

Workplace-Based Learning as One of the Ways of the Implementation of Ecological Approach in Education

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Abstract: A human being as a personality and also as a specialist develops in the interaction with his/her life and action environment: family environment, educational environment, environment of professional activities etc. In order the educational environment would facilitate and support the development of an individual, including the development of his/her competitiveness, such environment shall become an open and inclusive one, performing many and different functions. The ecological approach offers a wide range of opportunities regarding performing of interdisciplinary research in the educational sciences, as well as comprises significant potential of innovative, creative pedagogical activities in practice. One of the ways of the implementation of ecological approach is the workplace-based learning. The aim of research: to substantiate theoretically the workplace-based learning for the facilitation of the professional development of prospective and/or already working specialists. The workplace-based learning is both scientific conception and strategy for the elaboration and development of professional education dual system in the state-level educational policy and educational management fields. The concept of workplace-based learning has both wide and narrow meaning. According the wide meaning, the workplace-based learning facilitates the lifelong professional development of an individual for which the environment of professional activities is very important. According to the narrow meaning, the workplace-based learning means the organization of prospective specialists' practice at the companies. The conception of workplace-based learning provides that the environment of professional education consists of two components: from the environment of educational establishment and from the base organization as the environment of professional activities. In the dual system of professional education both these environments form an indivisible integral entirety. The ecological approach provides a perspective for the sustainable development of dual professional education.

Keywords: dual system of professional education, ecological approach, workplace-based learning.

Introduction

A human being as a personality and also as a specialist develops in the interaction with his or her life and action environment: family environment, educational environment, environment of professional activities etc.

One of the topicalities of modern education is to assist an individual to cognize his or her life and action environment: 1) in order to adapt to and better integrate into this environment through changing oneself; 2) in order to help to see the opportunities for one's own development in the life and action environment through developing and improving oneself; 3) in order by own innovative, creative and at the same time responsible action could develop, change, improve his or her life and action environment; 4) in order an individual would learn to adapt to continuous changes in the society, educational environment, labour market, in the environment of professional activities etc..

In order the educational environment would facilitate and support the development of an individual, including the development of his or her competitiveness, such environment shall become an open and inclusive one, performing many and different functions.

In the 20th century education, theory and practice of pedagogy, the imperative is the ecological paradigm and the ecological approach resulting from it. The ecological approach is one of the important preconditions for ensuring the sustainable development of education. The ecological approach in education has many different manifestations and also the ways of implementation. One of such ways is the workplace-based learning.

The aim of the research: to substantiate theoretically the workplace-based learning for the facilitation of the professional development of competitiveness of prospective and already working specialists.

Methodology

The ecological paradigm has become not only an interdisciplinary paradigm but also a transdisciplinary paradigm. The Human Ecology has rapidly developed, and the Ecology of Education is an important interdisciplinary direction of educational research within the Human Ecology.

Ecological approach in education is substantiated and interpreted as:

- the theory and methodology of research and pedagogical actions, the strategy for the modelling, development and maintenance of environment facilitating an individual's development and meeting his or her needs (Сулима, 2012);
- an entirety of theory and technology, which helps to study and improve the components of environment, to forecast and model the positive and facilitating influence of environment on an individual's development, as well as to evaluate the educational potential of environment, because environment is an interaction system the subject of which is a human being (Мануйлов, 2002; 2008);
- the philosophic-methodological basis for the educational, pedagogical or study process management strategy, which determines that, by ensuring environment favourable for an individual's development, meeting an individual's interests, aims and needs, it is possible to influence the formation and development of an individual's personality; it is a way of pedagogical reality cognition, analysis, evaluation, as well as transformation, discovering and respecting the regularities existing in this environment: interconnections and causations that help to plan, design and produce the results of this interconnection process (Боровская, 2011);
- the conceptual approach in theory and practice, including research activities, that might comprise: *the holistic approach* (perception and research of separate things and phenomena from their holistic perspective, *the effect of "puzzle"*), *systems approach* (systemic thinking that enables to see the structure and functioning of the interconnection and causation of things and phenomena within the time and space; *the multidimensional/complex approach* (that enables to cognize things and phenomena according to different views/aspects, developing "dimensional", multi-aspect view on the essence of things, phenomena), thus ensuring the entirety approach (Katane, 2005; 2006; 2007).

Thus the ecological approach has considerable heuristic potential, because this approach marks several new perspectives in the scientific action, as well as very diverse implementation opportunities in the practice of pedagogical activities. At the same time the understanding and acquisition of the essence and semantic meaning of ecological approach ask of the researcher and/or educator time and effort, because this approach demands, first of all, the change of thinking by developing and improving systemic and contextual thinking that ensures the entirety view on the problem under research and/or to be dealt with. The ecological approach offers a wide range of opportunities to perform interdisciplinary research in the educational sciences, as well as it comprises the great potential of innovative, creative pedagogical activities in practice.

Methods of the research: study, analysis and evaluation of scientific literature; reflection of authors' exploratory pedagogical experience.

Results and discussion

The workplace-based learning is both conception and strategy based on the ecological approach in education. The workplace-based learning is also one of the principles of ecological approach. The concept *workplace-based learning* is used in both wide and narrow meaning. According to their *wide meaning*, the workplace-based learning answers the conceptual question: how could be facilitated the professional transformation (development) of an individual, his or her professional self-determination and development as the lifelong process, where the development of the prospective specialist's/employed specialist's competitiveness within the career development process.

The wide meaning of the concept *workplace-based learning* envisages (Darche, Nayar, 2009):

- acquisition of the working environment of different professions by organizing the following events for pupils within the framework of career education different activities;

- organization of studies not only in the environment of a professional education institution and/or a university, but also in the working environment of companies, thus developing the uniform study environment by cooperating with the associations of employers in particular sectors and with particular companies ready to cooperate with the higher education institutions;
- simulation of the situations of professional actions, role-plays; organization of students' practice at the companies; the post-diploma internship;
- establishment and management of students' companies.

There are formulated three basic approaches of workplace-based learning out of which the diversity of workplace-based learning stems (Boud, Solomon, 2001; Gray, 2001; Clarke, Copeland, 2003; Lamanski, Mewis, 2011):

- *studies for work*: the student as the prospective specialist studies meaningfully, obtains new knowledge, skills, competencies necessary in order he or she could commence his or her independent professional activities;
- *studies in the working environment*: in the direct interaction with the environment of professional activities at the company, the student acquaints with the specificity of this environment, connecting his or her theoretical knowledge with the processes, which take place in practice, assessing his or her own readiness for work in this environment, developing his or her professional identity;
- *studies through work*: obtaining of new knowledge, skills and competencies by doing particular work, dealing with problems in the environment of professional activities, instead of the academic environment of university.

Thus, as a result of workplace-based learning, the studies from the conventional educational environment of a higher education institution are being moved to the environment of professional activities. The workplace-based learning offers new opportunities of professional education and perspectives for the preparation of prospective specialists.

Firstly, these are the study programmes, which are developed and implemented, while the university cooperates with a company/companies, in order the student would start to acquaint with the specificity of the environment of professional activities, at the beginning – through learning from the experience of other specialists, but then gradually obtaining also his or her experience in the environment of professional activities.

In order the implementation of the conception and the strategy of workplace-based learning for the organization of prospective specialists' study process would be fruitful, there are several preconditions (Lamanski, Mewis, 2011; Siebert, Mills, 2009; Sodiechowska, Maisch, 2006):

- *transition from the educator-centred studies to the student-centred studies*;
- *close cooperation at the institutional level*: the higher education institution – the company as the environment of professional activities not only within the program implementation process, but also considerably earlier, namely, within the process of the development of the study programme or the study plan and during the formulation of study aims and tasks, coordinating the study aims and the aims of company's activities and its environmental specificity;
- *close cooperation at the level: teaching staff of higher education institution-mentors*, which manifests as both coordinated achievement of common study aims and the exchange of experience, and mutual and common studies, when the professional skills are being improved by both teaching staff of the higher education institution and mentors at the organization/company.

The workplace-based learning envisages also the individualization of study process, because the students do not always study in a group in the environment of professional activities; most often they must integrate into this working environment with their individual study tasks and they must perform a particular role by fulfilling particular responsibilities, because they have full-time job at this company, and their study programme has been introduced at the workplace and coordinated with the aims and specificity of the activities of organization/company. The workplace-based learning is oriented towards the aim that the student as the prospective specialist would start to acquaint with the real work (Sodiechowska, Maisch, 2006).

At the beginning, the conception of workplace-based learning becomes popular in the primary and secondary vocational education; however, now it becomes more and more important also for the higher professional education.

The workplace-based learning offers opportunities to study, becoming acquainted with the real *world of profession* and using the experience already amassed by professionals and developing own experience in the real environment of professional activities. The workplace-based learning has several advantages. They help to (Darche, Nayar, 2009):

- engage and motivate students to study, combining learning in a classroom and practical activities in the working environment, respecting not only the study aims, but also students' personal and career interests, needs and aims;
- ensure the educational quality of a higher educational institution;
- direct the students to the professional thinking by developing critical thinking and enabling them to take part in the solution of problems;
- contextualize studies, because the environmental contexts of professional activities are important, offering a wide range of enculturation and social learning opportunities in the practice community;
- the student to develop both socially and emotionally to integrate into the world of adults, including the development of one's own personality and professional identity;
- develop and expand the social network of students' cooperation, which is very important within the context of competitiveness, including marketability and employability;
- improve the students' professional competency, for example, within the mutual communication and a team's working process, when planning and implementing a project in the working environment;
- acquaint with the requirements set by the labour market and the employers' requirements in the environment of professional activities;
- the student to assess his or her professional experience, motivating to self-develop and improve own skills professionally.

The significance of the workplace-based learning should be understood not only by an educator/teaching staff of higher education institution and a mentor at the company, but also by the student as the prospective specialist, evaluating the difference between educator-centred approach and student-centred approach; between the studies that are oriented by books and instructions and take place in the environment of a higher education institution and the action-oriented studies in the complex or dual study environment, where the integral components are both the academic environment of a higher education institution and the environment of professional activities in the company/organization. Thus, we can say that the workplace-based learning, according to their essence, is modifying or transformative studies. As a result of *transformative or modifying studies* for which the exchange of views, substantiated discussions are very important, the student as the prospective specialist develops his or her world outlook, the conceptual insight into the professional activities, obtains systemic knowledge personally important for him or her, which, in its turn, ensures the entirety view; the student as the prospective specialist develops reasoning, the ability to apply knowledge and skills creatively and taking into account the particular situation for the solution of problems, he or she develops critical thinking and the ability to take decisions. As a result of workplace-based learning, an individual develops the scale of values, which changes continuously, and this causes also the changes in the system of attitudes.

The conception of workplace-based learning is closely related to the conception of science organization or the learning organization (Katane, Kristovska, 2015), because serves as a methodological basis for the facilitation of specialists' professional development, the methodological basis for the facilitation of the development of career and competitiveness of specialists at the company/organization, where these specialists are working, envisaging a wide range of opportunities for the exchange of experience and in-service training at both their and other company/organization. For this purpose it is necessary to have the coordinated work of a support team of specialists in the fields of the research of the competitiveness of company's employees, including diagnostics, mentoring, career consulting and human resources management.

The narrow meaning of the concept of *workplace-based learning* is related to the organization of students' professional practice in the working environment of base companies.

The workplace-based learning in the European educational space is topical at the level of educational policy and educational management, because each country develops its conception of the workplace-based learning, the strategic programs for the development of professional education. Alongside with the workplace-based learning, the concept of *the dual system of professional education* has emerged in the European educational space, which envisages the change of thinking and actions in the professional education. Several European countries (Austria, Denmark, Finland, France, Germany, Great Britain, Norway, Sweden, etc.) have already obtained experience regarding the development of the dual system of professional education, because the workplace-based learning has been acknowledged as one of the priorities of professional education. In many of the above mentioned countries there are being developed not only the guidelines, strategic documents for the introduction of the workplace-based learning, but also there has been funding allocated from the state budget (Stiprāka profesionālā izglītība .. , 2015; Work-Based Learning .. , 2013).

In the documents of European Commission the concept *the workplace-based learning* has three meanings (Stratēģiskās politikas .. , 2015): 1) apprenticeship within the framework of the dual system of professional education; 2) the process of professional education, where the study periods at the educational institution and in the working environment of companies alternate: *the sandwich model*; 3) educational institution, expanding its material and technical basis, arrange laboratories, workshops, kitchens, restaurants, trade centres or manufacturing companies as the sub-units, providing students with the working environment, which is brought nearer to the real conditions to its utmost, where the practical studies take place and the students do both simulation of working situations, deal with problems, as well as are engaged in business or particular tasks of industry.

Germany plays the leading role in the development of the dual system of professional education, and many countries learn from the experience of Germany not only in Europe, but throughout the world (Соловьева, 2013). It is Germany, where the origin of the idea of workplace-based learning could be found, because German educational theorist G.M. Kerschensteiner (Kerschensteiner, 1912) developed the conception of *a work school*, which was implemented in reality, pointing out that the best and the most fruitful learning is through own practical actions, obtaining the working experience.

The workplace-based learning has become also the topicality of Latvian educational policy and management, developing the dual system of professional education in the country (2015./2016. mācību gada aktualitātes .. , 2015; Līce, 2015). Several professional education institutions of Latvia, in cooperation with their partners – different companies – have already obtained experience regarding the implementation of workplace-based learning in practice (Rozenberga, 2014). In Latvia the specialists are already being educated upon the employers' request (Baranovska u.c., 2015).

The professional experience of the authors of article proves that the workplace-based learning actualizes a range of problems to be dealt with in order to ensure the quality of professional education.

- Not all companies are ready to take part in the provision of professional education.
- The issues regarding the financing of dual system must be dealt with.
- There is a viewpoint of great vitality among the specialists: why should I share with my experience, with my *know how* and *know why*, thus creating young competitors for myself. The specialists shall receive the professional support of psychologists, educators/teaching staff of educational institutions in order to develop their psychological readiness to take part in mentoring.
- One of the most urgent problems is the pedagogical competency level, including methodological competency, of company's specialists who fulfil the mentors' functions. Therefore many educational institutions offer their cooperation partners the opportunities to improve professional skills within the formal and non-formal educational process by organizing courses, seminars etc. on the pedagogical themes. It is important that the specialists of the respective field perform pedagogical activities as mentors, self-educating themselves regarding both professional and pedagogical field on an ongoing basis.

It is important to be aware and deal with the existing contradictions and problems in order to ensure the quality of workplace-based learning and the sustainability of dual professional education.

Conclusions

- The workplace-based learning is both conception and strategy based on the ecological approach in education. The workplace-based learning is also one of the principles of ecological approach.
- There are many and different interpretations of the workplace-based learning in the global scientific space, where it is possible to see several meanings: 1) according to the wide meaning, the workplace-based learning is possible during an individual's professional development process within the lifetime: starting with the career education at school; continuing the education of prospective specialists in the environment of professional activities; ensuring the improvement of the professional skills of already working specialists, as well as in-service training and exchange of experience at both their companies and other companies, when the company may become simultaneously both an educational organization teaching and an organization studying; 2) in the workplace-based learning is characterized only and merely in relation to the vocational education or the higher professional education, as the organizational strategy of studies for the facilitation of prospective specialists' professional development and competitiveness, when the study programmes and study plans are developed and implemented in cooperation with a company as the environment of professional activities, where the prospective specialist obtains his or her experience as both student and company's employee; usually, in this meaning, the workplace-based learning is the strategy how a sector of the national economy or a particular company prepares for its aims and needs the new specialists who after the acquisition of professional education work in this field of professional activities and/or a particular company; 3) according to the narrow meaning, the workplace-based learning is related to the professional practice of students as prospective specialists at the base companies of educational institutions.
- The workplace-based learning may manifest in many forms. It is conventional to identify three types of workplace-based learning: 1) studies for work; 2) studies in the working environment; 3) studies through work or by means of work, while being active.
- The workplace-based learning not only facilitates the professional development, but also the formation of professional identity and competitiveness, because the student's thinking changes from "*I and environment of professional activities*" to "*I within environment of professional activities*". The workplace-based learning facilitates the development of the prospective specialist's readiness for independent and responsible professional activities.
- Workplace-based learning, according to their essence, is transformative study process, and, as a result, the prospective specialist develops his or her world outlook, the conceptual insight into professional activities; he or she obtains systems knowledge important for him or her that, in its turn, ensures the view of the entirety; there is reasoning developed, the ability to apply knowledge and skills creatively and taking into consideration the particular situation for the solution of problems; the critical thinking and the ability to take decisions are developed. This all-in-all is a prospective specialist's gain in a form of obtained experience.
- The workplace-based learning in many European countries is the topicality at the level of state educational policy and educational management and the priority of professional education. Alongside with the workplace-based learning there has the concept *the dual system of professional education* has emerged in the European educational space. In many European countries there has been experience obtained regarding the implementation of workplace-based learning at the level of both state educational policy and educational management, as well as at the institutional level. Several European countries not only elaborate the programmes, strategies, conceptions of educational policy, but also allocate the funding from the state budget for the workplace-based learning. Germany plays the leading role in the implementation of the dual system of professional education, and the experience of Germany is being adopted by many countries, including Latvia.
- Alongside with the implementation of workplace-based learning in practice, several problems are actualized, which shall be solved. One of them is the development of the professional and pedagogical competency of the specialists of particular professional field who fulfil also the

mentors' functions, and the above mentioned development is achieved through the improvement of professional skills within the framework of formal and non-formal pedagogical education programmes, as well as during the self-educational process.

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