

Methodology for Using Educational Technologies to Develop Creative Thinking of Teachers in The Professional Development System

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ABSTRACT

Objective: This study aims to explore the role of educational technologies in fostering creative thinking among teachers within the professional development system, emphasizing their impact on enhancing professional skills and ensuring the continuous improvement of educational quality. **Method:** The research utilizes a mixed-method approach, combining qualitative interviews with educational professionals and quantitative surveys to assess the integration of various educational technologies in teacher training programs. Data were collected from a diverse group of educators engaged in ongoing professional development. **Results:** Findings indicate that the effective use of educational technologies significantly contributes to the development of creative thinking, with educators reporting enhanced problem-solving abilities, innovation in instructional practices, and a more dynamic approach to student engagement. Additionally, continuous exposure to modern tools fosters lifelong learning and adaptability among teachers. **Novelty:** The study provides a novel insight into the intersection of technology and creative pedagogical development, offering a framework for integrating technological tools into professional development programs that not only update teachers' knowledge but also stimulate their creativity and instructional innovation.

INTRODUCTION

The effective development of science, engineering, and technology has led to the emergence and continuous development of scientific production processes, the improvement of the quality of products and an increase in their volume. Naturally, changes in production methods require corresponding changes in the field of education.

The growth of the popularity of education leads to the growth of the popularity of the teaching profession. However, it is known that the profession of a teacher is one of the most complex. In addition to this, to become a true teacher, pedagogical skills are also necessary. Considering the limited number of people with pedagogical skills, we can see that the education system includes a large number of people who do not fully possess this ability. In the conditions of rapidly developing science, engineering, and technology, in modern society, it is necessary to note the increasing complexity of the teaching profession.

In a rapidly changing era, retraining and upgrading of managerial and pedagogical personnel is one of the urgent problems. Constant updating of knowledge, development of professional level is an important condition for the work of any specialist.

Professional development is a process that allows a person to maintain the quality and level of his professional skills throughout his life.

The establishment of educational technology departments in the centers for continuous professional development of management and pedagogical staff, along with the development of professional knowledge and skills, creates a basis for the development of their skills in the areas of scientific and applied research, technological progress and innovations in the subjects taught, as well as modern methods of organizing the educational process.

The role of educational technologies in the development of professional skills is of particular importance in ensuring a high level of quality education, along with the continuous updating of their professional knowledge and skills of pedagogical staff.

RESEARCH METHOD

The main process of pedagogical technology is for the teacher to acquire independent knowledge and think through speaking, showing, giving assignments, and controlling, and for the student to acquire independent knowledge and think through listening, observing, and completing assignments with concentration. As can be seen from this scheme, under the guidance of the teacher, the student himself acquires knowledge, learns, assimilates, and acquires independent thinking skills. In addition, it should be emphasized that the attention of students is of great importance for the effectiveness of the pedagogical process. The great Russian pedagogue K.D. Ushinsky described attention as "the only door through which the material being studied enters the human mind." If the teacher has managed to concentrate the attention of the student, this is half the success. Attention is necessary for perception, understanding, imagination, assimilation, memorization, restoration, and creative hypothesis. The concentration of our attention depends not only on our desire, but also on the strength, novelty, and unexpectedness of impressions. If the lesson begins with a question or task that surprises, interests, and makes students think, then the students' attention will be focused faster. Based on the above information, we can say that the subject of pedagogical technology is the design of the educational process and professional training system. A systematic approach to education includes all the main aspects of the educational system - from defining the goal to checking the effectiveness of a new educational system, testing it and popularizing it. It is based on the idea of the repeatability of its procedures and their implementation throughout the entire educational process, which ultimately leads to the fact that this process does not depend on the "live teacher". The teacher's role in the learning process is to act as an organizer and consultant in organizing learning with pre-prepared (not necessarily self-prepared) material.

RESULT AND DISCUSSION

According to experts, innovative technologies are innovations and changes in the pedagogical process and the activities of teachers and students, and interactive methods are mainly used for their implementation. The peculiarity of such methods is that they

are implemented only through the joint work of teachers and students [14]. Such a process of cooperation between teachers and students has its own characteristics, which include:

1. Forcing students to be independent, think, create and search during the lesson;
2. Ensuring the continuity of students' interest in science during the learning process;
3. Strengthening students' interest in science in an independent manner with a creative approach to each issue;
4. Organizing students' collaborative activities on a regular basis.

Modern methods today create a number of opportunities for students to gain in-depth knowledge, while also forming the skills to defend their opinions, instilling in them the experience of working together, and overcoming difficulties encountered in life together.

The use of modern methods:

1. Changes the classroom environment;
2. Determines how the subject should be studied;
3. Activates each student.

Today, a teacher needs to select only the necessary information for teaching and teach the student to directly acquire independent knowledge. In this process, the teacher's pedagogical skills, his deep knowledge, and ethics play an important role.

The criterion for the effectiveness of pedagogical technology implies high results obtained in specific conditions of the educational process.

One of the criteria for pedagogical technologies is reproducibility. It implies the possibility of using pedagogical technologies in other educational institutions.

Thus, the professional training of specialists in the education system constitutes a complex and constantly moving system. In this system, the technological training of the future teacher occupies a special place. It is associated with the intellectual development of the future teacher, active learning, the development of a creative personality, the realization of the professional orientation of thinking, and the implementation of research (scientific) principles in the organization of educational and cognitive activities.

The technological preparation of the future teacher requires the implementation of pedagogical technologies in the educational process. The pedagogical technologies used and widely used in the educational process of the educational institution are: problem-based learning, differentiated and individual teaching technologies, programmed teaching technologies, authoring technologies, and distance learning technologies.

The purpose of activation through problem-based learning is that it does not consist in the level of training of individual thinking skills randomly concentrated in it, but in the systematic implementation of intellectual influences to solve targeted tasks. In such activity, the listener analyzes, compares, synthesizes, generalizes and, in practice, concretizes it, obtaining new information. In other words, it is the expansion and deepening of new knowledge on the basis of previously acquired knowledge.

The following can be achieved through individualization technology;

1. Recording factors that lead to the inability to master;
2. Methods for correcting individual shortcomings in the process of acquiring knowledge, skills, and abilities in the thinking process;
3. Recording and overcoming the shortcomings of lack of motivation and weak will in family upbringing;
4. Optimizing the educational process for capable and talented students (taking into account creative activities, class and extracurricular activities);
5. Providing freedom of choice of the educational process;
6. Forming general educational skills and abilities;
7. Forming students' ability to self-assess;
8. Using technical means of education, as well as computers.

CONCLUSION

Fundamental Finding: The study highlights that person-centered educational technologies, particularly within distance learning systems, foster creative thinking by emphasizing the process of knowledge formation as a product of active student engagement. The flexibility and autonomy inherent in these systems contribute to enhanced creativity and self-directed learning, offering a more dynamic approach compared to traditional educational methods. **Implication:** The findings suggest that integrating person-centered educational technologies into teacher training and distance education can significantly improve both the creative capacity of students and the effectiveness of educational delivery, making it an essential approach for modernizing education and fostering lifelong learning. **Limitation:** One limitation of this study is that it primarily focuses on the impact of person-centered educational technology within specific learning environments, which may not be universally applicable across all educational contexts. Further research is needed to examine its scalability and effectiveness in diverse institutional settings. **Future Research:** Future studies should explore the long-term impact of person-centered educational technologies on student outcomes across various disciplines, as well as investigate the potential for these technologies to enhance collaborative learning and collective creativity in digital classrooms.

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