

EdCW 2020**International Scientific and Practical Conference Education in a Changing World: Global Challenges and National Priorities****ONLINE ADVANCED TRAINING FOR PRESCHOOL TEACHERS
IN THE DIGITAL ERA**

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Abstract

The Russian education system needs modernization to develop a national strategy for professional training and advanced training of specialists. This means adopting foreign educational practices without losing the unique features of national academic culture. In the present settings, the need for developing a new concept of education has arisen to meet modern challenges and focus on developing personal qualities that have become necessary for teaching in the digital era. To meet modern requirements, creating an effective educational environment for advanced training and professional training of preschool teachers is essential. To achieve this goal, it is necessary to establish a mechanism for bringing change in the system of continuing professional education (CPE); to develop a general strategy for designing a digital learning environment (DLE) that can help each student gain insight into an independent, personality-oriented process of professional development. Studies conducted in Russia and abroad indicate that modern DLE should be aimed at creating opportunities for obtaining high-quality education by using modern information technology. The modernization of DLE is to lead to the creation of information resources available to all categories of citizens. This means providing each learner with access to online courses that include a system for assessing the quality of online courses and online resources of the CPE system.

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1. Introduction

The role of e-learning in the context of information system development and modernization of education is recognized by both Russian and foreign researchers. They state that there is a rapid transformation in all areas of human life without exception. The issues of updating the content and quality of education as the ability of the education system to guarantee the achievement of the goals of the individual, society, and the state deserve close attention (Kashtanova et al., 2017). The solution to this problem is possible by modeling the educational environment to contribute to the formation of a fundamentally new education system, including the continuing professional education (CPE) system.

In addition, the rapid development of information technology inspires teaching professionals to reassess the role of IT in the CPE system. The analysis of the notion “information technology” allows the authors to say that the concept of “computer technology”, which over the past decades has been the essence of information technology, is gradually being replaced by the concept of “electronic technology”, and that of “digital technology” (Prensky, 2010). At the present stage of the development of society and education, it is reasonable to talk about the development of digital environments (Levchenko, 2019). A digital learning environment (DLE) in the CPE system is an open set of information systems meeting the goals of the educational process. It is important to notice that teacher-centered learning is giving way to student-centered learning; and the education system should align with changing educational trends (Donina & Vodneva, 2019).

2. Problem Statement

E-learning in CPE institutions makes it possible to solve a priority task in the field of education – the introduction of modern educational technologies into the learning process by using digital educational resources (DER) (Zadornaya, 2019). It is scientifically and practically relevant due to the following factors. 1) E-learning is being introduced into the CPE system, but not all teachers are well prepared for e-learning. 2) The conditions and mechanisms for the professional development of teachers are constantly changing and this requires implementation of e-learning in the CPE system.

The main issue of this study is to find an answer to the question whether e-learning in the CPE system contributes to the personal and professional development, and self-realization of preschool teachers.

3. Research Questions

Within the scope of this study, special attention is paid to various aspects of organizing the educational process in the continuing professional education system including effective forms of conducting classes, and effective learning models, e-learning being one of them. The study covers the following questions.

- Does the introduction of online training contribute to the development of the CPE system?

- Are preschool teachers ready to use e-learning in the CPE system?
- How does e-learning contribute to the personal and professional development of preschool teachers in the CPE system?

4. Purpose of the Study

The main goal of the study is the theoretical and methodological support for online advanced training and professional training in the continuing professional education system for personal and professional development and self-realization of preschool teachers.

5. Research Methods

The methodological basis of the study was formed by the fundamentals of the personality-activity approach; theories of cognition; concepts of integral pedagogical process; theoretical approaches to the development of educational content and motivating activities, continuing education, individualization of the learning process, computerization of education, and distance learning.

The study was based on the following theoretical methods: analysis of philosophical, psychological and pedagogical literature, the practice of CPE institutions, Internet resources on the research topic; identification of professional competencies of teachers and students in the CPE system.

The empirical methods used in the study were questioning, observation, methods of statistical analysis; analysis of the results of educational and professional pedagogical activities.

6. Findings

In the context of digitalization, one of the priority tasks in the development of the CPE system is to enhance teaching and learning in a digital learning environment (DLE) (Sergeeva et al., 2019). DLE should become an environment for advanced training and professional development of preschool teachers, which will help them master new *digital technologies* and will motivate them to use e-learning (Malm, 2009). DLE contributes to the creation of a more flexible educational process (Castells, 2010). In modern settings, educators of preschool institutions should be ready to use innovative technologies to achieve *better learning outcomes*. Therefore, according to scientists (Jordan, 2014), and practitioners of the preschool education system, advanced training and professional training of educators should be carried out through digital technologies (Dalli, 2010). Innovative technologies used in the DLE of CPE institutions provide better opportunities for both groups and individual students to organize communication with teachers and among themselves, regardless of where they are. As the researchers point out, such an environment harmoniously integrates e-learning and full-time education (Jonassen & Reeves, 1996). The difference between these two forms of education occurs at the network level and is almost imperceptible for the student.

In order to implement the national program “Digital economy development in Russia until 2035”, and the national project “Education”, scientific and educational institutions are to be engaged in the process (Litvinova & Milonova, 2020). The sphere of education and science is in dire need of digitalization today. It should be noted that the competencies of the 21st century, included in the variable model of digital competence, are formed both in the CPE system and in the process of professional and daily activities of the teacher (Bocharova, 2012). Education in CPE institutions today is not just transferring knowledge, but teaching how to acquire knowledge (Tapscott, & Williams, 2010).

The authors of the article, in accordance with the questions posed, conducted a research study at St. Petersburg Academy of Postgraduate Pedagogical Education (SPb APPE). A hundred preschool teachers took part in the research study – students of advanced training courses and the teaching staff of the Preschool Education Department. SPb APPE is implementing interactive forms of teaching, and students have an opportunity to independently explore new areas. This means developing the following competencies: communication, cooperation, creativity, and critical thinking. The use of digital and network technologies contributes to individualization of education, accessibility, and better performance. All of this increases motivation and develops individual abilities and talents (Buldu, 2014).

The reasons for using digital educational resources (DER) are as follows. They are aimed at individualized education; stimulation of students’ independent study; increasing motivation; expansion of contacts. DER have the ability to influence different organs of perception of students; make it possible to create games for educational purposes, and implement individual forms of education. They are available for learners at any time and in any place where there is access to the Internet.

When entering the online advanced training course “Actual pedagogical technologies in the context of the implementation of the Federal Educational Standard (FES) in Preschool Education”, students were surveyed in order to assess their competencies. The questionnaire contained about 20 questions to check their readiness to use innovative technologies applying professional knowledge and skills. Four groups of students took the online course one after another. Each student was offered the entry questionnaire to assess their competencies (skills in performing specific types of activities) according to the three-point scale where 1 meant “limited proficiency”, 2 – “intermediate proficiency”, 3 – “advanced proficiency”. At the end of the course, the students were asked to fill out the same questionnaire again. Thus, the researchers had the opportunity to track the dynamics of the development of the competencies of each student. In addition to filling out the questionnaire, the authors compared the student achievement (current task performance and final papers) of the four groups.

The students’ answers to the end of the course questionnaire were analyzed by the teaching staff of the Preschool Education Department to track the dynamics of student achievement with further improvement of the online course for the following groups. The entry questionnaire showed that 70% of the students assessed their competencies as “limited proficiency” (Level 1), 20% of the students – as “intermediate proficiency” (Level 2), and only 10 % of the students – as “advanced proficiency” (Level 3). The end of the course questionnaire showed that the percentage of Level 1 students was 8%, Level 2 students – 28%, and Level 3 students – 64% (Figure 01).

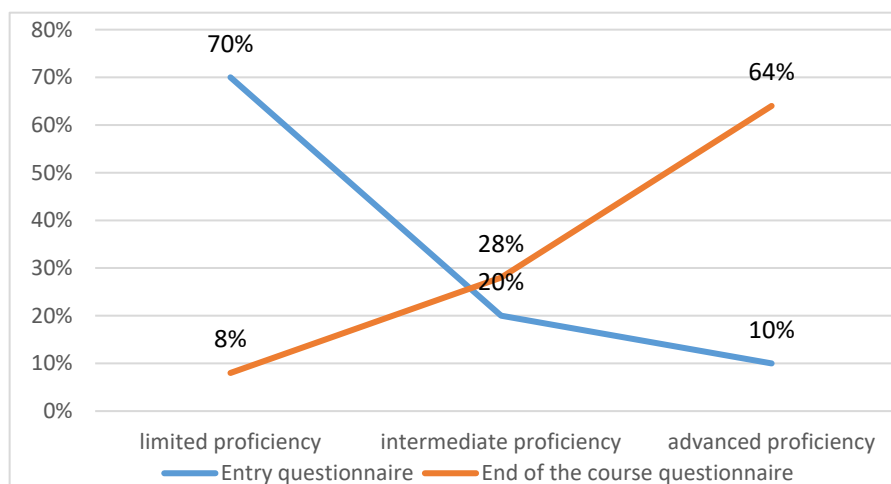


Figure 1. The results of students' self-assessment of advanced training courses based on the entry and end of the course questionnaires

Thus, the entry and end of the course questionnaires revealed that the students' motivation to use innovative technologies increased due to the online course. Their self-assessment made it possible to compare the results. The number of Level 1 students was reduced from 70% to 8%, the number of Level 2 students increased from 20% to 28%, and the number of Level 3 students increased from 10% to 64%. The authors can state that the students' positive self-assessment of the motivational component of readiness enhances their intrinsic motivation for learning. Another reason for the positive motivation was the set of tasks selected by the teaching staff from the problem domain, which was of interest to the students and concerned their professional interests.

The students enrolled in the online course were asked to complete 14 tasks; a rank (ordinal) scale was used for assessment, where 1 point meant "insufficient level of competence", 2 points – "acceptable level of competence", 3 points – "sufficient level of competence". The indicators of the development of the students' competencies based on the results of current task performance and final papers are shown in Figure 02.

The data obtained allow the authors to assume that the raising skill level is associated with the improvement of the online course after the training of each group. The analysis of the results of the questionnaires conducted with the students allowed the researchers to identify the flaws of the online course. Among them were the lack of technical instructions; the hardness to use electronic means of communication; a huge number of new network services for mastering the course in a short time. As a result, specific recommendations for improving the quality of the online course were adopted taking into consideration the measurement of *internet users' confidence*. The analysis of the academic achievements of the four groups made it possible to reassess the modules of the online course that were not sufficiently mastered by the students. The methods of presenting the material were refined, the assignments were improved, and the option of online consultations was added. As the results of the research study show, out of the four groups, the academic achievements of Group 4 students (the last of the four groups to take the online course) were higher than those of the three previous groups. This is due to the measures taken to improve the online course. Thus, the teaching staff of SPb APPE not only monitored, but also corrected

the individualized learning plans of students, and evaluated the current task performance in each training module.

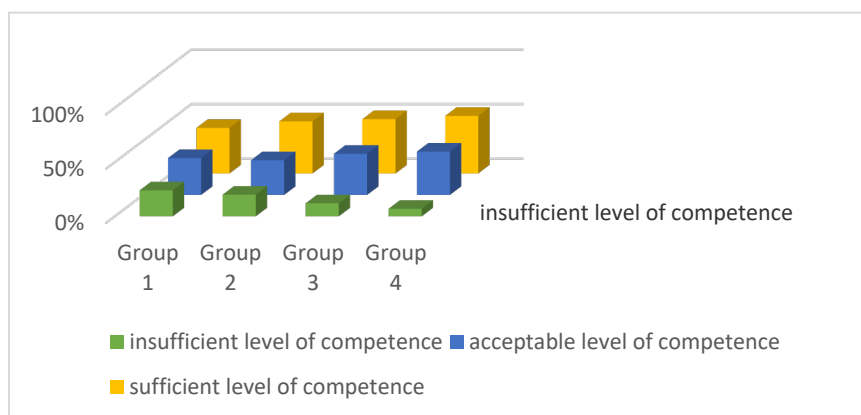


Figure 2. The indicators of the development of the students' competencies based on the results of current task performance and final papers

Educators and preschool leaders who have completed the online training course believe that it allows:

- 1) to make the training schedule more flexible and convenient by combining online and offline learning modes;
- 2) to significantly save teachers' time without losing the high quality of teaching;
- 3) to provide an opportunity to study in any convenient place in a relaxed atmosphere, educational materials being always available to the student;
- 4) to ensure time-sensitive interaction between the teacher and the student.

Based on the foregoing, it should be noted that every year the number of internet users is increasing. While network educational technologies are not used actively enough, teachers and students are aware of their usefulness for learning and teaching. However, teachers' methodological experience of systematic using online resources in the educational process is insufficient. St. Petersburg Academy of Postgraduate Pedagogical Education has designed online courses establishing a network partnership of educational institutions for their implementation. Thus, the use of e-learning in the CPE system brings it to a qualitatively new level.

7. Conclusion

The results of the research study allow the authors to make the following conclusions:

Firstly, modern preschool teachers need to explore the possibilities of using the Internet to increase their competence in pedagogical technologies, network tools and methods of using them in the educational process. This contributes to their personal and professional development.

Secondly, online courses based on the interaction of a teacher and a student at a distance include all the components inherent in the educational process (goals, content, forms, and learning resources).

Online courses in the CPE system are a new form of education, including pedagogical and information technologies, that contributes to the development of the CPE system.

Thirdly, the professional use of modern technologies in the system of preschool education can make the educational process well managed, efficient, and accessible; it can help educators increase students' motivation. Online courses are designed to help teaching professionals improve their professional skills.

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