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The Importance of Multimedia Technologies and Artificial Intelligence in Education in Uzbekistan

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A B S T R A C T

The article analyzes the impact of multimedia applications on the educational process and ways to improve its effectiveness in teaching artificial intelligence in higher education. In the era of digital technology development, saturating the educational process with modern tools is considered one of the most pressing tasks.

A R T I C L E I N F O

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INTRODUCTION

The rapid development of modern technologies is causing significant changes in the field of education. In particular, multimedia technologies and artificial intelligence (AI) are making the learning process more effective, active, and personalized.

The use of information and multimedia tools in the educational process allows for the widespread use of new teaching methods, innovative approaches, and digital resources.

Uzbekistan has entered a new stage in its education system through the Education 2030 strategy and the adopted government programs for the development of the digital economy and information technologies.

Multimedia technologies in education:

Multimedia technologies are educational methods that combine audio, video, animation, graphics, and text. They develop the logical thinking of schoolchildren and students, expand their imagination, help them better understand the subject, increase interest, and motivate.

Multimedia technologies enhance the learning experience for students through direct visual and audiovisual impact on the educational process. These technologies enable the presentation of educational content in an interactive and engaging manner.

Their main advantages are:

- Creating a comprehensive learning environment;
- Better assimilation of existing knowledge;
- Efficient allocation and saving of time;
- The ability to implement new learning methods.

Internships in Uzbekistan:

- Platforms such as Edu.uz, Ziyonet.uz, EduMarket, MyEdu, and Bilimlar veslushavy make extensive use of multimedia elements;
- Interactive screens, projectors, and electronic resources are widely implemented in schools and universities;
- Opportunities for continuing education through television programs and online courses are expanding, especially during the pandemic.

The importance of artificial intelligence in education:

Artificial intelligence opens a new revolutionary phase in the educational process. Thanks to it, educational content and methods are being revised, automated, and individualized.

Artificial intelligence is the ability of machines to mimic human intelligence. AI is used in various fields in education:

A. Personalized learning:

- SI creates an individual learning path for each student based on their knowledge level, interests, and learning style.
- Machine learning algorithms identify students' weaknesses and recommend the necessary resources.

B. Automatic assessment and analysis:

- The workload of teachers will be reduced by automatically assessing online tests and exams.
- Based on the analysis of SI data, it determines which topics are the most difficult.
- It identifies students' weaknesses and provides recommendations.

C. Virtual teaching assistants and chatbots:

- Virtual assistants based on artificial intelligence can help students around the clock.
- Widely used in open universities and online courses, allowing for self-study regardless of time and place.
- Chatbots and intelligent assistants can answer questions and provide advice.

D. Analysis and planning:

- SI can be used to analyze the educational process and make decisions at the state level (big data analysis).

Opportunities for integrating SI and multimedia in Uzbekistan:

There are several opportunities in Uzbekistan for implementing artificial intelligence and multimedia technologies in education:

Opportunities:

- A lot of attention is paid to the digitalization of education through the President's decrees and state programs;
- The New University of Uzbekistan, IT parks, and digital education platforms are training personnel in the field of information security;
- Young people are interested in IT and the startup environment;
- International grants, cooperation projects, and investments are being attracted to the field of education.

Problems:

- Problems with technical support and poor internet quality in rural areas;
- Insufficient methodological and scientific basis for training SI specialists in universities;

- The need to localize technologies and adapt educational content to national conditions.

Brief content:

Multimedia technologies and artificial intelligence play an important role in improving the quality of education and bringing it in line with global standards.

Multimedia technologies and artificial intelligence can take the education system to a whole new level. If these technologies are implemented in Uzbekistan:

- Education will be sustainable and inclusive
- Each student develops according to their own potential
- This can also have a positive impact on economic growth.

Offers:

- Introduction of SI and multimedia technologies in the teaching of subjects in educational institutions;
- Development of special training programs for specialists;
- Reduction of inequality in education through the digitalization of rural schools;
- Establishment of special research institutes and incubator centers.

Thanks to these areas, Uzbekistan's education system will become a sustainable, inclusive, and competitive system.

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