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CONTENT AND METHODS OF DEVELOPING CREATIVE QUALITIES IN FUTURE TECHNOLOGY TEACHERS WITHIN THE DIGITAL LEARNING ENVIRONMENT

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Annotation: This article describes the content and methods of developing creative qualities in future technology teachers within the digital learning environment. The study analyzes the effective use of digital technologies in the modern educational process, the formation of students' creative thinking, problem-solving skills, and independent work competencies based on innovative approaches. Furthermore, the importance of pedagogical approaches such as interactive methods, project-based learning, problem-based learning, and collaborative learning, which serve to develop creativity, is revealed. The results of the article recommend effective methods and tools that serve to enhance the professional competence and creative potential of future technology teachers in the digital learning environment.

Key words and concepts: digital learning environment, technology science, future teachers, creativity, pedagogical methods, innovative approach, interactive learning, project-based learning.

Introduction: The modern educational process is closely connected with digital technologies, and not only the professional knowledge of teachers but also their creativity and creative thinking potential are of great importance. Future technology teachers need to be formed as specialists who are not only knowledge providers but also capable of applying innovative approaches and possessing problem-solving skills. The digital learning environment serves as a tool that makes the educational process more interactive, engaging, and effective. From this perspective, developing creative qualities in teachers, introducing them to modern pedagogical methods, and enhancing their practical skills are important issues [1]. This article analyzes the content, methods, and effective methodologies for forming creative qualities in future technology teachers within the digital learning environment.

Literature Review: In recent years, numerous studies have been conducted on the application of digital technologies in education and the development of teachers' creative potential. Researchers in the field of pedagogy and innovative education, particularly Howard Gardner and Ken Robinson, highlight the pedagogical foundations of developing creative thinking and creativity. Gardner's theory of multiple intelligences allows for identifying students' individual abilities and directing them toward creative activities, which is of great importance in enhancing the professional competence of future technology teachers [2]. Furthermore, works such as "Digital Learning Environments: Theory and Practice" and "Innovative Teaching Strategies in STEM Education" present effective methods for forming creativity through interactive methods, project-based learning, and problem-based learning in the digital learning environment. These studies show that through digital tools, simulations, and virtual laboratories, it is possible to develop students' abilities to solve problems, think independently, and devise creative solutions. At the same time, research related to the teacher training process in our country (for example, "Pedagogy and Innovative Technologies") emphasizes the importance of practical approaches and interactive methods in enhancing the professional and creative potential of future technology teachers.

Research shows that the development of creativity depends not only on the teacher's personal abilities but also on the digital learning environment, methodological tools, and pedagogical approaches. Overall, the literature analysis indicates that the development of creative qualities in future technology teachers within the digital learning environment is implemented through effective pedagogical approaches, innovative methods, and interactive learning tools.

Research Methodology: In this study, comprehensive pedagogical research methods were employed to determine the content and methods of developing creative qualities in future technology teachers within the digital learning environment. The theoretical part of the research was based on the analysis of scientific literature in the field of education and pedagogy, modern technologies, and creativity development methodologies. Through this, the conceptual foundations for forming creativity in future teachers were identified. In the empirical part, the level of students' creativity and their skills in using the digital learning environment were studied through experiment, observation, and survey methods [3]. During the research process, interactive activities, project-based work, and problem-based learning methods were tested. The experiment results were evaluated using pretest and posttest, which made it possible to determine teachers' creative and analytical thinking abilities, problem-solving skills, and independent work potential. Additionally, quantitative and qualitative analysis methods were used in the research. The survey and observation results were analyzed using statistical methods to identify creativity indicators and the effectiveness of the educational process. Qualitative analysis served to study teachers' pedagogical experience, feedback, and approaches. An integrated approach was also applied in the research, developing strategies for forming the creative and professional competencies of future technology teachers through the combination of digital learning tools and pedagogical methods [4]. In this way, the research methodology was scientifically grounded and yielded practical results, allowing for the identification of effective ways to develop the creative potential of future teachers.

Analysis and Results: According to the research results, it was found that the development of creative qualities in future technology teachers within the digital learning environment can be implemented through effective pedagogical approaches and innovative methods. During the experiment, interactive activities, project-based work, and problem-based learning methods were applied. The results showed that students' creative thinking, problem-solving, and independent work skills significantly improved. Analysis of survey and observation results indicated that teachers' creative potential is formed at a high level through digital tools and innovative pedagogical approaches. At the same time, project-based work and interactive activities enhanced students' critical thinking and ability to generate new ideas [5]. A significant difference was found between the pretest results conducted before the experiment and the posttest results conducted after, which confirms the effectiveness of the applied methods. Furthermore, qualitative analysis made it possible to study teachers' pedagogical experience and feedback. Most teachers emphasized that through the application of interactive teaching methods, the lesson process can be made engaging and effective. At the same time, methods aimed at developing creativity encourage students' unique approaches and actively engage them in creative activities. As a result, the research showed that interactive pedagogical methods, project-based learning, and problem-based learning serve as the most effective tools in developing creative qualities of future technology teachers within the digital learning environment. These methods not only make the learning process engaging but also allow for enhancing teachers' professional competence and creative potential.

Conclusion and Recommendations: The research results have shown that developing creative qualities in future technology teachers within the digital learning environment is of great

importance in forming their professional and creative competencies. Interactive pedagogical methods, project-based learning, and problem-based learning techniques significantly enhance students' creative thinking, problem-solving, and independent work skills [6]. Furthermore, the effective use of digital tools makes the learning process engaging and interactive, strengthening teachers' readiness to apply new approaches.

Based on the research results, the following recommendations have been developed:

1. Widespread implementation of the digital learning environment – enhancing students' creative potential through the use of modern digital tools, virtual laboratories, and simulations in lessons.

2. Application of interactive pedagogical methods – regularly implementing project-based learning, problem-based learning, and collaborative learning methods.

3. Improving teachers' methodological training – organizing special training sessions on creativity development methodology and the use of digital learning tools.

4. Establishing a system for assessing and encouraging creativity – students' creative approaches and innovative ideas should be regularly assessed and encouraged during the learning process.

5. Experience exchange and collaboration – developing innovative thinking through exchanging creative experiences among teachers and students, organizing seminars and workshops.

In this way, developing the creative qualities of future technology teachers in the digital learning environment not only makes the lesson process effective and engaging but also serves to enhance the professional qualification and creative potential of teachers.

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