DIGITAL EDUCATION TECHNOLOGIES AND THEIR TYPES

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Abstract: This article explores the essence, types, and significance of digital education technologies in the modern learning environment. The study emphasizes the role of digital tools in improving the quality and accessibility of education, discusses the application of artificial intelligence, distance and blended learning systems, as well as methodological approaches to their implementation in higher education.

Keywords: digital education, technology, distance learning, blended learning, artificial intelligence, interactive learning, e-resources.

Introduction

In recent years, educational reforms in Uzbekistan and across the world have been closely linked with the introduction of digital technologies. The process of digital transformation affects all levels of education, fundamentally changing the traditional relationship between teachers and students.

According to the Presidential Decree of the Republic of Uzbekistan "On measures for the development of digital education" (July 28, 2022), the primary goal of modern education is the integration of innovative, interactive, and competence-based digital pedagogical technologies into the learning process.

Main Part

1. The Essence of Digital Education Technologies

Digital education technologies represent a set of methods and tools that integrate computers, the internet, artificial intelligence (AI), virtual and augmented reality (VR/AR), and digital learning resources into the educational process.

They ensure the flexibility, personalization, and interactivity of learning.

The main advantages of digital education include:

- improving education quality and accessibility;
- enabling individualized learning paths;
- automating teacher activities (testing, grading, analytics);
- expanding opportunities for lifelong learning;
- developing students' digital competencies.

2. Types of Digital Education Technologies

In modern higher education, several main types of digital education technologies are widely used:

1. Distance Learning Technologies

Platforms such as Moodle, Zoom, Google Classroom, and Microsoft Teams provide opportunities to learn without time or geographic constraints.

2. Blended Learning (Hybrid Education)

Combines traditional classroom teaching with online resources, ensuring flexibility and efficiency in learning.

3. Mobile Learning

Learning through smartphones and tablets enables students to study anytime and anywhere.

4. Virtual and Augmented Reality Technologies (VR/AR)

Allow the simulation of real-life situations, particularly in technical, medical, and engineering education.

5. Artificial Intelligence-Based Learning Systems

AI tools such as ChatGPT, Khan Academy AI Tutor, Coursera AI, and Duolingo AI help personalize content according to students' performance and preferences.

6. Electronic Learning Resources and Cloud Technologies

Include e-textbooks, digital libraries (Google Scholar, ResearchGate, Ziyonet), video lectures, and data-sharing platforms like Google Drive or OneDrive.

3. Methodological Basis for Implementing Digital Education

Based on TIQXMMI National Research University experience, the following methodological principles are essential for the effective integration of digital education technologies:

- Align curricula with competence-based digital approaches;
- Develop students' digital literacy through specialized training sessions;
- Ensure information security and data protection awareness;
- Provide digital pedagogy courses for instructors;
- Establish innovation labs and start-up centers within universities.

Conclusion

Digital education technologies are among the most powerful tools for modernizing today's education system. They offer individualized, flexible, and interactive learning experiences.

The experience of TIQXMMI National Research University shows that the systematic implementation of digital education technologies enhances the efficiency of learning, strengthens digital competencies, and prepares graduates to become competitive specialists in the digital economy.

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