



Symposium on Natural and Applied Sciences

Hosted Online from London, United Kingdom

Date: 5th March, 2026

Website: <https://econferencia.com>

METHODOLOGY OF TEACHING USING ARTIFICIAL INTELLIGENCE IN GENERAL EDUCATION SCHOOLS

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Abstract

This article discusses the methodological foundations for using artificial intelligence technologies in the teaching process of general education schools. The study analyzes the possibilities of intelligent educational platforms for personalizing learning, monitoring students’ knowledge, and optimizing the educational process. The use of adaptive learning systems based on artificial intelligence helps increase students’ motivation and improve learning outcomes. The proposed methodology contributes to improving the quality of education through the effective integration of digital technologies.

Keywords: artificial intelligence, digital education, school education, interactive learning, educational technology, adaptive learning, learning analytics.

Today, the integration of digital technologies into the education system has become increasingly important. The rapid development of information and communication technologies is fundamentally transforming the ways in which the educational process is organized. In particular, artificial intelligence technologies enable the automation of the learning process, analysis of students’ knowledge levels, and the implementation of individualized teaching methods.



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The development of artificial intelligence technologies contributes to the formation of new pedagogical approaches in the education system. AI technologies make it possible to automatically assess students' knowledge levels, recommend learning materials individually, and optimize the teaching process. The use of artificial intelligence in general secondary schools helps to make the learning process more engaging and effective. AI-based educational platforms allow continuous monitoring of students' performance, assigning individualized tasks, and reinforcing knowledge.

In the Republic of Uzbekistan, the digitalization of the education system is one of the priority directions of state policy. Within the framework of the "Digital Uzbekistan – 2030" strategy, tasks have been set to introduce modern technologies into education and to develop innovative teaching methods.

The main objective of this study is to develop a methodology for teaching using artificial intelligence in general secondary schools and to determine its effectiveness in the educational process.

The study was conducted based on experimental work carried out with students in general secondary schools. A total of 60 students participated in the research. The students were divided into experimental and control groups.

In the experimental group, AI-based educational platforms and interactive teaching methods were applied. Individual assignments, automated tests, and adaptive learning systems were introduced for students.

In the control group, lessons were conducted using traditional teaching methods.

The following research methods were used:

- pedagogical experiment (pre-test and post-test);
- questionnaire;
- pedagogical observation;
- statistical analysis.



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The results of the experimental work showed a significant increase in the knowledge level of students in the experimental group.

According to pre-test results, both groups demonstrated an average performance of 50–53%.

Post-test results were as follows:

experimental group – 82%

control group – 67%

Additionally, according to the survey results, 75% of students noted that learning through AI-based platforms was more interesting.

The obtained results demonstrate the effectiveness of AI-based teaching methodology. The use of AI technologies allows for the individualization of the educational process.

The main advantages of AI systems include:

automatic analysis of students' knowledge levels;

generation of individualized assignments;

optimization of the educational process;

increased student motivation.

Furthermore, AI-based systems provide teachers with opportunities to manage the educational process more effectively.

Based on the research results, the following conclusions were drawn:

Artificial intelligence technologies play a significant role in improving the effectiveness of teaching in general secondary schools.

AI-based educational platforms enable the individualized development of students' knowledge levels.

Teaching with the help of artificial intelligence increases students' motivation and learning activity.



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The integration of digital technologies into the educational process elevates the quality of education to a new level. In the future, the wide implementation of AI-based adaptive learning systems in school education may further enhance the effectiveness of the educational process.

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