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DEVELOPMENT OF TRANSVERSAL SKILLS IN PRIMARY SCHOOL (CLASSES 1-3): CONTEXT OF LIFELONG LEARNING

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Abstract. *The primary task of the 21st century education is not anymore to transfer continuous information, but the skill to acquire independently and learn this knowledge during lifetime. In the future, the development of transversal skills plays an important role in the educational process. Transversal skills, such as critical thinking and problem-solving, creativity and innovation, self-guided learning, cooperation, civic participation and digital literacy, are raised in the framework of Education Reform in Latvia (Skola 2030, 2017).*
The beginning of the learning process during the stage of primary school is an essential step in transversal skills acquisition, particularly emphasizing the impact of the Classes 1-3 stage, on the further learning process. According to the outcomes determined in the standard of primary education to be achieved, it is necessary to develop significantly transversal skills in this stage, as well as observe carefully the changes in children's age development that affect the possibilities of transversal skills development.
The goal of the research: analyse the development of transversal skills in primary school (Classes 1-3).
Research method: content analysis of the education content regulating documents and scientific literature.
Keywords: *Classes 1- 3, learning process, primary school, skills development, transversal skills.*

Introduction

The 21st century has caused essential changes in the world- disappearance of borders, intercultural interaction and convergence, growing importance of technology and constant increase in the amount of information- which require to review the functions and values of education all over the world. If in the past the main function of education was to ensure the future generation with the transmission of public knowledge and values, then nowadays this function is losing rapidly its relevance. The knowledge that is currently being transferred in schools will have lost its relevance by the time the student graduates from the educational institution (Fulans, 1999), therefore right now the main function of education is to prepare the new generation for lifelong learning. In this context

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the significance of lifelong learning and transversal skills as an important component of lifelong learning has been raised.

The change of the education paradigm, in the context of the processes going on in the world, has also been raised in the most essential strategic planning documents of Latvia, which has resulted in the reorganization of the education system within the framework of the project "School 2030."

Within the project “School 2030” while reforming the system of Latvia, in order to provide compliance with the 21st century educational paradigm, a further consistency of the educational process is emphasized starting from the pre-school educational institution up to the secondary school graduation. The main emphasis of the consistency is to develop a common base for the learning process, based on specific learning areas, transversal skills and virtues / values.

The goal of the research: analyse the development of transversal skills in primary school (Classes 1-3).

Research objectives:

1. Analise scientific literature on the theoretical background of transversal skills in the 21st century education.
2. Study the results to be achieved in the transversal skills development in Classes 1-3 of primary school, looking at it in the relation to the result of the development of pre-school transversal skills.
3. Describe the importance of transversal skills in the age group to be studied, raising the significance of further studies.

Document analysis and content analysis have been performed in the study. In the research the most important planning documents influencing the educational process have been analysed: “Sustainable Development Strategy of Latvia until 2030,” “National Development Plan of Latvia 2014-2020,” “National Development Plan of Latvia 2021-2027,” “Provisions on Basic Education Standard and Models of Basic Education Programmes,” “Pre-school Education Programme.” The classification of transversal skills offered by different organizations has been used for the transversal skills analysis.

Priorities of Latvia Education System and Their Implementation Within Project “School 2030”

As it has been stated in the “Sustainable Development Strategy of Latvia until 2030,” the most important resource of Latvia is the human capital, therefore the change of education paradigm is roused, envisioning the transfer for the education system, which is mostly directed towards the logical thinking and intellect, to a system which promotes intuitions, emotions, creative ideas, develops critical thinking and is able to generate new visions and values (PKC, 2010]). The significance of lifelong learning is especially emphasized,

highlighting that just the quality of basic education and secondary education is the prerequisite for successful studies and further career (PKC, 2020).

Visions included in the planning documents are implemented within the project Nr.8.3.1.1/16/l/002 or "Competence-Based Approach in Curriculum" (VISC, 2016) which is recognized in the society as the project "School 2030". Implementation of this project envisages the development of such a learning process whose goal is a proficient pupil who is willing and ready for lifelong learning, can solve real-life challenges and creates innovations (Skola 2030, 2017).

The most essential changes that affect the curriculum envisage that in future education should be divided into the pre-school stage, basic education stage (dividing it into three sub-stages: Class1-3, Class 4-6, and Class 7-9), as well as the secondary education stage. In all these three stages the study process is based on three common elements – acquisition of transversal skills, development of virtues/values and content acquisition of seven study fields, planning the learning process – in the fields of languages, social and civic, cultural awareness and self-expression art, natural sciences, mathematics, technologies and health and physical activities.

With special emphasis on the transition to the new curriculum, during the stage of classes to be studied, it should be noted that the transition is planned for Class 1 in 2020/21, Class 2- 2012/22, Class 3 – 2022/2023.

Classification of Transversal Skills in Context of 21st Century Education Paradigm

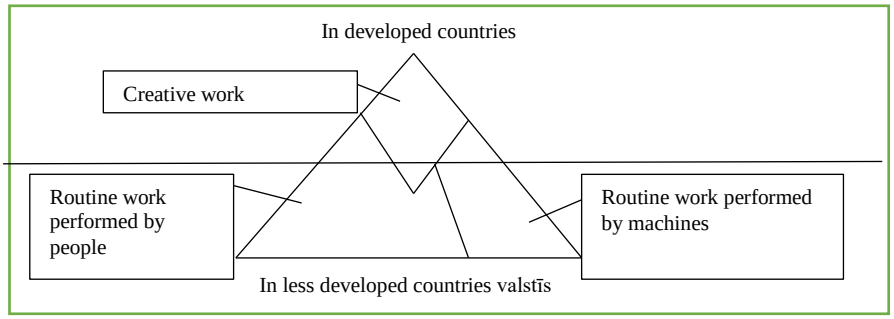

Figure 1 ***Importance of Creative Work in Developed Countries*** *(Trilling & Fadel, 2009)*

The new education paradigms are related to the change of the mindset of the era which envisages the transfer of the post-industrial society to information society (Briška, Klišāne, Brante & Helmane, 2006) or knowledge society (Trilling & Fadel, 2009). Social skills, the ability to assess critically information and the desire for lifelong learning have become an essential component for a

successful personal development and professional activity (Oliņa, Namsone & France, 2018).

Knowledge as the central object of the learning process is replaced by competences, which are based on the interaction of knowledge, skills and attitudes in different combinations (Aramaviciute & Martishauskiene, 2006, Kalniņa, 2014). Such changes are mainly related to the new requirements of the labour market where technologies replace gradually the less skilled workforce, and creativity, innovations and global competitiveness are becoming increasingly important (Figure 1).

Understanding of the learning process at school is changing, where the pupils' activity in the learning process is highlighted as the background of the pedagogical approach. The role of the teacher as the central provider of knowledge is no longer accepted, but it is acknowledged that learning is only possible with the individual's motivated involvement (Helds, 2006; Talts, Sikka, Mägi, Vikat, & Kurk, 2006; Maslo, 2003).

The issue of transversal skills becomes topical, as independence is not possible in the learning process if one lacks the necessary skills. Active debates are going on about the significance of transversal skills in both science and politics. Currently it has not been possible to create a common classification of transversal skills and agree on the exact use of the term. Transversal skills are also called as basic skills, employability skills, key competences and the 21st century skills. The concept of transversal competences is also used (Viska project, 2017).

In the context of the article the authors, referring to the new curriculum of the Latvia education system, use the term transversal skills, meaning "skills which have been acquired in one situation or area and which can be applied in other situations or areas" (AIC, 2016, 74).

In various documents and studies the classification of transversal skills is dissonant/different. In one of the formulations of the classification of transversal skills there have been listed such transversal skills as collaborative problem-solving, learning to learn and continuing to learn, digital competences and mindset, initiative and independent thinking, resilience, adaptability, cultural awareness and expression (Whittemore, 2018). Whereas, the United Nations have named such basic skills as communication skills, collaboration skills, teamwork, planning and organizing, accountability, creativity, client orientation and commitment to continuous learning (UNO, n.d.). According to another classification such transversal skills are essential as critical thinking, communication skill, collaboration skill and creativity and innovation skills (The Ontario Public Service, 2016). Even though differences can be noticed in the classification of transversal skills, the unified core of the skills is clear, i.e., the skills which are essential, necessary, reusable, transformable and not specifically

related to a field, job or discipline are acknowledged as transversal skills (Mateo et al., 2019).

Undeniably, different skills have also been topical during the industrialization and post-industrialization age, albeit the content of the skills has changed significantly. The industrialization and post-industrialization society was based on the so called 3R skills – Reading, wRiting and aRithmetic skills (Keane, 2012).

Figure 2 ***Core Skills of Industrial Society*** *(Keane, 2012)*

In its turn, nowadays the skills structure is viewed in a more complex way and the debate is most often about the so called 4C skills – critical thinking, communication skills, collaboration skills and innovation/creativity (Kivunja, 2015, Trilling & Fadel, 2009). These skills also form the central core of the transversal skills, which, in spite of the classification differences, can actually be seen in all definitions of these skills. Nevertheless, it should be emphasized that there is no intention to replace the old ones, but rather supplement them (3Rs+4Cs) (Keane, 2012).

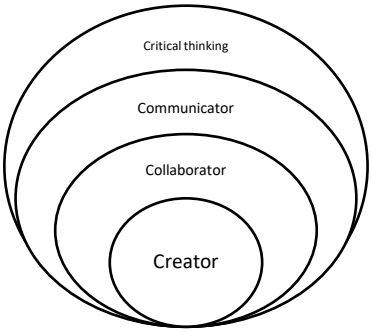

Figure 3 ***21st century 4C Skills*** *(Kivunja, 2015)*

Critical thinking and problem-solving skills are currently being analysed as the cornerstone of the 21st century learning. This concept is basically analysed as goal-oriented thinking (Stanford Encyclopaedia of Philosophy, 2018), which includes in itself the skill to solve unfamiliar problems in different ways, which during the age of global economics and technologies is an extremely essential skill throughout life (Kivunja, 2015). Also, collaboration and communication skills are important components of transversal skills. The skill to communicate

clearly is meant by these skills which includes in itself both an articulated speech, efficient listening and goal-orientated collaboration (Trilling & Fadel, 2009).

The innovation/ creative skill is acknowledged as the central skill of the new age, which currently takes the central place in the most important planning documents of different states, including Latvia. As it is mentioned in the *Sustainable Development Strategy of Latvia until 2030*, then "countries with expensive human capital are internationally competitive only then if their human capital is good at innovation (…) Nowadays innovation is no longer only limited to high technologies, but also to creation and implementation of new ideas in each field of activity, therefore it is increasingly important for national competitiveness to involve as many people as possible in the creative process" (PKC, 2010).

In general, according to the 21st century education paradigm, learning is a lifelong process. However, it is the experience gained during school that influences these lifelong learning skills in later life (Maslo, 2003).

Relevance of Transversal Skills Development in Primary School (Classes 1-3)

From 2018, the new standard of basic education entered into force whose goal is to provide a successful transmission of knowledge, skills and values through all vital stages of education, preparing the individual for the process of lifelong education. Further on, the result to be achieved is set as the main quality indicator of knowledge and skills development whose goal is to help understand whether the pupil has acquired the necessary knowledge, skills and attitudes in the particular field and age group. As it is stated in the standard of basic education: "The envisaged outcomes for the pupil to be achieved are complex, they reveal the final outcomes in activity, include knowledge, understanding and basic skills in fields of study, transversal skills, values and virtues and are expressed as requirements in fields of study" (Ministru kabinets, 2018).

Even though in the course of the learning process, according to the new education reform, transmission of educational values can be noticed, it is important to emphasize the significance of the first stage of primary education (Classes 1-3) in transversal skills development. One should take into account that despite the acquired learning skills in the pre-school educational institution, the results set to be achieved for the pupil, related to transversal skills, when finishing Class 3 and moving on to the next stage, are more complex and they confirm the importance of the period. In the *Sustainable Development Strategy of Latvia*, it is stated that in pre-school and primary school (after the Latvia Education Reform the term of primary school to mark the stage of Classes 1-4 is no longer used, today the term basic school is used (Classes 1-3; Classes 4-6; Classes 7-9))

education has to be directed towards the development of the child's communication skills, individuality and curiosity (PKC, 2010).

The following transversal skills are defined in the context of Latvia education system – critical thinking and problem-solving, creativity and undertaking, self-guided learning, collaboration, civic participation and digital skills.

To analyse and understand the most essential changes on the level of the results to be achieved, three transversal skills have been used for comparison – critical thinking and problem-solving, self -directed learning and collaboration skill. The particular skills have been selected based on the authors' knowledge on the significance of the skills for the quality assurance of the further learning process.

Table 1 ***Outcomes to be Achieved in Transversal Skills in Pre-school*** *(Pre-school Education Programme, n.d.)* ***and at the End of Class 3*** *(Ministru kabinets, 2018)*

	Pre-school	**Basic School Class 3**
Critical thinking and problem-solving	The child uses algorithms for everyday activities in familiar situations, formulates simple coherences and sequences of actions, identifies a familiar situation, causes and consequences of events, learns to assess the credibility of information, make decisions and choices, and assess what has been done.	- Formulates open cognitive questions in situations related to personal experience. Compares, interprets, evaluates, connects and arranges simple information according to the provided criteria. Looks for verified facts, checks them themselves; - Recognizes and formulates problems in a binding context related to personal experience. Sets a goal with the help of a teacher, offers solutions, chooses the best solution; Characterizes own experience in similar situations, comes up with ideas for solutions. With the help of teachers creates a plan to solve the chosen problem, implements it through learning several problem-solving strategies and evaluates the result.

Self-guided learning	The child distinguishes emotions and determines their causes, learns to control their behaviour, observes the daily routine, is able to wait, is able to complete the activity, gets dressed independently and tidies own possessions , learns to set a goal for their activity, plan activity in order to implement the intention, acts independently , overcomes hardships with a support, learns to perform the assigned tasks, takes pride in their achievements, failures and mistakes are seen as part of learning, assesses their own and others' activity and its result, explains their assessment.	- Names and applies several strategies for keeping attention, memorizing and remembering; - Explains the impact of different emotions on their thinking and behaviour; - In the learning process, with the teacher's support, follows the fulfilment of the previously set achievement criteria and evaluates their learning activities and learning experience.
Collaboration	The child expresses their opinion and feelings, learns to listen to others and say their opinion, starts to understand how their own emotions and behaviour affects others, learns to solve conflict situation, coordinate activities with others, behaves politely and acts in a sympathetic way, learns to establish sustainable relationships and their understanding of friendship, helps and accepts help, learns to work, setting a common goal, takes and shares responsibility.	- Ensures that the interlocutor has understood what has been said. Directs purposefully the conversation with the teacher's support in order to understand each other and applies consciously their social skills to establish and maintain positive relationships with others and get involved in social relations; - Collaborates with others to perform common and constructive tasks.

As it can be seen in the table provided, the results to be achieved in these transversal skills, which in the pre-school education stage are general and related to the first independent work skills, after the transition to the basic education stage, an impressive development of them is envisaged by the end of Class 3. For instance, in the critical thinking and problem-solving skill, during the first three years of school independent questioning skills have to be acquired, also the skill to analyse, interpret, assess etc. has to be developed. During these years, pupils have to improve not only their problem-solving skills, but also acquire the first problem-solving strategies. A similar situation is with the self-guided learning skill, for during the Class 1-3 stage of basic education the acquisition of the information memorization and recollection strategies and strengthening of metacognitive skills is envisaged, evaluating their own learning work and learning experience. Turning to the third of the described transversal skills - the collaboration skill, which is recognized as one of the most essential learning skills in the 21st century – the pupil has to be able not only to apply successfully their

communication skills upon reaching Class 3, but also direct them to solve constructive issues.

In general, focusing on the learning outcomes to be achieved, highlighted in the table, and comparing them with the above-described transversal skills raised in the 21st century, which are necessary throughout life, topicalization of these learning skills can be noticed in this age group.

Moreover, it is important to emphasize the pedagogically psychological significance of the age group in the development of transversal skills. As it is mentioned in the report on education for the 21st century submitted to UNESCO by the International Commission, attitudes towards lifelong learning are created in families, but in a broader sense, also during the stage of basic education, in which pre-school and primary school are included as well. This particular time is described as time in which skills are acquired to apply tools to develop a sense of judgment and responsibility in the future, since we learn to know the world around us (Delors et al., 2001).

From the pedagogically psychological point of view the age group of Classes 1-3 is assessed as important, for essential changes in the child's development are noticed which affect their possibilities to improve their transversal skills in compliance with the requirements set in the standard. At the age of about 7, there is a significant improvement in thinking operations. The main qualitative changes are related to the development of analysis, synthesis, comparison, generalization, classification and specification skills (Kalvāns, 2018). According to Piaget (Piažē), during the pre-school age there is the so called pre-operational stage which is related to several thinking restrictions, i.e., children's thinking during this time is concrete, irreversible, egocentric, it tends to be centred and during this timechildren focus their attention on the changes going on at that moment, whereas reaching the school age (6-12 years) important changes can be noticed in the child's cognitive development. In a pupil of Class 1, a gradual change in thinking can be observed in the intellectual development, which becomes less intuitive and ego-centric with a gradual transition to logical thinking. Similarly, children's thinking becomes more reversible, flexible and complex. Skills to determine causes and see regularities improve, also memory and metacognitive thinking develop rapidly (Piažē, 2002).

The development of transversal skills requires the components of the learning process to be reviewed– the pupil, teacher, content and surrounding environment. Any innovations that affect one of these elements in the process of change influence everyone else (Guilland, 2016), therefore the development of transversal skills in this particular and all other subsequent stages of education has to be considered as a complex process.

Changes in the study process affect not only the selection of teaching methods, but they also influence the awareness of the process in general. In the

scientific literature such development elements of transversal skills have been highlighted, which after being adapted to the peculiarities of the age group, can be applied in the skills development in Classes 1-3 (Pellegrino & Hilton, 2012): 1) the study process has to be directed towards the pupil. The development of transversal skills has to be related to the variety of tasks and their connection to real examples. The learning process with going deeper into the subject has got an active role – analysis, synthesis, evaluation, problem-solving etc. (Namsone & Oliņa, 2018); 2) The learning motivation becomes particularly important (Pellegrino & Hilton, 2012). If the learning process and development of transversal skills within its framework are directed towards the pupil, then this approach cannot be purposefully implemented in the study process with pupils of low motivation; 3) Targeted formative assessment must become an integral part of the learning process. In the development of transversal skills, formative assessment has to serve as a tool to help pupils see their learning goals, follow constantly the pupils' learning process and allow pupils to do their self-assessment (Pellegrino & Hilton, 2012); 4) Advantages of interactive learning environment have to be applied which allow them to develop and express new skills (Guilland, 2016).

Taking into account that the new model of Latvia education system is based on consistency, whereas the consistency is related not only to the school stage, but the significance of lifelong learning is also emphasized, qualitative and purposeful development of the skills during this age group is essential for further development and application of qualitative transversal skills throughout life. Thus, according to the authors, further empirical studies should be carried out in order to find out the level/ compliance of transversal skills with the results to be achieved at the end of pre-school and when starting school, as we are comparing it with the situation at the end of Class 3, proceeding with the research on the development of a didactic model for the development of transversal skills.

Conclusions

Assessing tendencies of the 21st century, the awareness of the educational process also changes. Currently the main objective of education is no longer transmission of knowledge, but rather acquisition of the skills necessary for the era, which would enable lifelong learning and adaptation to changing circumstances.

Transversal skills occupy the central place in the lifelong context. They are characterized by relevance, necessity, reusability, transformation depending on the conditions and their significance regardless the field or profession.

The classification of transversal skills is varied. However, the central ones are critical thinking, collaboration skills, communication skills and the creativity/innovation skill.

When commencing the implementation of the project "School 2030" in compliance with the 21st century paradigm, the Latvia education system is also reformed, in which the further development of transversal skills in three successive stages of education - pre-school, basic school, secondary school- is of great importance.

Starting school is essential for the acquisition of transversal skills, as the transversal skills defined in the standard of basic education, which in pre-school are based on comparatively simple everyday activities, envisage achievement of a more complex result based on cognitive activities when finishing Class 3. During the Classes 1-3 stage profound work has to be performed to develop the skills. However, basically, the studies related to the phenomenon to be researched up to now have been based on justifications for the changes, therefore further empirical studies and development of an appropriate didactic model of transversal skills would be important.

The development of transversal skills is complex. The study process has to be directed towards the pupil as an active participant of learning. More attention ought to be paid to the learning motivation, formative evaluation, interactive learning process based on the experience of developed teaching methods and didactic approaches.

Introduction of the new curricula in Class 1, commenced on September 1, 2020, will be continued in Class 2 on September 1, 2021, but in Class 3 on September 1, 2022. Introduction of the guidelines for the development of transversal skills in the learning process are in the approbation process currently, therefore it is essential to pursue the research in order to develop suggestions and provide support to teachers for a further study process provision.

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