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## **Trends in the learning of early childhood education teachers. Review of foreign research**

### **Trendy w uczeniu się nauczycieli edukacji wczesnoszkolnej. Przegląd zagranicznych badań**

**Abstract:** The ongoing technological, socio-cultural and economic changes affect the work of early childhood education teachers. Therefore, educators should acquire new competences and develop the existing ones. The aim of this article is to review the latest trends in the learning of early childhood education teachers based on the analysis of foreign research in this area. This will allow for expanding knowledge and formulating practical tips for educators and educational decision-makers on the possibilities of using various methods and training programs.

**Keywords:** learning, teacher, early school education

### **Introduction**

The role of teachers in society has always been crucial, but in the face of constant change, their functions are becoming more complex. With the dynamic process of change, early childhood education teachers face the challenge of constantly improving their pedagogical competences. Technological progress is revolutionizing their work, on the one hand facilitating the education process through the use of technology-based educational tools, and on the other hand - requiring them to constantly improve their

competences in order to keep up with changes and skillfully use new tools in practice. Globalization influences changes in the work of early childhood education teachers. Increased international connections bring cultural diversity and interdisciplinarity, which means that teachers must be open to a variety of perspectives and approaches. As Bogusław Śliwerski emphasizes, “globalization, however, favors the development of transnational hypereducation, ‘third type’ education, which is not (or at least should not be) any idea or even a superior structure for national educational systems, but it undoubtedly creates a new context of learning and triggers the penetration of educational processes, knowledge, the latest scientific achievements and experiences that escape the control of the authorities of individual countries and societies” (Śliwerski, 2023, p. 9). Cultural changes related to globalization affecting the work of early childhood education teachers require international cooperation, mastering intercultural competences and skillful organization of work in a multicultural environment. Readiness to learn and improve one’s pedagogical and personal competences is a condition for meeting the requirements of a changing world, the needs of students and ensuring high quality education.

The aim of this article is to review trends in the learning of early childhood education teachers. We mention the most important directions of foreign research in this area. Their analysis provides a source of knowledge for educational practitioners and decision-makers through insight into various strategies, methods and training programs used abroad. Our goal is also to show practical implications for educational policy, schools and teachers themselves, which are a condition for meeting the challenges and needs of contemporary early childhood education.

### **The essence of teacher learning**

Teacher learning is an important part of their lives. For teachers, this process is slightly different than for children. As Knud Illeris points out, adults: learn what they want to learn and what is meaningful to them; they use sources that they have already used in their learning; they accept responsibility for their own learning to the extent they want to accept it (if they are able to do so) (Illeris, 2006, p. 233).

Teachers therefore consciously take action in the learning process, already knowing helpful and effective strategies. It is crucial to highlight the components of this process, i.e. motivation, competences and educational content. Hanna Solarczyk-Szwec (2010, p. 53) specified three conceptual categories to describe the adult learning process: crisis (as a motive for adult

learning), experience (as the content of adult learning), reflexivity (as a competence necessary in adult learning). Thanks to experience and reflection, teachers expand the scope of their knowledge and are able to apply it in practice. They also have the opportunity to improve their level of education in another field of study while continuing to participate in formal education. In addition, they have the opportunity to participate in postgraduate studies, courses and training, learning in cooperation and from each other.

Teachers expand their competences to become experts in their field, and self-development is a key for them. They participate in the learning process to improve work methods and organize a student-friendly environment. Their learning is a key element in ensuring high-quality early childhood education, which lays the foundations for children's later development.

### **Methods of reviewing foreign research, selection criteria and scope of analysis**

Teacher learning can take many forms and cover a variety of topics. In order to learn the results of research on teacher learning, research reports collected in the ERIC database were analyzed. It took place in three stages. In the first one, articles were searched in the database by entering the *teacher learning* phrase and using the filters: reports-research, since 2019, early childhood education, full text available on ERIC. 860 title items were obtained.

The second stage consisted in verifying the articles based on the titles and information contained in the abstracts. 84 texts were classified for further analysis. The content of each article was reviewed to narrow down the research on early childhood teacher learning. Among them, based on the analysis of research results, it was possible to distinguish several thematic categories: learning of teachers of preschool education, of early school education, of grades 4-8 and high schools, learning of pupils, learning of students (future teachers), teachers' competences in teaching students/pupils, education and politics.

Due to the raised topic of the article, at the third stage, the research results regarding the learning of early childhood education teachers were analyzed. They were included in 26 texts.

### **Areas of analysis of foreign research concerning the learning of early childhood education teachers**

The authors of this article specified two thematic areas of research presented in the reports:

1. Teachers' self-education using modern technologies,
2. Professional development of teachers.

Within the scope of learning related to new media, the analyzed articles included content relating to: learning of early childhood education teachers from Indonesia and Turkey on social media; learning how to use digital media in the classroom by teachers from Turkey and the USA; learning the STEAM model and the Scratch environment by teachers from Turkey and Latvia.

In turn, research on the professional learning of early childhood education teachers concerned: reflective learning of teachers from Turkey and South Africa; learning in cooperation with educators from Canada, Australia and Spain; lifelong learning and continuing formal education, among others, in China, Texas, California, Turkey.

### **The use of modern technologies in teacher learning**

#### **Trend 1. Learning on social media**

Teachers look for information and help, among others, on social media - the groups especially dedicated to them. The importance of this type of community is confirmed by foreign research results. Based on the analysis of published interviews with teachers about learning in the digital space, the following forms of involvement were identified in three social groups. They are: 1) presence, 2) learning in interaction, 3) constructive discussion, 4) self-reflection, 5) mutual support, 6) a network building (Krismanto, Setyosari, Kuswandi and Praherdhiono, 2022, p. 97). It is worth mentioning that the teachers were members of communities, such as Asosiasi Guru Belajar (AGB), Komunitas Guru Belajar Nusantara (KGBN) and Sarasehan as Jaringan Ikatan Guru Indonesia (Sadar IGI). Moreover, the informational and caring role of online communities is highlighted based on teachers' experiences of using Twitter during the pandemic. Qualitative analysis of Twitter entries allowed us to distinguish three subcategories within information support: resources, pedagogical knowledge and advice. In turn, in the care support subgroup, the following thematic subcategories were distinguished: gratitude/recognition, understanding and encouragement (Fan, Elliott, 2022, p. 10). As you can see, early childhood education teachers learn in the digital space and for this purpose they use, among others, the space of teacher groups on social media.

### **Trend 2. Learning to use digital media in the classroom**

Another trend that emerged from the analysis is teachers learning how to use digital media in the classroom. In order to expand teachers' media competences, training is organized for them and special programs are created. The use of media in the teaching process is now common and offers a number of possibilities. Starting from making the message more attractive and activating students to increasing motivation to work and strengthening cooperation among students. The analyzed scientific articles concerned teachers' participation in the DPD development program, which focused on Web 2.0 technologies, and in the training model for supporting social-emotional learning (SEL) in PK-12 online environments (o-SEL). Teachers participating in online training emphasized, firstly, the usefulness of learning about Web 2.0 technology. Secondly, they pointed out the advantages and disadvantages of this form of learning. Their advantages included gaining knowledge and skills in the field of technology and enriching them with pedagogical content. In turn, the disadvantages included: the need for teachers to be self-motivated, great responsibility for the learning process, lack of face-to-face interaction and technical problems (see Sahin-Topalcengiz, Yildirim, 2020).

The use of media by pupils/students also requires teachers to have appropriate knowledge and skills in navigating the media space. Therefore, it is important that teachers are prepared to receive online content to support their pupils/students. Applying the above-mentioned model for social-emotional learning (SEL) in online PK-12 (o-SEL) environments brings a number of benefits to pupils/students, e.g. better learning performance, improved attitudes and behaviors regardless of their socio-economic background, school location (Geesa, Robbins, Shively, 2022).

### **Trend 3. Learning the STEAM model and the Scratch environment**

The STEAM (Science, Technology, Engineering, Arts, Mathematic) model has now become popular in education. The basis is, on the one hand, technological and economic development, and on the other hand, developing students' skills of logical thinking, problem solving and the use of digital means. As Burton points out, "science, technology, engineering and mathematics (STEM) permeate every aspect of today's world and the innovations that emerge from these fields. This education system plays a key role in building conditions for developing students' knowledge and skills" (Bruton, 2017, p. 5). In their research, Kartal and Tasdemir pointed to the role of a summer institute for teachers that had educated them in the context of

STEAM. The learning period was in the year 2020, so it took an online form. According to participants, virtual environments can build interdisciplinary, collaborative communities if the intended efforts to do so are clearly defined (Kartal and Tasdemir, 2021).

At the early school education stage, media competences and computational thinking are also developed through programming and coding. The basis for activities at this stage is the Scratch program. Nowadays, programming is as important as reading or writing, which is why it requires the teacher to use appropriate methodology and a high level of knowledge and skills (Fessakis, Gouli and Mavroudi, 2013). Educators from Latvia took part in a program to improve teachers' professional competences called "Fundamentals of programming in Visual Programming Environment Scratch". By analyzing the quality and effectiveness of the program, it was found that teachers perceived learning programming positively. According to them, they significantly improved their knowledge of programming, as well as digital competences in general (Medveckis, Pigozneb and Tomsons, 2021).

## **Professional education of early childhood education teachers**

### **Trend 1. Self-development and reflective learning**

Teachers expand their competences by participating in organized education and by undertaking independent learning. Interestingly, Yıldızlı in his research distinguished two groups of educators taking into account goal orientation: *Learning-Mastery-Goal-Orientations* (L-M-GO) and *Learning-MasteryPerformance-Goal-Orientations* (L-M-P-GO). The results suggest that although all teachers - regardless of their goal orientation - defined themselves as people who made efforts to learn, those with the L-M-P-GO orientation experienced negative emotions and ideas in their educational journey (Yıldızlı, 2021).

An important issue that emerged in the research reports was reflective learning. The importance of an individual's reflection is emphasized, especially in connection with learning, because then we are dealing with mature, conscious action, learning from mistakes and drawing conclusions. The research conducted by Er, Toker and Yücelyiğit involved teachers' self-reflection after watching recordings of their own classes. Teachers' opinions showed changes in their reflections on video recording, professional development, and the teaching and learning process (Er, Toker, Yücelyiğit, 2022). Teachers from South Africa also noticed the advantages of reflective practice. According to them, this is necessary to ensure high quality teaching and learning. Support from the facility and the authorities is important in this area (Connelly,

Shaik, Mosito, 2020). Therefore, educators emphasize the importance of their reflective learning skills in the teaching and educational process of pupils/students. Therefore, one can notice the awareness of the need for pupils'/students' own development and support. Analysis of one's own actions and a critical look at them, as well as the willingness to correct or change behavior ultimately become a benefit for the pupils/students themselves (see Kortjass, 2019). The results show that teachers are aware of the need for self-reflection in various countries around the world. This is very important, although it is only the beginning of developing the attitude of a reflective practitioner.

### **Trend 2. Collaborative learning**

Reflecting and discussing one's own actions, as well as receiving support, can be part of collaborative learning. This form of learning is characterized by: a cooperative task structure, cooperative motives, a cooperative social form and cooperative relationships (Żmijewska-Kwireg, 2021). Therefore, achieving goals and tasks, working together in teams, and mutual help and support are important. Teachers' learning in cooperation with university representatives has brought specific results. Data from discussion groups show that the development of educators (personal and professional development) is facilitated by combining theory with practice (Muñoz-Martínez, Domínguez-Santos, de la Sen-Pumares, Laborda, 2022). It has also become popular to create teaching teams (face-to-face and online meetings), in which it is possible to exchange information and develop skills. An example for that could be work in the zone of proximal development (ZPD) or IMEN - an international online professional learning community (see Lock, Gill, Kennedy, Piper, Powell, 2020; Zimmerman, Murphy, 2021). Members of these groups share common interests in the educational process, teaching the same subjects and the need for their own development. In the second community, an additional advantage is the participation of educators from many countries, which allows for the exchange of experiences gained in various international contexts.

### **Trend 3. Lifelong learning and continuing formal education**

Teachers should develop in order to acquire new competences and skills that will be useful in the teaching and educational process. In their research, Erdogan and Ayanoglu compared lifelong learning with innovation and entrepreneurship. As a result of the research, it was shown that there is a significant relationship between the tendencies of principals and teachers for lifelong learning and their innovative and entrepreneurial behavior



(Erdogan, Ayanoglu, 2021). These issues are extremely important due to the need to quickly adapt to existing conditions, expand knowledge and skills, sometimes in surprising situations. They also emphasize the importance of teachers' creativity, the ability to create something new, generate ideas and implement them, including pedagogical innovations.

Improving one's own competences is possible by participating in various forms of teacher development, e.g. training, courses, postgraduate studies. It is important to diagnose the training needs of educators. Research results show that, for example, music teachers want to educate themselves in the use of new technologies when conducting music classes, leading a choir and caring for children with special needs (Kogkou, Evaggelos and Fragkoulis, 2021). Professional learning comes in a variety of ways to develop and acquire teachers' skills. According to research, 78% of educators in California see positive effects of participating in organized forms of improvement (Makkonen and Lewis, 2020). Thanks to this, teachers have the opportunity to exchange experiences in a professional group, observe and receive feedback from colleagues and the trainer. This is important at every stage of teaching work, but it seems especially important at the beginning of professional career. According to research, teachers during the internship learned to take advantage of their observations, reflecting on their everyday experiences in teaching and learning, basing on their own personal characteristics, forming a group among themselves, and taking actions to solve practical problems during the internship (Calamlam, Eshah, Mokshein, 2020). It is worth emphasizing, however, that schools need support and cooperation with external institutions to help teachers in this area. Research conducted in Texas revealed the need for joint activities with universities, Educational Service Centers, as well as to expand the offer with new programs addressed to educators (Reyes, Marder, Alexander, Solis Rodriguez and Rhodes, 2022).

Attention was also paid to expanding the knowledge of teachers, including beginners, in the area of scientific research. In Turkey, a 14-week training on NOSI (knowledge in the field of science and the nature of scientific research) was organized for teachers starting their work. Data was then collected on each participant's views and changes as a result of participating in NOSI using an open-ended questionnaire (VASI) and follow-up interviews. According to the results, the vast majority of participants improved their knowledge of scientific research. They were helped in this - as they emphasized - by their own and other participants' reflective approach, as well as the opportunity to learn through practice (Erdas Kartal and Mesci, 2022).



Similarly, in Poland, trainings for teachers are often organized on the occasion of pedagogical councils, and universities and Teacher Training Centers also offer courses and postgraduate studies. All this is aimed at professional development, which “An immanent element [...] is improvement in various forms, illustrating the teacher’s pursuit of reflective practical experience, which results in the need to modify beliefs and views regarding, among others, evaluation of one’s own work” (Szempruch, 2022, p. 34).

It should be emphasized that in creating a professional education offer for teachers, it is crucial to recognize and pay attention to local cultural contexts and school conditions. Based on their analysis, it can be concluded about the need to develop specific, useful skills among educators or about the need to adapt/create an appropriate environment and tools to implement the acquired knowledge in practice. This was confirmed by a qualitative case study on technology in the work of teachers in Nepal. Based on it, it can be concluded that effective and locally appropriate technology integration is based on building relationships with teachers and the school community and must focus on the local needs of students and teachers, based on their resources and requirements (Barksdale, Upadhyay and Vernon, 2021). It appears that research on teacher professional learning that supports primary literacy (FP) is limited in developing countries, including South Africa. The quality of this education is influenced not only by the nature of professional development activities, but also by teachers’ personal motivation to learn and the school context in which they teach (Kimathi, Bertram, 2019).

Teachers themselves decide to expand their competences or are sent for training by the employer. Sometimes this is due to the need to have an employee with specific qualifications, sometimes also due to reorganization. Vocational training was provided for staff in a case where two early childhood education centers in China were transformed to incorporate Maria Montessori’s educational philosophy. Due to COVID-19, it took an online form. After collecting opinions from the participants, it was found that teachers had been well prepared to work in Montessori pedagogy through participation in the program (Laws and Xun, 2021).

In the context of the growing number of children with diverse educational needs, research indicates the need to prepare for inclusive education (Ackah-Jnr, 2020) and to teach pupils/students to solve problems (Portaankorva-Koivisto, Laine and Ahtee, 2021).

A review of foreign research on the learning of early childhood education teachers allows us to identify key trends that lead to the development

of competencies necessary in the 21st century. This is important from the point of view of the tasks faced by teachers.

### Summary

A review of recent trends in early childhood education teacher learning highlights several important trends that shape current and future approaches to professional development. The marked increase in the importance of modern technologies, the growing role of cooperation, including international cooperation, and personal skills, such as self-assessment and reflection as professional development tools are key areas that should be taken into account in teacher training. They require attention not only from teachers, but also from schools and educational politicians.

The analysis of foreign research has shown that the learning of early childhood education teachers faces the challenges of constantly adapting to the changing world and searching for innovative solutions. At the same time, we note the beneficial possibilities of this learning, such as the development of international cooperation and taking into account the concept of lifelong learning, which should improve the quality of teachers' work and the effectiveness of the process of educating children in early school education.

There are also areas that require further research, related to the search for answers about the effectiveness of specific teacher learning strategies, training strategies, adaptation of good practices from other countries to local contexts, as well as the impact of teacher learning on the quality of teaching and pupils' achievement in early school education.

It is important to continue research on teacher learning and new methods of teacher training, taking into account changing social, technological and cultural needs. Exchanging good practices and exploring innovative approaches during international cooperation can support the professional development of teachers and contribute to further improving the quality of early childhood education in Poland and abroad.

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