AMERICAN JOURNAL OF MULTIDISCIPLINARY BULLETIN
ISSN: 2996-511X (online) | ResearchBib (IF) = 9.512 IMPACT FACTOR
Volume-4| Issue-1| 2026 Published: |30-01-2026|

ELECTRONIC PEDAGOGY AS A TOOL FOR TRANSFORMING THE EDUCATIONAL PROCESS IN THE NEW UZBEKISTAN

https://doi.org/10.5281/zenodo.18194172

F.M. Kamilova
Associate Professor of the Department of Pedagogy at Andijan State University, PhD

Аннотация

В статье рассматривается значение электронной педагогики как ключевого инструмента трансформации образовательной системы в условиях реформ в Новом Узбекистане. Анализируются направления цифровизации образования, формы внедрения электронного обучения, роль учителя в условиях цифровой среды, а также преимущества и вызовы, с которыми сталкивается система. Особое внимание уделено национальным стратегиям, международным партнёрствам и перспективам развития образовательных технологий в стране.

Ключевые слова

электронная педагогика, цифровизация образования, Узбекистан, дистанционное обучение, LMS, EdTech, образовательные реформы, цифровые технологии, педагогические инновации.

Abstract

This article explores the role of electronic pedagogy as a key instrument in transforming the educational system amidst ongoing reforms in New Uzbekistan. It examines the digitalization of education, the implementation of e-learning formats, the evolving role of teachers in the digital environment, and both the advantages and challenges faced by the system. Special attention is given to national strategies, international collaborations, and the future prospects of educational technology in the country.

Keywords

electronic pedagogy, digital education, Uzbekistan, distance learning, LMS, EdTech, educational reforms, digital technologies, teaching innovation.

Annotatsiya

Ushbu maqolada Yangi O‘zbekistonda ta’lim tizimini isloh qilish jarayonida elektron pedagogikaning o‘rni va ahamiyati tahlil qilinadi. Ta’limning raqamlashtirilishi, masofaviy o‘qitish formatlari, raqamli muhitda o‘qituvchining

o‘zgarib borayotgan roli, shuningdek, mavjud afzalliklar va muammolar yoritib beriladi. Milliy strategiyalar, xalqaro hamkorlik va ta’lim texnologiyalarining istiqbollari alohida e’tiborga olinadi.

Kalit so‘zlar

elektron pedagogika, ta’limni raqamlashtirish, O‘zbekistonda masofaviy ta’lim, LMS, EdTech, ta’lim islohotlari, raqamli texnologiyalar, pedagogik innovatsiyalar.

Introduction

Today, New Uzbekistan is actively undergoing transformation under the influence of the global digital economy. The goal of the reforms is to build a knowledge-based society and to train personnel capable of working in a digitally transformed country. In this regard, electronic pedagogy serves as a strategic tool for modernizing the educational process, addressing the objectives of improving the quality, accessibility, and flexibility of education.

At present, the penetration of electronic pedagogy into the educational system of New Uzbekistan, its advantages, challenges, national-level implementation, and prospects are of great relevance.

The digital transformation in New Uzbekistan was launched based on the strategy adopted by the President of the Republic of Uzbekistan, Shavkat Mirziyoyev, in October 2020, titled "Digital Uzbekistan 2030", in which digital education is designated as one of the key priorities. As part of this strategy, large-scale expansion of internet infrastructure in educational institutions, the implementation of IT centers, and digital literacy training programs are being carried out in every region.

During the COVID-19 pandemic, the education system rapidly integrated electronic pedagogy: the Online Maktab project was launched with televised lessons, the Kundalik platform was actively used, and distance learning was organized through Zoom and LMS platforms.

International support has played an important role in improving digital literacy. In 2024–2025, UNICEF included New Uzbekistan in the Learning Pioneers Programme. A pilot integration of the Eduten platform for 5th-grade students showed a 16.9% improvement in math performance compared to a control group. Learning Pioneers is a two-year international initiative implemented by UNICEF and the Global Learning Innovation Hub (Helsinki). The program focuses on developing, testing, and scaling digital EdTech solutions that can transform education systems and improve foundational skills, especially for children with

disabilities and those in marginalized groups. Six pioneer countries are participating: Egypt, Ghana, Malaysia, Rwanda, Uzbekistan, and Zimbabwe.

For Uzbekistan, participating in this program means cooperation between the Ministry of Preschool and School Education, UNICEF, and the global hub to develop and implement digital learning tools such as the Eduten math platform, which is already used by over one million users worldwide.

UNESCO has also supported the implementation of Learning Management Systems (LMS) and the creation of teaching guidelines for educators. An LMS is a web or software platform designed to manage, deliver, track, and automate educational processes (courses, training, materials). LMS platforms have long been used in both educational institutions and corporate environments to increase the efficiency of learning.

Electronic pedagogy (also known as digital didactics) is defined as the integration of modern ICT into teaching, changing how lessons are organized and how content is delivered. It includes distance, blended, and mobile learning formats, multimedia content, adaptive platforms, and more.

In the context of New Uzbekistan, electronic pedagogy is a systematic integration of components: digital infrastructure, educational platforms, content in Uzbek and other languages, teacher professional development, and a regulatory framework. Since the late 2010s, universities have been actively implementing LMS platforms to publish materials, conduct testing, manage forums, and collect assignments remotely (e.g., through ResearchGate).

A national LMS for teachers and training programs under the auspices of UNESCO enable professional communities to collaborate, share experiences, and implement blended learning models (unesco.org). The Eduten platform has shown how adaptive learning with gamification can boost student engagement and analytical skills. Auto-testing and personalized learning paths stimulate each student according to their ability levels (UNICEF).

The Online Maktab project provided school lessons via TV and internet channels, reaching millions of children during lockdowns — supported by initiatives like ResearchGate.

The establishment of the National Pedagogical University, based on the Tashkent State Pedagogical University, aims to enhance teacher training, integrate digital and STEM disciplines, and introduce digital laboratories. In the regions, centers for teacher excellence and EdTech centers are being created to train digital methodologists (e.g., reddit.comeua.eu). The benefits of electronic pedagogy in Uzbekistan and its increased accessibility contribute to equality and integration across all areas of development, especially in education.

The development of internet infrastructure in schools and universities, with around 70% of schools covered by broadband internet, helps reduce the digital divide between regions. Flexibility and personalization allow students to choose the pace and format of learning, using interactive exercises, tests, and LMS materials at convenient times and in accessible formats.

Increasing motivation and engagement in the digitized system plays a vital role in improving education quality. Interactive tasks, adaptive platforms, and gamification make learning more engaging and contribute to better material retention.

The development of teachers' digital literacy promotes self-improvement and lifelong learning. Teachers take courses in ICT use, and a culture of digital collaboration and assessment is emerging. Students gain experience working with platforms, analytics, and AI-based solutions (unesco.org, jdpu.uz).

Enhanced strategies for monitoring and control also contribute to improving the quality of education. National EMIS (Education Management Information Systems) track academic performance, teaching quality, and learning outcomes, which helps to fine-tune policies and improve the system (unesco.org).

Increased investment and government attention helps rural schools gain access to stable internet and devices, as limited access reduces the effectiveness of distance learning.

However, not all content is adapted to the Uzbek language and national standards. There is a need to develop local content creators and produce digital textbooks and courses tailored to Uzbekistan. The teacher becomes a learning organizer, tutor, and coach — guiding students, adapting materials, and assessing progress based on platform analytics.

With support from UNESCO and the HERE project (Higher Education Reform Experts), programs for ICT competency training, teacher community development, LMS course creation, and digital material development have been implemented. The National Pedagogical University and regional centers are building a scientific-pedagogical foundation, implementing innovative methods, and drawing on international best practices (e.g., HiEdTec/Erasmus+).

The development of adaptive platforms using Big Data analytics, AI, and personalized learning is becoming part of Uzbekistan's education strategy. The creation of virtual laboratories and the use of AR/VR technologies in schools and universities (e.g., for engineering and natural sciences) will enhance practice-oriented education. The promotion of MOOCs and participation in international projects help expand access and raise academic mobility and diploma recognition.

Increasing support for remote regions, inclusive schools, and students with special needs is making education more equitable and accessible across the country.

Conclusion

In the context of New Uzbekistan, electronic pedagogy is no longer just an auxiliary tool but a strategic driver of educational transformation. It enhances efficiency, flexibility, and equitable access, and it helps to build a modern education system ready to meet the demands of the 21st century.

The key conditions for successful transformation include:

- Continuous development of internet infrastructure and access;
- Training of pedagogical staff and methodological support;
- Creation of high-quality local digital content;
- Maintaining freedom of information exchange and community participation;
- Integration of modern technologies: AI, AR/VR, and data analytics.

Electronic pedagogy opens the path to personalized, inclusive, and effectively managed education, fostering the preparation of a generation capable of working and creating in a digital world.

ss

1. Akhmedova, D. A. (2023). Digital transformation of Uzbekistan's education system: Realities and prospects. *Pedagogy and Psychology of Education*, (2), 14–21.

2. UNESCO. (2022). *ICT in education policy toolkit*. Paris: UNESCO. Retrieved August 6, 2025, from https://www.unesco.org

3. Ministry for Development of Information Technologies and Communications of the Republic of Uzbekistan. (2020). *Digital Uzbekistan 2030 Strategy*. Tashkent.

4. UNICEF Uzbekistan. (2024). *Digital learning: An innovative approach to the education system of Uzbekistan*. Tashkent: UNICEF. Retrieved August 6, 2025, from https://www.unicef.org/uzbekistan

5. Mirzaeva, G. I. (2022). E-learning as a modernization factor in higher education. *Higher School: Science and Practice*, 4(36), 47–53.

6. Rasulov, K. M., & Abdullaeva, M. S. (2024). Integration of traditional and digital educational technologies in Uzbekistan. *ResearchGate*. https://doi.org/10.13140/RG.2.2.14768.51200

7. European University Association (EUA). (2023). *Digital learning in Uzbekistan: Challenges and lessons learnt*. Retrieved August 6, 2025, from https://www.eua.eu

8. Yakubova, N. K. (2023). Electronic pedagogy in Uzbekistan: From theory to practice. *Modern Educational Technologies*, (1), 22–29.

9. Eduten. (2024). *Pilot results in Uzbekistan schools*. Helsinki, Finland. Retrieved August 6, 2025, from https://www.eduten.com

10. Yusupova, S. R. (2023). Development of teachers' professional competence in the context of education digitalization. *Education and Innovation*, (5), 33–38.