

Technology Education in Lithuania - a Tool for Creating a Sustainable Future

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Abstract: In Lithuania, the subject of Technologies was introduced to school curriculum in 2003. The subject became one of the important subjects that develops pupils' technological literacy, prepares for their future profession and gives the tools for independent responsible living. The subject aims is introducing pupils to historical development of Technologies, relations with other sciences, evaluating the impact of Technologies on the culture and social environment as well as on traditions and national identity. The subject of Technologies is an integrity of creativity and production that prepares pupils for today's modern society. The purpose of the article is to reveal purposes of Lithuania's technology education as a tool to seek the development of sustainable society. The historically change of Technologies (earlier handworks) subject's content and aims were analysed. The content of the subject of Technologies as an educational prerequisite when seeking the development of sustainable society was examined. The subject of Technologies in Lithuania is an appropriate educational space for the development of the culture of consumption of pupils and the concept of the quality of life to form.

Keywords: Technologies, handwork, technology education, sustainability, secondary education.

Introduction

Relevance. When ensuring a quality of education and in order to respond to the needs of the society and the main strategic Lithuanian documents, the requirements for general education are extremely high. The subjects taught are constantly renewed while seeking space for the implementation of both objectives set by global education and national priorities. One of the general education subjects the content concept of which particularly depends on the needs of society development tendencies in Lithuanian general education is Technologies. The purpose of technology education is to develop general and technological competencies which are the totality of knowledge and understanding, skills and attitudes that assists the student in acquiring the foundations in technological literacy that are necessary for every man in a constantly changing socio-cultural environment (Vidurinio ugdymo..., 2011). Technological development poses a challenge to create conditions for pupils to know technological developments in historical context, the relations of Technologies to other sciences, assess the influence of Technologies on culture, technological change in the social environment. Technology education is perceived as the totality of a creative and production process (Pradinio ir pagrindinio..., 2008). The goals of technology education also responds to the provisions foreseen by The State Progress Strategy "Lithuania 2030" (Lietuvos pažangos..., 2012) – to strengthen the historical awareness and self-esteem of citizens, encourage the cultural and artistic expression of different types when renewing the repertoire and symbolism of national culture, educational programmes and public events of the state and ensuring the preservation of cultural heritage, the objects of national heritage and, at the same time, adapting it to the needs of society intelligently.

Traditional culture is a set of creations based on peoples' traditions, the people living in a particular socio-ecological environment, where this set is recognized as their heritage, reflects their identity and the general values of that community and is passed from one generation to another with some modifications (Siliņa-Jasjukeviča, 2013). Cultural heritage is an integral part of the identity of a state and its citizens, one of the most important guarantees of national security (Lietuvos kultūros..., 2010). Therefore, one of the main objectives ensuring sustainable future of the country is to preserve national self-awareness and cultural identity of the people of the country, meet the challenges and opportunities of globalization. It is necessary to think about sustainable development not only from an economic or ecological point of view. Culture as the resource for sustainable development can be used to achieve economic, social, environmental and educational objectives. It also possesses symbolic features and meaning, which is the foundation for an individual's cultural affiliation. Culture is an

objective and an instrument at the same time (Siliņa-Jasjukeviča 2013). Thus, a subject in the school's programme that educates respect for national traditions and assists in transmitting them from generation to generation is extremely necessary. Although the purpose of the subject of Technologies is to teach Technologies to the young generation, pupils understand them while learning traditional crafts, the content of the subject historically has always been permeated with national traditions, and one of the purposes has always been the preservation of national identity.

In Lithuania, the concept of technology education, general programme of Technologies and education standards entered into force in 2003 and substituted the subject of handwork and domestic culture that had been taught until then. The area of Technologies was formed, mandatory programmes for primary and lower secondary education was created (Lietuvos bendrojo..., 2003). The programme Technologies was renewed in 2008 (for the secondary education in 2011) and is in force to date (Pradinio ir pagrindinio..., 2008; Vidurinio ugdymo..., 2011). Technology education in Lithuania is derived from handwork education which is examined by scientists as a prerequisite for the enhancement of traditions, labour culture and esthetics (Galkauskas, 2001). Although a new approach reflecting the orientation of technology education towards the reality of post-industrial trend taking towards technological creation has been forming in the scientific discourse over the last two decades (Statauskienė, 2006), the subject of Technologies remains the educational space of nation's traditions where a national heritage and ecological awareness are promoted.

The purpose of this article is to reveal purposes of Lithuania's technology education as a tool to seek the development of sustainable society.

The object of the article is technology education as a tool for sustainable future.

Tasks:

- to analyse how the content of Technologies (earlier Handworks) changed historically;
- to examine the content of the subject of Technologies as an educational prerequisite when seeking the development of sustainable society.

Methodology

A content analysis method of education documents and scientific literature was used in the article. All programmes of Handwork and Domestic Culture/Technologies from 1992 were examined. The reviews of and scientific literature of the subject of Technologies derivation were summarised. The content of current Technology subject in General Programmes of Primary and Basic Education as well as the aims of the subject were assessed in order to explore the prerequisites for sustainable education.

Results and discussion

The origin of technology education

In Lithuania, the subject of Technologies in programmes of general education is derived from the school subject of Handwork which at the end of the 19th and the beginning of the 20th century was introduced into the content of the Lithuanian general education (Mikėnas, 1979). In 1928, the subject which was named as Handwork in the content of general education was aimed at accustoming pupils to an active physical activity, introducing them to fine arts, applied arts industrial production. Since 1932, a great deal of attention was focused on examining agriculture, livestock production and small branches of agriculture in the profiled programmes of agricultural classes, pupils learned to do agricultural works in experimental parcels of their school (Vaičiulienė, 1973). In 1935, the further reform foresaw the teaching of handwork and domestic work only for girls and only in the 1st–4th classes of gymnasium. The content consisted of knitting, weaving, embroidery, sewing, and household or domestic works and culinary works (Urbietis, 2005). In 1936, a new teaching plan and new education programmes were issued. New plans and programmes increased the amount of hours for the subjects of science and handwork. Separate versions were created for town and village schools. More attention was dedicated to calculation and handwork at town schools, whereas agriculture was given greater attention at village schools (Vaičiulienė, 1973). In 1954–1955, Handwork was begun to be taught in the 1st–4th classes, since 1955–1956, practice works were commenced to be taught in the 5th–6th classes, and, a year later, in the 7th class as well. P. Urbietis (2005) identifies that as the

period of politechnical and industrial training which lasted from 1953 till 1989. Boys were taught wood and metal works, whereas girls were taught domestic works. In 8th–9th classes, practical work of agriculture, the basics of automotive science, electrical engineering were allocated; pupils were purposefully sent to factories and agricultural enterprises for practical training. Since 1961, the purpose of Handwork teaching was to develop skills and competencies of pupils to work wood and metal, perform electrical installation, introduce pupils to locksmithery and assembly works, the working of wood and metal, turning and cutting machines, domestic works, and agro-technics of the most important agrocultural crops. Pupils had to obtain knowledge about mechanisms and machinery, electrical appliances and learn how to use them. It was the beginning of industrial – technological preparation of pupils. The purpose of this teaching was to provide at least the lowest qualification of the worker. The main focus during the next three decades was devoted to industrial training (Urbietis, 2005).

In 1989, already prior to the restoration of the independence of Lithuania, Prof. M.Lukšienė and a band of like-minded souls – pedagogues, scientists, people involved in culture – prepared the Concept of the National School. She called to take care of the survival of the nation and its identity, create such educational system which would nurture independent, civic and cultured people (Tautinė mokykla, 1989). In 1992, Experimental Handwork and Domestic Culture Teaching Programmes were prepared and approved by the Ministry of education (Galkauskas, 2004). At that time, the content of handwork and domestic culture was officially differentiated according to sex: domestic works were assigned to be taught to girls (the programme provided the teaching of nutrition basics, the preparation of dishes, the modelling, construction and sewing of clothes, the organizing of home economics and the basics of economy, handicrafts, domestic culture), whereas technical works were assigned to be taught to boys (the programme provided the teaching of wood works, metal works, electrotechnical works, home environment management works). The programmes emphasized the ability of pupils to analyse reality and environment, solve problems and understand the characteristic changes of today's society and actively influence them. There was an attempt made to teach pupils how to use different Technologies and information bases, critical thinking was nurtured and there was an attempt made to develop creativity. Those were the last general education programmes in which the content was described in detail (Urbietis, 2005).

In 1994, new Lithuanian programmes of general education schools read, “Work and domestic activities are two closely inter-related areas of life that are linked to the satisfaction of the essential needs of the man and society. Meaningful work nurtures physical, mental and spiritual powers, develops creativity, a physically and spiritually healthy, harmonious personality. High personal standards and outstanding workplace culture of the society are one of the most important factors determining the material well-being of the man and the country. They assist the man in creating proper living conditions, cosy, esthetic and healthy living environment and nurture domestic culture” (Lietuvos bendrojo..., 1994). Handwork and Domestic Culture Programme of that time foresaw to develop a person's ability to accept and creatively develop ethnocultural traditions at home and work. Handwork education had to stimulate the development of the responsibility for the domestic culture of the country perceiving it as the part of the whole of the culture of the nation. The programme foresaw the integration of historic and cultural traditions of our nation and global production and business into the content of handwork. Girls would learn to prepare the festive table; they had to get acquainted with national rites and traditional dishes. When working with a textile they would get acquainted with the Lithuanian national costume and its place in today's life and the like. During the learning of household works pupils were encouraged to creatively nurture national traditions in a home decoration and finish. Wood and metal works had to introduce boys to wood treatment and the traditions of metal works and the works of Lithuanian folk artists.

General programmes of Handwork and Domestic Culture that were prepared and approved in 1997 differed essentially from the previous ones. The programmes revealed the concept of the subject, the objectives and tasks of handwork education, didactic provisions of the realization of programmes. For the first time the content of the subject was presented in an abstract way without specifying topics in detail. The content revealed only the content of the subject, pointed out the areas of the subject and the guidelines for their implementation: domestic economics, nutrition, works with a textile, threads, yarn;

wood and metal works. The programme also foresaw integral knowledge of economics, ecology, healthy lifestyle, graphic design, technical graphics and artistic creativity. Pupils were taught to create a useful product, know their environment “the esthetics of which has to become a very significant part of handwork–technological education, the acquaintance of the future producer and consumer with the creation of things and environment” (Lietuvos bendrojo..., 1997).

In 2003, new general programmes and education standards were approved in which handwork and domestic culture was referred to as Technologies. The objective of the programme of Technologies is “to create the prerequisites for pupils to develop the basics of technological literacy, i.e. nurture value-related attitudes and key competencies that are necessary for everyone <...> in ever-changing socio-cultural environment, to be able to use simple Technologies as users, experience the diversity of the search for creative problem solving and the joy of their solution, develop positive attitudes towards continual change of Technologies” (Bendrosios programos..., 2003). Throughout the process of technological education, pupils are prepared as future family members, citizens that are able to flexibly adapt in the changing society, prepared for their own further development (Urbietis, 2005). Although the subject was renamed to Technologies, in the content, the orientation towards the education of the consumer remained, whereas industrial production was introduced only in the 9th–10th classes. In 2008, the programme of Technologies was renewed. The renewed programme of Technologies maintains, “It is important for pupils to have the knowledge of the impact of emerging or developed Technologies on nature, the man, material environment, understand how to assess the benefits of Technologies and their possible negative impact on personal and societal health, security and welfare” (Pradinio ir pagrindinio..., 2008). The subject of Technologies combines theoretic knowledge of other subjects in the practical activity. It aims at strengthening the motivation of those pupils who are lower achievers, developing students' technological literacy, whereas in senior classes, 9th–10th, introducing branches of Lithuanian economy and professions to pupils.

Thus, the name of the subject historically changed from Handwork to Domestic works, whereas those were succeeded by Technologies. Although during this long period of time the main goal of the subject was to introduce professions to pupils, prepare them for the work in the industry, however, pupils were always practically prepared for independent living in their family, manage household, nurture national culture and traditional crafts.

The content of technological education – a tool for creating a sustainable future

In the part of Technologies in the General Programmes of Primary and Basic Education (2008), it is maintained, “As the needs of the society and individual change, Technologies also change – the methods and means of production processes, the systems of material and human links and regularities that are at work in technological processes, decisions made by the man, the knowledge of “know-how” in the nature–man–material environment system. The further development of Technologies depends on man's self-determination and environmental factors influencing him: cultural, economic, environmental protection-related and social. It is important for pupils to have the knowledge of the impact of emerging or developed Technologies on nature, the man and material environment, understand how to assess the benefits of Technologies and their possible negative impact on personal and societal health, security and welfare” (Pradinio ir pagrindinio..., 2008).

The subject of Technologies is taught from the 1st to the 10th classes. In primary classes, 1st–4th, Technologies is taught together with Fine Arts. In 5th–8th classes, the mandatory content consists of nutrition, textile, construction materials and electronics. The pupils of 5th–8th classes learn designing, information search, the accumulation, application and presentation of information, resistant materials, their application, the knowledge of technological processes, work performance process and the presentation of results. They search for information about historical, cultural traditions of national crafts and business (Pradinio ir pagrindinio..., 2008).

General programmes of Technologies also respond to the challenges of globalization – to get prepared for the labour market: in order to motivate to decide what Technologies to study and where after school, in the 9th–10th classes, pupils choose the programme of Technologies, try their creative and practical abilities, get acquainted with technological processes, professions, branches of economy

(Mokymosi krypčių..., 2008). In 9th-10th classes, Technologies is not mandatory. In technological profile schools, pupils choose out of six possible areas of Technologies: nutrition, textile, construction materials, electronics and industrial design. Pupils get acquainted with the world of labour, the business environment, they learn about real tendencies of the development of the branches of economy in their region, promising branches of economy in Lithuania, therefore, they are able to reasonably choose attractive modules of the programmes of Technologies in senior classes, develop technological competencies. In 11th-12th classes, pupils choose modules out of 6 optional trends of Technologies: Textile and clothing; Tourism and nutrition; Construction and wood processing; Business, management and retail trade; Mechanics and mechanical repair.

When learning according to the chosen teaching programme of Technologies, pupils deepen their knowledge about the branch of Lithuania economy which interests them. Pupils perform project works at school and are able to take the examination. About 20 per cent of the time foreseen in the programme of Technologies is spent to get acquainted with with the chosen branch of economy (part of the content) using active (self-) learning methods and information technologies. About 80 per cent of the foreseen time is spent for the development of the knowledge of the branch of economy chosen by a pupil or the branch of a module and skills, and project works at school. In the education process, these areas of the activity partially overlap, therefore, such pupils' activity breakdown is only conditional, assisting the teacher in getting approximately oriented what should be the scope of the programme (Vidurinio ugdymo..., 2011). Technologies is especially relevant to pupils who encounter difficulties seeking to achieve the satisfactory level of learning outcomes in other taught subjects (mathematics, the Lithuanian language, history, foreign languages, sciences) – they are allowed to choose those modules of these subjects that are oriented towards practical activity (Inetegruto technologijų..., 2007).

In General Programmes of Secondary Education (2011), when presenting the guidelines for technology education, it is maintained: in preparation for the challenges of modern society, it is important for pupils to have the knowledge of the impact of human decisions, understand “know-how” in the system *nature–man–material environment* <...>, to have the knowledge of the impact of emerging or developed Technologies on nature, man, material environment, understand how to assess the benefits of Technologies and their possible negative impact on personal and societal health, security and welfare.

Thus, the subject of Technologies is not only educational space for the process of technological creativity, but also an important place for conveying values and self-education in which the interests of the producer and consumer collide, business ethics is revealed, the basics of responsible business are taught. The task of the teacher is to create conditions that such a personality would get developed who chooses to use in a cultured way and creates wisely. Technologies still is and has to remain the environment for national identity and intercultural (self-) education, the space where pupils acquire life-skills, get acquainted with the challenges of the global world and learn to create a sustainable future.

The content of Technologies responds to the Programme of the Fundamentals of Lithuanian Ethnic Culture for General Education Schools and remains the key practical subject in which ethnoculture and crafts are nurtured and national identity is developed (Čepienė, 2009).

However, it should be noted that the subject of Technologies that is oriented towards production–creating is gradually losing its mission of the educator of pupils' national identity and the nurturer of cultural heritage in comparison with the previous content that was until 2003. The present content of Technologies is more oriented towards the development of the consumer–producer competencies than towards traditional cultural values (Inetegruto technologijų..., 2007). As The National Education Strategy for 2013–2022 affirms, “at the present time, the need for cultural self-expression creates enormous pressure on formal education which is often not capable of meeting all the needs and expectations without creating the danger of formal content overload.” It is a very serious starting point for the review of educational content and the development of the concept of technological education taking into consideration the state policy and the need of today's society to retain what many nations are desperately attempting to recover – national identity (Valstybinė švietimo..., 2012).

The content of the subject of Technologies covers not only technological processes, their impact on the environment, but also social effects of globalization. Technologies, which conquer global markets and young people's minds, can become a starting point and a practical, fundamental space for the knowledge of cultural diversity, serve as an eye-opener for mutual learning, teach sensitivity to the problems of a globalization era. When teaching Technologies, we inevitably have to discuss global ethics, sustainable development, nurture and self-nurture respect and trust to each other as well. We have to commence to look at the growth of a multicultural society not as the reason for problems to arise, but as the emergence of the possibilities for intercultural education. The development of new Technologies open up such possibilities: without leaving their desks, pupils can get acquainted with other cultures, their people's life style, discuss all the questions with them, including those on globalization and national identity.

The tasks of the subject of Technologies are consistent with the Lithuanian National Strategy for Sustainable Development which affirms, "The development of civic engagement, environmental education and the promotion of the lifestyle that is environmentally friendly and health-friendly have to play their due role in education at all levels. <...> Particular attention has to be paid by the state to the recovery and preservation of rural traditions and heritage" (Nacionalinė darnaus..., 2009).

The subject of Technologies – space for learning the quality of life and the culture of consumption

Education for sustainable development is required for young people to be able to make deliberate choice in favour of the creation and maintenance of the world, that both they and the next generation will be considered to be suitable for life and work. This means to give students the knowledge, build skills, responsibility and action competence of life for the long period of time (Bonn Declaration, 2009). One of the key tools for gaining these competencies is consumer education. Consumer education offers several benefits to individuals; it: (1) encourages critical thinking; (2) imparts life skills that contribute to success in everyday living; (3) promotes self-confidence and independence; (4) fosters broadly accepted values; and (5) improves the quality of life (Knapp, 1991).

The quality of life of the man is described by the possibilities to satisfy his various needs. Human needs (for food, clothing, house and education, culture, self-expression, health and recreation, participation in the life of the community) are determined by very many factors: the economy of the country in which the man lives, environmental policy, culture, religion et alia. However, these areas of life are also the result of human activity and are constantly influenced by him. Therefore, an active personal position of everyone and a collective position effectively determine the quality of today's life, as well as how we will live tomorrow and how the future generations will live. The key problem of today's consumerist society, that causes irreversible consequences, is living from day to day, i.e. an irresponsible and negligent consumption, and the failure to understand the influence of personal lifestyle on social and economic environment. Thus, the epoch dictates the concept of the subject of Technologies: production for him has to be taught in conjunction with production for others. It is the only way, without losing the pupils' desire to produce, to preserve one of the key Lithuanian identities – crafts and their Technologies. Through the knowledge of consumer demands and the ways of the supply formation, not only does the pupil comprehend a market economy, but also develops his culture of consumption. Having understood the Technologies of how products access to the market (from the raw material to the consumer), consumption attitudes get formed. Therefore, the programme of Technologies is one of the most favourable for integrating the education of the culture of consumption.

The main purpose of the culture of consumption, a better quality of life, will be impossible, if we only educate consumers, but fail to nurture the responsible manufacturer. Therefore, the educational objectives of the subject of Technologies and the culture of consumption at first sight contradictory are the main factor determining the success of the education of the culture of consumption. When the young generation understands that the consumer is the the main unit regulating the market who impacts the amount and quality of production through his choices, whereas the future producer attempts to educate the responsible consumer through his quality goods and safe production Technologies and proper their advertising, we will be able to speak of outstanding culture of

consumption the quality of life. One of the most important evaluation factors have to be designing a product, safety of production and products for the man and the environment, and consumer demand analysis and its application when teaching Technologies. The essence of the concept of Technologies is a man's ability to manage things and tools, but not the man managed by things. It is one of main points of contact between Technologies and the culture of consumption.

Household, change our lifestyle, habits and how that leads to the change of the environment (Sedereviciute, 2007). The possibilities of the integration of Technologies and the culture of consumption are defined in the Integrated Programme of the Education of the Culture of Consumption that was approved by the Ministry of education and science (2007).

Conclusions

In Lithuania, the subject of Technologies is derived from the subject of handwork. The name of the subject historically changed from handwork to domestic works, handwork and domestic culture and, finally, it was named Technologies. The objectives of the subject concept changed from industrial training, preparation for agricultural works and vocational training to teaching how to manage household, create and nurture traditional crafts.

The content of Technologies responds to the Programme of the Fundamentals of Lithuanian Ethnic Culture for General Education Schools (2009) and remains the main practical subject in which ethnoculture and crafts are nurtured and national identity is developed. The subject of Technologies is a proper platform for the education of the youth in order to develop sustainable society. The lessons of the subject of Technologies is an appropriate educational space for the (self-) nurturing of pupils' intercultural competencies.

The subject of Technologies is an appropriate educational space for the development of the culture of consumption of pupils and the concept of the quality of life to form. All of that provide the basis for the creation of sustainable society.

Bibliography

1. *Bendrosios programos ir išsilavinimo standartai. Priešmokyklinis, pradinis ir pagrindinis ugdymas.* (2003). (General Programmes of Secondary Education. Preeschool, Primary and General Education). Vilnius, Švietimo aprūpinimo centras. [online] [27.12.2014]. Available at <http://www.upc.smm.lt/ekspertavimas/biblioteka/failai/programos.pdf> (In Lithuanian)
2. *Bonn declaration.* Point 8. (2009). UNESCO World Conference on Education for Sustainable Development, Federal Ministry of Education and Research. Bonn, Germany. [online] [29.12.14]. Available at http://www.desd.org/ESD2009_BonnDeclaration080409.pdf
3. Čepienė I. (2009). *Bendrojo lavinimo vidurinės mokyklos etninės kultūros pagrindų mokymo programa /Pasirenkamieji kursai V–VIII, IX–X klasėms ir profilinio mokymo (-si) pasirenkamasis kursas XI–XII klasėms.* Dalyko paskirtis. (The Programm of Ethinical Culture Education for General Education Curriculum. Optional Courses for Grades IX–X and for Profile Grades XI–XII. The Purpose of the Subject). [online] [26.12.14]. Available at http://www3.lrs.lt/pls/inter/w5_show?p_r=2232&p_d=21384&p_k=1 (In Lithuanian)
4. Galkauskas J.K. (2001). Technologijų dalyko patrauklumas. (Desirability of Technologies Subject). *Pedagogika*, T. 55, p. 45–48. (In Lithuanian)
5. Galkauskas K.J. (2004). Rankų darbai kaip mokymo dalykas (istorinis aspektas). (The subject of handwork. Historical aspect). *Pedagogika*, 74. 25–28. (In Lithuanian)
6. *Inetgruoto technologijų kurso bendroji programa ir metodinės rekomendacijos.* (2007). General Programme of Iintegrated Technologies Course and Methodological Recommendations). Švietimo aprūpinimo centras. Vilnius. [online] [29.12.14]. Available at http://www.upc.smm.lt/ekspertavimas/biblioteka/failai/Integruoto_gramos_mr.pdf (In Lithuanian)
7. Knapp J. P. (1991). The benefits of consumer education. A survey report. Ypsilanti, MI: Eastern Michigan University, Consumer Education Center. In: Cheryl A. Mimbs-Johnson C.A., Radford Lewis A. Consumer Economics and Family Resources: Importance of Financial Literacy. *Journal of Family Consumer Sciences Education*, 27 (National Teacher Standards 4). [online] [14.12.14]. Available at <http://www.natefacs.org/Pages/v27Standards4/v27Standards4Mimbs-Johnson.pdf>
8. *Lietuvos bendrojo lavinimo mokyklos bendrosios programos: I–X klasės.* (1997). (Lithuanian General Programms of General Education School: grades I–X). Lietuvos Respublikos švietimo ir mokslo

- ministerija, Pedagogikos institutas. Redakcinė komisija: Ž. Jackūnas, D. Kuolys, M. Lukšienė. Vilnius, Leidybos centras. (In Lithuanian)
9. *Lietuvos bendrojo lavinimo mokyklos programos: projektai.* (1994). (Programmes of Lithuanian General Education Schools: draft). Vilnius: Lietuvos Respublikos švietimo ir mokslo ministerijos Leidybos centras. (In Lithuanian)
 10. *Lietuvos kultūros politikos kaitos gairės* (2010). (The Guidelines for the Change in Lithuanian Cultural Policy). Lietuvos Respublikos Seimo 2010 m. birželio 30 d. nutarimu Nr. XI-977. [online] [27.12.2014]. Available at <http://www.lrkm.lt/go.php/lit/Lietuvos-kulturos-politikos-kaitos-gaires> (In Lithuanian).
 11. *Lietuvos pažangos strategija „Lietuva 2030“* (2012). (Lithuanian strategy of progress „Lithuania 2030“) Available at http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=425517&p_query=&p_tr2=2 (In Lithuanian)
 12. Mikėnas V. (1979). *Moksleivių darbinis mokymas.* (Handwork education for pupils). (Paskaitų konspektas). Vilnius, LTSR Aukštojo ir specialiojo vidurinio mokslo ministerijos Leidybinė tarnyba, p. 101. (In Lithuanian)
 13. *Mokymosi krypčių pasirinkimo galimybių didinimo 14–19 metų mokiniams modelio aprašas.* Patvirtinta Lietuvos Respublikos švietimo ir mokslo ministro 2008 m. kovo 15 d. įsakymu Nr. ISAK-715. (The Description of the Model of Learning Trends Improvement Possibilities for 14–19-year-old Pupils. Approved of the Minister of Education in 2008, 15 of March, order. No. ISAK-715). [online] [26.12.2014]. Available at <http://www.upc.smm.lt/ekspertavimas/biblioteka/failai/2008-03-15-ISAK-715.pdf> (In Lithuanian)
 14. *Nacionalinė darnaus vystymosi strategija*, patvirtinta Lietuvos Respublikos Vyriausybės 2003 m. rugsėjo 11 d. nutarimu Nr. 1160, (National Strategy for Sustainable Development, approved by Government of Lithuanian Republic, September 16, 2009 m. resolution Nr.1247 edition) (Lietuvos Respublikos Vyriausybės 2009 m. rugsėjo 16 d. nutarimo Nr. 1247 redakcija) (In Lithuanian)
 15. *Pradinio ir pagrindinio ugdymo bendrosios programos. Technologijos.* (2008). (General Programmes of Primary and Basic Education. Technologies. Order of the Minister of Education in 2008, 26 August. No. ISAK-2433). Lietuvos Respublikos švietimo ir mokslo ministro 2008 m. rugpjūčio 26 d. įsakymas Nr. ISAK-2433. [online] [27.12.2014]. Available at file:///C:/Users/Home/Downloads/pagrindinis_ugdymas_tehnologijos_bendrosios_nuostatos.pdf (In Lithuanian)
 16. Sederevičiūtė Ž. (2007). *Vartojimo kultūros ugdymo integravimas į technologijų pamokas.* (An Integration of Consumer Education in to Technologies Lessons). Mokymo ir metodinės medžiaga. Vilnius, p. 64. (In Lithuanian)
 17. Siliņa-Jasjukeviča G. A Model For Facilitating Sustainable Traditional Culture in Primary Schools (2013). Proceedings of the International Scientific Conference *Rural Environment. Education. Personality* (REEP). Volume 6. March 20th-21st, 2013, LLU, Jelgava, Latvia, pp. 38 – 45. [online] [26.12.2014]. Available at <http://llufb.llu.lv/conference/REEP/2014/Latvia-Univ-Agricult-REEP-2014proceedings.pdf>
 18. Statauskienė L. (2006). Technologinis ugdymas. Realių pokyčių galimybės. (Technologies education. Possibility for real change). *Pedagogika*. T. 82. pp. 85-95. (In Lithuanian)
 19. *Tautinė mokykla. Lietuvos bendrojo lavinimo vidurinės mokyklos koncepcija.* (1989). (National School. The Conception of Lithuanian School of General Education). [online] [2014.10. 24]. Available at http://www.smm.lt/uploads/documents/Veikla_strategija/svietimo_reformos_pradzia/tautine_mokykla.pdf (In Lithuanian)
 20. Urbietis P. (2005). *Darbinis (technologinis) ugdymas Lietuvoje bendrojo lavinimo mokykloje (1918-2003).* (Handwork (Technologies) Education in Lithuanian General School) Šiauliai, Šiaulių universiteto leidykla. p. 59. (In Lithuanian)
 21. Vaičiulienė A. (1973). *Darbinis mokymas kaimo vidurinėse mokyklose.* (Handwork education in rural schools). Metodinė medžiaga. Vilnius, Pergalė. 136 p. (In Lithuanian)
 22. Valstybinė švietimo strategija 2013–2022 m.: tikslai, problemos, tobulinimo kryptys (2012). (The National Education Strategy for the period 2013-2022: goals, problems, improvement directions). Švietimo problemos analizė, October No. 17 (81). (In Lithuanian)
 23. *Vartojimo kultūros ugdymo integruojamoji programa.* (2007). (Integrated programme of consumer education) Parengė: Sederevičiūtė Ž. Juškeliene V., Motiejūnaitė O., Vitėnienė I., Gerulaitis V. Vilnius. p. 64. (In Lithuanian)
 24. *Vidurinio ugdymo bendrosios programos. Technologijos* (2011). Lietuvos Respublikos švietimo ir mokslo ministro 2011 m. vasario 21 d. įsakymas Nr. V-269 (General Programmes of General Education. Technologies. Order of the Minister of Education in, February 21, 2011. No. V-269) [online] [2014.11. 09]. Available at http://portalas.emokykla.lt/bup/Puslapiai/vidurinis_ugdymas_bendrosios_nuostatos.aspx (In Lithuanian)