogue space is emerging. So, the goal of the secondary field of conversations is to create and develop a debate that encourages thoughtful dialogue (Figure 1). It means that the objective of involved persons is to explore the differences of opinion and find out what is each person's participation in the researched issue. Based on common values, in this way overcomes the disagreements that hinder the development of a coherent flow of thoughts and actions. The benefits of involved persons are as follows: firstly, the students themselves guess that their issues of career developing need to be addressed; secondly, both students and involved persons are beginning to discover what they really think and feel; thirdly, engaging in debates with self and others makes aware of the different points of view; fourthly, - learn to think about the wrong processes and look for new solutions; fifthly, there is a desire to continue the dialogue. P. Senge (Senge, 2006) and C.O. Scharmer (Scharmer, 2016) believes that the second field is most complex on the way to a common understanding. But, when the participants begin to really understand the need for mutual communication, they try to invest a variety of resources in the development of dialogue in order to avoid polarization of opinions and end the difficulties. Debates can develop from different types of conversation. D.N. Walton and E.C.W. Krabbe (Walton, Krabbe, 1995) note that conversations are the ones that confirm the need for cooperation among the parties involved in the dialogue. The main goal of conversations is to reach an agreement, but goal of the participants is to get the best and most desirable result for themselves. Based on findings of D.N. Walton and E.C.W. Krabbe (Walton, Krabbe, 1995), one can assume that the second field of conversation fits well: persuasion dialogue or critical discussion - because each participant's objective is to convince each other, gradually revealing own position in order to understand whether is necessary to develop further cooperation; information-seeking dialogue, whose objectives are to acquire, transfer and demonstrate personal knowledge as well as eristic discussion, whose objective is to explore the temporary relationship. However, the participant's goal can also be to ignore others when he/she no longer continues to engage in dialogue. Here *deliberative dialogue* fits well (London, 2005) - a form of discussion where different options are considered before committing themselves to a certain way. D. Hitchcock, P. Mcburney and S. Parsons (Hitchcock, Mcburney, Parsons, 2001) write that it is essential for all parties involved in the dialogue to find the best course of action in which the issue under the discussion is "What should we do?", because goal is not so much to solve problem, but explore the most promising ways to act and decide what to do. Although deliberative dialogue cannot create consensus, it can still create collective insights and judgments that reflect the group's overall thinking. Such type of dialogue is necessary for activities related to the future.
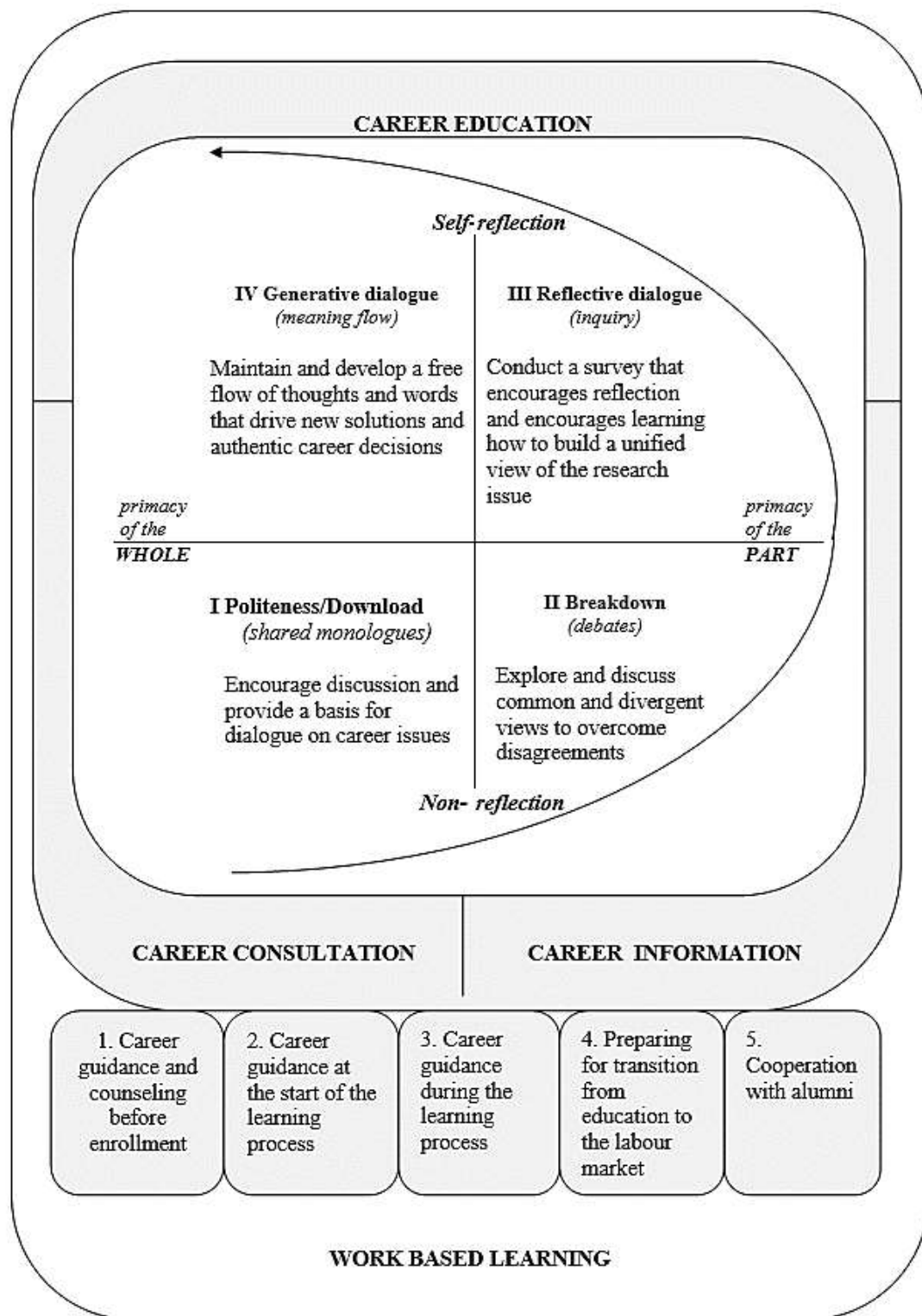
Figure 1. Goals of the dialogue of students' career guidance in the work-based learning.

Twenty-two percent of students' answers indicate that when dealing with their careers, they start to ponder and understand why they do something. They have a curiosity and desire to learn more about their profession, and to study their own assumptions and the nature of their behaviour; they can safely talk about their future plans and justify their thoughts and beliefs. This is the third field of conversations, in which *reflective dialogue* takes place (Isaacs, 1999). Based on the cognitions of P. Senge (Senge, 2006) and C.O. Scharmer (Scharmer, 2016) about the processes in the third field of conversation, can assume that goal of the dialogue is to conduct a questioning that encourages reflection and provides an opportunity to form a unified view of the subject under investigation.

D.N. Walton and E.C.W. Krabbe (Walton, Krabbe, 1995) points out that inquiry among participants of dialogue teach each other to get new experience and knowledge, which gives more opportunities to come to an agreement. It follows that the goal of a third conversational field is to learn to build a single, meaningful perspective on the issue under consideration (Figure 1). It finally shows a stable and secure environment for dialogue, in which the participants are ready to recognize the things they do not know. They begin to listen and understand the different views and seek a common framework of principles for further development of the dialogue. They are ready to test their personal bias, as well as change their opinion if they are confronted with convincing and substantiated information (Isaacs, 1999). There are several benefits for the involved persons: their understanding becomes clearer, because they are influenced by the judgments of others and reflected upon; they are able to think from different perspectives; increasing the ability to talk across different points of view, until to begin to speak and listen in a way that allows to connect different points of view and to create a new unified whole view; they start to focus thinking on qualitative solutions of the problem. This would encourage an appreciation of the values and interests of the dialogue' participants in the in order to facilitate the students' right career choices (Racene, Dislere, 2019).

In turn, thirty-four percent or 506 students' responses indicate features of _creative dialogue_ – a fourth field of conversation. Based on the cognitions of W. Isaacs (Isaacs, 1999), students trust the people involved in the dialogue when dealing with their career and future intentions, because together they are looking for the best solutions. Opinions of others are important to them, even if they are different. They listen carefully to what others say and try not to criticize and discuss; they enjoy the silence when occur thinking about a common issue and coming to a completely new solution; they see and feel that their thoughts and questions are important not only to themselves but also to those who they trust (Isaacs, 1999). There is a commitment to active listening and a collective and meaningful search for problem-solving, in which any expression of judgment is halted. There is mutual respect here; each participant comes up with his or her authentic voice (Scharmer, 2016; Walton, Krabbe, 1995). The goal of the dialogue is the free flow of thoughts and words, which leads to new solutions. The objectives of this field of conversation are fellows: to understand things holistically. Participants of dialogue are self-motivated to create new rules for maintaining and developing harmonious mutual cooperation. It means to find and explore the most relevant options for action. _The benefits_ of the involved persons are as follows: they are fully aware of their participation in the dialogue and are truly interested in resolving issues. They discover that what is being said affects other participants; they are aware that the group's mood and climate change from the goals and responsibilities of each participant to the team's overall goals and responsibilities.

It can be concluded from the results of the study that 1/3 or 506 of the students' answers show that they have established a reliable mutual dialogue with the persons involved in career guidance. They are in the field of creative dialogue. However, 1/4 or 378 student responses show that there has been no dialogue with persons involved in career guidance. It means that there is a need for systematic pedagogical and career support, in order to clarify with students' learning goals and motivation. Research data show that students are most likely to trust their school and group members (20.7 %), group' teachers (20.5 %), subject teachers (15.8 %) and teachers of practical works (13.8 %), but the least - to practice teachers at enterprise (5.1 %), school management (6.8 %) and career counsellors (7.5 %). So, a weakest dialogical link is with persons, who have the task of coordinating long-term collaboration in students' career guidance (_Killeen, Kidd,_ 2005) and developing recently started work-based learning (Procedures by which…, 2016).

Exploring the nature of W. Isaacs fields of conversations, it can be recognized that such development of dialogue has been observed in any educational situation - whether it be a lesson or practice, or any other training episode in which the students takes on new and/or repeats the acquired knowledge and skills, they may be surprised by the expansion of new knowledge, going deeper into case studies. It is not even important in which year the student is studying, but his experience is another that helps to make a more meaningful understanding of his career development and life designing. Such development and achievement of the goals of dialogue is possible in work-based learning, which is gradually being implemented in Latvia vocational secondary education since 2013/2014 (ESF projekts…, 2019). It involves four stakeholders - learners, entrepreneurs, vocational education establishments and the Latvia government (Vjakse, 2019) to develop mutual cooperation and dialogue. Number of benefits can be expected from such a dialogue. For example, students have the opportunity to acquire a profession in the real workplace and

knowledge according to the latest trends in the industry. In turn, entrepreneurs get to know the student and assess his compliance with profession and enterprise. Vocational education establishments are starting to develop curricula in collaboration with enterprises, in line with labour market requirements; to identify those students who are not interested in acquiring the concerned profession and seek the opportunity to offer them other education programs. But the Latvia state acquires the formation of an education system focused on adapting the skills and interests of each student to the labour market. This saves essential resources in a timely manner by identifying career aspirations and opportunities by channelling the young person to the career stage that is most suitable for him. Thus, it can be assumed that work-based learning could be a secured basis for systematic students' career guidance, involving responsible persons - teachers, school leaders, and school collaborators. Creating this kind of mutual cooperation will help to reveal how open the student and other responsible persons of career guidance are to make a dialogue.

Therefore, the goals of dialogue should be assessed in the context of career guidance of vocational secondary education (Karjeras izglītība profesionālās…, 2006) (Figure 1). In the first phase "Career Guidance and Counselling before Enrolment" takes young people providing with the necessary information about opportunities to acquire the chosen profession. It means that the information available can be perceived in a variety of ways, as well as being located and operating in an environment where this information is located. In this way, young people will make sure that joining and learning in relevant vocational education institution will ensure their expectations of acquiring professional qualifications and career opportunities (Karjeras izglītība profesionālās…, 2006). So, the goal of the dialogue at this stage is to obtain assurance about the right career choices.

In the second stage, "Career Guidance at the Start of the Learning Process" focuses mainly on the adaptation of first-year students to new learning and life situation, so that they understand their learning motivation as well as learn about the specifics of the chosen profession (Karjeras izglītība profesionālās…, 2006) (Figure 1). Successfully organized measures of career guidance during the adaptation period ensure the harmonious development of the students' personality. Therefore, the goal of the dialogue is self-knowledge and mutual communication in a new learning environment. Self-knowledge is necessary to make decisions about further career choices. Finding himself, the student is easier to select career-related information and evaluate what is suitable for them. This information at the later stages of career guidance will help to identify career alternatives and will be useful in different stages of professional life transitions.

In the third stage, "Career Guidance during the Learning Process", career development opportunities are selected in the chosen professional sector. It is important for students to provide information about the world of work; to acquaint with the labour law and standard requirements in the chosen professions; motivate to create or continue to supplement own portfolio as well as to promote the willingness to make independent decisions in the planning and management of the chosen career. It is very important to ensure the availability of groups and individual counselling, in order to solve personal and social problems as well as problems of learning (Karjeras izglītība profesionālās…, 2006). Therefore, the goal of dialogue is to purposefully explore, ask and weigh in order to better understand own career planning opportunities. In the fourth stage "Preparing for Transition from Education to the Labour Market" is related to practical training and practice in the workplace where potential employers help to understand the demands of the industry (Karjeras izglītība profesionālās…, 2006). At this stage, students develop job searching skills that include communication skills, applied drafting skills and ability to work with information sources. It follows that the goal of the dialogue is mutual cooperation between schools and entrepreneurship in which all parties to form a common understanding of the relevant security placements where students can successfully perform training tasks and gain useful skills of their professional qualification.

The fifth stage of the "Cooperation with Alumni" refers to the fact that students' cooperation with vocational secondary education establishments after graduation does not end, but to move to another level. They become a school' collaboration partners from the industrial sector or colleagues, who are working in vocational education. As representatives of the industry, they are invited to participate in the implementation of the educational content - they meet with students in career guidance activities; becoming entrepreneurs, they run student practices; assesses students' professional competencies in qualification examinations; provides recommendations for improving educational content, etc. (Karjeras izglītība profesionālās…, 2006). Therefore, the *goal of the dialogue* is linked to the goal of the upstream dialogue, but the goal should be based on work-based learning in sustainability.

The stated goals of the dialogue at all the above-mentioned stages of career guidance are achievable by providing career information, education, and counselling, thus facilitating the choice and acquisition of profession corresponding to the student's abilities and interests, as well as developing the competence to independently manage own career.

Conclusions

- The obtained theoretical and empirical findings suggest that meaningful dialogue in students' career guidance of vocational secondary education contributes to the formation of common understanding and coordinated actions among the persons involved in dialogue with a point to find the best solutions for career planning and life designing of the students.

- The defining of dialogue goals of students' career guidance in vocational secondary education shows that it is a complex set of activities involving persons from both the educational and the business environment. For lunch, it is a long-lasting process, starting with the support of applicants and ending with collaboration with schools' graduates. Therefore, goals of dialogue have a hierarchical and successive nature. Such goal-setting points to the quality of the dialogue - how mutual co-operation and a common understanding of students' career and life planning have developed.

- Focused dialogue in students' career guidance teaches stakeholders to understand each other and to see a broader and clearer range of career issues. This would be difficult to achieve if career issues were addressed by the students themselves or by a small number of persons who are involved in the organization of career guidance.

- Achieving the goals of dialogue in students' career guidance of vocational secondary education gives two persistent benefits for all - firstly, students are aware and understand that engaging in dialogue helps to cope with learning and self-awareness as well as researching of labour market with a purpose to understand how to plan their career in the chosen profession. Secondly, the responsible involved persons - teachers, school management and stakeholders - will see the point of investing their time and resources in the education of young professionals.

Bibliography

1. Bohm D. (2004). *On dialogue* (2nd ed.). New York: Routledge.
2. *Doran G.T. (1981). There's a S.M.A.R.T. Way to Write Management's Goals and Objectives. Management Review*, *70*(11), 35-36*.* Retrieved from https://community.mis.temple.edu/mis0855 002fall2015/files/2015/10/S.M.A.R.T-Way-Management-Review.pdf
3. *ESF projekts «Profesionālo izglītības iestāžu audzēkņu dalība darba vidē balstītās mācībās un mācību praksēs uzņēmumos» Nr. 8.5.1.0/16/I/001 atbilstoši SAM 8.5.1.* [ESF project «Participation of vocational education students in work-based learning and training practices in enterprises» Nr. 8.5.1.0/16/I/001 according to SAM 8.5.1.]. (2019). Retrieved from http://www.lddk.lv/projekts /darba-vide-balstitas-macibas/ (in Latvian)
4. Habermas J. (2015). *Communication and the Evolution of Society*. Hoboken: John Wiley & Sons.
5. Hitchcock D., Mcburney P., Parsons S. (2001). A framework for deliberation dialogues. In H.V. Hansen, R.C. Pinto, C.W. Tindale, J.A. Blair, R.H. Johnson (Eds.), Proceedings of the Ontario Society for the Study of Argumentation Conference *Argumentation and its Applications*, *4*. Retrieved from https://scholar.uwindsor.ca/cgi/viewcontent.cgi?article=1642&context=ossaarchive
6. Isaacs W. (1999). *Dialogue and the Art of Thinking Together: A Pioneering Approach to Communicating in Business and in Life.* New York: Crown Business.
7. *Karjeras izglītība profesionālās vidējās izglītības iestādēs. Skolotāja rokasgrāmata* [Career education in vocational secondary education institutions. Teacher's Guide]. (2006). Rīga: Profesionālās izglītības attīstības aģentūra. Retrieved from http://viaa.gov.lv/files/news/722/prof _karjeras_izgl_rokasgr_skolot.pdf (in Latvian)
8. Killeen J., Kidd J.M. (2005). The Career Service. In A.G Watts, B. Law, J. Killeen, J.M. Kidd, R. Hawthorn (Eds.), *Rethinking Careers Education and Guidance: Theory, Policy and Practice.* London and New York: Routledge, 99-109.

9. London S. (2005). The Power of Deliberative Dialogue. I*n* R.J. Kingston (Ed.), *Public Thought and Foreign Policy: Essays on Public Deliberations about Americans' Role in the World.* Dayton: Kettering Foundation Press, 85-102.

10. Peavy R.V. (2004). *Sociodynamic Counselling: A Practical Approach to Meaning Making*. Chagrin Falls: Taos Institute Publications.

11. *Pedagoģijas terminu skaidrojošā vārdnīca* [Glossary of pedagogical terms]. (2000). Rīga: Zvaigzne ABC. (in Latvian)

12. *Procedures by which Work-based Learning is Organised and Implemented.* (2016). Rīga: Republic of Latvia, Cabinet of Ministers, Regulation No. 484. Retrieved from https://likumi.lv/ta/en/en/id/283680

13. Racene A., Dislere V. (2019). Choice of a Value Identification Method in Career Counselling. In V. Dislere (Ed.), the Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *12*. Jelgava: Latvia University of Life Sciences and Technologies, 289-296. doi: 10.22616/REEP.2019.038

14. Scharmer C.O. (2016). *Theory U: Leading from the Future as it Emerges*. Oakland: Berrett-Koehler Publishers.

15. Senge P.M. (2006). *The Fifth Discipline: The Art and Practice of the Learning Organization*. New York: Doubleday.

16. Traum D.R., Allen J.F. (1992). A "Speech Acts" Approach to Grounding in Conversation. In J.J. Ohala, T.M. Nearey, B.L. Derwing, M.M. Hodge, G.E. Wiebe (Eds.), *ICSLP 92 Proceedings: 1992 International Conference on Spoken Language Processing*, Edmonton: Priority Printing, 137-140. Retrieved from https://www.isca-speech.org/archive/archive_papers/icslp_1992/i92_0137.pdf

17. Vjakse J. (2019). *Darba vidē balstītas mācības* [Work based training]. Retrieved from https://viaa.gov.lv/library/files/original/DARBA_VIDE_BALSTITAS_MACIBAS_DVB.pdf (in Latvian)

18. Walton D.N., Krabbe E.C.W. (1995). *Commitment in Dialogue: Basic Concepts of Interpersonal Reasoning*. Albany: State University of New York Press.

Teacher's Prestige in Contemporary Czech Society

Katerina Tomsikova[1] Ing.; **Karel Tomsik**[2] Ing., PhD; **Karel Nemejc**[3] Ing., PhD
Czech University of Life Sciences Prague, Faculty of Economics and Management
Institute of Education and Communication, Czech Republic
tomsikova@ivp.czu.cz[1]; tomsik@pef.czu.cz[2]; nemejc@ivp.czu.cz[3]

Abstract: Since the last third of the 20th century, schools have been losing their exclusive position of a place of acquiring education. However, education is much more beneficial for current, so called "knowledge society", if we are able to enforce it. Educational system in the Czech Republic (CZ) has undergone essential transformation during last 15 years; a significant decentralization has occurred in regional education. The current aim following the Strategy Europe 2020 is to improve results and motivation of pupils and students at all levels of the educational system; an accent is given also to development of education based on lifelong learning conception. The article is dealing with the problematics of teacher's prestige. The results show that one of possible reasons for lowering teachers' prestige may be their low remuneration. In this respect, could improve the current situation as well in financing schools according to number of students and hours taught since 2020. Another reason is lower respect of teachers by students and their parents. The state should actively solve the situation by implementing rules to protect the school and teachers from the negative behaviour of students. Personality of the teacher will remain an equally important aspect.

Keywords: education, knowledge society, regional education, prestige of teachers.

Introduction

Since the last third of the 20th century, school has ceased to serve as an exclusive place for acquiring education as society also shares education through media and the Internet. However, education is the more useful for the contemporary society – referred to as "knowledge society" – the more it is made use of. The first reflections on the knowledge society were formulated by American sociologist Robert R.E. Lane (1966), who claimed that, as a result of a general expansion of education, pure science, along with technical knowledge, would soon supersede all ideological prejudices and political stereotypes and would become part of people's everyday life. To describe such society, R.E. Lane coined the term "knowledgeable society". D. Bell (1975) used the term "industrial society", referring to a society in which knowledge becomes a central productive factor, a critical source for creation of values, and a major drive of economic growth. D. Bell considered in particular theoretical knowledge to be a fundamental axis of the development of technology and economic growth. However, knowledge is more than information. Knowledge makes it possible not only to filter data that have information value from a large pool of data. Knowledge is a comprehensive from of how we explore the world – its recognition, understanding, comprehension (Liessmann, 2006, 23). First, education was understood as a programme of self-education of people, formation and development of body, spirit, and soul, talent and gift that should lead people to the development of individuality and confident participation in the life of the community and its culture (Liessmann, 2006, 39).

The last quarter of the 20th century saw major shifts in social and economic contexts in which education is to be applied. However, the current practice still focuses on utility – for the individual, for the economy, for society. This is legitimate in certain areas, and no system of education can be blamed for striving for this kind of utility. But if education is reduced only to that which is useful, if only that which can be utilized receives funding, if everything is viewed from the perspective of usability, young people in schools and universities have no chance to get acquainted with things just for their own sake, to be fascinated by an object, to curiously pose questions even when no answers follow or they cannot be used in their careers (Liessmann, 2014, 132). In this perspective, an important role of the teacher must be taken into account. There are many factors influencing teacher´s quality and hence his or her prestige. If work-life balance is in the conflict state and the teacher is not satisfied with his work, the educational institution may suffer adverse consequences (Gedviliene, Didziuliene, 2019, 262). On the other hand, some findings stress the necessity to systematically upgrade teacher´s knowledge and understanding of the subject area

(Muzafarova, 2019, 281). B. Holmes (Holmes, 2003, 192) raises a question concerning the nature of teacher´s basic function. Should he or she be the conserver of the tradition and mediator between one generation and the next or a dynamic element in a changing society? Regardless of which approach the teacher prefers, his or her prestige is shaped in a different way. According to H. Domanski, prestige is allocated to other people for their intelligence, knowledge and good looks, social roles they fulfil, occupational positions they take and life achievements they attain (Domanski, 2015, 11).

Current changes in education and the system of education in the Czech Republic

In the past 15 years, the institutional anchoring of the school system has undergone a radical transformation. Regional education has experienced a major decentralization, consisting in the transfer of competences from the central level of state administration to the level of regional and municipal administration. The introduction of a two-tier curriculum was yet another change; it replaced instruction based on previously used teaching documents with a more flexible instruction based on School Educational Programmes, which each school devised on the basis of the Framework Educational Programme (hereinafter referred to as "FEP"). Since 2011, the Czech Republic has implemented a state school-leaving examination and, since 2015, a unified apprenticeship examination. In the 1990s, secondary schools and vocational schools faced a steep decline in the number of students. Regional authorities carried out a so-called optimization of the network of secondary schools in the Czech Republic. The process continued at different rates in individual regions and it is currently being evaluated.

The year 2019 is the fifth year of the implementation of the Strategy for Education Policy of the Czech Republic until 2020 (hereinafter referred to as the "CZ Education Strategy"). It is based on the main economic reform agenda of the European Union the Europe 2020 Strategy, which replaced the Lisbon Strategy. Following an assessment of the state of the education system in the Czech Republic, the CZ Education Strategy stipulated three key priorities, namely reducing inequalities in education, supporting quality teacher education, and responsible and efficient management of the education system (Strategy for Education Policy…, 2019, 3).

The implementation documents of the CZ Education Strategy also include the Long-Term Plan of Education and Development of the CZ Education System 2015–2020 (hereinafter referred to as the "Long-Term Plan"). It aims to further improve the quality of vocational education and puts emphasis on the intensification of cooperation between schools, employers and branches of the Labour Office. One of the ways to improve the position of graduates on the labour market could be a systematic linking of FEP to the National Register of Qualifications, which reflects current as well as prospective requirements of employers. The Long-Term Plan also includes a chapter called "Education for Sustainable Development" (Dlouhodobý záměr vzdělávání…, 2019, 12-13).

How much of a priority education is for different countries is reflected, among other things, in how much a given country spends on education as a percentage of GDP. According to the OECD annual survey, the results of which are published in Education at a Glance and which, using selected indicators, compare the education system in OECD countries, the Czech Republic spent 4.4 % of GDP on education in 2012. The OECD average is 5.3 % of GDP. In terms of total public spending on education, the OECD average is 11.6 % of total public spending. The Czech Republic, which spends 8.9 %, is well below the OECD average. Regarding unemployment by educational attainment level, the Czech Republic has one of the lowest unemployment levels of tertiary-educated adults (2.6 %) among OECD countries, and it also has one of the biggest differences in unemployment between people with lower than secondary education (20.7 %) on the one hand and people with higher secondary and post-secondary non-tertiary education (5.4 %) or tertiary education (2.6 %) on the other hand (Education at a Glance, 2019, 18).

Teacher's prestige

The research entitled "Analysis of Prerequisites and Educational Needs of Educators for the Improvement of Their Work", conducted by the Ministry of Education, Youth and Sports (hereinafter referred to as "MSMT") in 2009 showed that also teachers believed that the prestige of their profession would increase if they were paid better (32 % of respondents), that it was MSMT, which should take responsibility for increasing of the prestige (25 %), and that the importance of the teaching profession should be supported by the media (15 %). On the other hand, the same number of teachers contacted for

the research said that it was the teachers and teacher associations who should primarily be responsible for increasing the prestige of the teaching profession. The least number of teachers (10 %) believed that no special effort was needed to increase the prestige – every teacher has the prestige they deserve (Analýza předpokladů…, 2009). The fact that teachers mentioned low remuneration as the most important factor is in line with an OECD survey (Education at a Glance…, 2019, 34), which showed that in OECD countries, teachers in pre-primary and primary education receive 78 % of the average salary of professionals with a similar level of education, in case of lower secondary education it is 80 % and in case of upper secondary education it is 82 %. In the Czech Republic, teachers in primary and lower secondary education receive just 52 % of the average salary of a professional with a similar level education, in case of upper secondary education it is 56 %.

The aim of the study is to compare opinions of our respondents on the position of teachers at primary schools and universities with those of public. Further, to clarify on what basis they asses the prestige of the teaching profession and what changes (for better or worse) they perceive at primary school and university teachers. For selected respondents, another aim was to find out their opinion on the position of a teacher at a secondary school. This topic has been researches also by M. Köller, M. Stuckert and J. Möller, who stated that "The prestige of the teaching profession in society influences the high school graduates' choice of education as a course of study and teachers' job satisfaction" (Köller, Stuckert, Möller, 2019, 1).

Methodology

The article draws on a longitudinal survey of the Public Opinion Research Centre, Institute of Sociology of the Czech Academy of Sciences (hereinafter referred to as "CVVM SOÚ AV ČR") entitled "Prestige of Occupation" conducted since 2004 and repeated in 2007, 2011, 2013, and 2016 (Prestiž povolání…, 2019). Its respondents were students of the 3rd year of the field "Counselling in Vocational Training" in full-time form of study (N = 33) and in part-time form of study (N = 30), hereinafter referred to as "POV/K" (N = 63). The survey was conducted in October 2019. As part of the CVVM SOÚ AV ČR survey, all respondents received a list of twenty-six professions from which they were asked to select the professions for which they had most respect, and award them points according to instructions. The most prestigious place (since 2004) has consistently been occupied by the profession of doctor of medicine, followed by scientists; since 2011, nurses have repeatedly placed third, teachers at university have placed fourth and teachers at primary schools have placed fifth. The respondents were supposed to answer four questions; students of the part-time form of study also commented on two other questions concerning the position of teachers at secondary school. This was because these students were older people who had more experience not only with education, but they also had own work experience and had been following the development in society for a longer period of time.

Results and Discussion

The following hypotheses were proposed:
- H_1: Students of POV/K will assess the position of teachers at primary schools and universities same as respondents in the survey.
- H_2: Prestige of teachers at primary schools and universities is affected by the fact that they educate pupils and students.
- H_3: According to students of POV/K, the position of teachers at secondary schools will be similar to that of teachers at primary schools and universities.

The first hypothesis was tested as the first step. Median values clearly show that students of POV/K chose the same position for teachers at university (position 4.) and primary school (position 5.) like the respondents of the CVVM SOÚ AV ČR survey. H_1 was confirmed.

Next step was to find out which profession the POV/K students consider to be comparable to that of a teacher at a university and a primary school.

The Table 1 shows that respondents consider scientists to be a comparable profession to that of a teacher at university (because also teachers at university conduct research), followed by the profession of judge (because both professions have an impact on the lives of others and must be just). The profession of nurse

is comparable to that of teacher at primary school (because both professions help and have responsibility) and police officer (because they provide people with basics for life, show how a person should behave).

Table 1

Professions comparable to that of teacher at university and primary school

Place	Opinions of students of POV/K			
	Professions comparable with the position of teachers			
	At university	Frequency in %	At primary school	Frequency in %
1st	Scientist	52	Nurse	14
2nd	Judge	25	Police officer	16
3rd	Other	23	Teacher at university	70

In order to verify the second hypothesis, it was necessary to find out the circumstances that most affect the position of a teacher at a university (Table 2) and a primary school (Table 3).

Table 2

Circumstances that have the biggest impact on the position of teacher at university

Place	Opinions of students of POV/K	
	Circumstances	Frequency in %
1st	Has a university education	24
2nd	Teaches future university graduates	10
3rd-4th	Has deep knowledge	8
3rd-4th	Has to further educate oneself	8
5th	Conducts research and publishes results	6
6th	Has a good salary	5
7th	Other (has practical knowledge and experience, prestige, must be responsible, there is a shortage of such)	39

Respondents consider the fact that teachers at university have a university education, which they believe is prestigious in itself, the main factor that impacts their position. The second most important factor in their opinion is the fact that teachers at university teach other future university graduates. The fact that teachers at university have deep knowledge and have to further educate themselves is on the 3rd and 4th place, followed by the fact that teachers at university conduct research and publish results. Fife percent of respondents said that teachers at university have a good salary, which also increases their prestige.

Table 3

Circumstances that have the biggest impact on the position of teacher at primary school

Place	Opinions of students of POV/K	
	Circumstances	Frequency in %
1st	Educates, shapes the personality of a child	22
2nd	Has a university education	10
3rd-4th	Educate, creates a basis for further education	6
3rd-4th	It is a psychologically demanding profession	6
5th	Other (helps the family of pupils in solving problems, has an individual approach to pupils, it is a needed profession, has extracurricular activities)	56

According to the respondents, the most important factor affecting the position of teachers at primary school is that they educate and shape the personality of a child. In the second place they mentioned that it is important that teachers at primary school have a university education. It is only in the 3rd-4th place that students mention that teachers at primary school educate and create a basis for further education. H_2 was not confirmed; for teachers at university their prestige is influenced by the fact that they have a university education, while for teachers at primary school it is the fact that they educate and shape the personality of a child.

Furthermore, respondents were asked what had changed for the position of teacher at the university (Table 4) at the primary school (Table 5) for the better and worse.

Table 4

Changes in the position of teachers at university in time

Place	Changes for the better	Frequency in %	Place	Changes for the worse	Frequency in %
1st	They have more possibilities to cooperate, educate themselves, and publish, also on international level	40	1st	Due to the increased number of universities, primarily private ones, the university degree lost its prestige, students are weaker and less motivated	35
2nd	They are not affected by any ideology	21	2nd-3rd	Less personal approach to students	11
3rd	They can use more modern, better quality technologies and resources	17	4th	Lower salaries	11
4th	Other (prestigious occupation, possibility of self-realization)	22	5th	Show indifference towards students	5
			6th	Other (population of teachers is getting old, lower level of students)	38

Respondents consider the possibility to cooperate, educate, and publish more, also on international level, as a change for the better regarding the position of teachers at university. In the second place they mentioned the fact that the instruction of teachers at university is no longer affected by any ideology, followed by the fact that teachers at university can use more modern, better quality technologies and resource. Students believe that due to the increased number of universities, primarily private ones, the university degree has lost its prestige, which they consider a change for the worse. They also note that teachers at university do not have a personal approach to students (11 %), or even show indifference (5 %). The 2nd-3rd position is occupied by the opinion that the position of teachers at university has changed for the worse because they have lower salaries.

Table 5

Changes in the position of teachers at primary school in time

Place	Changes for the better	Frequency in %	Changes for the worse	Frequency in %
1st	They can use more modern, quality technologies, resources, and aids	38	They enjoy less respect among pupils and parents	67
2nd	They are not affected by any ideology	13	Problems with discipline of children, worsened cooperation with parents	6
3rd	They have better possibility to influence the content of the lessons	11	Other (difficult to attract pupils, great administrative)	27
4th	Their salaries have risen	8		
5th	Other (education is more prestigious)	30		

The Table 5 shows that respondents consider the possibility to use more modern and better-quality technologies and aids as a change for the better in the position of teachers at primary school. Another positive change, according to the students, is the fact that also teachers at primary school are no longer affected by any ideology, that they can have a greater influence on the content of the lessons, and that their salaries have risen. Respondents perceive (and in a significant percentage of cases) that the main change for the worse is less respect for teachers among pupils and parents.

Other questions of the questioning tool were designed only for students of the part-time form of study (hereinafter referred to as "POVK") who were older and more experienced. They were asked about the

position of teachers at secondary school. In testing the third hypothesis, students were asked about the perceived position of teachers at a secondary school. In the majority of cases, POVK students put teachers at secondary school behind both teachers at university and teachers at primary school. H_3 was confirmed.

In terms of demands on expertise, respondents put teachers at secondary school between teachers at university and teachers at secondary school. They stress that, unlike teachers at primary school, they teach older students, who are also more difficult. This is also reflected in the taught subject matter, which they must be able to explain very well, unlike teachers at university (Table 6).

Table 6

POVK students' opinions on the difference in demands on teachers at secondary school compared to teachers at primary school and at university

Place	Comparison with teachers at primary school	Frequency in %	Comparison with teachers at university	Frequency in %
1st	Higher demands on expertise	40	Lower demands on expertise	37
2nd	They teach older students, who are also more difficult	20	They have to explain the subject matter so that students are able to understand it	23
3rd	Other (greater prestige than a primary school teacher, must constantly update its knowledge, must be more specialized)	40	They are not required to do scientific work and publish results	17
4th	--	--	They have to deal with problems with discipline	17
5th	--	--	Other	6

The paper presents results of a quantitative questionnaire approach. It will be followed by a qualitative approach and a relevant interviewing technique – semi-structured interviews with the management of selected secondary vocational schools with which IEC closely cooperates. The views of school directors on the teachers´ prestige and the changes that should occurred will be analysed. The questionnaire survey will be used again in the next phase; the teachers of selected secondary schools will answer questions concerning the prestige of their profession.

Since 1989, the education system in the Czech Republic has undergone a number of changes and reforms. However, it is necessary to handle each change in a responsible manner, as the consequences in this area will be registered only after a certain time. In order for teachers to adopt further reforms, it is necessary that they should be provided with motivating, good quality, professional support in order to bring change in their work. Similar needs have also been defined in Slovakia. T. Zaťková and M. Ambrozy point out that the Slovak education system is still substantially based on the Czechoslovak system as established by a fundamental reform from the 1970s (Zaťková, Ambrozy, 2019, 249). Changes in teaching methods and introduction of new topics will be better implemented in such schools where students are highly motivated, with a real interest in education.

There is evident that the prestige of a teacher is affected not only by above described reasons but is a result of many other factors. R. Baltusite and I. Katane comes to conclusion that a modern teacher's career is characterized by self-development not only regarding professional aspects, but also concerning self-perception and self-cognition, which is a basis for the broadening of awareness (including professional awareness) (Baltusite, Katane, 2017, 37). J.L. Berger and Y. D´Ascoli come to conclusion that intrinsic value of the career and perceived teaching ability are among the most important motivations to teach (Berger, D´Ascoli, 2012, 247). Finally, the perception of the teaching profession by the society must also be considered, as mentioned e.g. by L. Paula and I. Priževoite (2019).

Conclusions

The results of hypotheses testing were as follows:

- H_1 was confirmed. Students of POV/K will assess the position of teachers at primary schools and universities same as respondents in the survey.
- H_2 was not confirmed. Prestige of teachers at primary schools and universities is not affected by the fact that they educate pupils and students.
- H_3 was confirmed. According to students of POV/K, the position of teachers at secondary schools will be similar to that of teachers at primary schools and universities.

Based on the findings, for both respondents and teachers, low salaries are considered one of the main reasons why teachers' prestige has been in decline. The replacement of the existing system of funding of schools through national directions, which stipulate the average amount of costs per unit of performance, i.e. per pupil, could initiate a positive change. The existing system of funding does not take into account the differences in the level of education, as it favours schools with more students. This forces schools to accept pupils who have neither the prerequisites nor the motivation to study just in order to secure sufficient financial resources for their operation. The change in funding would mean that schools would receive money in accordance with the number of lessons taught that are required by the given educational programme. It will be implemented from January 2020. Consequently, headmasters will not be forced to persuade pupils who are not interested in the study to stay at their schools, which should lead to an increase in both quality of schools and their prestige.

In the results of our survey, the most frequently mentioned change for the worse in case of teachers at primary school is the decreasing respect they have among pupils and parents. Here, the personality of the teacher will play the most important role and whether they are able to appeal to pupils and students, treat them as partners, without undermining their role as teachers, without pandering to them. Also, the family is responsible for the behaviour of children. The government should look for a mechanism that would protect both school and teachers against the bad behaviour of individual pupils.

Each government should strive to make sure that the following words by K.P. Liessmann do not come true: "No one knows what education means anymore, but everyone is demanding its reform."

Bibliography

1. Analýza předpokladů a vzdělávacích potřeb pedagogických pracovníků pro zkvalitňování jejich práce 2009 [Analysis of Prerequisites and Educational Needs of Pedagogical Staff to Improve Their Work 2009]. (2009). Ministerstvo školství, mládeže a tělovýchovy ČR Retrieved from http://www.msmt.cz/uploads/VKav_200/Analyza_191109/ZZ_ucitele_final.pdf (in Czech)

2. Baltusite R., Katane I. (2017). The Modern Teacher's Career. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference *Rural Environment. Education. Personality (REEP)*, *10*. Jelgava: LLU, 30-39. Retrieved from https://llufb.llu.lv/conference/REEP/2017/Latvia-Univ-Agricult-REEP-2017_proceedings-30-39.pdf

3. Bell D. (1975). *The Coming of Post-Industrial Society: A Venture in Social Forecasting*. New York: Basic Books.

4. Berger J.L., D´Ascoli Y. (2012). Motivations to Become Vocational Education and Training Educators: A Person-Oriented Approach. *Vocations and Learning*, *5*(3), 225-249. doi: 10.1007/s12186-012-9075-z

5. *Dlouhodobý záměr vzdělávání a rozvoje vzdělávací soustavy České republiky na období 2015-2020* [Long-term Plan for Education and the Development of the Education System of the Czech Republic for 2015-2020]. (2019). Retrieved from http://www.msmt.cz/vzdelavani/skolstvi-v-cr/dlouhodoby-zamer-vzdelavani-a-rozvoje-vzdelavaci-soustavy-3 (in Czech)

6. Domanski H. (2015). *Prestige.* Frankfurt am Main: Peter Lang Edition.

7. *Education at a Glance 2017: OECD Indicators.* OECD. (2019). Paris: OECD Publishing. doi: 10.1787/eag-2017-en

8. Gedviliene G., Didziuliene R. (2019). Teachers' Job Satisfaction and Personal Life Balance Aspects. In V. Dislere (Ed.), The Proceedings of the International Conference *Rural Environment. Education.*

Personality (REEP), 12. Jelgava: Latvia University of Life Sciences and Technologies, 256-262. doi: 10.22616/REEP.2019.033

9. Holmes B. (2003). *Problems in Education: A Comparative Approach*. London: Routledge & Kegan Paul.

10. Köller M., Stuckert M., Möller J. (2019). Das Lehrerbild in den Printmedien: Keine „Faulen Säcke" mehr! [The image of the teaching profession in the print media: No longer "lazy slobs"!], *Zeitschrift fur Erziehungswissenschaft*, *22*(2), 373-387. doi: 10.1007/s11618-018-0856-5 (in German)

11. Lane R.E. (1966). The Decline of politics and ideology in a knowledgable society. *American Sociological Review*, *31*(5), 649-662. doi: 10.2307/2091856

12. Liessmann K.P. (2014). *Geisterstunde: Die Praxis der Unbildung: Eine Streitschrift* [Ghost hour: the practice of uneducation: a pamphlet]. Wien: Paul Zsolnay Verlag. (in German)

13. Liessmann K P. (2006). *Theorie der Unbildung: Die Irrtümer der Wissensgesellschaft* [Theory of Education: The Errors of the Knowledge Society]. Wien: Paul Zsolnay Verlag. (in German)

14. Muzafarova T. (2019). Planning Teachers' Professional Development. In V. Dislere (Ed.), The Proceedings of the International Conference. *Rural Environment. Education. Personality (REEP), 12*. Jelgava: Latvia University of Life Sciences and Technologies, 279-282. doi: 10.22616/REEP.2019.036

15. Paula L., Priževoite I. (2019). The status of the teaching profession in Latvia: Views of the teachers. *Problems of Education in the 21st Century*, *77*(1), 126-141. doi: 10.33225/pec/19.77.126

16. *Prestiž povolání – únor 2016* [Profession prestige - February 2016]. (2019). *Centrum pro výzkum veřejného mínění.* Retrieved from https://cvvm.soc.cas.cz/media/com_form2content/documents/c2/a2025/f9/eu160309.pdf (in Czech)

17. Strategy for Education Policy of the Czech Republic until 2020. (2019). Ministry of Education, Youth and Sports Retrieved from http://www.vzdelavani2020.cz/images_obsah/dokumenty/strategy_web_en.pdf

18. Zaťková T.Š., Ambrozy M. (2019) VET Teacher Preparation in Slovakia and the New Professionals - Entrepreneurship Trainers for VET, *TEM Journal*, *8*(1), 248-254. doi: 10.18421/TEM81-35

Learning Motivation, Involvement in the Study Process and Formation of Supervisor Professional Identity for Supervision Students in Latvia

Maija Zakrizevska-Belogrudova[1] Dr.psych; **Anna Sevcenkova**[2] Mg.sc.admin.
RISEBA University of Applied Sciences, Latvia
maija.zakrizevska@riseba.lv[1]; anna.sevcenkova@gmail.com[2]

Abstract: The research purpose was to study the formation of a supervisor's professional identity in context of study motivation and involvement in the learning process. In total, 54 students who were at that time acquiring supervisor profession were surveyed. The participants of the study took part in surveys listed below: Questionnaire on demographic data (created by the authors); Questionnaire on motivation types and involvement, MES-UC (Motivation Engagement Scale - University/College); Questionnaire for supervisors (modified after Professional Identity Scale in Counselling (PISC)). Summarizing the results of the study, the authors conclude that there is a statistically significant correlation between motivation, involvement in the learning process and professional identity of supervisors. The results show that there is a statistically significant negative correlation between the negative motivation scale "Anxiety" and the supervisor's professional identity scale "Knowledge about the profession". Also, results show that the 2nd year students have a statistically significant correlation between the positive engagement scales "Task (study) management", "Persistence" and the supervisor's professional identity Scale "Philosophy of the Profession, Supervisor Competence and Roles". In addition, the results show that there is correlation between the negative involvement scale "Disengagement" and the supervisor's professional identity scale "Engagement in professional societies and activities". Since the results of the obtained data from the study show a relatively unconvincing connection that motivation and involvement in the learning process is a determining factor in the identification and development of the supervisor's professional identity, so the authors recommend continuing the study with a larger sample size (for example, at the Baltic level) or to develop a longitudinal study on the basis of the existing study to identify the internal (personal) and external factors that influence the awareness and formation of the supervisor's professional identity during the study process at the university.

Keywords: learning motivation, involvement in learning process, supervisor, professional identity.

Introduction

As suggested by the number of members in the Register of Certified Supervisors on the website of the Latvian Association of Supervisors, which is increasing every year, the approved standard for the profession of a supervisor and the events held for supervisors every year, supervision is developing very rapidly as a profession. In Latvia, a supervisor is a specialist who has acquired the Master's degree and the qualification of a supervisor in addition to the basic qualification. Opportunities for studying supervision have emerged relatively recently, in year 2014, and, even though its popularity is growing, it means that the number of qualified specialists is comparatively low but is increasing every year. The professional identity of the specialists in this profession, the fundament for which is laid already within the process of studies, is developing along with the new area of activity.

Considering that the profession is comparatively new, the professional identity of a supervisor is a new field of research in Latvia, with a small number of research studies. Until now, no research has been conducted into the factors which influence and facilitate positive awareness and development of the professional identity of a supervisor. One of the possible influencing factors suggested by the authors of the project is the positive correlation between the students' motivation for learning and engagement in the study process and the development of the professional identity of a supervisor. There are practically no research studies into the correlation between the students' motivation for learning and engagement in the study process and the development of the professional identity of a supervisor in Latvia. Therefore, it is essential to study it in order to ascertain the development of the professional identity of supervisors specifically in the process of studies.

Highlighting the internal and external types of motivation, the influence of motivation and engagement in the learning achievements has been researched by many scientists (Cokley, 2003; Pintrich, Zusho, 2002; Ryan, Deci, 2000; 2002; Deci, Ryan, 2008; Wigfield, Eccles, 2002; Martin, 2016; Wasityastuti

et al., 2018). The researchers share a common opinion that the internal motivation is determined by high engagement in the process of studies which is targeted at learning achievements, feeling interest in and satisfaction with what has actually been achieved. The external motivation, in its turn, implies avoidance of punishment or negative consequences or willingness to receive an award. Professional identity, in its turn, includes: definition of one's own profession; conformity of the personal traits in a professional environment; integration of theoretical orientations and methodological approaches which matches the professional's own personal values and views; the professional ethics of a consultant, participation in professional organisations and feeling proud of the chosen profession (Adams et al., 2006; Ashforth et al., 2007; Vignoles et al., 2006; Roberts et al., 2005; Gibson, Dollarhide, Moss, 2010; Ashforth, 2001; Moss, Gibson, Dollarhide 2014).

The aim of this study is to research the association of the types of learning motivation of the Latvian students of the Master's Degree Programme in Supervision with the engagement in the process of learning and the professional identity of a supervisor during learning.

Methodology

Research questions: 1) Are there any differences / correlations in the learning motivation and engagement in the process of studies among the students of supervision? 2) Are there statistically significant differences in the self-evaluation of the professional identity of a supervisor between the supervision students of years 1 and 2? 3) Is there statistically significant correlation between the motivation for learning and engagement in the process of studies and the professional identity of a supervisor? 4) Is there a statistically significant correlation between the motivation and engagement scales and the supervisor professional identity scales among the students of year 2?

The strategy of a quantitative study has been selected for the research study, with the use of a demographic data survey and two surveys and summarisation and analysis of the primary data. The research study was conducted from 5th March 2018 until 10th April 2018.

Participants: Out of the 74 Latvian students studying supervision at the time of the research study, 54 students of supervision from the supervision study programmes of the Latvian institutions of higher education (RISEBA University of Applied Sciences, Riga Stradins University and Latvian Christian Academy) participated in the research study voluntarily. By the margin of error (7 %), the accuracy of the sample data is satisfactory. The respondents were between 24 and 46 years of age, including 46 women and 8 men.

Instrumentarium:

1. The motivation type and engagement questionnaire, MES-UC (Martin, 2016). The Australian researcher A.J. Martin (Martin, 2016) developed a Motivation and Engagement Scale (MES) for university/college students to measure the students' learning motivation and engagement in the process of studies. It may be used either individually or in a group. The MES - UC includes 11 subscales: Positive dimensions of motivation: the student's self-belief, learning focus, valuing the university. Positive dimensions of engagement: persistence, planning, task (study) management. Negative dimensions of motivation: anxiety, failure avoidance, uncertain control. Negative dimensions of engagement: self-sabotage, disengagement. The survey consists of 44 statements regarding a student's motivation and engagement in the study process which are to be rated on the Likert Scale of 1 (disagree entirely) to 7 (agree entirely).

2. The supervisor questionnaire adapted based on the *Supervisor Questionnaire* (Vaivade-Kalnmeiere, Mārtinsone, Ļevina, 2016). Before the survey was adapted and modified based from the *Professional Identity Scale in Counseling* published in 2015 (Woo, Henfield, 2015) and developed to raise the issue of professional identity in the profession of a supervisor, and it measures the professional identity of a supervisor. The survey comprises 6 scales: the philosophy of the profession, competences and roles of supervisors, knowledge about the profession, engagement in professional associations and activities, representation and protection of the profession, personal professional growth and development, teaching the profession. It consists of 39 statements regarding the professional identity of a supervisor which need to be rated on the Likert scale of 1 (disagree entirely) to 6 (agree entirely).

Study procedure: the questionnaires to all of the year 1 students of the Supervision study programmes in the Latvian institutions of higher education were given during the classes, with the most convenient

time being coordinated with the heads of the programmes and the lecturers. The questionnaires to the students of year 2 were sent out electronically via the website webropool.com. Data processing methods: the methods of descriptive statistics and the methods of inferential statistics were used for the processing of the data. The statistical analysis was carried out using IBM SPSS 23.0 statistical data processing software. Study restrictions: the study restrictions are associated with an insufficient volume of the study sample. Additional studies need to be conducted to research the issue with a larger study sample.

Results and Discussion

The Cronbach's alpha was calculated to evaluate whether the results obtained on the Motivation and Engagement Scale (MES-UC) are credible as well as whether the statements included in the scales are mutually consistent. The Cronbach's alpha obtained for the entire survey indicates good reliability and mutual consistency of the items ($\alpha = 0.761$). The determination of Cronbach's alpha coefficients for each of the scales leads to a conclusion that the scales have good internal consistency (Cronbach's alpha $\alpha = 0.71 - 0.786$), which suggests good reliability of the results. The Cronbach's alpha was calculated to evaluate whether the results obtained from the Supervisor Professional Identity Survey are credible as well as whether the statements included in the scales are mutually consistent. The Cronbach's alpha obtained for the entire survey indicates high reliability and mutual consistency of the items ($\alpha = 0.749$). The determination of Cronbach's alpha coefficients for each of the scales leads to a conclusion that the scales have good internal consistency (Cronbach's alpha $\alpha = 0.639 - 0.797$), which suggests that the results are reliable.

The normal distribution of the data for the sample studied in the research study was verified using the non-parametric Kolmogorov-Smirnov criterion, corrected by Lilliefors. It is concluded after the processing of the data that the empirical distribution of the data does not correspond to the normal distribution (at Sig.$< = 0.05$, the data distribution statistically significantly differs from the normal distribution).

Analysis of Questionnaire MES-UC results

The results of the median indicators show that positive motivation is more typical among the respondents and includes such factors as Learning Focus (M = 86); Valuing (M = 85) and Self-belief (M = 74). As indicated by such factors as Persistence (M = 76); Task Management (M = 76) and Planning (M = 72), high positive engagement in the study process is typical among the respondents.
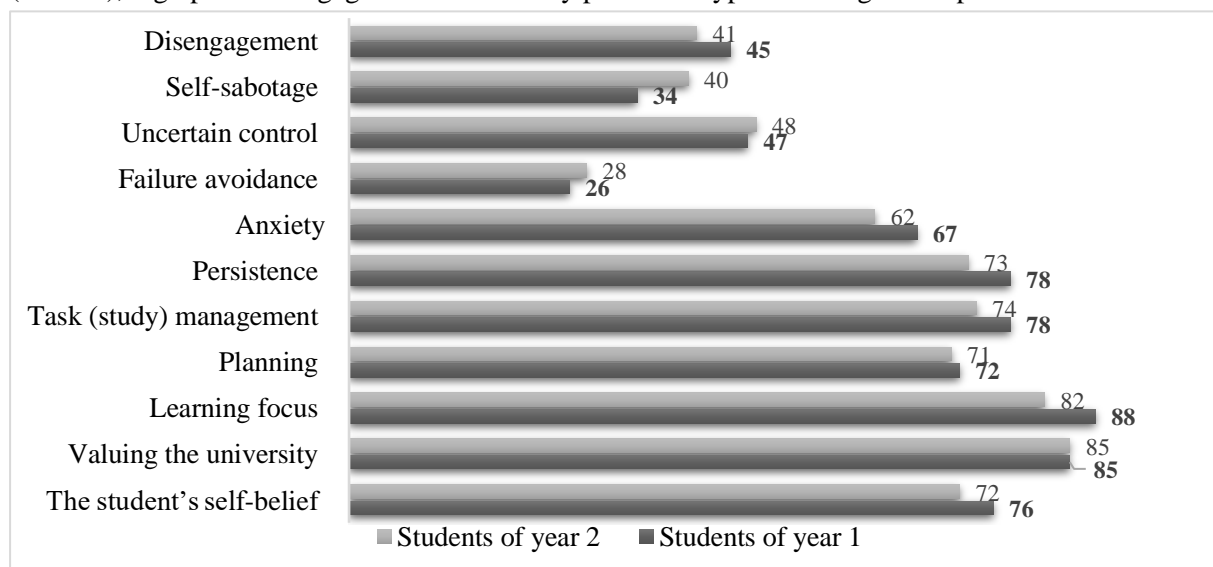

Figure 1. Average of motivational and engagement variables for motivation and engagement scales (MES-UC) in supervision students of years 1 and 2.

Negative motivation among the respondents manifests primarily as Anxiety (M = 65) and Uncertain Control (M = 47). Negative engagement in the study process is not typical among the respondents (Disengagement (M = 37); Self-sabotage (M = 36)). The evaluation of the results obtained for the 1st

and 2nd year students of supervision shows, in its turn, that year 1 students have higher positive motivation and engagement (Self-belief; Learning Focus; Task Management; Persistence) than the year 2 students. The year 2 students, in their turn, have higher negative motivation and engagement (Failure Avoidance; Uncertain Control; Self-sabotage; Disengagement) than the year 1 students. The anxiety factor is more typical among the 1st year students than among the students of year 2 (Figure 1).

Table 1

The Mann-Whitney U-test values for motivation and engagement in supervision students of years 1 and 2

Motivation and engagement scales	Mann-Whitney U	Significance	Average Rank Value	
			Students of year 1	Students of year 2
The student's self-belief	256.50	0.165	29.67	23.50
Valuing the university	340.50	0.884	27.27	27.92
Learning focus	245.50	0.112	29.99	22.92
Planning	325.50	0.898	27.70	27.13
Task (study) management	312.00	0.708	28.09	26.42
Persistence	281.50	0.363	28.96	24.82
Anxiety	259.00	0.181	29.60	23.63
Failure avoidance	358.50	0.634	26.76	28.87
Uncertain control	336.50	0.942	27.39	27.71
Self-sabotage	399.50	0.222	25.59	31.03
Disengagement	399.00	0.227	25.60	31.00

Since, generally, the motivation and engagement scales do not correspond to the normal distribution, non-parametric methods have been used to determine the differences in the motivation and engagement results among the supervision students of years 1 and 2, by determining the Mann-Whitney U test values. The obtained results reveal no statistically significant differences based on the Mann-Whitney U-test values on the motivation and engagement scales among the supervision students of years 1 and 2 (Table 1). The calculation of the Spearman's rank correlation coefficient was used for the analysis of the correlation between the motivation and engagement scales. The obtained results reveal that there is statistically significant positive correlation link between the positive motivation and positive engagement scales: Self-belief and Task Management; Self-belief and Persistence; Valuing and Task Management; Valuing and Persistence; Learning Focus and Task Management; Learning Focus and Persistence.

Table 2

Spearman's rank correlation coefficients (r_s) for the motivation and engagement scales

Scales		Planning	Task (study) management	Persistence	Self-sabotage	Disenga-gement
The student's self-belief	r_s	0.088	0.399**	0.352**	0.109	-0.194
	Significance	0.528	**0.003**	**0.009**	0.432	0.160
Valuing the university	r_s	0.157	0.408**	0.507**	-0.151	-0.285*
	Significance	0.256	**0.002**	**0.000**	0.277	0.036
Learning focus	r_s	0.192	0.467**	0.621**	-0.368**	-0.263
	Significance	0.165	**0.000**	**0.000**	**0.006**	0.055
Anxiety	r_s	0.325*	0.019	0.295*	0.021	-0.110
	Significance	**0.017**	0.889	**0.031**	0.880	0.427
Failure avoidance	r_s	0.026	0.022	-0.058	0.451**	0.375**
	Significance	0.854	0.875	0.679	**0.001**	**0.005**
Uncertain control	r_s	-0.051	-0.108	0.075	0.509**	0.417**
	Significance	0.713	0.437	0.588	**0.000**	**0.002**

** Correlation is significant at the 0.01 level (2-tailed)
 * Correlation is significant at the 0.05 level (2-tailed)

There is a negative correlation link between the positive motivation scale Learning Focus and the negative engagement scale Self-sabotage. There is a correlation link between the negative motivation scale Anxiety and the positive engagement scale Planning. There is a correlation link between the negative motivation scale Anxiety and the positive engagement scale Persistence. There is a correlation link between the negative motivation scale Uncertain Control and the negative engagement scale Self-sabotage. There is a correlation link between the negative motivation scale Uncertain Control and the negative engagement scale Disengagement (Table 2).

Analysis of Supervisor Professional Identity Survey Results

The obtained results in the diagram of the median results show the following typical supervisor professional identity scales: Philosophy of Profession, Supervisor Competences and Roles and Knowledge about the Profession (Figure 2).
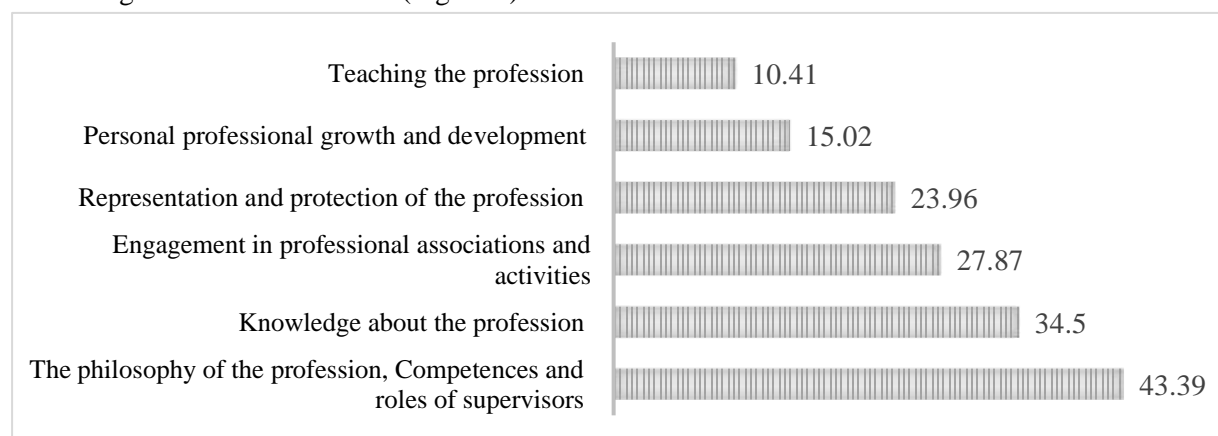

Figure 2. Median results of the supervisor professional identity variables for the entire study sample (n = 54).

The results obtained from the evaluation of the median results on the supervisor professional identity scale for the supervision students of years 1 and 2, in their turn, show that the supervision students of year 2 have a higher self-evaluation of professional identity than the supervision students of year 1 (Figure 3).
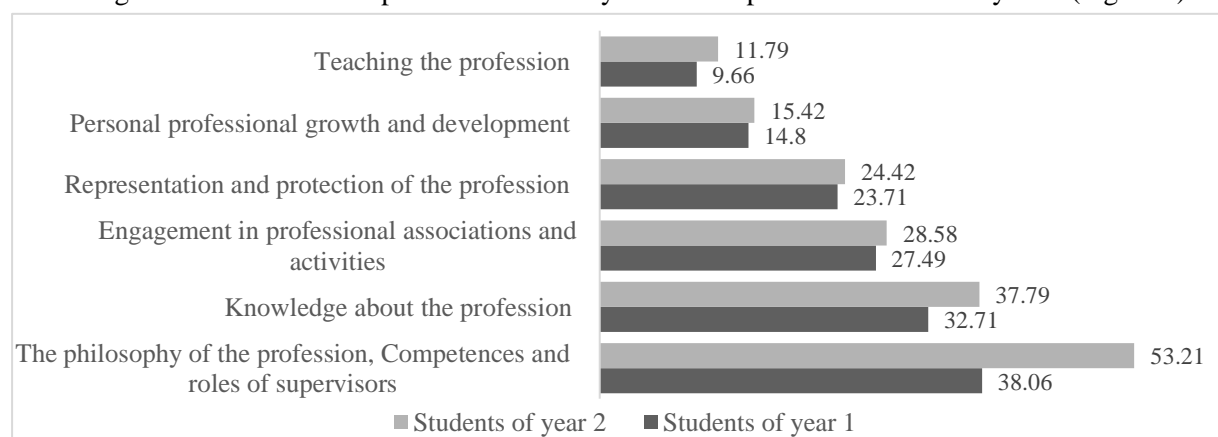

Figure 3. Median results of the supervisor professional identity variables in year 1 (n = 35) and year 2 (n = 19) students of supervision.

The Mann-Whitney U-test was used to determine the differences between the supervision students of years 1 and 2. The obtained results show that there are statistically significant differences on the "Philosophy of Profession, Supervisor Competence and Roles" scale where the results of the year 2 supervision students are higher than those of the year 1 supervision students. The results also show statistically significant differences on the "Knowledge About Profession" scale where the results of the year 2 supervision students are higher than those of the year 1 supervision students. It should also be noted that there are statistically

significant differences on the "Teaching the Profession" scale where the results of the year 2 supervision students are higher than those of the year 1 supervision students (Table 3).

Table 3

The Mann-Whitney U-test values on supervisor professional identity scales for supervision students of years 1 and 2

Supervisor professional identity scales	Mann-Whitney U	Significance	Average Rank Value	
			Students of year 1	Students of year 2
The philosophy of the profession, competences and roles of supervisors	110.50	**0.000**	21.16	39.18
Engagement in professional associations and activities	284.00	0.378	26.11	30.05
Knowledge about the profession	188.50	**0.009**	23.39	35.08
Representation and protection of the profession	317.00	0.778	27.06	28.32
Personal professional growth and development	291.00	0.446	26.31	29.68
Teaching the profession	211.50	**0.027**	24.04	33.87

The calculation of the Spearman's rank correlation coefficient was used for the calculation of the correlation between the motivation and engagement scales and the supervisor professional identity scales. It was concluded that there is a statistically significant correlation link between the variables "Anxiety" and "Knowledge About Profession" (Table 4).

Table 4

Correlation analysis: learning motivation and engagement in the process of studies and the professional identity of a supervisor, *statistical significance (p) of Spearman's rank correlation coefficients*

Scales	The philosophy of the profession, competences and roles of supervisors	Knowledge about the profession	Engagement in professional associations and activities	Representation and protection of the profession	Personal professional growth and development	Teaching the profession
The student's self-belief	0.759	0.934	0.195	0.489	0.784	0.076
Valuing the university	0.883	0.287	0.123	0.832	0.861	0.241
Learning focus	0.644	0.741	0.238	0.921	0.639	0.699
Planning	0.452	0.909	0.728	0.892	0.775	0.571
Task (study) management	0.718	0.905	0.844	0.410	0.630	0.722
Persistence	0.956	0.189	0.296	0.570	0.836	0.484
Anxiety	0.658	**0.026**	0.282	0.678	0.310	0.629
Failure avoidance	0.954	0.742	0.437	0.158	0.393	0.982
Uncertain control	0.815	0.968	0.388	0.618	0.515	0.482
Self-sabotage	0.193	0.232	0.125	0.317	0.193	0.168
Disengagement	0.642	0.685	0.402	0.761	0.133	0.367

Additionally, non-linear regression analysis was carried out to determine the pattern of the changes in the resultative feature based on the changes in the value of the factorial feature. Linear, square and third power models were considered, the determination coefficients and the statistical significance of the models were calculated. Correlation diagram with regression curves for variables "Anxiety" – "Knowledge About Profession". The linear model is statistically significant (determination coefficient $R^2 = 0.110$, $p = 0.014$). This shows that the students' acquisition of knowledge and understanding of the profession increase as the levels of anxiety decrease (Table 5).

Table 5

Non-linear regression analysis

Equation	Model Summary					Parameter Estimates			
	R Square	F	df_1	df_2	Sig.	Constant	b_1	b_2	b_3
Linear	0.110	6.432	1	52	**0.014**	87.646	-0.656		
Quadratic	0.111	3.179	2	51	0.050	82.302	-0.308	-0.005	
Cubic	0.112	2.093	3	50	0.113	93.472	-1.642	0.043	-0.001

The independent variable is "Knowledge About Profession"
Dependent Variable is "Anxiety"

The analysis of the demographic data reveals that the students primarily associate their supervision studies with self-improvement, professional development, and willingness to work with people. The students acknowledge that being a supervisor is a profession which has a potential and will be necessary in numerous professional areas. Most of the supervision students (93 %) are not associate members of the professional associations; likewise, most of the supervision students (65 %) do not attend supervision on supervision; 70 % of the students of supervision do not attend events (seminars, conferences) associated with supervision; outside their studies, the students (61 %) have practically no communication with any practising supervisors, and this is suggestive of the process of development of the professional identity.

Conclusions

Although no statistically significant differences were identified, the median rank indicators led to conclusions that year 1 students have higher levels of positive learning motivation and engagement in the process of studies that the year 2 students. Negative motivation and engagement (Failure Avoidance; Self-sabotage; Non-engagement; Uncertain Control), in their turn, are more typical among the year 2 students. The results also show that there are significant positive correlations between positive learning motivation and positive engagement in the process of studies. Also, learning focus lowers if the student prefers other things, feels helpless and unwilling to engage in the process of studies. As the feeling of anxiety increases, the student develops passive attitude towards their studies and work performance.

In the self-evaluation of the professional identity of a supervisor, the supervision students of years 1 and 2 have statistically significant differences on the scales "Philosophy of Profession, Supervisor Competences and Roles"; "Knowledge About Profession" and "Teaching the Profession", where the year 2 supervision students have higher results than the supervision students of year 1. These results of the study have much in common with the conclusions drawn from research studies conducted by other authors, namely, that the sense of the professional identity of supervisors starts to develop gradually along with the acquisition of the academic and practical knowledge. It is also concluded that there is a statistically significant correlation link between the variables "Anxiety" and "Knowledge About Profession". Lower levels of students' nervousness and anxiety in the process of studies assure higher levels of understanding of the binding laws in the profession of a supervisor, the associations, and other facts associated with the profession.

The results of the study suggest that professional identity is in the development process and that a large part of the students primarily associate their supervision studies with self-improvement, professional development, willingness to work with people, potentially without fully realising the very nature of the profession.

The authors of the research study believe that the initiated research should be continued by widening the basis for the empirical study, covering the students who study supervision in Latvia and students of supervision in other countries (on the level of the Baltic States, for example) because the data show only the total of 74 supervision students in Latvia, of which 54 took part in the study. Furthermore, it is necessary to additionally find out what internal (personal) or external factors facilitate awareness, development and improvement of learning motivation, engagement in the process of studies, and the professional identity of a supervisor.

Bibliography

1. Adams K., Hean S., Sturgis P., Clark J.M. (2006). Investigating the factors influencing professional identity of first-year health and social care students. *Learning in Health and Social Care*, *5*(2), 55-68. doi: 10.1111/j.1473-6861.2006.00119.x

2. Ashforth B.E. (2001). *Role Transitions in Organizational Life: An Identity-Based Perspective.* Mahwah, N.J.: Lawrence Erlbaum Associates

3. Ashforth B.E., Kreiner G., Clark M., Fugate M. (2007). Normalizing dirty work: Managerial tactics for countering occupational taint. *Academy of Management Journal, 50*(1), 149-174. doi: 10.5465/amj.2007.24162092

4. Cokley K. (2003). What do we know about the motivation of African American students? Challenging the anti-intellectual myth. *Harvard Educational Review, 73*(4), 524-558. doi: 10.17763/haer.73.4.3618644850123376

5. Deci E.L., Ryan R.M. (2008). Self-determination theory: A macro theory of human motivation, development, and health. *Canadian Psychology/Psychologie canadienne, 49*(3), 182-185. doi: 10.1037/a0012801

6. Gibson D.M., Dollarhide C.T., Moss J.M. (2010). Professional identity development a grounded theory of transformational tasks of new counselors. *Counselor Education and Supervision, 50*(1), 21-38. doi: 10.1002/j.1556-6978.2010.tb00106.x

7. Martin A.J. (2016). *The Motivation and Engagement Workbook* (16th ed.). Sidney, Australia: Lifelong Achievement Group.

8. Moss J.M., Gibson D.M., Dollarhide C.T. (2014). Professional identity development: a grounded theory of transformational tasks of counselors. *Journal of Counseling & Development, 92*(1), 3-12. doi: 10.1002/j.1556-6676.2014.00124.x

9. Pintrich P.R., Zusho A. (2002). The development of academic self-regulation: the role of cognitive and motivational factors. In A. Wigfield, J.S. Eccles (Eds.), *Development of achievement motivation.* San Diego, CA: Academic Press, 249-284. doi: 10.1016/B978-012750053-9/50012-7

10. Roberts L.M., Dutton J.E., Spreitzer G.M., Heaphy E.D., Quinn R.E. (2005). Composing the reflected best self-portrait: Building pathways for becoming extraordinary in work organizations. *Academy of Management Review, 30*(4), 712-736. doi: 10.5465/amr.2005.18378874

11. Ryan R.M., Deci E.L. (2000). Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions. *Contemporary Educational Psychology, 25*(1), 54-67. doi: 10.1006/ceps.1999.1020

12. Ryan R.M., Deci E.L. (2002). An overview of Self-determination Theory: An organismic-dialectical perspective. In E.L. Deci, R.M. Ryan (Eds.), *Handbook of self-determination research.* 3-33. Rochester, NY: The University of Rochester Press.

13. Vaivade-Kalnmeiere L., Mārtinsone K., Ļevina J. (2016). Supervizoru profesionālā identitāte: pilotpētījuma rezultāti [Professional identity of supervisors: results of pilot study]. Retrieved from https://www.rsu.lv/sites/default/files/imce/Dokumenti/prezentacijas/supervizoru_profesionala_identitate.pdf (in Latvian)

14. Vignoles V.L., Regalia C., Manzi C., Golledge J., Scabini J. (2006). Beyond self-esteem: Influence of multiple motives on identity construction. *Journal of Personality and Social Psychology, 90*(2), 308-333. doi: 10.1037/0022-3514.90.2.308

15. Wasityastuti W., Susani Y.P., Prabandari Y.S., Rahayua G.R. (2018). Correlation between academic motivation and professional identity in medical students in the Faculty of Medicine of the Universitas Gadjah Mada Indonesia. *Educación Médica, 19*(1), 23-29. doi: 10.1016/j.edumed.2016.12.010

16. Wigfield A., Eccles J.S. (Eds.). (2002). *Development of achievement motivation.* San Diego, USA: Academic Press. Retrieved from https://www.elsevier.com/books/development-of-achievement-motivation/wigfield/978-0-12-750053-9

17. Woo H., Henfield M.S. (2015). Professional Identity Scale in Counseling (PISC): Instrument Development and Validation. *Journal of Counselor Leadership and Advocacy, 2*(2), 93-112. doi: 10.1080/2326716X.2015.1040557