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THE EFFECTIVENESS OF TEACHER PREPARATION IN TRANSITIONING TO A DIGITAL EDUCATIONAL ENVIRONMENT IN TECHNICAL HIGHER EDUCATION INSTITUTIONS

Abstract. This article presents analyses and recommendations aimed at increasing the effectiveness of teacher preparation during the transition to a digital educational environment in technical higher education institutions.

Keywords: digital education, effectiveness, strategy, competence, quality education.

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ЭФФЕКТИВНОСТЬ ПОДГОТОВКИ ПРЕПОДАВАТЕЛЕЙ К ПЕРЕХОДУ НА ЦИФРОВУЮ ОБРАЗОВАТЕЛЬНУЮ СРЕДУ В ТЕХНИЧЕСКИХ ВУЗАХ

Аннотация. В данной статье разработаны анализ и рекомендации по повышению эффективности подготовки преподавателей в условиях перехода технических вузов к цифровой образовательной среде.

Ключевые слова: цифровое образование, эффективность, стратегия, компетентность, качественное образование.

In all technical higher education institutions, including Karshi State Technical University, ensuring a convenient and high-quality education remains a key objective of educational policy. One of the mechanisms for implementing this priority direction is the realization of the pedagogical potential of digital education in higher education.

Articles in the field of pedagogy emphasize the application of digital learning tools and new educational technologies, as well as the use of didactic teaching aids to introduce new forms and methods of instruction. However, the practical implementation of these technologies is not at the desired level, largely due to the insufficient skills of university teachers in effectively utilizing these technologies in the educational process.

It should be noted that the Decree of the President of the Republic of Uzbekistan No. PF-6079 dated October 5, 2020, “On the approval of the Digital Uzbekistan – 2030 Strategy and measures for its implementation”, outlines programs for digitalization, the development of digital technologies, the review of new projects in the field of the digital economy, and the advancement of digital education in a digital world.

As stated in the above-mentioned decree, the following measures are being implemented to enhance digital skills in the field of education:

– the creation and implementation of a unified distance learning platform aimed at applying it to all areas of education in the future.

In higher education institutions, measures are also being taken to establish laboratories for the application and study of technologies such as the Internet of Things (IoT), robotics, and artificial intelligence in relevant fields. Additionally, there is an emphasis on developing and supporting a unified state requirement for using digitization formats for paper-based materials, with the goal of digitizing educational resources in the learning process.

This initiative is also reflected in the Concept for the Development of the Higher Education System of the Republic of Uzbekistan until 2030.

In this article, we provide the following definition of a Digital Learning Environment (DLE):

A Digital Learning Environment is a setting that implements the core curriculum of the State Educational Standard using modern educational technologies,

software, and instructional-methodological resources through the use of computer technologies.

Taking into account the specific features of implementing digital education, the training of future engineers in technical higher education institutions has become a priority direction in the development of the education system. At the state level, there is an increasing demand for introducing distance education into the learning process based on the use of modern educational technologies and electronic resources. This is reflected in the programs, strategies, and legal documents of the Development Strategy of the Republic of Uzbekistan.

The importance of training teachers and administrators in the use of information technologies is also emphasized in the works of foreign researchers. In Schulz's study, modifications in teaching activities are presented within the context of integrating innovative electronic information and educational tools into the learning process [5].

It is also worth noting that we found N. Hockly's research particularly interesting. In defining the concept of "digital literacy," she uses the following four key components: digital, information, social, and "re-design" literacy [6].

The analysis of research conducted by local authors shows that the integration of e-learning into the educational process within a digital learning environment is influenced by numerous factors, including the increasing demands for education quality and the training of qualified specialists (N.V. G'afurova, F.U. Anarbayeva, D. Khoshimova, and others).

In this regard, as President Shavkat Mirziyoyev has emphasized: "In order to achieve progress, it is necessary and essential for us to master computer science and modern information technologies. This shows us the shortest path to advancement. Today, information technologies are deeply penetrating all areas of life around the world."

In the context of a digital learning environment, the rapid pace of development and updating of information and communication technologies (ICT)

in schools and universities is critical for achieving effective results. Consequently, many teachers are striving to acquire and improve technological skills related to the use of digital learning resources. They recognize the importance of developing the pedagogical potential of digital education and are actively engaging in professional development courses aimed at acquiring technological competencies necessary for implementing digital education in both secondary schools and higher education institutions.

We believe that, in the context of implementing a digital learning environment, the demand for using such environments in higher education institutions will continue to grow. This includes identifying and addressing general, specific, and urgent challenges necessary for the effective implementation of e-learning.

To analyze the current state of e-learning integration within the digital learning environments of regional higher education institutions, a survey was conducted among more than 100 master's students. The results revealed that the majority of respondents were not sufficiently prepared for engagement in a digital learning environment.

Working within the context of a digital education environment requires a focus on identifying and developing essential issues needed for effective implementation, and increasingly relying on school-based digital learning systems. The analysis of a survey conducted among graduate students in five different academic programs indicates that e-learning serves as a universal communication tool, and that teachers' information competencies are developed based on the unique characteristics of digital learning environments in technical higher education institutions.

At this stage of the research, it was concluded that courses such as "Information Technologies" or "Information Systems" play a crucial role in developing information competence, and that the significance of the influence of the information and educational environment will increase in the future.

Emphasizing the effectiveness of digital education in developing information competence among future teachers, we believe it is essential to analyze scientific and methodological publications dedicated to the introduction of digital education in various regions. These analyses should take into account regional specificities and provide recommendations for their use in academic activities. It has become evident that future teachers possess different levels of maturity and stages of development in the components of information competence. Therefore, it is important to allow them to engage in educational activities based on their readiness. Given the need to integrate e-learning in the reviewed master's programs and considering the requirements of technical higher education institutions, it is advisable to introduce a set of specialized courses. These would involve both master's students and interested faculty members and would cover topics such as: Models and approaches to organizing e-learning based on the specific features of technical higher education environments;

Informatization of university teaching staff through a competency-based approach;

Scientific and methodological preparation of teachers. All these areas are regarded as essential tools for fostering information competence within the digital learning environment.

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