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INNOVATIVE WAYS OF IMPLEMENTING DIGITAL TRANSFORMATION IN THE EDUCATIONAL SYSTEM

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Abstract

in this article, the problems of the distribution of digital technologies are considered, the wide use of information and communication technologies in education related to changing relations in the field of socio-economic development is noted, the main directions of the development of digital educational technologies that help to expand the possibilities of traditional educational models based on the creation of a single digital educational space are identified. The need to create an infrastructure, a normative-methodological base, which will contribute to the implementation of priority projects on the digital transformation of education, is substantiated. The main trends of digital transformation in the development of educational processes are highlighted.

Introduction. Today, one of the most promising directions for the purposeful formation of an innovative personnel base in any country is the education system. Implementation of the digital transformation process creates new challenges for the educational system that can only be solved with a comprehensive approach to digital transformation.

Achieving this goal is especially important in connection with the widespread adoption of cloud computing, high-speed Internet, smart digital tools, the use of artificial intelligence techniques, and virtual technologies.

The digital transformation of the educational process is determined by the global processes of transition to the digital economy and digital society. Education largely determines what these perspectives will be.

Analysis of literature on the topic

The concept of digital transformation of education was developed by a number of authors. The term "digitalization" appeared in connection with the strengthening of information and communication technologies. Some scientists, for example, E.L. Vartanova, M.I. Maksenko, S.S. Smirnov considers this concept to be the translation of information into numbers and, at the same time, the infrastructural, managerial, behavioral and cultural components of education[5].

The main components of the educational environment are undoubtedly important in the process of forming the digital information educational environment and its integration into the general educational

system, in the development of the electronic education system. In the formation of a person-oriented learning environment, the formation of a digital information learning environment is an important factor. It is based on the identification of his personal abilities as a subject of knowledge and activity, and in turn, on the recognition of the right of everyone to choose the direction of his development by studying alternative forms of education.

Based on this educational theory, the authors V.R. Lebedeva, V.A. Orlov, V.A. Yasvin and others in their works emphasize the growing role of differentiation and individualization of education, while explaining this role in a different way than previously accepted, taking into account the specific characteristics of modern society[1].

A. Yu. Uvarov notes that "in his research, the content of the digital transformation of education should be carried out along with the "synergistic" renewal, which will lead to a radical improvement in the quality of education." It is impossible to disagree with his opinion, because if the educational system meets the demands and opportunities of the digital society, the digital transformation of education will lead the society to the digital economy [5].

N.R. Petrova and G.A. As Bondareva noted in her work, "the current stage of digitization in education is to integrate all its topics into the digital educational environment. Currently, the question of the composition of the digital learning environment is controversial. Many scientists are studying the problems of structuring digital learning environments"[5]. These features are well suited to the possibilities of the digital information environment, which directs students to activity, mobility, etc.

Virtual (electronic) space is a type of immaterial space that can be recreated only with the help of additional tools such as virtual helmets, virtual glasses, etc.

O.V. Bashirina Yu.R. Korotenkov, A.A. Kuznetsov, E.V. Ogorodnikov, I.V. Robert, N.W. Strekalova, T.N. Suvorova, A.V. Uvarov, E.V. Chernova and A.V. According to Shimurzoeva's research, the main role was given to subjective and methodological components, and the remaining components, for example, software and technical tools, were auxiliary[5].

Based on the different views of the authors, it can be noted that it is important to transfer the concept of educational environment to the concept of digital information educational environment. Information education is not "preparation for public service" but "continuing education and personal development" . The task here is to form the ability to manage one's own educational process and education.

We are A.V. We agree with Uvarov, he believes that the traditional idea that society has an educated person ready for a fulfilling life is changing. In addition to basic literacy (reading, writing and computing skills), an educated person needs cooperation, the ability to create non-standard tasks and solve problems, perseverance, curiosity, initiative, etc. [7]. The materials of the World Economic Forum emphasize that everyone should have these competencies in the digital economy [4].

Research methodology

Analysis, synthesis and analogy methods were used during this study. The identified trends indicate the need to improve the quality of education through information and communication technologies, and the high demand for specialists in the field of information and communication technologies in the labor market. In the educational system, the use of information technology infrastructure, regulatory and legal support, and opportunities for the use of information technology in the educational process have been created, which should be the basis for the participation of universities in the digital economy. Education programs implemented by the state help to create a high-quality education system at all levels.

Analysis and results

Digital transformation is not just another educational reform, it is a multi-year work program that affects all levels of education. As in the service and material production sectors, the digital

transformation of education must focus on results and improve the quality of work of educational organizations at all stages of program implementation.

Digital technologies help to fundamentally improve the quality of education of students, to form all their necessary skills, to form the ability to consciously and creatively use all available digital tools, materials and services to solve problems.

The basis of the digital transformation of educational institutions is the introduction of digital technologies and the transition to a personalized organization of the educational process, where their use is the most effective [5]. Changing the activities of educational organizations requires changing the regulatory framework for digital transformation of education.

Developers of digital learning resources get help here in preparing initial requirements and specifications, testing and fine-tuning their materials to make them as user-friendly and effective as possible.

Before the increase in the number of innovative platforms and the widespread distribution of the personalized organization of the educational process in the country, the following should be done:

First, to connect all educational institutions to broadband Internet;

Secondly, on the formation and development of their digital infrastructure;

Thirdly, fundamental improvement of the legal framework for the digital transformation of education.

The situation with the problems that arise in the educational process is being solved gradually and still completely, but this is not the most important thing, it is necessary to continue developing and mastering various forms of education in the era of digital transformation.

Introduction of the personalized organization of the educational process helps to increase and reduce the effectiveness of the educational time as a result of the active involvement of students in educational work [9]. The transition to a personalized organization of the educational process requires a specially organized digital learning environment that helps the student to differentiate educational work in each cycle of educational work. The use of new forms of work, that is, different models of mixed education, etc., require a revision of the salary of professors. In order to prepare and develop relevant regulatory documents, as well as to test their effectiveness in real conditions, it is necessary to have the opportunity to conduct such work in the mode of legal experimentation. This requires the development and widespread implementation of highly effective and cost-effective models of personalized organization of the educational process [6].

Based on the above, it can be emphasized that it is necessary to eliminate the existing digital technological gap in the educational system. First of all, all efforts should be made to continue working on the technological modernization of educational organizations and to eliminate the digital technology gap, as well as to provide students and professors with digital educational resources to use the emerging digital educational environment, and to solve the problems of eliminating the technological gap. actions must be taken.

It is necessary to work on the development and wide use of new high-tech solutions, renewal of ineffective organizational models and pedagogical practices. For this, every educational organization needs a clear strategy and a clear development plan, the implementation of which will lead to the creation of the necessary conditions.

Currently, the task of digital transformation of education - adaptation of the educational system to the tasks, problems and opportunities of the information society and digital economy is very urgent.

Currently, many studies in the field of educational technologies have shown that the transition of educational institutions to distance learning online learning is based on a carefully designed and

planned learning process in an electronic information learning environment, which is supported by a methodologically sound goal sequence of instructional, methodological and control, and in turn, already developed measurement materials, which ensure the achievement of learning outcomes only in the e-learning format.

Full-time and online education requires social support for students. In full-time education, this role is played by the material resources of educational institutions and professors involved in the educational process. Online learning is not possible without IT infrastructure that requires significant investment, including a private or contracted external online learning platform, as well as high-quality online courses that provide effective training and support for students.

In the current situation, when the transition to online education is carried out in a short period of time, all these conditions must be created in advance, and professors must have experience in using online education tools and student support services.

Practice shows that the development of an online course takes an average of six to eight months, and the skills of a professor working on an online platform are formed during the first two launches of the course.

Even if the most advanced professor of digital competences makes every effort to transfer classes to the online environment, you should not expect high results, they write several online lectures, post text materials and upload tests to the platform.

Important requirements for the distance education system are its reliability, bandwidth of Internet channels, simplicity of content creation and deployment, availability of platforms for teachers and students. Therefore, taking into account the external resources available in universities, it is appropriate to develop the requirements for the formats of the educational process that are acceptable for the measures of distance education and the level of development of the IT infrastructure. Therefore, each educational institution has its own set of tools and measures for organizing educational activities in the online environment.

The faster technological, organizational and other conditions change, the shorter the life cycle of some components of educational resources. Many educational organizations have long been using various information systems and services (for example, LMS MOODLE, etc.) to develop educational materials and manage the educational process.

The most popular system among educational institutions is the LMS MOODLE - the basis of the educational activity management system. Its primary use is to develop, manage, and distribute locally accessible online learning materials. The system can contain many types of learning products, individual tasks, project work, educational elements, books, test materials, etc. It can include and organize an e-learning complex as a whole.

Due to new advances in the field of information and communication technologies, the mandatory transition to distance education proves once again the need to introduce digital transformation in education.

A.V. Uvarov writes that changing the work of educational organizations requires changing the normative framework for digital transformation of education [6]. The latter is impossible without comprehensive testing and fine-tuning of this base in innovative digital educational sites during extensive experience, without relying on practice. The situation with the problems that arise in the educational process is being solved gradually and still completely, but this is not the most important thing, it is necessary to continue developing and mastering various forms of education in the era of digital transformation.

Informatization of education should be focused on solving the increasingly complex tasks of forming students' computer literacy and increasing the effectiveness of the educational process. Today, the idea

about the place and role of computers in the educational process has changed once again. Computers were seen as a means of changing education and learning without leaving students behind and moving to a personalized organization of the learning process.

In recent times, special attention has been paid to public open online courses. Expected changes in their distribution and prospects for their use are being discussed. One of the main issues of informatization of education is the formation of information-communication, technological competences of students. How and to what extent the educational system solves this problem can serve as a good indicator of the effectiveness of the work on the digital transformation of education in general.

Conclusions and suggestions

Today, students' worldviews are changing, and as a result, universities are also changing, and students and professors are increasingly using available digital learning materials and tools to make their work easier and more efficient.

Demands for general literacy, the knowledge and skills of the modern workforce, and the demands of the new economy and learning environment are growing rapidly. It is also clear that knowledge and skills will not be sufficient without the formation of relevant skills. It is no longer possible to include in the curriculum everything that students need to know within the framework of mandatory courses.

We need to teach them how to learn, manage their knowledge, find, analyze, evaluate and apply knowledge when needed . The formation and development of such abilities requires a transition to active learning methods and the use of complex structured learning environments.

Discussions about lifelong learning are replaced by the need to build and develop sustainable skills for each student to manage their own knowledge and continue professional and personal development throughout life. However, the modern education system does not always meet all expectations, and the idea of using digital technologies is changing.

Thus, we can conclude that it is necessary to complete a full cycle of work on updating the content of educational work, mastering new methods and organizational forms of educational work, and transitioning to real assessment methods and tools that demonstrate the effectiveness of the educational process.

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