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METHODOLOGY FOR USING DIGITAL EDUCATIONAL TECHNOLOGIES IN TEACHER TRAINING

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Abstract. The article examines methodological approaches to using digital educational technologies in teacher preparation. It focuses on the pedagogical integration of digital tools rather than their simple introduction into the learning process. Particular attention is given to interactive tasks, multimedia resources, digital platforms, electronic assessment, collaborative learning, and the development of future teachers' professional digital competence.

Keywords: teacher education, digital learning, digital competence, educational technology, interactive platform, electronic assessment.

Introduction. The technological changes taking place within the education system are directly affecting the content of the teaching profession as well. A modern teacher must be formed not simply as a specialist who explains learning material, but as a professional capable of selecting various digital resources, adapting them to educational tasks, organizing learning activity in an electronic environment, and analyzing digital outcomes. For this reason, the use of digital technologies in the process of higher pedagogical education should be regarded not as a separate technical skill, but as an integral component of future professional activity [1; 2; 3]. Contemporary research likewise emphasizes that a teacher's digital competence is not limited to the use of technical tools, but encompasses the ability to make conscious and effective pedagogical use of digital resources.

One of the important issues in forming a future teacher's digital competence is harmonizing the mastery of technology with pedagogical methodology. For example, knowing how to use an electronic platform alone does not guarantee that a student will be able to organize an effective lesson in the future. For this, he or she must understand for which topic a video is more effective, in which situation an interactive test is preferable, and when a collaborative electronic assignment or digital project would work better. Research likewise shows that a digital tool does not automatically improve pedagogical outcomes by itself; its educational value depends on the method and context of its use.

Research Methodology. In order to identify the methodological foundations of using digital educational technologies in teacher training, the study employed the analysis of scholarly literature, comparative analysis, systematization, pedagogical modeling, and generalization. In developing the methodological approach, the relationship between the components of digital competence, the practical activity of future teachers, and the assessment of learning outcomes was taken as the main criterion. Foreign research has shown that teachers' digital competence encompasses, in addition to technological knowledge, didactic, communicative, reflective, and professional dimensions.

Results. The results of the analysis show that the use of digital technologies in teacher training must first and foremost be linked to methodological tasks that ensure the student's active participation. Simply presenting ready-made information in electronic form during a traditional lecture does not realize the full potential of digital education [7; 8]. On the contrary, a student's professional preparation is strengthened when he or she conducts independent inquiry in a digital environment, compares electronic sources, processes information, creates multimedia-based learning material, or designs an interactive assignment for pupils. In this sense, digital technology ceases to be a mere carrier of educational content and becomes a tool for designing the student's own pedagogical activity. Riedner

and Pischetola likewise note in their research that the use of digital technologies in preparing future teachers should be linked to creativity, collaboration, and independent pedagogical activity.

Another important methodological opportunity offered by digital education concerns the formation of individual learning trajectories. Through electronic platforms, students can be offered tasks of varying complexity, provided with additional materials for independent work, and given prompt feedback on completed assignments. Unlike a model in which all students are taught at the same pace, such an approach helps to take into account their level of readiness and rate of mastery. In particular, when working with students of varying levels of digital literacy, the use of graduated assignments and electronic instructions is methodologically effective. Research on digital competence also shows that future teachers' attitude toward technology, self-confidence, and digital literacy influence their use of technology for educational purposes [5; 6].

Digital assignments linked to pedagogical practice are of particular importance. Rather than simply teaching a student "how to use a digital platform," requiring him or her to create an electronic lesson fragment designed for a specific age group yields a greater professional outcome. In doing so, the student defines the learning objective, selects the material, adapts the assignment to a digital format, plans pupil activity, and develops criteria for assessing the final result. In this way, technological knowledge is combined with pedagogical knowledge. The HeDiCom model developed by Tondeur and co-authors likewise links the digital competence of higher-education teachers not merely to knowledge of technological tools, but to their meaningful integration into the educational process [6].

The use of electronic assessment tools also makes it possible to improve the methodology of teacher training. With the help of online tests, electronic portfolios, digital projects, self-assessment sheets, and electronic rubrics, not only the student's final result but also the process of learning activity is monitored. For example, through an electronic portfolio a student can compile the lesson plans, multimedia materials, interactive assignments, and reflective notes developed over the course of a semester. As a result, assessment shifts from a one-time form of control to a system that reflects the dynamics of development.

Discussion. The effectiveness of using digital technologies in teacher training depends not on the number of technologies employed, but on their methodologically correct selection. Using numerous platforms and programs in a single lesson does not automatically increase a student's knowledge. On the contrary, an excess of digital tools can lead to divided attention and cause the learning task itself to become secondary. Therefore, in pedagogical education it is advisable to follow the principle of "pedagogical goal first, appropriate technology second," rather than "technology first, task second." This approach makes it possible to view technology not as an end in itself, but as a means of achieving the intended learning outcome.

It is also important that digital competence in teacher-training programs not be confined to a separate subject, but be integrated with subject-specific disciplines. For example, a future language teacher can create assignments for developing language skills on digital platforms, a mathematics teacher can use dynamic models and visualizations, and a student specializing in primary education can develop interactive materials suited to children's age-related characteristics. Such integration transforms a digital tool from a general technical skill into a means of concrete professional activity.

Research also shows that conditions within the educational institution, access to technology, methodological support, and the individual preparedness of the teacher are important in developing teachers' digital competence. International research by Carpenter and co-authors likewise found that, in addition to technological resources, institutional support, leadership, and the professional environment influence the development of teachers' digital competence. Consequently, forming a digitally competent teacher is not a process dependent solely on the student's personal initiative, but also

requires an appropriate methodological and technological environment within the higher education institution.

Conclusion. Improving the methodology of using digital educational technologies in teacher training enriches the professional preparation of the modern teacher with new content. The main task in this process is not to acquaint students with an ever-growing number of programs or platforms, but to teach them to use digital tools in a pedagogically well-founded manner. Digital assignments, electronic portfolios, multimedia materials, interactive platforms, and electronic assessment tools serve to develop students' independent work, creative approach, methodological decision-making, and reflective activity.

References

1. Abduqodirov, A. A., & Pardaev, A. X. Theory and Practice of Distance Learning [in Uzbek]. Tashkent: Fan, 2009. 156 p.
2. Azizxo'jayeva, N. N. Pedagogical Technologies and Pedagogical Skill [in Uzbek]. Tashkent: Literary Fund Publishing House of the Writers' Union of Uzbekistan, 2006. 160 p.
3. Ishmuhamedov, R. J., Abduqodirov, A. A., & Pardaev, A. X. Innovative Technologies in Education [in Uzbek]. Tashkent: Iste'dod, 2008. 180 p.
4. Jo'rayev, R. H., & Tolipov, O'. Q. Pedagogical Technologies: Theory and Practice of Modern Pedagogical Technologies [in Uzbek]. Tashkent: Fan va Texnologiya, 2013. 184 p.
5. Mavlonova, R. A., To'rayeva, O. T., & Holiqberdiyev, K. M. Pedagogy [in Uzbek]. Tashkent: O'qituvchi, 2010. 496 p.
6. Sayidahmedov, N. S. New Pedagogical Technologies [in Uzbek]. Tashkent: Moliya, 2003. 172 p.
7. Tolipov, O'. Q., & Usmonboyeva, M. Applied Foundations of Pedagogical Technologies [in Uzbek]. Tashkent: Fan, 2006. 163 p.
8. Yo'ldoshev, J. G'., & Usmonov, S. A. Foundations of Pedagogical Technology [in Uzbek]. Tashkent: O'qituvchi, 2004. 104 p.