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TECHNOLOGIES FOR DEVELOPING STUDENTS' CREATIVE THINKING AND ORIENTING THEM TOWARDS INNOVATIVE PROFESSIONAL ACTIVITIES IN THE HIGHER EDUCATION SYSTEM

Shoirakhon Abdulkhaevna Mirabdullaeva
PhD, Associate Professor University of Military Security and Defense
Republic of Uzbekistan

Аннотация: Ушбу илмий мақолада олий таълим тизимида талабаларни сунъий интелект технологиялари ёрдамида креатив фиклаш ва уларни инновацион касбий фаолиятга йўналтириш технологиялари ёритиб берилган.
Kalit so'zlar: Sun'iy intelekt (SI), Machine Learning, Duolingo, VR/AR, Mathway, Symbolab, Julius AI, Wolfram Alpha, Photomath, GeoGebra AI, Desmos, Runway ML**.**
Аннотация: В данной научной статье освещаются технологии развития креативного мышления студентов в системе высшего образования с использованием технологий искусственного интеллекта, а также методы их ориентации на инновационную профессиональную деятельность.
Ключевой слова: искусственный интеллект (ИИ), машинное обучение, Duolingo, VR/AR, Mathway, Symbolab, Julius AI, Wolfram Alpha, Photomath, GeoGebra AI, Desmos, Runway ML.
Annotatsion: This scientific article examines technologies for developing students' creative thinking in the higher education system through the use of artificial intelligence technologies, as well as methods for orienting them toward innovative professional activity.
Keywords: artificial intelligence (AI), machine learning, Duolingo, VR/AR, Mathway, Symbolab, Julius AI, Wolfram Alpha, Photomath, GeoGebra AI, Desmos, Runway ML.

Introduction

In our country, comprehensive measures are being implemented to actively develop the digital economy and to widely introduce modern information and communication technologies across all sectors and fields, primarily in public administration, education, healthcare, and agriculture. In particular, priority tasks aimed at improving the e-government system and further developing the domestic market for software products and digital technologies have been launched.

It is widely recognized that all necessary conditions exist for transforming artificial intelligence technologies into the educational process and enhancing the effectiveness of education.

In this regard, the Strategy "Digital Uzbekistan–2030," approved by the Decree No. 6079 of the President of the Republic of Uzbekistan dated October 5, 2020, titled "Digital Uzbekistan–2030," as well as by Resolution No. PQ-358 dated October 14, 2024, entitled "On Approval of the Strategy for the Development of Artificial Intelligence Technologies until 2030 and Measures for Its Effective Implementation," defines a set of specific measures aimed at developing digital skills among all segments of the population.

Furthermore, the "Digital Uzbekistan–2030" Strategy envisages ensuring the accelerated digital development of economic sectors, the social sphere, and the public administration system, including the further improvement of mechanisms for the provision of electronic public services. Artificial

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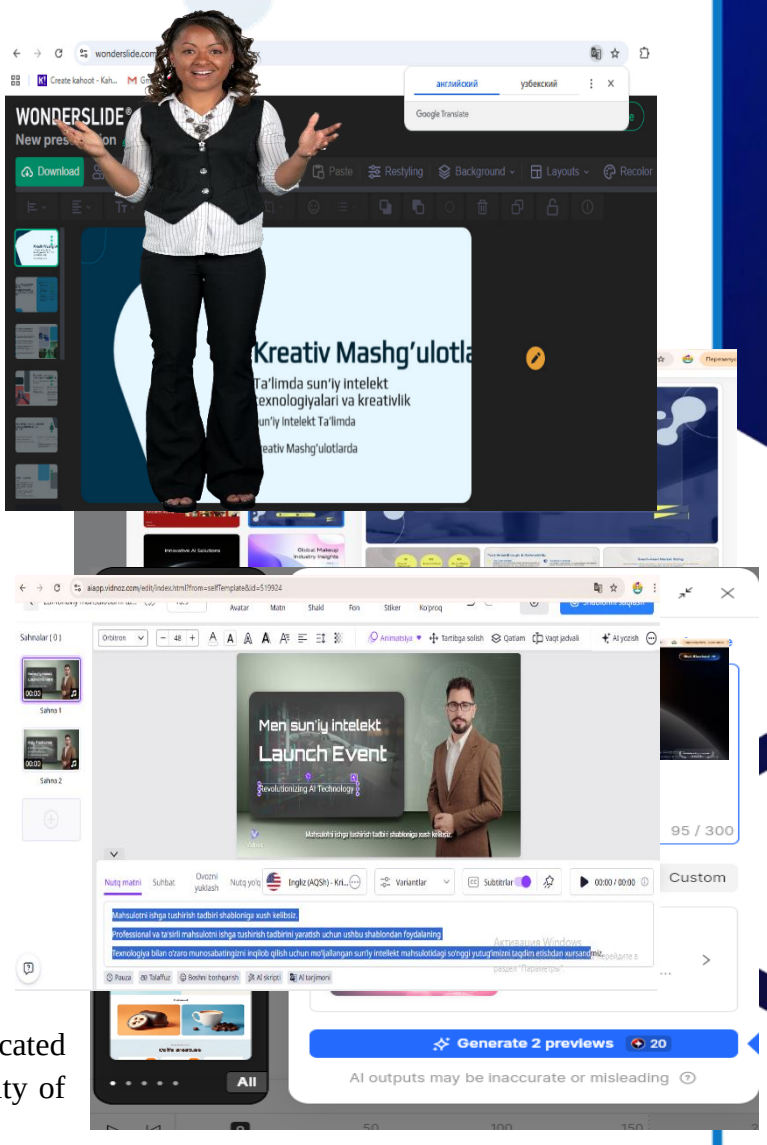
intelligence is based on simulating human cognitive processes through the development and application of algorithms within a high-speed computational environment. Simply put, artificial intelligence is a technology that enables computers to think and find solutions in a manner similar to humans. Various artificial intelligence systems can be applied to solving problems in the exact and natural sciences, as well as to generating their representations. In addition, the effective use of educational tools during instructional activities, including the organization of learning processes based on artificial intelligence technologies, creates a solid foundation for encouraging students' creative thinking in classroom settings and for training competitive specialists.

Below, a brief overview is provided of the most widely used artificial intelligence tools that enhance the effectiveness of instructional activities, along with methods for their application. Hozirgi kunda Sun'iy intelekt texnologiyalari shiddat bilan rivojlanib barcha sohalarda foydalanuvchilarga katta yordamchi vazifani bajarmoqda.

Main Body

In fostering students' creativity, tasks are primarily assigned based on a creative and conceptual approach. Artificial intelligence can transform a hypothesized process into a realistic one based on the given creative idea.



https://Wonderslides.com The use of artificial intelligence technologies allows learners to create topic-based presentations and to transform previously prepared materials into interactive formats. This contributes to increasing students' attention and supports the development of creative and cognitive skills within the learning process.

https://www.kimi.com

This artificial intelligence–based system enables the creation of textual information and presentations on topics specified by the user.

https://www.dora.run/ai- The capability to create presentations based on interactive and strong design. With the support of this artificial intelligence, it is possible to develop unprecedented innovative instructional tools for our lessons and to create presentations involving characters that allow for the editing and manipulation of information.

https://aiapp.vidnoz.com/- This artificial intelligence–based system enables the text in presentations to be expressed through speech using avatars. It allows the information delivered during instructional sessions to be communicated orally to the audience and provides the possibility of

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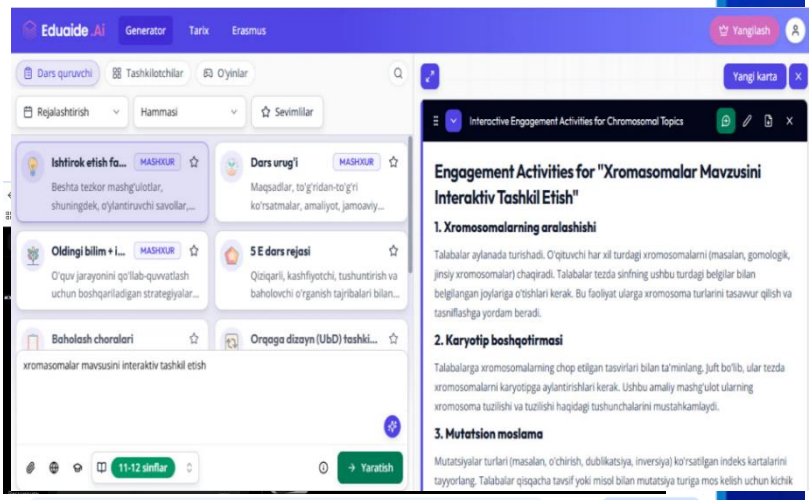
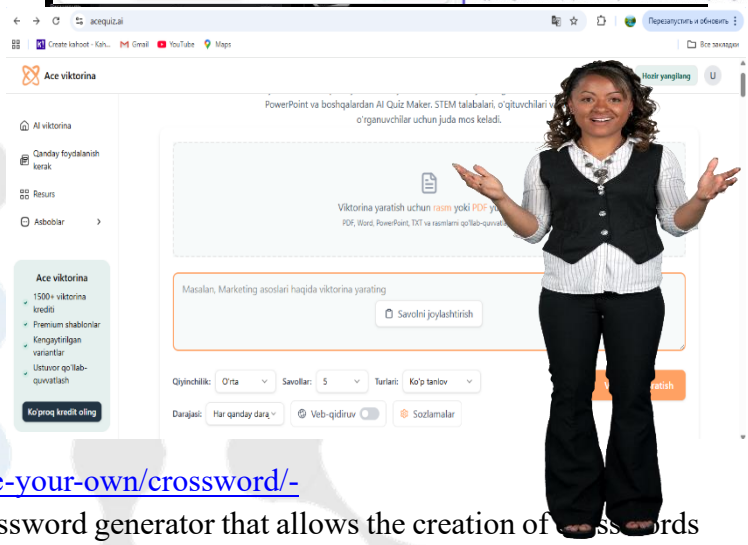
illustrating complex processes or presenting their solutions visually.



https://PixVerseai – This artificial intelligence allows us to add animations to various images for our instructional sessions and to render the images in a realistic form.

https://Aceviktorina – Through this artificial intelligence, we can create engaging quizzes and ready-to-use tests for our instructional sessions. The program allows us to convert prepared tests in formats such as Office, PDF, and others into executable (.exe) files, enabling lessons to be conducted in an interactive and challenging manner.



https://worksheets.theteacherscorner.net/make-your-own/crossword/-

There is a free artificial intelligence-based crossword generator that allows the creation of crosswords for instructional sessions. With the support of this AI, it is possible to ensure the involvement of visual elements in the learning process.

https://Eduaidai - With the support of this artificial intelligence, it is possible to create a sequential lesson plan for instructional sessions based on a given topic. This AI also allows the pre-generation of an interactive list of teacher's questions and students' responses for the lesson.

Conclusion

In conclusion, it can be stated that contemporary education differs significantly from that of the past, with classrooms now equipped with computers, smart boards, and various other educational technologies. As in other parts of the world, digital technologies are being rapidly introduced into education in Uzbekistan. Furthermore, within the environment of digital and artificial intelligence technologies, the thinking and information-processing processes of today's students are fundamentally different from previous

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approaches, due to continuous interaction with these technologies. This, in turn, requires every subject teacher to adapt the education system to the digital generation by widely and effectively applying innovative teaching technologies and didactic models based on modern digital tools.

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