MIRZO ULUG‘BEK NOMIDAGI
O‘ZBEKISTON MILLIY UNIVERSITETI
JIZZAX FILIALI

KOMPYUTER ILMLARI VA MUHANDISLIK TEXNOLOGIYALARI

XALQARO ILMIY-TEXNIK ANJUMAN MATERIALLARI TO‘PLAMI

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O‘ZBEKISTON RESPUBLIKASI OLIY TA’LIM, FAN VA INNOVATSIYALAR VAZIRLIGI

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mavzusidagi Xalqaro ilmiy-texnik anjuman materiallari to‘plami

(2025-yil 26-27-sentabr)

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JIZZAX-2025

Kompyuter ilmlari va muhandislik texnologiyalari. Xalqaro ilmiy-texnik anjuman materiallari to‘plami – Jizzax: O‘zMU Jizzax filiali, 2025-yil 26-27-sentabr. 355-bet.

Xalqaro miqyosidagi ilmiy-texnik anjuman materiallarida zamonaviy kompyuter ilmlari va muhandislik texnologiyalari sohasidagi innovatsion tadqiqotlar aks etgan.

Globallashuv sharoitida davlatimizni yanada barqaror va jadal sur’atlar bilan rivojlantirish bo‘yicha amalga oshirilayotgan islohotlar samarasini yaxshilash sohasidagi ilmiy-tadqiqot ishlariga alohida e’tibor qaratilgan. Zero iqtisodiyotning, ijtimoiy sohalarni qamrab olgan modernizatsiya jarayonlari, hayotning barcha sohalarini liberallashtirishni talab qilmoqda.

Ushbu ilmiy ma’ruza tezislari to‘plamida mamlakatimiz va xorijlik turli yo‘nalishlarda faoliyat olib borayotgan mutaxassislar, olimlar, professor-o‘qituvchilar, ilmiy tadqiqot institutlari va markazlarining ilmiy xodimlari, tadqiqotchilari, magistr va talabalarning ilmiy-tadqiqot ishlari natijalari mujassamlashgan.

Mazkur to‘plamga kiritilgan ma’ruza tezislarining mazmuni, undagi statistik ma’lumotlar va me’yoriy hujjatlarning to‘g‘riligi hamda tanqidiy fikr-mulohazalar, keltirilgan takliflarga mualliflarning o‘zlari mas’uldirlar.

Студентам низкого уровня информационной культуры свойственны формальное принятие культурно- гуманистических ценностей, репродуктивный характер усвоения информационных знаний, стереотипность мышления, низкий познавательный интерес, пассивность в ситуациях информационного взаимодействия.

Группа студентов среднего уровня информационной культуры характеризуется осознанным усвоением информационных знаний, самостоятельностью продуцируемых суждений, решением поставленных задач различными способами, заинтересованностью в получением информационных знаний и умений, активностью и инициативной в поведением и деятельности.

Студенты высокого уровня информационной культуры отличаются принятием неличностном уровне общекультурных и гуманистических ценностей, способностью анализировать и критически оценить усвоенное гибкостью и адаптивностью мышления, индивидуально-творческим стилем информационной деятельности, осознанной потребностью в наиболее реализации своих способностей и интересов в информационной сфере саморегуляцией поведения в области информационных отношений.

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APPLICATION OF ARTIFICIAL INTELLIGENCE IN MODERN EDUCATIONT

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Abstract: The introduction of digital technologies into the educational process not only expands access to educational resources, but also opens up new opportunities for personalizing learning, increasing its effectiveness and adapting it to the individual needs of students. One of the most promising areas of digitalization of education is the use of artificial intelligence technologies.

Keywords: artificial intelligence, digital technologies, education, students, foreign language.

Modern educational trends require the search for new teaching methods and tools that will ensure the development of the necessary knowledge, skills and abilities for life in a rapidly changing innovative world among the younger digital generation. Thus, one of the promising areas is the integration of artificial intelligence into the language education system, in particular, into the methodology of teaching foreign languages. [5] Today, the use of artificial intelligence in English lessons is beginning to be viewed as a "tool for personalizing and improving the effectiveness of learning." [1]

According to modern definitions, artificial intelligence is an interdisciplinary field that includes computer science, neurobiology, mathematics, psychology and other sciences. And its characteristic feature is the imitation of human intelligence. Its development opens up broad prospects in various fields, including education, where AI technologies are becoming a powerful tool for personalizing learning, automated knowledge control and developing language skills.

I.V. Ponkin and A.I. Redkina identifies the following features of AI:

a) autonomy and the desire for self-development. Autonomy is understood as the ability of AI to independently perform the functions assigned to it with certain quality and safety indicators;

b) the ability to recognize various types of information, model the environment, make decisions and implement them;

c) self-referential, autonomous and deep self-learning capabilities supported by machine learning methods such as neural network modeling and multi-agent modeling;

d) the ability to perform functions traditionally considered the prerogative of humans, including the accumulation and use of experience. [3]

Artificial intelligence can be systematized based on the degree of its development and functional capabilities. Currently, there are three main types of AI, which reflect its evolution from highly specialized systems to hypothetical superintelligent technologies:

1. Narrow or weak AI (Narrow AI)
2. General or strong AI (General AI)
3. Superintelligent AI (Super AI)

Narrow AI is the most common form, designed to perform specific tasks. Examples: facial recognition systems, voice assistants (Siri, Alice, Marusya, Alexa), chatbots and recommendation algorithms. Narrow AI is also used in adaptive learning systems such as Duolingo and Lingvist, which adapt to the knowledge level of each student. These systems demonstrate how weak AI can contribute to the individualization of the educational process, increasing its effectiveness and accessibility. General AI is a hypothetical system capable of performing any intellectual tasks at the human level. Superintelligent AI is a hypothetical stage of development at which the system surpasses human intelligence in all aspects, including logic, creativity, and emotional intelligence. However, its creation is associated with serious ethical and philosophical questions, including potential risks to humanity.

According to functionality, the following types of AI are distinguished:

Reactive systems are the simplest AI that respond to input data without memory and cannot learn. (Deep Blue chess computer)

Systems with limited memory are AI that use past experience to make decisions (For example, the voice assistant Alice remembers the user's preferences and uses this information to provide personalized recommendations).

Systems with the theory of consciousness are hypothetical AI that can understand emotions and intentions. (At the moment, they do not exist, but emotional chatbots and virtual assistants are being developed that can adapt to the user's mood)

Self-aware systems are the highest form of AI that has self-awareness (still theoretical).

In the context of machine learning, neural networks are especially popular, which, according to M.N. Evstigneev, “represent a specific class of machine learning algorithms that model the structure and function of neural networks in the human brain.” [2] Many people often use this term interchangeably for artificial intelligence. But this is not correct, since a neural network is the result of deep learning of artificial intelligence.

Sysoev P.V. and Evstigneev M.N. emphasize the importance of introducing AI technologies into the learning process to optimize and intensify the educational process. The use of AI technologies is especially relevant in the context of teaching foreign languages. Thus, foreign researcher Sandeep Gavate confirms the importance of integrating AI into language education, emphasizing that AI "will become the most important component of the additional support system for English language learners and teachers."

As P.V. Sysoev notes, AI technologies are currently used in teaching foreign languages in three vectors: teaching the subject "Foreign Language", mastering a foreign language, and education management. Thus, AI technologies affect the roles and functions of students and teachers, influencing the process and outcome of learning. [4] The use of AI technologies for teaching English is especially effective for improving the organization, structuring and selection of educational material. The main advantages of using AI-based tools in teaching a foreign language include:

• Personalization of learning: AI tools can adapt materials and tasks to the level of knowledge, interests and pace of learning of each student, which makes the process more effective.

• Interactivity and instant feedback: AI-based tools provide the ability to receive an instant assessment of completed tasks, including correction of pronunciation, grammar and vocabulary. This contributes to faster error correction and consolidation of correct language skills.

• Accessibility and flexibility: AI platforms allow learning at any time and in any place, even without the participation of a teacher. In addition, such systems can offer a variety of learning formats, including audio, video and text materials.

• Big data analysis: AI is able to process significant amounts of information, identifying patterns in student performance and predicting possible difficulties. This allows us to optimize curricula and develop more effective teaching methods.

• Developing communication skills: with the help of chatbots and AI-powered virtual assistants, students can practice speaking in conditions close to real

communication, which helps to overcome the language barrier and increase confidence in using the language.

• Motivation and gamification – innovative educational applications, including those with game elements, make the learning process productive and motivate students.

• Saving teachers' time: automating routine tasks such as checking homework or independent work, drawing up lesson notes, creating exercises, etc. allows teachers to focus on live interaction with students.

Machine learning is of particular importance in the field of language education, opening up new opportunities for automation and optimization of the educational process. It allows artificial intelligence to identify patterns in large volumes of data, analyze them, and also provide continuous monitoring of learning results.

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ALGORITMLASH KOMPETENTLIGINING ZAMONAVIY NAZARIY ASOSLARI VA STRUKTURAVIY MODELI

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Annotatsiya: Ushbu maqolada algoritmlash kompetentligining zamonaviy nazariy asoslari va uning strukturaviy modeli yoritilgan. Tadqiqot davomida nazariy tahlil, xorijiy ta’lim tizimlari tajribasini komparativ o‘rganish, strukturaviy yondashuv