

## The promotion of self-directed learning in Pre-school: Reflection on teachers' professional practice

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### Abstract

A learning environment that offers the opportunity for the child to explore the world, express him/herself and use everyday life as a learning experience forms the basis for a child's self-directed learning. This research's objective is to discover the determining factors of the child's self-directed learning, revealing the challenges faced by the teachers in organizing self-directed learning process. This is a phenomenological research study, designed as a mixed sequential qualitative and quantitative study, which implies a qualitative processing of the initial data. 150 teachers from different regions and cities of Latvia completed the survey. The interviews were conducted with seven participants. In this study, 50 self-assessments of pre-school teachers were analysed focusing on the quality of their professional activity. We discovered a shift in teachers' understanding of their professional pedagogical activity, its content and implementation methods related to metacognitive abilities, in order to effectively plan, organize and evaluate their pedagogical strategies.

**Keywords:** pre-scchool; child's self-directed learning; teaching.

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## 1. Introduction

Pre-school education is the first educational stage in the Latvian education system, during which the child's personality is formed in many ways. Experience of the surrounding world, skills, attitudes and perceptions are necessary for the development of the child's self-directed learning skills, as well as for successful acquisition of the next level of education. Unfortunately, the exploration of the situation shows contradictions between pre-school education and successful implementation of learning activities at school, revealing underdeveloped skills of pupils, such as listening, completing work, solving problems independently, expressing ideas, as well as increasing cases of failure when implementing the learning activities (Pētījums par vispārīzglītojošo skolu 1. klašu skolēnu gatavību pamatizglītības satura apguvei, 2007; OECD; European Commission, 2018).

Not only the learning outcomes, but also the child's personal life and society as a whole reveal a significant contradiction of the contemporary learning process, related to the incongruence between the child's individual goals and the goals defined in the regulatory enactments. This problem is highlighted by the researchers of the Institute for productive learning in Europe (Böhm et al., 2011). The European Commission has emphasized the need for cooperation between the educational institutions and society, focussing on a common goal – the child's self-realization in the society (Boucher et al., 2014). Therefore, promoting the development of child's self-directed learning, the emphasis must be placed on the role of parents both in the context of pre-school education and society, because the parents or guardians have a significant impact on children's learning achievements and education in general (Liu, Sulaiman & Henning 2020).

In this context, the research on pre-schoolers' self-realization and on teachers' activities when developing a child-centred environment is of great importance (Mikelsone, Grava, 2018; Grava, Miķelsone, Vigule, Priede, 2017) as it reveals significant factors of child's self-directed learning such as a meaningful teacher's support, provision of a positive emotional experience and the opportunity to explore, solve the problems. The research also emphasizes the challenges of the pre-school teachers related to the shift in teachers' understanding on 1) teacher's professional pedagogical activity, 2) its content, and 3) implementation methods and evaluation of pedagogical strategy.

In EU report "10 Trends Transforming Education As We Know It" (2019), looking at the trends and visions for education in year 2027, *learning to learn* is mentioned as a value. We live in the world with rapid and increasingly unpredictable social and economic changes, which require lifelong learning and regular renewal and replenishment of skills, knowledge and attitudes. Therefore, in the context of lifelong learning, the ability to learn and self-directed learning are particularly important, and they must be developed starting from pre-school stage.

### 1.1. Characteristics of self-directed learning

In a learning environment that provides the child with the opportunity to arrive to a result on his/her own when solving a problem, the child's desire to explore the surrounding world is promoted. The skills that affect the self-directed learning are: ability to formulate a view and a judgement, problem solving, setting and achieving goals, planning of activities, self-assessment, reflection, as well as motivation, management of emotions and willpower (Purēns, 2017).

Learning is an interactive process in which the subject of learning is not a person, but a person's interaction with the surrounding world. Therefore, it is important to strengthen the child's understanding

of him/herself as a full-fledged part of society already in pre-school, using inclusive teaching methods, tasks and activities related to the social processes in society. In order for learning to become personally important for a child, it is also necessary to find interconnections with current events in the child's personal life (Lave, Wenger, 1991). The *Eurostat* manual "Classification of Learning Activities" (2016) explains learning as any activity of an individual that is organized with the aim to improve knowledge, skills and competences, emphasizing the most important factors that influence the learning activities: 1) learning activity must be conscious (as opposed to accidental); it must have a specific goal; 2) learning activity must be organized, it includes the transfer of information (ideas, knowledge) and the learning strategy (Eurostat, 2016, 10). Thus, the learning outcomes can be achieved in any life situation, which has taken place unintentionally, but the learning activities implemented by the teachers must be goal-oriented, ensuring the opportunity for the child to be part of planning and organizing of these activities.

In preschool, the development of self-directed learning skills takes place by integrating their acquisition in all fields of learning (Vanags, 2019) and in daily activities, such as learning self-service skills, recognizing one's emotions, learning to choose, setting goals and achieving them, self-evaluation, etc. Self-directed learning is related to the regulation of thought processes, emotions and behaviour. In order for a child to be able to direct his or her learning, it is important to become aware of the emotions, thinking and behaviour (Vanags, 2019).

Some other important factors that influence children's self-directed learning are – individual characteristics of the child and the previous experience that has developed in the family or in a specific environment. The mood and behaviour of pre-school children are influenced by subjective daily developments, which are taken into account in the holistic learning process. Subjective factors influence the development of children's Self-experience or subjective experience. In the process of self-development, only individually gained experience is able to form its new reactions (Выготский, 2010).

A child's positive emotions and experiences, a positive emotional attitude towards him/herself influence the learning productivity, promoting the use of full personal potential (Martinsone, 1999; Byington, Tannock, 2011). In the studies by Harackiewicz, Hulleman (2010) ; Hidi & Renninger (2006) it is emphasized that positive emotions arise as a result of interest. In turn, the positive emotions are one of the determining factors in the process of forming an individual interest. This way the interrelationships of positive emotions and interests are revealed, as well as the importance of positive emotions both in the child's personal life and in the learning process in general (Benavides, Dumont, Istance, 2012; Zull, 2004).

The emotional environment is of great importance for setting and implementing an individually significant target, as activity component is part of the positive emotions (Locke, Latham, 1990). Therefore, the development of self-directed learning is related to the process of children's personal growth, which also includes setting realistic and practical goals, making decisions as well as achieving the results in any sphere of activity – social, spiritual and learning activity (Vorobjovs, 1996; Linde, 2003; Alijevs, 2005).

### **1.2. Professional activity of a teacher in organizing self-directed learning of children**

In the OECD (2004) study "Problem Solving for Tomorrow's World", the life skills are emphasized as important learning outcome, which also includes the development of an understanding of responsibility. The competence to adapt to different life situations and changes is provided by the acquisition of transversal skills, which form the basis for a successful life (Care, Luo, 2016). In the

organization of learning process, the transformative learning is important, as well as learning situations based on a child-centred approach, providing an environment for the child's cognitive development, acquisition of social and life skills, and creating a positive learning experience from emotional, cognitive and social aspects (Maslo, 2015). Thus, it is important to provide children with the opportunity to acquire transversal skills, which can be used in different life situations already in pre-school, creating a balance between children's independent, creative activities and activities organized by the teacher.

The developmental environment of child's self-directed learning also includes a conscious and purposeful use of IT in the pedagogical process. This is confirmed by the Digital Transformation Guidelines for 2021-2027 (2021), recognizing digital competence as one of the main competences of lifelong learning, and requesting a significant increase of digital competence at all educational stages, including pre-school.

Metacognitive abilities are linked to the thinking process and the development of self-directed learning. They are needed to effectively plan, organize and evaluate one's pedagogical strategies (Fadels, Bialika, Trilings, 2017). It also requires a change in teachers' understanding about their professional activity, its content and implementation methods.

The concept of self-directed learning can be compared to the strategic learning approach defined by Pietersen (2010), which is based on the ideas of constructivism, emphasizing the need to create a learning strategy for each child individually as well as for the group as a whole, linking learning activities to the interests of society and surrounding environment. Thus, developing of a strategy (creation of environment, choice of methods, planning of learning activities, etc.) as well as the activity and the need to experiment become important. Pietersen (2010) defines learning strategy as a set of child's choices, but Engeström (1987) stresses the need for such set of choices for solving any task or problem, embracing a radically wider horizon and the possibility of discovering one's interests and direction of development. Thus, the correlations can be seen when implementing the differentiation in the planning and management of the learning process, where it is important to respect each child's abilities and accordingly adapt differentiated tasks, offering several ways of learning, so that children can use the one that corresponds with their learning abilities and style of perception (Munro, 2012).

The professionalism of a teacher is characterized by the ability to adapt and evaluate one's activities and position, emphasizing the practical application of knowledge in new situations, which is not reproduction of knowledge (Bialika, Fadels, Trilings, 2015). Hattie (2012) also believes that positive change – the process of transformation takes place both in the student and in the teacher. However, the disruptive aspect of the learning process is the teacher's belief that students are not able to change their attitude towards learning, as well as the belief that nothing needs to be changed in teacher's professional work. Thus, the teacher must not only improve the professional competence, but also strengthen the belief that all children can achieve good learning outcomes.

Also, Finks (2013) stresses the need for a thoughtful teacher's participation in the learning process and includes six components in Taxonomy of Significant Learning: 1) learning how to learn, 2) basic knowledge, 3) accountability, 4) application, 5) human dimension, and 6) integration. The taxonomy puts forward certain dimensions of pedagogical activity, characterizes the trends of change in society and in the educational process, revealing the need for a positive change, especially focusing on children's attitude towards the learning process and on connection to the child's personal life (Fink, 2013). Positive emotions and experiences of children are just as important as conclusions, thoughts and judgments. Therefore, in the pre-school environment, it is also important for the teachers to understand

their emotions, to develop the skills of analysing emotional experiences, improving the understanding of the child in order to support child's experiences (Locke, Latham, 1990; Byington, Tannock, 2011).

Analysing the concepts 'surface approach' and 'deep approach' (Marshall, 2009; Benavides, Dumont, Istance, 2012), it can be concluded that the deep approach, which is based on internal motivation, should be used for the development of child's self-directed learning. As a result, the child is motivated to understand and create new knowledge in the learning process on the basis of existing knowledge (Fry et al., 2009). In contrast, the surface approach focuses on memory (the lowest level of Bloom's taxonomy – knowledge) and it aims to make the child to remember information for a certain period of time, as when preparing for school, thus external motives are dominant for acquiring knowledge, which in this case is needed for receiving a positive evaluation.

### **1.3. Purpose of study**

In preschool, the child develops the first conscious learning experience, which is maintained and improved later in life, creating the basis for self-directed learning (Kolb, 2015; Špona, Jermolajeva, 2015). Through self-directed learning, the child emotionally and systematically acquires new knowledge and conscious thinking skills. This determines the need for using different strategies, methods and pedagogical techniques in the learning process when performing certain tasks (Mazpane, Vanags, 2019). Thus, it is important to find out the determinants and components of formation of child's self-directed learning skills, understand the contradictions of childhood and the conditions of children's learning development, as well as to identify the challenges and perspectives of teachers' professional activity implementing self-directed learning in pedagogical practice of pre-school. The research question: What are the challenges for pre-school teachers when implementing self-directed learning in preschool?

## **2. Methodology**

### **2.1. Research design**

This is a phenomenological research study, and its design can be described as a mixed sequential qualitative and quantitative study, which implies a qualitative processing of the initial data. In the collection of research data, a mixed approach has been applied, where successive results of a quantitative method are detailed or expanded with a qualitative method. The obtained data are analysed and interpreted in relation to educational practice, particularly pre-school education. The phenomenological research focuses on a deeper exploration of the problem, focusing on details and interrelationships, describing teachers' experience, pedagogical challenges faced by pre-school teachers in Latvia when implementing self-directed learning in pre-school.

### **2.2. Participants**

The respondents were selected based on subjective selection criteria, i.e., the convenience technique, justified by non-probability sampling. The questionnaires were distributed in various pre-school educational institutions in Latvia. 150 teachers from different Latvian regions and cities completed the survey.

### **2.3. Data collection tool**

The research made use of questionnaires, and interviews. When developing the questionnaire, it was important to include the questions that would reveal the teachers' pedagogical experience and

understanding of the implementation of self-directed learning in pre-school education. In order to identify the non-standard or unusual answers, as well as the personal attitude of respondents towards the research problem.

The number of respondents is not large enough to apply the obtained data to the pre-schools of the whole country. At the same time, the data obtained from different respondents are relatively similar, as well as correspond to the information obtained from interviews, which means that the answers provided are most likely to provide valuable insights about Latvian pre-schools. Also, the comparison of data with regards to different sections (age groups, pedagogical work experience, regional location, etc.) is only indicative.

The interviews were conducted with seven participants: principals and methodologists of pre-school educational institutions, and pre-school education teachers, and the obtained data were analysed using a content analysis method. The coding categories were selected based on analysis of scientific literature on the conditions of teacher's pedagogical activity for the implementation of child's self-directed learning. For research purposes, 50 pre-school teachers' self-assessments on quality of their professional activity were analysed (in the period of 09.01.2019 - 08.31.2020), which reveals the teachers' understanding, experience and challenges in organization of self-directed learning for children

### 3. Findings

Analysing the data collected from the survey, interviews and teachers' self-assessments, the opinions of pre-school teachers, principals and methodologists were studied with regards to children's self-directed learning, its importance and impact on the child's ability to successfully integrate in the learning process.

#### 3.1. Theoretical research findings

It can be concluded that the beginnings of child's active operations are transformed into self-realization and self-development in connection with the personality qualities and the will, which manifests itself through the independent identification of child's interests and needs, matching expectations with the knowledge, skills, abilities and opportunities, as well as organizing activities for approaching the goal sequentially.

Summarizing the theoretical research findings, the determining factors of children's self-directed learning are defined, emphasizing the pre-school teacher's activities for development of self-directed learning (see Table 1).

**Table 1:** *The determinants of children's self-directed learning and the corresponding activity of the pre-school teacher*

The determinants of children's self-directed learning	The corresponding activity of the pre-school teacher
<b>Interest</b> , satisfaction of <b>cognitive</b> and <b>subjective needs</b> (Hidi, Renninger, 2006; Harackiewicz, Hulleman, 2010).	Creating an environment and the planning of learning process - creation of a developmental environment, - involving children in the planning of learning process.
Searching for alternative in <b>creative, research activity</b> , as a result of which subjective experience is formed; revelation of experience, exploring and implementing abilities, potential possibilities (Rogers, 1970, Выготский 2010).	Organization of the learning process

<p><b>Activity</b> that transforms into self-development and self-realization (Rogers, 1970; Aliyev, 2005).</p>	<ul style="list-style-type: none"> <li>- differentiation,</li> <li>- a balance between teaching and independent creative activity of the child,</li> <li>- organization of the child's self-reflection</li> </ul>
<p>Formation of <b>emotions of joy, positive experiences and attitudes</b> towards oneself and the surrounding world (Locke, Latham, 1990; Martinsone, 1999; Byington, Tannok, 2011).</p>	<p>Attitude towards the child, support</p> <ul style="list-style-type: none"> <li>- positive attitude towards the child,</li> <li>- support for the child's initiative and self-realization</li> </ul>

Based on the research analysis, it can be concluded that the development of children's self-directed learning requires the interaction of both components – internal need and motivation, and favourable external conditions.

### 3.2. Pre-school teachers' professional self-assessment directions

The analysed teachers' professional self-assessment directions are summarized in Table 2.

**Table 2.: Pre-school teachers' professional self-assessment directions**

Self-assessment directions	Content
<p>Planning and management of the pedagogical process and evaluation of the results of the teacher's activity (efficiency of the pedagogical process, purposefulness, outcomes)</p>	<ul style="list-style-type: none"> <li>Observance of educational normative documents in pedagogical work</li> <li>Organization of the study process and evaluation of the results of the teacher's activity</li> <li>Organization of upbringing activities and evaluation of the results of the teacher's activity</li> <li>Analysis of competency development of learners</li> </ul>
<p>Teacher's contribution to the development of the learner's individual abilities and to the meeting of needs of learners</p>	<ul style="list-style-type: none"> <li>Providing support to learners</li> <li>Cooperation with the learner's family</li> </ul>
<p>Cooperation, accumulation and transfer of experience</p>	<ul style="list-style-type: none"> <li>Teacher's research activity and application of innovations in daily work</li> <li>Professional development of teachers and application of knowledge in daily life</li> <li>Use of foreign languages</li> <li>Use of information and communication technologies in the learning process</li> <li>Teacher's activity in professional organizations, cooperation with educational institutions</li> <li>Sharing of experience, skills and the knowledge transfer to colleagues, learners, society</li> <li>Teacher's analytical activity</li> </ul>

The data obtained from the descriptions of teachers' self-assessments are analysed in an integrated way, together with the data gathered from the interviews and survey.

### 3.3. Development of the learning environment and planning of the learning process

Examining the opinion of educators about the factors promoting self-directed learning of pre-school children when planning the pedagogical process (see Table 3), it can be concluded that the most important factors, which educators take into account, are the interests of children (92%) - *“Interest is*

really important because it is the biggest motivation for learning something new”, and previous knowledge (89%). Observance of these factors ensures successive acquisition of knowledge, and children's interest promotes the learning motivation (Benavides, Dumont, Istance, 2012). 69 % of teachers emphasize linking the learning to real life and children's independent activity. When things are done practically and the knowledge is applied to real-life situations, the knowledge and skills get strengthened. The individual learning was mentioned as important by 68 % of teachers, but 62% of respondents stressed the accessibility of learning materials, which, according to the teachers, is insufficient.

**Table 3.:** *The planning of pedagogical process for promoting self-directed learning skills of children (N=150)*

Factors that are important in planning the learning process	Proportion
The interests of children	92 %
The child's prior knowledge	89 %
Linking the learning content to the real-life experiences	69 %
Children's individual learning needs, peculiarities of cognitive activity	68 %
Children's ability to work independently, pace of activity	65 %
Accessibility of learning environment and learning materials	62 %
Children's ability to cooperate	48 %
Teaching style	27 %

Educators also emphasized the importance of environmental design, describing its necessary characteristics, e.g., *accessible, diverse, creative, safe, interesting*, etc. The key to learning environment is to “*create conditions that development of children could take place according to their learning needs, abilities and interests*”. Educators believe that the learning environment should be child-centred, children should have access to different materials, with which they can freely work in a convenient place. “*We create a playful environment together with children, according to the season, current events in the country or city*”. The data obtained from the surveys and interviews show that children get involved only in the planning of the topic, but not in setting the tasks for achieving the chosen goal. Educators believe that in order to involve children in the planning of the topic, “*a greater variety of learning materials and extra time is needed*”, and “*the educator must be very creative in order to be able to prepare and offer the necessary materials for the proposed topic*”.

The interview data revealed the characteristics of a developmental learning environment. Here are some of the comments: “*The environment should be engaging, promoting cognition*”, “*Children themselves should be involved in setting up the environment*”, “*The tablets are available for use in the learning process*”, “*Diversity is important*”, etc. Teachers’ self-assessment data suggests that often the “*learning space is separated from the toys, so that the leisure time toys would not distract attention from the educational process*”. This reveals a contradiction with the theoretical guidelines on play as a type of learning in pre-school (Sutinen, 2008; Majumdar, 2020). Therefore, when equipping the environment and planning the learning process, it is important to ensure the development of child's self-directed learning through practical activities and playing.

92% of the surveyed teachers admit that when implementing the chosen topic, they themselves set tasks for implementation of its goals, and then they inform the children, but 8% of the respondents believe that also children should be involved in setting the tasks and goals for the topic. Overall, the teachers’ self-



assessment descriptions indicate that the children's involvement in choosing the topic and setting the goal and tasks is not a priority in the planning of educational process. A general description on the child's involvement in learning (published also on the website of the project "Competency approach to learning content" (Skola2030) states the following: *"The pedagogical process in the group is organized according to the competency approach", "The monthly thematic planning is done together with the children, as a result it is clarified what do children want to learn and how the existing skills and abilities can be strengthened. On the first day of each month, a plan is design together with the children, answering three questions: "What do I know? What would I like to know? How can I get to know it?""*

Pre-school education methodologists and school principals believe that each teacher needs a deep knowledge about how the child learns, emphasizing the *"accessibility of the environment that the child have everything within the reach and could do things him/herself", "need for regulations, borders, to create a sense of security", "children's involvement in the planning of themes and activities", "the development of the child's basic skills so that it could be expected that child will do things him/herself"*.

Both pre-school teachers and methodologists, as well as pre-school principals acknowledge that there is a challenge to *"plan different tasks for children who are less motivated to learn and for those who are ready to move forward"*. Thus, when planning the learning process, the teacher suggests the topic, coordinates the planned tasks with the learning outcomes stated in the curriculum, and takes into account the children's learning needs and the compliance of the results to be achieved with the individual development of the child. For promotion of children's self-directed learning, the application of the differentiation principle in the planning of learning process is advised, emphasizing: 1) content - what children learn, 2) process – how children learn, 3) the results achieved, giving the opportunity for each child to learn at his/her desired pace and in a way that corresponds to his/her abilities and interests, as a result of which the learning process becomes meaningful and productive (Tomlinson, 2001).

The teacher's self-assessment data shows that in the planning process and when managing children's self-directed learning, the challenging issues for teachers are: curriculum integration in accordance with the areas of learning, learning organisation in the developmental centres, as well as ensuring the children's independent activity for the duration of the whole day.

Both the survey data (68%) and the teachers 'self-assessment data (74%) indicate that there are difficulties in organizing and implementing the pedagogical process due to insufficient IT skills of teachers. This is also confirmed by the data of the study *"Data Collection and Analysis of Foreign and Latvian Experience on the Availability and Use of Digital Teaching Aids for Providing General Education Curriculum"*, which says that although the pre-school children do not need to acquire skills to operate digital technologies, in pre-schools digital teaching aids are used episodically. This is explained by the fact that digital competences were not previously included in the list of competences to be acquired in pre-school, and therefore pre-school teachers used them only if they had information on the availability of such teaching aids and if it was technically possible to use them (Daniela, Rubene, Gobala, 2018). In this respect, there are correlations with the findings of Edwards (2017), who highlights a significant pedagogical problem related to the possibilities to effectively integrate the use of digital technologies and play-based learning already in pre-school. Recognizing that IT are increasingly more often recognized as an important aspect of the developmental environment in pre-school education, which promotes children's ability to integrate in a technologically advanced society, the need to improve the IT skills of pre-school teachers becomes relevant.

The pre-school teachers (76%), as well as principals and methodologists highlighted a number of problems, which they face in planning and organizing the learning process, e.g., *"too many children in the*

*group*", *"different abilities and intellectual development of children"*, etc. Describing the important factors of learning environment, respecting of children's individual learning needs and learning styles are mentioned. Analysis of data gathered from interviews, surveys and teachers' self-assessments did not reveal possible pedagogical solutions to these problems, for example, the differentiation of learning process, which offers several learning approaches so that children can use the one that is the most appropriate for their learning abilities (Munro, 2012).

Pre-school education methodologists admit that *"it is a problem for teachers to plan their work for a longer period of time, seeing the big picture and connections"*. As a solution, the planning of support measures are suggested for pre-school teachers, during which a joint learning and sharing of good practice would take place.

### **3.4. The organization of learning process**

From 2019, in Latvia, the competency-based learning content determines the implementation of child's self-directed learning in pre-school educational institutions. When describing the situation and assessing their professional activity, the pre-school educators admit: *"We are still learning – watching webinars"*, *"There are days when you succeed and there are days when the planned things do not work"*. In the situation, if some approach or the planned activity does not reach the planned results, it is important to objectively evaluate one's work and reflect on the specific situation, introducing specific changes to the future activities (Bialik, Fadel, Trilings, 2017). In the teacher's responses a positive trend can be noticed – teachers learn, make observations about the learning process, change approaches and seek new solutions. The following solutions are offered: *"It is necessary to think, to restructure, to form new habits"*, *"the routine approach and thinking needs to change"*, *"A greater emphasis should be placed on planning, keeping in mind the thought – what is the child going to do?"* Pre-school education methodologists and principals critically assess the teachers' skills of implementing the self-directed learning for children, emphasizing that the changes cannot happen immediately.

Currently there is a transition period and both educators and children are adapting to it. For the teachers it is important to see the essence of the needed changes and to understand the pedagogical and philosophical reasons for enabling self-directed learning in children. The pre-school education principals and methodologists admit: *"Teachers are different – one teacher is doing better and is more successfully, while another is not doing so well. It depends on the teacher's ability to change something in his/her thinking and approach as well as from his/her work experience: the more experienced the teacher is, the more difficult it is for him/her to change and accept something new"*. Then a methodologist continues saying that *"there are also teachers with a very large work experience, but who are very successful adjusting to new situations"*. Analysing the self-assessments of teachers, the correlation between the work experience and ability to adapt to the changing circumstances were not found. Thus, it can be concluded that implementing a new educational approach, the decisive factor is not the length of teachers' work experience; the motivation and professional competence are paramount.

Teachers (95%) believe that self-directed learning should start in a family, *"so that parents would be the ones who encourage their children to learn, seek knowledge, but in the reality, parents often believe that the teacher must teach everything"*. Thus, for the development of child's self-directed learning, a meaningful collaboration is necessary between the teacher and the child's family. Similar findings are expressed in research studies by Liu, Sulaimani, & Henning (2020), emphasizing the importance of parents' attitudes towards themselves as partners in the learning process.

Describing the organization of the pedagogical process, the educators acknowledge: *"I create problem situations and ask questions that begin with the words: What do you know about it? What do you want to know? Why do you think so? What did you learn? What else would you like to know?"* The small size of the group's premises is mentioned as problematic, as well as differences in understanding about the new curriculum. Educators believe that there is a lack of information about the formation of the learning structure and about its pedagogical and methodological substantiation. The parents' misconceptions about self-directed learning also poses problems: *'Children just learn on their own'*. In order to avoid such myths, it is important that educators explain the nature of children's self-directed learning in a way understandable to parents.

The implementation of child's self-reflection is also mentioned as a significant element of the pedagogical process both in questionnaires (48%) and teachers' self-assessments and interviews. The data analysis leads to the conclusion that the main task of self-reflection is to encourage children to express their views on what they liked or disliked, whether the achieved result was satisfactory or something should be improved. For example, *"I've tried to introduce the idea of a "Traffic light" metaphor; green colour (light) - I managed everything well, yellow - I was a bit mistaken and I needed help, red - I did not understand the task and could not complete it. The more advanced children in the group were happy to get involved and help those in need"*. The self-assessment data indicates that teachers believe that they organize self-reflection on a regular basis and it is successful. A different opinion is expressed by the pre-school principals and methodologists pointing out that children's self-reflection is mostly formal and its essence is not understood - *"children quickly answer that they liked everything so that they can focus on leisure activity they have chosen"*, *"not all children have a chance to express their opinion, as for them the time for thinking is too short"*. When organizing the learning process, it is important for the teacher to encourage and strengthen already known and acquired skills in new and unusual situations in a way that is interesting for the child. The acquisition of new knowledge is based on what has already been acquired. In order to promote the development of self-directed learning, it is important to involve the child in self-assessment – assessment of learning and achievements in age appropriate way, together with understandable feedback provided by the teacher while planning together with the child his/her further development (Buddrus, 1995; Robe, 2008).

Both the teachers' self- assessment and the survey data reveal that teachers positively evaluate the planning and organization of children's self-directed learning in the outdoor environment. But it cannot be defined as a recommendation to organization of children's self-directed learning, because 87% of the teachers admit that the institution's outdoor environment is not suitable for implementation of children's self-directed learning. *"The outdoor equipment is insufficient, and the learning aids are not enough to suffice every child"*, *"When outside, the kids want just to run, it is difficult to motivate them to learn"*, *"Going outside the institution's territory is difficult and time consuming"*. On the other hand, pre-school education methodologists and principals believe that organizing meaningful outdoor play activities should be considered a challenge for pre-school teachers, stating that *"it is more complicated, more effort is needed, one must predict and anticipate different situations"*, *"Unfortunately, there are teachers, who want to avoid the difficulties and therefore chose the easiest way"*. The pre-school education methodologists and principals believe that teachers have difficulties changing their thinking and pedagogical approach, because *"teachers are used to doing a frontal work, doing work in children's place, telling them the answers"*, *"they are used to being limited in time, therefore they often do not wait until the child solves the problem or answers the question"*.

The analysis of the survey and teachers' self-assessment data shows that the children's choice of activities is mostly related to time outside the activities organized by the teacher, or they have occasional character, such as a city festival, etc. In terms of selection of materials and resources, the choices are less

limited - children can use materials and resources, which can be found in places accessible to them, however, during the lesson, the learning materials are mostly determined by the teacher. This contradicts findings of Munro (2012) on the importance of differentiation in pre-school learning process, as each child should develop and purposefully move forward according to his/her skills.

### **3.5. Attitude towards the child, implementation of support**

The research data shows that educators mostly emphasize the material environment without mentioning the emotional environment. But self-directed learning presupposes that the child distinguishes emotions and determines their causes, learns to manage his/her behaviour. Recognition and management of emotions is one of the aspects related to self-directed learning (Pirmsskolas mācību programma, 2018).

The pre-school education guidelines state that the learning environment in pre-school must be appropriate to the child's individual needs, observing the principles of environmental accessibility, it is physically and emotionally safe, supportive, developing and changing, and adapted to learning and developmental needs of each child (MK noteikumi Nr. 716, 2018). Although the questionnaires and teacher self-assessment analysis reveal emotionally positive attitudes and implementation of support in the pre-school learning environment (some quotes: "*The group environment is arranged so that each of its learners would acquire the pre-school curriculum according to their abilities and skills, both individually and in collaboration with other group members*", "*A child can receive a teacher's support when needed*"), in the regulatory documents clear emotional safety criteria cannot be identified.

Self-assessment analysis reveals the teachers' knowledge of how to link child's positive emotions to the development of self-directed learning, such as "*children's views are always heard*", "*it is important to provide conditions for the development of children's learning skills*", "*children can make mistakes, and every failure is a new starting point*". However, the descriptions of self-assessments do not show the practical application of teachers' theoretical knowledge showing the lack of possible constructive solutions for improving their pedagogical competence. It forms correlations with the opinion of pre-school principals and methodologists about the need to improve teachers' skills to perform a meaningful self-assessment of their pedagogical activity.

Both the interviews and teachers' self-assessment data indicate priorities for pre-school education process – the learning outcomes and children's preparation for school, stating that "*not always we are able to offer the child to do what he/she is interested in*", "*it is great that every child develops to the best of his/her abilities, but it must be kept in mind that children must be prepared for school*", "*the school expects children to be as well prepared as possible*". This indicates a problem in the system of transition from pre-school to basic education, which also has a significant impact on the organization of a child's self-directed teaching in pre-school. It must be added that in Latvian education system the methodological recommendations for pre-school and primary school continuity are not developed yet.

## **4. Discussion**

The analysis of the theoretical and empirical research data allows drawing the following conclusions. In a pre-school learning environment, when the child is given the opportunity to come to his/her own conclusions when solving a problem, the child's desire to explore the surrounding world is promoted. Therefore, it is important to involve children in the planning, organization and implementation of the pedagogical process, offering a possibility to choose and encouraging child's own ideas.

Learning is an active, creative and problem-oriented process that begins in a familiar everyday environment, when a child encounters the unknown (Sutinen, 2008). The teacher's knowledge leads the child towards a new experience, maintaining a balance between the learning organized by the teacher and the independent learning performed by the child (Gordon, 2009). Thus, learning cannot be seen only as individual or as social process – individual cognitive and social processes must be integrated into the acquisition of knowledge, as the children learn in different ways: trying independently to solve a problem, collaborating with peers, as well as with the help of a teacher (Gordon, 2009). This allows characterizing the child's self-directed learning as a problem-oriented activity, emphasizing the child's role as a researcher of and the teacher's role as a supporter.

By creating respectful and positive cooperation with children and encouraging children to collaborate with each other, the teacher ensures an emotionally favorable microclimate and positive mutual communication (Valbis, 2005). Therefore, it is important to create joy of learning and joy of active participation, this way significantly influencing the results of self-directed learning. Promoting child's self-directed learning, the pre-school pedagogical process should be planned and organized in a following way: 1) emphasizing the child's interests, subjective needs, emotions of joy in creative and research activities; 2) supporting the child's self-realization, implementing the principles of developmental learning environment and differentiation, as well as creating a partnership between the educational institution and the society.

The empirical research data suggest that one of the important determinants of a child's self-motivated learning is creation of an interest-provoking environment and diversification of the learning aids and methods. The teachers use differentiation in offering tasks of different levels of difficulty, according to children's abilities and knowledge, and various forms of work organization, such as grouping children into subgroups taking into account children's knowledge and abilities, or to work with children individually to support their individual learning needs. However, it is important to look at differentiation from a broader perspective, for example, at differentiation of the learning process according to learning styles.

Analysing the obtained data from teachers' questionnaires and self-assessments, it can be concluded that in planning and organizing the learning process, teachers rarely take children's learning styles into account. Thus, it is essential to develop a multifaceted environment in which children use all forms of perception for exploring the world and acquiring new knowledge, skills and attitudes. Interaction between learning styles and self-directed learning is essential because learning styles consist of several elements – environmental, emotional, social, physiological and psychological factors. All these factors influence the comprehensive development of children and the provision of individual learning needs (Draiden & Vosa, 2005). Thus, when planning various learning methods in order to arrive at the desired learning outcomes, the teacher must ensure that the child's world is explored through all his/her senses.

## 5. Conclusion

The analysis of the research data revealed that teachers know and understand the essence of the child's self-directed learning, but in practice, it is implemented only partially. These are the challenges for teachers while implementing self-directed learning in pre-school: 1) involvement of children in planning of the learning process, 2) creation of a developmental environment, 3) balance between teaching and the child's independent creative activity, 4) organization of child's self-reflection. Based on the standards, elaborated by International Society for Technology in education (2016) on implementation of learning process for children at different ages, the developmental learning environment for pre-school includes meaningful use of IT, thus developing children's self-directed learning skills, which includes engaging in designing the learning objectives and achieving them, demonstrating of achievements, as well as their reflection on the learning process.

At a time when rapid changes are taking place in the world and also in the Latvian education system, teachers are adapting to new situations and developing skills to implement them. Thus, it is important for educators to see change as an opportunity for their professional growth. New approaches and change of thinking form the basis for the ability to plan and organize pedagogical processes to promote children's self-directed learning and to achieve the goal of pre-school education guidelines – to ensure comprehensive development of children, including social, emotional and transversal skills, values and morals. The role of the pre-school teacher is to help and support the children in the learning process, enabling them to continue school successfully and laying foundations for lifelong learning.

## References

- Alijevs, R. (2005). *Izglītības filosofija XXI gadsimts (Educational philosophy XX1st century)*. Rīga: Retorika.
- Benavides, F., Dumont, H., Istance, D. (2012). *The Nature of learning: Using Research to Inspire Practice*. Paris: OECD. <https://www.worldcat.org/title/nature-of-learning-using-research-to-inspire-practice/oclc/759381705?page=citation>
- Boucher, P., Nascimento, S., Tallacchini, M. (2014). *Emerging ICT for Citizens' Veillance Theoretical and Practical Insights Emerging ICT for Citizens' Veillance*. European Commission Joint Research Centre Institute for the Protection and Security of the Citizen. Luxembourg: Publications Office of the European Union. <http://journals.ru.lv/index.php/SIE/article/view/1381>
- Böhm, I., Borkenhagen, H., Mirow, H., Schneider, J. (2011). Productive Learning and school development in Germany. In: *Productive Learning and International School Development* 41- 56. Berlin: Institut für Produktives Lernen in Europa. <https://iple.de/Pdf/Productive-Learning-and-international-school-development.pdf>
- Buddrus, V. (1995). *Humanistische Pädagogik*. Bad Heilbrunn: Klinkhardt.
- Byington, T.A., Tannock, M.T. (2011). *Professional Development Needs and Interests of Early Childhood Education Trainers*. Early Childhood Research & Practice. Internet-only journal. Vol.13. No 2. Available: <http://ecrp.uiuc.edu/v13n2/byington.html>
- Care, L., Luo, R. (2016). *Assessment of Transversal Competences*. Paris: United Nations Educational, Scientific and Cultural Organisation. Available: <http://unesdoc.unesco.org/images/0024/002465/246590E.pdf>
- Daniela L., Rubene Z., Goba L. (2018). *Datu apkopojums un ārvalstu un Latvijas pieredzes analīze par digitālo mācību līdzekļu pieejamību un izmantošanu vispārējās izglītības mācību satura nodrošināšanai*. (Collection of data and analysis of foreign and Latvian experience on the digital teaching aids for the provision of general

education curricula) Available: [https://www.izm.gov.lv/lv/petijumi-0/datu-apkopojums-un-rvalstu-un-latvijas-pieredzes-analze-par-dml\\_20181.pdf](https://www.izm.gov.lv/lv/petijumi-0/datu-apkopojums-un-rvalstu-un-latvijas-pieredzes-analze-par-dml_20181.pdf)

*Digitālās transformācijas pamatnostādnes 2021.-2027. gadam* (2021). (Digital transformation guidelines for 2021 – 2027) (MK rīkojums Nr.490). Available: <https://likumi.lv/ta/id/324715-par-digitalas-transformacijas-pamatnostadnem-20212027-gadam>

Dryden, G., Vos, J. (2005). *The New Learning Revolution*. United Kingdom: Network Education Press.

EC OECD (2018). *Are students ready to thrive in an interconnected world?* PISA Results. Available: <https://www.oecdilibrary.org/docserver/d5f68679en.pdf?expires=1628516398&id=id&acname=guest&checksum=5D36080B885D2DA7D5FCFB52B335DA2B>

EC OECD (2004). *“Problem Solving for Tomorrow's world”*. Programme for International Student Assessment. Available: <https://www.oecd.org/education/school/programmeforinternationalstudentassessmentpisa/34009000.pdf>

Edwards, S. (2017). *Digital technologies and young children's play in early childhood education*. Available: [https://www.researchgate.net/publication/321171828\\_Digital\\_technologies\\_and\\_young\\_children's\\_play\\_in\\_early\\_childhood\\_education](https://www.researchgate.net/publication/321171828_Digital_technologies_and_young_children's_play_in_early_childhood_education)

Engeström, Y. (1987). *Learning by Expanding: An Activity-Theoretical Approach to Developmental Research*. Cambridge: Cambridge University Press: First Edition. <https://tinyurl.com/ygeqpvbf>

European Commission. European Political Strategy Centre. (2019). *10 trends transforming education as we know it*. <https://op.europa.eu/en/publication-detail/-/publication/227c6186-10d0-11ea-8c1f-01aa75ed71a1>

Eurostat. (2016). *Classification of learning activities*. Luxembourg: Publications Office of the European Union. <https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/ks-gq-15-011>

Fadels, Č, Bialika, M., Trilings, B. (2017). *Four-Dimensional Education*. Rīga : Lielvārds

Fink, L. D. (2013). *Creating Significant Learning Experiences: An Integrated Approach to Designing College Courses*. San Francisco: John Wiley & Sons Jossey Bass. <https://tinyurl.com/yh8sfvpe>

Fry, H., Ketteridge, S., Marshall, S. (2009). *Understanding student learning in Handbook for Teaching and Learning in Higher education*. New York: Routledge. <https://www.palieducationsociety.org/A%20Handbook%20for%20Teaching%20and%20Learning%20in%20Higher%20Education%20Enhancing%20Academic%20and%20Practice.pdf#page=27>

Gordon, M. (2009). *Toward A. Pragmatic Discourse of Constructivism: Reflections on Lessons from Educational studies*, 45-58. Available: <http://biologydiva.pbworks.com/f/Toward+a+Pragmatic+Discourse+of+ConstructivismReflections+on+lessons+from+practice.pdf>

Grava, J., Mikelsona, I., Vigule, D., Priede, L. (2017). *Challenges and solutions for preschool teachers in their educational practice*. 901 -909. 3 rd International conference on lifelong education and leadership for all. ICLEL 2017, Polytechnic Institute of Porto, Porto – PORTUGAL. ISBN 978-605-66495-2-3. Available: <http://www.ijlel.com/conference17/107.pdf>

Harackiewicz, J., Hulleman, C. (2010). The Importance of Interest: The Role of Achievement Goals and Task Values in Promoting the Development of Interest. In: *Social and Personality Psychology Compass. Volume 4, Number 1*, 42-52. <https://tinyurl.com/yfhgt2p2>

Hattie, J. (2012). *Visible Learning for Teachers: Maximizing Impact on Learning*. New York: Routledge.

Hidi, S., & Renninger, A. (2006). *The four-phase model of interest development*. Educational Psychologist. Volume 41, Issue 2, 111-127. [https://www.tandfonline.com/doi/abs/10.1207/s15326985ep4102\\_4?casa\\_token=eiSvqbTyCbYAAAAA:S4eIJ73FVBBGSIP2xzmirnUGmt\\_Qd9hyEnNSILEbj1E6Cj2uQ36yaAgBklwpBdrm0GRuzocxeqEUNtl](https://www.tandfonline.com/doi/abs/10.1207/s15326985ep4102_4?casa_token=eiSvqbTyCbYAAAAA:S4eIJ73FVBBGSIP2xzmirnUGmt_Qd9hyEnNSILEbj1E6Cj2uQ36yaAgBklwpBdrm0GRuzocxeqEUNtl)

Grava, J. & Pole, V., (2021). The promotion of self-directed learning in Pre-school: Reflection on teachers' professional practice. *Cypriot Journal of Educational Science*. 16(5), 2336-2352. <https://doi.org/10.18844/cjes.v16i5.6351>

International Society for Technology in Education (ISTE). (2016). *Standards for Students*. Available: <https://www.iste.org/standards>

Kolb, D. A. (2015). *Experiential learning: Experience as the source of learning and development*. New Jersey: Prentice Hall, Upper Saddle River.

Lave, J., Wenger, E. (1991). *Situated Learning: Legitimate Peripheral Participation*. Cambridge: Cambridge University Press. <https://tinyurl.com/yh3lo3cq>

Linde, N. (2003). *Vidusskolēna gatavība pašrealizācijai un tās attīstība mācību procesā (Readiness of a secondary school student for self-realization and its development in the learning process)*. Promocijas darbs pedagoģijas doktora grāda iegūšanai (Dissertation). LU. Available: <https://core.ac.uk/download/pdf/71812145.pdf>

Liu, Y., Sulaimani, M. F., & Henning, J. E. (2020). *The significance of parental involvement in the development in infancy*. *Journal of Educational Research and Practice*, 10, 161–166. Available: <https://doi.org/10.5590/JERAP.2020.10.1.11> ,

Locke, E. A., Latham, G.P. (1990). *A Theory of Goal Setting and Task Performance*. New York: Prentice Hall. <https://tinyurl.com/trx5tg4>

Majumdar, A. (2020) *Role of play in child development*, IJTRS International Journal of Technical Research & Science, [https://www.academia.edu/download/63117757/ROLE\\_OF\\_PLAY\\_IN\\_CHILD\\_DEVELOPMENT20200428-78760-jh24rg.pdf](https://www.academia.edu/download/63117757/ROLE_OF_PLAY_IN_CHILD_DEVELOPMENT20200428-78760-jh24rg.pdf)

Martinsons, K. (1999). *Emotional attitude toward self as an identity component*. Identity and self-esteem. Rīga: "Mācību apgads NT".

Maslo, I. (2015). *Izaicinājumi un iespējas 18-24-gadīgo jauniešu priekšlaicīgas mācību pārtraukšanas prevencijai* (Challenges and opportunities for the prevention of early school leaving for 18 – 24 year olds). [https://www.lu.lv/fileadmin/user\\_upload/lu\\_portal/projekti/es/2007-2013/esf/petijumiem/izaicinajumi/publikacijas/2015/Informativais\\_zinojums\\_3.pdf](https://www.lu.lv/fileadmin/user_upload/lu_portal/projekti/es/2007-2013/esf/petijumiem/izaicinajumi/publikacijas/2015/Informativais_zinojums_3.pdf)

Mazpane, I. Vanags, E. (2019). *Kā attīstīt pašvadītu mācīšanos? Domāt zināt darīt*. Ziņu izdevums skolotāju atbalstam pilnveidotā mācību satura un pieejas īstenošanai (How to develop self-directed learning? To think, to know, to do. News publication to support teachers in implementing the new curriculum and approach. . Nr. 8. 14. – 15.l.

Mikelsons, I., Grava, J. (2018). *Perspectives for Perfecting the Pedagogical Activity of Preschool Teachers for Implementation of A Child-Centred Learning Approach*. 615 – 627. 4<sup>th</sup> International conference on lifelong education and leadership for all. ICLEL 2018, Lower Silesia University Wroclaw - POLAND. ISBN: 978-605-66495-3-0. Available: [https://docs.wixstatic.com/ugd/d546b1\\_838b960259e448e79c90c577bf556d51.pdf](https://docs.wixstatic.com/ugd/d546b1_838b960259e448e79c90c577bf556d51.pdf)

Munro, J. (2012). *Effective strategies for implementing differentiated instruction*. Available: [https://research.acer.edu.au/research\\_conference/RC2012/27august/14/](https://research.acer.edu.au/research_conference/RC2012/27august/14/)

*Noteikumi par valsts pirmsskolas izglītības vadlīnijām un pirmsskolas izglītības programmu paraugiem* (2018) (Regulations on State preschool education guidelines and samples of preschool education programmes). MK noteikumi Nr. 716. Available: <https://likumi.lv/ta/id/303371-noteikumi-par-valsts-pirmsskolas-izglitibas-vadlinijam-un-pirmsskolasizglitibas-programmu-paraugiem> .

OECD. (2004). *Problem Solving for Tomorrow's World: First Measures of Cross-Curricular Competencies from PISA 2003*. Paris: OECD. Available: <http://www.oecd.org/edu/school/programme-for-international-student-assessment-pisa/34009000.pdf>

Pietersen, G. W. (2010). *Strategic Learning: How to Be Smarter Than Your Competition and Turn Key Insights into Competitive Advantage*. New Jersey: John Wiley & Sons. <https://tinyurl.com/yj34up6j>

Purēns, V. (2017). *Kā attīstīt kompetenci*. Rīga, RaKa. <http://www.raka.lv/katalogs/open/Ka-attistit-kompetenci>



Grava, J. & Pole, V., (2021). The promotion of self-directed learning in Pre-school: Reflection on teachers' professional practice. *Cypriot Journal of Educational Science*. 16(5), 2336-2352. <https://doi.org/10.18844/cjes.v16i5.6351>

Rogers, C.R. (1970). *Towards a theory of creativity*. Creativity. P.E.Vernon (Ed.). Harmondsworth:Penguin., <http://www.sciepub.com/reference/181419>

Röbe, E. (2008). *Frühpädagogische Förderung als grundlegende Bildung*. *Lehren und Lernen* 34 (10). 9 – 14. <https://www.pedocs.de/volltexte/2008/297/pdf/band06.pdf>

Sutinen, A. (2008). *Constructivism and education: education as an interpretative transformational process*. *Studies in Philosophy and Education*. Available: <https://eric.ed.gov/?id=EJ924340>

Šponna, A., Jermolajeva, J., (2015). *Bērns. Bērnība. Sasniegumu pētīšana. Bērnu sasniegumu veicināšana pirmsskolā*. (A child, childhood, research on achievements. Promoting children's achievements in preschool) Rīga, RaKa.

Tomlinson, C.A. (2001). *How to Differentiate Instruction in Mixed-Ability Classrooms*. 2nd edition. Alexandria.Virginia: ACSD. <https://tinyurl.com/yeh2lumw>

Valbis, J. (2005). *Skolēna personības attīstība – izglītības virsuzdevums*. (Personality development of a student – the metatask for education). Rīga, Zvaigzne ABC. [https://books.google.com/books/about/Skol%C4%93nu\\_person%C4%ABbas\\_att%C4%ABst%C4%ABba\\_izgl%C4%ABt.html?id=n0WqMQAACAAJ](https://books.google.com/books/about/Skol%C4%93nu_person%C4%ABbas_att%C4%ABst%C4%ABba_izgl%C4%ABt.html?id=n0WqMQAACAAJ)

VISC projekts “Kompetenču pieeja mācību saturā” (Skola2030) (2016). (VISC project: Competency approach in learning content). Available: <https://www.skola2030.lv/lv>

Vorobjovs, A. (1996). *Psiholoģijas pamati* (Basics of psychology). Rīga: Mācību apgāds, 322 lpp. [https://egramatas.com/arhivs/EZOTERIKA%20UN%20RELIGIJA/Socialapsihologija\(A.Vorobjovs\).doc](https://egramatas.com/arhivs/EZOTERIKA%20UN%20RELIGIJA/Socialapsihologija(A.Vorobjovs).doc)

Zull, J. (2004). Teaching for Meaning. *The Art of Changing the Brain: Educational Leadership, Vol.62, No.1*, 68-72. <https://tinyurl.com/yfeb66pt>

Выготский Л. С. (2010). *Педагогическая психология* (Pedagogical psychology)/ Л. С. Выготский ; под ред. В. В. Давыдова. Москва: АСТ. Астрель. <https://elibrary.ru/item.asp?id=20106007>