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IMPROVING THE METHODOLOGY FOR DEVELOPING CREATIVE COMPETENCE OF FUTURE SPECIALISTS BASED ON DIGITAL TECHNOLOGIES

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Abstract:
The rapid development of digital technologies has significantly transformed modern education and professional training systems. In higher education institutions, special attention is paid to the development of creative competence among future specialists because creativity has become one of the essential requirements of the digital economy. This study investigates the improvement of methodologies aimed at developing creative competence through digital technologies. The research examines the role of interactive platforms, virtual learning environments, multimedia tools, and online collaborative systems in enhancing students' creative abilities. Quantitative and qualitative research methods were applied to evaluate the effectiveness of digital technology-based educational approaches. The findings indicate that digital technologies positively influence students' independent thinking, innovative problem-solving skills, communication abilities, and professional adaptability. The study also demonstrates that project-based learning, digital simulations, and collaborative online activities increase learners' motivation and creative engagement. Furthermore, the research identifies several pedagogical conditions necessary for the successful integration of digital technologies into professional education. The results contribute to the theoretical and practical improvement of teaching methodologies focused on preparing competitive and innovative specialists for the modern labor market.

Keywords: Digital technologies, creative competence, future specialists, higher education, innovation, methodology, professional development, digital learning.

INTRODUCTION

The modernization of education systems in the twenty-first century requires the preparation of highly qualified specialists capable of adapting to rapidly changing technological environments. Digital transformation has influenced not only industrial sectors but also educational methodologies and pedagogical practices. As a result, educational institutions are increasingly integrating digital technologies into the teaching and learning process to improve the quality of education and develop students' professional competencies. Creative competence is considered one of the most important characteristics of future specialists. It includes the ability to generate innovative ideas, solve professional problems creatively, think critically, and apply knowledge effectively in practical situations. In the context of globalization and digitalization, employers demand specialists who possess not only theoretical knowledge but also creativity, flexibility, and technological literacy.

Traditional teaching methods often fail to fully support the development of creative competence because they mainly focus on reproductive learning and memorization. In contrast, digital technologies create interactive and student-centered learning environments that encourage experimentation, collaboration, and independent learning. Tools such as multimedia resources, virtual laboratories, cloud technologies, artificial intelligence applications, and online educational platforms provide students with opportunities to develop creative thinking and professional skills simultaneously. The relevance of this research lies in the growing necessity to improve pedagogical methodologies for training future specialists in the digital era. Many educational institutions continue to face challenges related to insufficient methodological support, limited integration of innovative technologies, and lack of effective strategies for fostering creativity. Therefore, the improvement of methodologies based on digital technologies becomes an important scientific and practical issue. The purpose of this study is to analyze and improve methodological approaches for developing the creative competence of future specialists through digital technologies. The study also aims to identify effective digital tools and pedagogical conditions that contribute to students' creative and professional growth.

METHODS

This research employed a mixed-method approach combining quantitative and qualitative methods. The study was conducted in several higher educational institutions involving undergraduate students and university teachers. A

total of 120 students participated in the experimental process. The research consisted of three main stages: diagnostic, experimental, and analytical. During the diagnostic stage, surveys and interviews were conducted to determine the initial level of students' creative competence and digital literacy. Observation methods were also used to evaluate students' participation in classroom activities and digital learning environments. At the experimental stage, a specially designed educational methodology based on digital technologies was implemented. The methodology included project-based learning, online collaboration, multimedia presentations, digital simulations, interactive educational platforms, and creative problem-solving tasks. Students were divided into control and experimental groups. The control group studied using traditional methods, while the experimental group used digital technology-based learning approaches. Various digital tools were integrated into the educational process, including virtual communication platforms, cloud-based applications, online brainstorming systems, and multimedia educational resources. Teachers acted as facilitators and mentors, encouraging students to participate actively in creative activities and independent projects.

To evaluate the effectiveness of the methodology, several assessment criteria were used: originality of ideas, problem-solving ability, communication skills, technological adaptability, and independent thinking. Statistical analysis methods were applied to compare the results of the control and experimental groups. In addition, qualitative interviews were conducted with students and teachers to identify their perceptions of digital learning and creative development. The reliability and validity of the research were ensured through repeated observations, comparative analysis, and triangulation of data obtained from different research methods.

RESULTS

The results of the study demonstrated that the implementation of digital technology-based methodologies significantly improved the creative competence of future specialists. Students in the experimental group showed higher levels of engagement, motivation, and creative activity compared to students in the control group.

The analysis revealed that digital technologies enhanced students' ability to generate innovative ideas and solve professional problems creatively. Project-based learning activities encouraged collaboration and communication among students, allowing them to exchange ideas and develop teamwork skills. Multimedia presentations and virtual simulations also increased students' interest in learning and supported deeper understanding of complex concepts. According to the survey results, more than 80 percent of students in the experimental group reported that digital technologies helped them become more independent and confident in completing academic tasks. Students particularly emphasized the usefulness of online collaboration platforms and interactive educational resources in developing their creative abilities.

Teachers participating in the study noted that digital technologies created more flexible and student-centered learning environments. They observed that students became more active during discussions, demonstrated greater initiative, and showed increased willingness to participate in research and creative projects.

Comparative statistical analysis confirmed significant differences between the control and experimental groups. The experimental group achieved higher scores in creativity assessment tasks, problem-solving activities, and professional communication exercises. The results indicate that digital learning environments positively influence the formation of creative competence and professional readiness. The study also identified several important pedagogical conditions for successful implementation of digital methodologies. These include teachers' digital competence, availability of technological infrastructure, effective instructional design, and continuous student support. Without these conditions, the integration of digital technologies may not produce the expected educational outcomes.

DISCUSSION

The findings of this research confirm that digital technologies play an essential role in the development of creative competence among future specialists. Modern educational environments require innovative teaching methods capable of supporting students' active participation, independent learning, and professional creativity.

One of the main advantages of digital technologies is their ability to provide interactive and flexible learning opportunities. Unlike traditional teaching methods, digital platforms allow students to explore information independently, participate in collaborative activities, and apply theoretical knowledge in practical contexts. This contributes to the formation of critical thinking and creative problem-solving skills.

The results also demonstrate the effectiveness of project-based learning supported by digital tools. Such approaches encourage students to work on real-life problems, communicate with peers, and develop innovative solutions. As a result, students become more prepared for professional challenges in the modern labor market.

However, the study identified several challenges associated with the integration of digital technologies into higher education. Some teachers experience difficulties in using modern digital tools effectively due to insufficient technological training. In addition, technical limitations and unequal access to digital resources may reduce the effectiveness of technology-based learning. The research highlights the importance of improving teacher training programs focused on digital pedagogy and creative teaching methodologies. Educational institutions should also invest in modern technological infrastructure and provide continuous methodological support for teachers and students.

Another important aspect discussed in the study is the transformation of the teacher's role in digital education. Teachers are no longer only providers of information; they become facilitators, coordinators, and mentors who guide students in creative and independent learning processes. This shift requires new pedagogical competencies and innovative instructional strategies.

The findings correspond with contemporary educational theories emphasizing student-centered learning and competency-based education. The integration of digital technologies into professional training contributes not only to academic achievement but also to the development of lifelong learning skills necessary in the digital society.

CONCLUSION

In conclusion, the improvement of methodologies for developing the creative competence of future specialists based on digital technologies is an important direction in modern education. The research confirms that digital tools and innovative pedagogical approaches significantly enhance students' creativity, independent thinking, communication skills, and professional adaptability.

The implementation of project-based learning, multimedia technologies, online collaboration platforms, and interactive educational resources creates effective conditions for students' creative and professional development. Digital learning environments encourage active participation, innovative thinking, and practical application of knowledge.

The study also emphasizes the necessity of improving teachers' digital competence and strengthening technological infrastructure in educational institutions. Successful integration of digital technologies requires systematic methodological support, effective instructional design, and student-centered educational strategies.

The practical significance of this research lies in the possibility of applying the proposed methodology in higher education institutions for training competitive and creative specialists. The findings may also serve as a theoretical basis for further scientific research related to digital pedagogy and competency-based education.

Future studies may focus on the long-term impact of digital technologies on professional creativity, comparative analysis of different digital learning models, and the role of artificial intelligence in developing creative competence among students.

REFERENCES

1. Abdullayeva, Q. (2021). Raqamli ta'lim muhitida talabalarning kreativ kompetentligini rivojlantirish masalalari. Pedagogik Mahorat, 3(2), 45–52.
2. Karimov, U. (2022). Oliy ta'lim tizimida raqamli texnologiyalar asosida innovatsion ta'limni tashkil etish. Zamonaviy Ta'lim, 6(4), 18–26.
3. Rasulov, B. (2023). Bo'lajak mutaxassislarning kasbiy kompetentligini rivojlantirishda interaktiv metodlarning o'rni. Ta'lim va Innovatsiya, 5(1), 63–70.
4. Yuldashev, J. (2021). Raqamli pedagogika va kreativ fikrlashni rivojlantirishning zamonaviy usullari. Pedagogika Ilmiy Jurnali, 7(3), 28–35.
5. Axmedova, M. (2020). Talabalarda mustaqil fikrlash kompetensiyasini shakllantirish texnologiyalari. Oliy Ta'lim Muammolari, 4(5), 54–61.
6. To'xtayev, S. (2022). Oliy ta'limda multimedia vositalaridan foydalanish samaradorligi. Innovatsion Tadqiqotlar, 2(6), 71–79.
7. Nurmatov, D. (2021). Bo'lajak pedagoglarning kreativ kompetentligini rivojlantirishning pedagogik asoslari. Uzluksiz Ta'lim, 8(2), 40–47.
8. Xolmatova, N. (2023). Raqamli texnologiyalar asosida ta'lim sifatini oshirish omillari. Ilm va Taraqqiyot, 9(1), 22–30.
9. Ergashev, A. (2022). Zamonaviy axborot texnologiyalarining ta'lim tizimidagi ahamiyati. Pedagogik Tadqiqotlar, 3(7), 81–88.
10. Ismoilov, F. (2020). Talabalarning kasbiy tayyorgarligida innovatsion yondashuvlar. Ta'lim Menejmenti, 1(4), 37–44.
11. Rahimova, Z. (2021). Kreativ ta'lim muhitini shakllantirishning pedagogik imkoniyatlari. Zamonaviy Pedagogika, 6(3), 49–57.
12. Bozorov, H. (2023). Oliy ta'lim jarayonida raqamli platformalardan foydalanish metodikasi. Fan va Ta'lim Integratsiyasi, 4(2), 66–74.
13. Qodirova, M. (2022). Interaktiv ta'lim vositalari orqali kreativ kompetensiyani rivojlantirish. Ilmiy Axborotnoma, 5(5), 58–65.
14. Tursunov, E. (2021). Talabalarning innovatsion faoliyatini rivojlantirishda raqamli vositalarning roli. Pedagogik Innovatsiyalar, 2(8), 73–80.
15. Jo'rayev, B. (2023). Raqamli transformatsiya sharoitida bo'lajak mutaxassislarni tayyorlash metodikasi. Ta'lim Texnologiyalari, 7(1), 25–33.