

**THE ROLE OF DIGITAL TECHNOLOGIES IN IMPROVING THE QUALITY OF
EDUCATION IN UZBEKISTAN.**

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Abstract: This article examines digital educational technologies and analyzes the effectiveness of their role in educational reforms. It presents information on the achievements of artificial intelligence in education, the significance of its use in the teaching system, individualized approaches supported by artificial intelligence, as well as the advantages and disadvantages of digital educational technologies in the digital world.

Key words: electronic tools, learning systems, information technologies, individual approach, interactive, platform.

Аннотация: В данной статье изложено, насколько эффективно цифровые образовательные технологии занимают своё место в образовательных реформах. Представлены сведения о достижениях искусственного интеллекта в сфере образования, о значении его использования в учебной системе, об индивидуальном подходе с применением искусственного интеллекта, а также о преимуществах и недостатках цифровых образовательных технологий в цифровом мире.

Ключевые слова: электронные средства, системы обучения, информационные технологии, индивидуальный подход, интерактивный, платформа.

Today, the rapid informatization of all spheres of social life and the development and implementation of new information technologies are taking place worldwide. Computer technologies have led to significant changes in industrial production and business, social life and education, science and culture. The importance of digital technologies in modern society continues to grow. The current level of development of information and communication technologies and the digitalization of various sectors demonstrate that life without the global Internet is now unimaginable. Educational institutions have been “forced” to transition into the digital environment.

The primary objective is the practical implementation of the “Digital Uzbekistan–2030” concept, which encompasses all sectors and industries. The realization of such a large-scale project serves the comprehensive transformation of the national economy and ensures competitiveness. At a presentation held on June 8, 2022, under the leadership of the President of the Republic of Uzbekistan concerning reforms in information technology and the digital economy, the importance of rapidly transitioning essential public services to electronic formats was highlighted. Since around 60 percent of Uzbekistan’s population consists of young people, engaging them extensively in modern information technologies, supporting software development, and providing outsourcing services to create employment opportunities is considered a crucial task.

In the development of information civilization, information has become a global and inexhaustible resource for humanity entering a new era. In building an information society, the

Internet—as a global information system—plays a special role. As a result of the expansion of the Internet, a new scientific field, historical informatics, emerged to study the laws of informatization processes in historical science and education.

The development of digital technologies has played a major role in storing and transmitting large volumes of data. Digital technology has removed barriers between researchers and sources, significantly reducing the time required to obtain information. Today, digitized books, newspapers, and document archives created in libraries and archives enable rapid service to users regardless of location. Digital information technologies have eliminated barriers between researchers and sources, enabling access to necessary information without significant financial expenditure, saving time on bureaucratic procedures, and creating opportunities for virtual communication. Open electronic libraries and archives significantly facilitate research work, allowing information access without material costs. Platforms such as academia.edu provide scholars from different countries with opportunities to share research results and track citation and readership metrics.

In recent years, digital technologies have played an important role in organizing the educational process and facilitating researchers' access to information sources. Today, lessons at universities and schools, as well as conferences, are unimaginable without electronic presentations using multimedia tools. Digital technologies have also influenced information storage infrastructure and technical resources.

Previously, the growing number of books, newspapers, and journals required additional physical storage space in libraries and archives. With the advent of computer technologies, vast collections can now be stored on computers, disks, flash drives, and other digital media. Digital technologies are particularly crucial for preserving old and rare information sources, such as manuscripts, books, and historical newspapers and journals, protecting them from mechanical damage and ensuring long-term safety.

In essence, digital technologies are more efficient, faster, and more reliable than analog technologies and enable data management via computers, the Internet, mobile devices, and electronic tools. As a result of scientific and technological advancement, digital technologies have become the basis for effective and convenient software, projects, and tools across all fields. Their role in improving education quality and everyday life is becoming increasingly evident.

In education, online lessons are conducted live or recorded via platforms such as Zoom, Google Meet, and Microsoft Teams. Supporting distance education systems increases productivity and time efficiency in professional activities.

Knowledge assessment is automated through systems such as my.edu.uz, Moodle, and Google Forms, enabling effective reinforcement of professional and competency-based knowledge.

Electronic journals enable monitoring of students' grades, attendance, and homework through platforms such as my.maktab.uz and EduPage, encouraging students' self-development and allowing parents to remain directly informed about the educational process.

Digital technologies play a significant role not only in daily life but across all areas of education. Within the framework of the "Digital Uzbekistan–2030" strategy, implemented projects enhance the efficiency of the learning process and simplify teachers' pedagogical activities while actively engaging students in learning. Digital technologies provide equal educational opportunities regardless of school location. Through distance learning, online lectures, and educational platforms, students in remote areas can access quality education. For example, students in Karakalpakstan or Kashkadarya can attend lessons conducted by teachers in the capital.

Modern electronic textbooks, 3D simulations, and virtual laboratories make learning interactive. For instance, in biology, studying heart function via 3D models or conducting safe virtual chemistry experiments enhances students' interest and understanding. Multimedia tools,

presentations, and gamified tasks increase student engagement. Interactive learning strengthens knowledge retention, develops practical skills, and enhances transparency in the education system.

Traditional assessment methods may be subjective; online testing systems reduce this issue and ensure fast, fair, and accurate evaluation while saving teachers' time and providing quick feedback. Digital technologies also simplify teachers' professional activities by facilitating online courses and webinars aimed at improving digital competence. Webinars organized by Uzbekistan's Ministry of Preschool and School Education assist educators in adopting new pedagogical methods.

Despite these efforts, several challenges remain in implementing digital technologies in Uzbekistan's education system. Low Internet speed in remote areas and a lack of computers, tablets, and interactive whiteboards limit the effectiveness of distance learning and electronic resources, negatively affecting education quality. Many teachers lack experience with new technologies, resulting in insufficient use of online platforms, digital textbooks, and interactive testing systems.

Additionally, technical and software resources are inadequate. Not all schools possess necessary devices such as computers, projectors, or virtual laboratories, and electronic resources do not reach all institutions, intensifying regional disparities. Students may encounter harmful or inaccurate information online, and insufficient information literacy may foster misconceptions. Furthermore, the quality of digital educational content is sometimes insufficient, limiting learning outcomes despite technological availability. Implementing digital technologies also requires substantial financial investment, and insufficient collaboration between public and private sectors slows digital transformation efforts.

Thus, the challenges in implementing digital technologies in Uzbekistan's education system encompass technical, pedagogical, structural, financial, and information security aspects, which, if unresolved, may significantly impact education quality. Therefore, the successful integration of digital technologies into the education system requires a comprehensive and systematic approach. Investment in technological infrastructure, improvement of teachers' digital competencies, development of high-quality electronic educational resources, and strengthening institutional cooperation are essential conditions for ensuring sustainable educational development.

In conclusion, digital technologies are becoming one of the most decisive factors in improving the quality and effectiveness of the education system in Uzbekistan. Their integration into educational processes expands students' access to knowledge, enhances the interactivity of lessons, and contributes to the formation of independent thinking, analytical skills, and digital competencies that are essential in the modern world. Through digital platforms, online resources, and virtual learning environments, education is no longer limited by geographical boundaries, time constraints, or traditional classroom formats.

The use of digital technologies also creates new opportunities for teachers by simplifying pedagogical activities, automating assessment processes, and enabling continuous professional development through online courses and webinars. As a result, educators are able to focus more on creative teaching methods, individualized approaches, and student-centered learning strategies. At the same time, digital tools increase transparency in education management, improve monitoring and evaluation mechanisms, and ensure more objective assessment of learning outcomes.

However, the effectiveness of digital transformation in education largely depends on several key factors, including the availability of modern technical infrastructure, stable Internet access, the level of teachers' digital literacy, and the quality of electronic educational resources. Existing

challenges such as regional disparities, insufficient technical equipment, and limited financial resources may reduce the overall impact of digital technologies if not addressed systematically. Therefore, for sustainable improvement in education quality, it is essential to continue the digitalization process through a comprehensive and strategic approach. This includes regular training and retraining of teachers, development of high-quality and culturally relevant digital content, strengthening cooperation between the state and private sectors, and ensuring equal access to digital resources for all regions of the country. In the long term, consistent implementation of digital technologies in education will significantly enhance students' intellectual potential, prepare them for the demands of the digital economy, and contribute to the formation of a competitive, knowledgeable, and innovative society in Uzbekistan.

REFERENCES.

1. Strategy “Digital Uzbekistan–2030”, President of the Republic of Uzbekistan, 2019.
2. Kundalik.com – Electronic platform connecting parents and schools, 2022.
3. Mirziyoyev, Sh. M. The Strategy of New Uzbekistan. Tashkent, 2017.
4. UNESCO. Digital Education in Central Asia: Opportunities and Challenges, 2020.
5. World Bank. ICT in Education: Uzbekistan Case Study, 2021.
6. Ismoilova, G. A. “Development of Ecological Culture Based on Modern Pedagogical Technologies.” International Journal of Social Science & Interdisciplinary Research, 2022.
7. Ismoilova, G. A. “Technology for Organizing Trips to Historical Sites Outside the Audience.” International Journal on Orange Technologies, 2021.
8. Ismoilova, G., & Sayfullayeva, S. “Integration of Ecological Education in Pedagogical Sciences.” Education, Science and Innovation.
9. Ismoilova, G. A. “Globalization and the Necessity of Educating Youth in the Spirit of National Values.” JournalNX, 2022.