

# **DIGITAL TRANSFORMATION AND IMPROVEMENT OF MODERN HIGHER EDUCATION**

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## **ANNOTATION**

This article summarizes the data on the use of digital technologies in education, the difficulties and prospects of its digital transformation, which meets the challenges of the emerging digital economy. The changes in the field of digital technologies and the educational process that will become dominant in the development of education in the next decade are discussed.

## **INTRODUCTION**

The research of teachers-researchers shows that the process of education is not only the transfer of knowledge, skills and abilities, but also concentrates the cultural heritage of the nation, contributes to the development of human capabilities, forms his moral ideals. In addition, education is one of the conditions for economic growth, improving the material well-being of the country's population. The article considers the main directions of the development of the higher education system in the Republic of Uzbekistan in the context of the global digitalization of the economy, discusses the topic of the introduction of digital technologies in education, the role of digital technologies in the individualization of the educational process, the development of students' independence, improving the quality of education.

## **MATERIAL AND METHODS**

The main task of higher education at the present stage in the Republic of Uzbekistan is to ensure the quality of education based on the preservation of its fundamental nature and compliance with world experience, the needs of the individual, society and the state, the effective use of advanced pedagogical and digital technologies. The improvement of the training system in the field of information technology is one of the important conditions for ensuring the successful implementation of the Strategy "Digital Uzbekistan — 2030", the development and widespread introduction of digital technologies into the daily life of the population.

The measures taken to improve the efficiency of the system of training for professions and retraining in the field of information technology create a solid foundation for providing government agencies and industry organizations with qualified IT specialists.<sup>1</sup>

Much has been done in this direction in recent years, specialized schools are being opened today, in particular, a school with an in-depth study of exact sciences, in the direction of information and communication technologies named after Muhammad al-Khorazmiy, branches of foreign universities have been opened, digital technology training centers are being gradually opened in cities and district centers.

On the other hand, the contradiction of achieving the set goals is the lack of programmers and computer science specialists and teachers in the continuous education system. In this regard, this issue of qualified personnel in the labor market of the republic requires improving curricula and methods in the field of information technology, strengthening mutual cooperation of educational institutions with IT companies.

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<sup>1</sup> Resolution of the President of the Republic of Uzbekistan, dated 06.10.20, No. P-4851

In order to systematically develop higher educational institutions for the training of teaching staff and improve their management activities, develop modern educational programs with the introduction of advanced foreign experience, raise the training of highly qualified professional personnel to a new level, as well as ensure the harmonization of education, The Decree of the President of the Republic of Uzbekistan “On measures to improve the quality of pedagogical education and further development of the activities of higher educational institutions for the training of pedagogical personnel” was adopted, which also pays special attention to the digitalization of education management and the study of educational programs of pedagogical higher educational institutions together with foreign specialists and bring them in line with the requirements National qualifications framework, The International Standard Classification of Education (ISCED-2011) and international assessment programs (PISA, TIMSS, PIRLS, TALIS). Special attention is paid to the improvement of academic mobility between pedagogical higher educational institutions and the unification of curricula and educational programs.<sup>2</sup>

This paper presents the results of studying the development of the higher education system in the Republic of Uzbekistan, using advanced foreign experience, the transition to a credit-modular education system and lists the main directions for further improvement of modern continuing education in the Republic of Uzbekistan.

The methodological basis of the study is the Law of the Republic of Uzbekistan "On Education", decrees of the President of the Republic of Uzbekistan Sh.M.Mirziyoyev, as well as a set of government documents on creating conditions for the accelerated introduction of artificial intelligence technologies, on optimizing the higher education system in order to achieve high performance in the world educational ranking.

## RESULTS

One of the requirements of the modern digital economy is the possession of today's relevant competencies, such as critical thinking, self-education, the ability to use digital components perfectly, analyze information sources and use services in their daily work. In addition, creatively and creatively apply their knowledge in today's rapidly developing digital environment. The new Law on Education has already set the task of forming the ability of each student to manage their own teaching. Digital transformation of education should solve this problem.

If the digital transformation of an enterprise is the use of digital technologies to dramatically increase labor productivity, then the digital transformation of education is the updating of planned educational results, the content of education, methods and organizational forms of educational work, as well as evaluating the results achieved in a rapidly developing digital environment to radically improve the educational results of each student.<sup>3</sup>

The problem of research is to systematize and harmonize in a single educational process:

- students' possession of pre-selected content, which is selected in advance;
- achievement by students of goals that are formed by the teacher and independently selected;
- motivation and support for the formation and development of students' learning abilities, the formation of their academic independence, the formation and development of their personal similarity in the process of mastering both socially defined and independently selected content.

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<sup>2</sup>Resolution of the President of the Republic of Uzbekistan “On measures to improve the quality of pedagogical education and further development of the activities of higher educational institutions for the training of pedagogical personnel”, dated 21.06.2022 No. PP-289 <https://lex.uz/uz/docs/6079564>

<sup>33</sup>ТРУДНОСТИ И ПЕРСПЕКТИВЫ ЦИФРОВОЙ ТРАНСФОРМАЦИИ ОБРАЗОВАНИЯ Под редакцией А.Ю. Уварова, И.Д. Фрумина [https://ioe.hse.ru/data/2019/07/01/1492988034/Cifra\\_text.pdf](https://ioe.hse.ru/data/2019/07/01/1492988034/Cifra_text.pdf)

Modern digital technologies provide such conditions for solving this problem, which by improving the means of designing and organizing the educational process, the widespread use of active teaching methods and the transition to a personalized, effective organization of the educational process.

It should be noted that the digital transformation of education is a long—term work for many years. Digitalization is relevant to all stages of lifelong education and is impossible without the active participation of students, teachers, the management staff of an educational institution, all interested parties, as well as parents, mahallas, social workers, employers, politicians and members of the public.

All the work on transformation can be divided into large interconnected groups that we propose.

- Improving the digital infrastructure of education.
- Improvement of digital teaching materials, electronic platforms and services, the use of digital testing to assess students' knowledge.
- Development and dissemination of new models of educational work organization. All this requires a qualitative update of the existing practice of pedagogical research, turning it into a tool of scientific and methodological support and support for the processes of digital transformation of education.

In the development of digital transformation in education, it is necessary to take into account learning goals, learning outcomes, teaching methods, education, curriculum development, improvement of university management, the use of pedagogical experience and practice, virtual training programs, game methods using digital technologies.

## DISCUSSION

A special place in practical classes should be given to virtual reality technologies, switching from home games to educational games.

Examples of the first classic games can be given, such as "The Seven Cities of Gold" from Electronic Arts (a strategy game about the conquest of South America by conquistadors) and the British "Dread Dragon Droom" (a set of tests and riddles for knowledge of the history of Great Britain).

It should be noted that modern educational video games are associated with the emergence of new gaming platforms, as well as progress in the field of data transmission has led to the emergence of fundamentally new types of educational games for general and higher education, for vocational training, for assessing students' knowledge, skills and competencies.

Today's educational games help to study the educational material independently, participate in group study work, master the material under the guidance of a virtual teacher. Video games help to solve one of the most difficult tasks of a modern school — involving a student in the learning process. Games make the learning process more transparent and understandable for the student, provide clear goal setting, allow you to learn from your mistakes by offering an unlimited number of attempts to solve the learning task.

In the field of higher and additional professional education, video games and game simulators, united by the term "serious games" (serious games) have long demonstrated themselves as a highly effective educational tool that allows you to accelerate the development of educational material, reduce the cost of training specialists and reduce the risk of injury during high-risk practical classes.

For example, Lincoln Electric has developed a simulator for training and advanced training of welders. VRTEX simulator allowed to teach college students all types of welding, including rare and difficult welding work.

Welders' training is traditionally associated with the risk of injury and high fire hazard. The transfer of the educational process to the virtual space allowed not only to reduce risks, but also to reduce the costs of the educational institution for welding materials, as well as to increase the speed of students' learning by 23%.<sup>4</sup>

## CONCLUSION

And there are many more such arguments.

In conclusion, I would like to note that, first of all, it is necessary to actualize the importance of digitalization through the formation and development of students' communicative competencies, when students understand the purpose of computer networks and communications, their importance and role in the development of their own digital literacy. The student should understand elementary how communication between various digital devices (including mobile and stationary computing devices, as well as their peripheral equipment) is carried out, should know and understand the specific rules, protocols and etiquette adopted in social networks and digital communities.

## ACKNOWLEDGEMENT

Thus, the digital transformation of education has its own difficulties and prospects for a new stage of education development. changes in the field of digital technologies and the educational process will become the dominant factors in the development of the education sector in the next decade.

The measures proposed in the article allow in the developing digital educational environment to move from the traditional(classroom-based) to a personalized,result-oriented (personalized-effective) organization of the educational process, which helpsto solve the problems of improving the quality of education and upbringing at a new level.

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