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Karaganda National Research University named after Academician
E.A. Buketov, Karaganda, Kazakhstan.
E-mail: mega.dzhumanova@mail.ru

PROBLEMS OF USING ARTIFICIAL INTELLIGENCE IN EDUCATION

Dzhumanova Lyailya — senior teacher of the Department of Practical Foreign Language course, Karaganda National Research University named after Academician E.A. Buketov, Karaganda, Kazakhstan,
E-mail: mega.dzhumanova@mail.ru, http://orcid.org./0000-0002-0260-9499;
Kaskataeva Zhanar — PhD, Professor Assistant, Department of Practical Foreign Language course, Karaganda National Research University named after Academician E.A. Buketov, Karaganda, Kazakhstan,
E-mail: janarkaskataeva@gmail.com, http://orcid.org/0000-0001-6264-1987;
Turbaeva Saya — teacher of the Department of Practical Foreign Language course, Karaganda National Research University named after Academician E.A. Buketov, Karaganda, Kazakhstan,
E-mail: c_aja@mail.ru// http:// orcid.org /0000-0002-6791-243X.

Abstract. This article provides a comprehensive analysis of the use of artificial intelligence (AI) in the educational process by students. We consider both positive and negative aspects of this phenomenon, given the ubiquity of AI in modern life. AI refers to the ability of computer systems to mimic human cognitive functions. The study aims to find out whether AI can serve as a tool to overcome pedagogical shortcomings. The key task is to analyze the advantages and disadvantages of introducing AI into education, as well as to conduct an empirical assessment of its effectiveness with the presentation of the data obtained. The work identifies key competencies and knowledge necessary for the effective use of AI tools, and developed criteria for assessing individual benefits from their use. The prospects and potential of AI for optimizing the educational process are illustrated by the examples of successful technology integration cases. In the 21st century, the integration of artificial intelligence (AI) and modern educational technologies into the learning process is becoming an urgent need. These innovations are designed to equip students with the necessary knowledge, skills and competencies so that they can successfully compete in the global labor market using their intellectual

abilities. At the same time, it is extremely important to take into account potential negative consequences, in particular, the risk of forming dependence on neural networks, which can undermine independence, creativity and the ability to self-learn. Nevertheless, with responsible and thoughtful use, AI is able to significantly transform education for the better, making the process of assimilation of knowledge faster and more efficient, contributing to the development of skills and solving educational problems. Thus, a deep understanding of the problems that arise when introducing AI into education will allow us to develop an optimal balance between its benefits and risks, ensuring maximum benefit and favorable conditions for all participants in the educational process.

Keywords: artificial intelligence, educational process, information environment, digital literacy, critical thinking, information those

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Академик Е.А. Бөкетов атындағы Қарағанды ұлттық зерттеу университеті,
Қарағанды, Қазақстан.
E-mail: mega.dzhumanova@mail.ru

БІЛІМ БЕРУ САЛАСЫНДА ЖАСАНДЫ ИНТЕЛЛЕКТТІ ПАЙДАЛАНУ ПРОБЛЕМАЛАРЫ

Жұманова Ләйлә — Академик Е.А.Бөкетов атындағы Қарағанды ұлттық зеттеу университеті, шетел тілінің практикалық курсы кафедрасының аға оқытушысы, Қарағанды, Қазақстан,
E-mail: mega.dzhumanova@mail.ru, http://orcid.org./0000-0002-0260-9499;
Қасқатаева Жанар — PhD, академик Е.А. Бөкетов атындағы Қарағанды ұлттық зеттеу университеті, шетел тілінің практикалық курсы кафедрасының профессор ассистенті, Қарағанды, Қазақстан,
E-mail: janarkaskataeva@gmail.com, http://orcid.org/0000-0001-6264-1987;
Турбаева Сая — Академик Е.А. Бөкетов атындағы Қарағанды ұлттық зеттеу университеті, шетел тілінің практикалық курсы кафедрасының оқытушысы, Қарағанды, Қазақстан,
E-mail: c_aja @mail.ru// orcid.org /0000-0002-6791-243X.

Аннотация. Аталмыш мақалада студенттердің білім беру процесінде жасанды интеллектті (ЖИ) пайдалануына кешенді талдау жүргізіледі. Біз қазіргі өмірде жасанды интеллекттің кең таралуын ескере отырып, осы құбылыстың жағымды және жағымсыз жақтарын қарастырамыз. Жасанды интеллект дегеніміз-компьютерлік жүйелердің адамның когнитивті қызметіне еліктеу қабілеті. Зерттеу ЖИ педагогикалық кемшіліктерді жеңу құралы бола алатынын анықтауға бағытталған. Негізгі міндет-білім беруге ЖИ енгізудің

артықшылықтары мен кемшіліктерін талдау, сондай-ақ алынған деректерді ұсына отырып, оның нәтижелілігіне эмпирикалық бағалау жүргізу. Зерттеу жұмысында жасанды интеллект құралдарын тиімді қолдану үшін қажетті негізгі құзыреттер мен білім айқындалып, оларды пайдаланудан жеке пайданы бағалау критерийлері әзірленді. Оқу процесін оңтайландыру үшін ЖИ-дің болашағы мен әлеуеті технологияны интеграциялаудың сәтті жағдайларының мысалдарымен суреттелген. XXI ғасыр жағдайында жасанды интеллект пен заманауи білім беру технологияларын оқу процесіне біріктіру шұғыл қажеттілікке айналды. Бұл инновациялар студенттерді зияткерлік қабілеттерін пайдалана отырып, әлемдік еңбек нарығында сәтті бәсекеге түсу үшін қажетті біліммен, дағдылармен және құзыреттермен қаруландыруға бағытталған. Бұл жағдайда ықтимал жағымсыз салдарды, атап айтқанда, тәуелсіздікке, шығармашылыққа және өзін-өзі оқыту қабілетіне нұқсан келтіруі мүмкін нейрондық желілерге тәуелділіктің пайда болу қаупін ескеру өте маңызды. Дегенмен, жауапты және ойластырылған пайдалану арқылы ЖИ білім беруді жақсы жаққа айтарлықтай өзгерте алады, білімді меңгеру процесін тезірек және тиімдірек етеді, дағдыларды дамытуға және білім беру мәселелерін шешуге ықпал етеді. Осылайша, білім беруге ЖИ енгізу кезінде туындайтын проблемаларды терең түсіну білім беру процесінің барлық қатысушылары үшін барынша пайда мен қолайлы жағдайларды қамтамасыз ете отырып, оның артықшылықтары мен тәуекелдері арасындағы оңтайлы тепе-теңдікті қалыптастыруға мүмкіндік береді.

Түйін сөздер: жасанды интеллект, оқу процесі, ақпараттық орта, сандық сауаттылық, сын тұрғысынан ойлау, ақпараттық технологиялар

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Карагандинский национальный исследовательский университет имени академика Е.А. Букетова, Караганда, Казахстан.
E-mail: mega.dzhumanova@mail.ru

ПРОБЛЕМЫ ИСПОЛЬЗОВАНИЯ ИСКУССТВЕННОГО ИНТЕЛЛЕКТА В СФЕРЕ ОБРАЗОВАНИЯ

Джуманова Ляйля — старший преподаватель кафедры практического курса иностранных языков Карагандинского национального исследовательского университета имени академика Е.А. Букетова, Караганда, Казахстан,
E-mail: mega.dzhumanova@mail.ru, ORCID: https://orcid.org/0000-0002-0260-9499;
Каскатаева Жанар — PhD, ассистент-профессор кафедры практического курса иностранных языков Карагандинского национального исследовательского университета имени академика Е.А. Букетова, Караганда, Казахстан,
E-mail: janarkaskataeva@gmail.com, ORCID: https://orcid.org/0000-0001-6264-1987;
Турбаева Сая — преподаватель кафедры практического курса иностранных языков Карагандинского национального исследовательского университета имени академика Е.А. Букетова, Караганда, Казахстан,
E-mail: c_aja@mail.ru, ORCID: https://orcid.org/0000-0002-6791-243X.

Аннотация. В статье проведён комплексный анализ использования искусственного интеллекта (ИИ) в образовательном процессе. Рассмотрены как положительные, так и потенциально негативные аспекты применения технологий искусственного интеллекта в условиях их широкого распространения в современном обществе. Под искусственным интеллектом понимается способность компьютерных систем имитировать отдельные когнитивные функции человека и выполнять задачи, требующие интеллектуальной обработки информации. Цель исследования заключается в анализе преимуществ и ограничений внедрения ИИ в сферу образования, а также в оценке его результативности на основе эмпирических данных. В работе определены ключевые компетенции, необходимые для эффективного использования ИИ-инструментов, и предложены критерии оценки их образовательной эффективности. Возможности оптимизации учебного процесса проиллюстрированы примерами успешной интеграции технологий искусственного интеллекта. В условиях XXI века внедрение искусственного интеллекта и современных цифровых технологий становится важным фактором повышения качества образования и подготовки конкурентоспособных специалистов. Использование ИИ способствует развитию цифровой грамотности, расширению доступа к образовательным ресурсам и повышению эффективности обучения. Вместе с тем необходимо учитывать возможные риски, связанные с чрезмерной зависимостью от нейросетевых технологий, снижением самостоятельности обучающихся, ослаблением креативности и мотивации к самообразованию. Установлено, что при ответственном и педагогически обоснованном использовании искусственный интеллект способен существенно повысить качество образовательного процесса, сделать усвоение знаний более эффективным и создать условия для развития профессиональных компетенций обучающихся. Понимание преимуществ и рисков внедрения ИИ позволяет обеспечить рациональный баланс между технологическими возможностями и педагогическими задачами, создавая благоприятные условия для всех участников образовательного процесса.

Ключевые слова: искусственный интеллект, образовательный процесс, цифровая грамотность, информационные технологии, критическое мышление, цифровая образовательная среда

Introduction. Taking into account the importance of quality education as a key condition for improving the standard of living, the state policy of Kazakhstan in the field of education is aimed at ensuring comprehensive development and education for all segments of the population. In the Address of the Head of State to the people of Kazakhstan dated September 1, 2023, the importance of the quality of secondary education as a factor in the formation of a successful nation was emphasized: "The inalienable right of every child is the right to receive high-quality school education. And the word "quality" is key here. Therefore, it is necessary

to consistently improve the quality of education, to improve the competencies of teachers" (adilet.zan.kz/K23002023). The President also noted that the use of artificial intelligence technologies requires special attention: "We also need to focus on training qualified specialists. At least three well-known universities should be engaged in training personnel and conducting research in this area".

In order to implement the long-term Development Strategy of Kazakhstan until 2050, the National Development Plan of the Republic of Kazakhstan until 2025 has been developed and is being implemented, in which 10 national priorities have been identified, one of which is "Quality Education." The essence of this priority is the development of human capital for the implementation of a new course in the country's development (adilet.zan.kz/U1800000636). As part of solving the tasks of the priority "Quality Education", the national project "Quality Education "Educated Nation" for 2021-2025 was approved, aimed at improving the quality of education of students at all levels of education (adilet.zan.kz/P2100000726). The National Education Project "Comfortable School", approved in November 2022, gave a course to fulfill an important task of the state: "Every Kazakhstani student should have decent conditions for learning and comprehensive development created by the state, school administration, teaching staff with the participation of students and their parents" (adilet.zan.kz/P2200000963). The National Report on the State and Development of the Education System of the Republic of Kazakhstan notes that "The content of school education is being transformed in accordance with the trends of international innovative education". According to researchers of educational reforms, the quality of education implicitly requires its reorientation to the needs of the market and effective cooperation with society.

An important indicator of the digitalization of education is the expansion of access of teachers and schoolchildren to high-speed Internet. Maximum digitalization of the educational process and educational materials contributes to 6 expanding access to high-quality digital content. As part of the developed Roadmap "Path of Change: A Decent Life for Everyone!" by 2025, it is planned to connect all rural schools to high-speed Internet. Solving the problems of high-quality Internet in sparsely populated areas is being implemented within the framework of the national project "Technological breakthrough through digitalization, science and innovation". Access to broadband Internet will create an enabling environment for students and educators to learn and work to increase digital and media literacy, thereby increasing their interest and motivation for subject learning and innovative learning. Teachers who have mastered media and information literacy can effectively help educate informed and thinking citizens.

At the same time, according to the Concept for the Development of Preschool, Secondary, Technical and Vocational Education of the Republic of Kazakhstan for 2023-2029, it is noted that in secondary education it is necessary to solve the problem of the need to improve the content of education that reflects the knowledge, skills, approaches and values necessary for students of the 21st century (adilet.zan.kz/P2300000249). The National Development Plan of the Republic of Kazakhstan

until 2025 also reflects this idea: "One of the critical tasks today is the training of ICT specialists... with knowledge in the field of artificial intelligence, Big data (big data), virtual reality, the Internet of things". The head of state, in his speech at the international forum Digital Bridge 2023, notes that "Artificial intelligence is no longer science fiction, but the reality that has come". In continuation of his speech, Kassym-Jomart Tokayev touched upon the importance of studying and the high role of artificial intelligence: "Human labor is being transformed and will require completely different skills. Therefore, new competencies of workers need to be formed from school" (Official website of the President of the Republic of Kazakhstan (akorda.kz)). Thus, the Kazakh education system is aimed at the formation of a highly qualified, competitive, empathetic, sociable, capable of logical thinking creative personality, harmoniously combining spiritual wealth, moral purity and tolerance.

In the 21st century, young people are called the "digital generation", whose generation for the most part has a close connection with digital technologies in one form or another (Internet, gadgets, etc.). In the modern civilized world, for a person and the younger generation, there is a question of realizing oneself. Realization as a whole as a full-fledged unit of society, which develops its potential and strives for success in a wide range of personal and social spheres.

We can single out a large list of what society wants to see in a person as positive characteristics, but we highlight the main ones, those that are relevant in the digital age:

• The first thing that is inherent in our technological society is digital literacy. This characteristic is the ability to effectively use computers, the Internet, social networks, mobile devices and other digital technologies and gadgets for learning, work and entertainment;

• the ability to adapt to a rapidly changing information environment, have the ability to quickly absorb new information, learn and dynamically adapt to new technologies.

Each of these characteristics focuses attention on one aspect of intelligence. Their origins lie in the field of philosophy. After all, it is not for nothing that G.S. Pospelov said: "Behind the backs of artificial intelligence specialists are the shadows of great philosophers".

Next, consider the characteristic features that have always been relevant for humans, but have been in greatest demand in the modern world:

• critical thinking is the ability to analyze and evaluate information, distinguish facts from opinions, filter inaccurate information and make informed decisions;

• ability to generate new ideas, find non-standard solutions. These skills are encapsulated in the sense of creativity and problem-solving;

• man cannot succeed alone, all that we have has been achieved by the joint efforts of mankind. And the necessary skill for this is sociability. Now this skill is not just communication - it is the ability to effectively communicate through

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digital and interactive communication channels, build relationships with other people, participate in teamwork and online communities;

• and the last thing that can be distinguished is the ethics of conducting social and business interaction. It is important to remember that there are also real people behind the screen and certain principles and rules of behavior must be observed in order to ensure security, confidentiality and respect for other users.

The educational process as a whole, and in particular state educational standards, set various tasks for students, which are aimed at creating conditions for the comprehensive development of the student's personality, the formation of his intellectual, emotional, moral and physical abilities and spiritual and moral values, as well as providing opportunities for self-realization and success in the future, according to modern trends.

Modern education faces a number of problems, such as the rapid obsolescence of curricula in a dynamically changing information society, the insufficiency of applying an individual approach to students and the lack of experienced teachers. In this regard, our education system is considering the possibility of the early introduction of artificial intelligence into the educational process. Artificial intelligence and technology have already found their application in medicine, charity, ecology and other socially significant areas. Among them is education. Education is the foundation for the development of society, and with the advent of artificial intelligence (AI), we are witnessing a real revolution in this area. New technologies open up opportunities for students, teachers and parents that seemed fantastic 10 years ago.

Literary review. Today, artificial intelligence technologies have firmly entered our daily life, becoming indispensable helpers in solving many tasks - from effectively supporting our efforts in performing routine actions, processing and analyzing large amounts of unstructured information - to helping us realize our creative potential and develop our creative skills (Vedyakhin, 2021). The introduction of artificial intelligence technologies in education should be aimed at strengthening human potential and protecting human rights in order to effectively interact between man and machine in life, training and work, as well as in the interests of sustainable development.

Artificial intelligence has already firmly entered the field of education and training. In 2025, AI elements began to be introduced into the educational process for the first time. The introduction of AI into the educational curriculum of schools is an important element of basic education. Many schools in the USA, European countries, China are introducing AI and the basics of working with it for at least 8 hours. Kazakhstan also strives to be on the front line. A large construction project continues in Kazakhstan within the framework of the “Keleshek Mektepteri” national project. “Keleshek mektepteri” is a strengthening of new school models. This is also an impulse for the entire secondary education market, that is, this should be the public school model. And now, not only in relation to infrastructure,

but also in relation to the introduction of additional education programs, many educational organizations are guided, especially in the regions. We know about the implementation initiative for at least 12 hours, but it seems to me that in addition to teaching children how to work with AI algorithms, it is important to develop cognitive skills in students: critical thinking, the ability to solve problems. When we talk about "artificial intelligence," we mean technologies that imitate human thinking: they understand text and speech, draw conclusions, learn from experience and can offer informed solutions. Artificial intelligence is a technology that studies ways to train a computer, robotic technology, an analytical system to think wisely, just like a person. Academician N. Moiseev himself believed that intelligence is primarily goal-setting, resource planning and building a strategy for achieving a goal (Moiseev, 1987). Intelligence usually refers to the ability to set and achieve goals under changing circumstances, the ability to choose from a variety of goals those that rather lead to the desired state, adaptation to changes in the environment and internal states by changing their changes (Pavlov, 2011).

The author of the analytical note "Artificial Intelligence in Education: Changing the Pace of Learning" - Stephen Duggan with more than 30 years of experience in education, expresses the opinion that the introduction of an artificial intelligence system in the educational process will make it possible, based on how the student learns and his individual characteristics, to make the learning process more efficient and interactive (Stephen Duggan, 2020). An artificial intelligence (AI) system is a software system that simulates the process of human thinking on a computer. To create such a system, it is necessary to study the very process of thinking of a person solving certain tasks or making decisions in a specific area, highlight the main steps of this process and develop software that reproduces them on a computer. Consequently, AI methods imply a simple structural approach to the development of complex software decision-making systems (Hunt, 1978). The development of the AI field is associated with further universalization of machine systems and their wider access to information (Potapov, 2010). "All, even the most vicious and disgusting dictators, were united by one thing - they were mortal. However, for artificial intelligence, there will be no such thing as death at all. He can exist forever", - said Elon Musk.

Artificial intelligence does not replace the teacher, but it helps him better explain complex topics, quickly prepare materials and create exciting lessons. It frees the teacher from routine, gives more time to communicate with students and makes the learning process flexible and personalized. However, it has limitations that are important to consider.

The main advantage of artificial intelligence is the ability to adapt to each student. Traditional lessons are aimed at a student with an average level of knowledge, which is why some of the students lag behind, and other students are bored in the classroom. Inclusive intelligence continuously analyzes the student's successes and mistakes, identifies gaps in knowledge and automatically offers additional materials, examples and tasks to eliminate them.

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AI is a useful tool, but it cannot be used thoughtlessly: it is important to check information, teach students to critically evaluate answers and find a balance between technology and live learning. The introduction of artificial intelligence provides tangible benefits, here are some of them:

• Prepare for classes. Educators often spend hours searching for information, selecting examples and writing assignments. Neural networks accelerate this process. For example, a foreign language teacher wants to hold a discussion in the format of a discussion. The neural network will compose questions that will help students better understand the topic under discussion.

• Develop tests and verification work. Neural networks make up tests in a few minutes - it is enough to indicate the topic and the level of complexity. Or just download the lecture you just read, and the system creates a survey based on the material. Some algorithms allow you to generate variants of different types: from closed questions with answers to tasks with a detailed answer.

• Create visual materials. Information is perceived better if students see illustrations, diagrams and infographics. Neural networks help teachers create images on demand. Suppose a teacher talks about a certain grammatical topic, for example: conjugation of a verb in the present tense and wants to show students how they conjugate. Instead of looking for suitable images on the Internet, he enters a request into the neural network, and it generates a scheme with a clear division of climatic zones. The teacher immediately uses it in the classroom.

• Explain complex topics in simple language. Some topics are given to students with difficulty. Neural networks help teachers explain them more easily using analogies, comparisons and life examples. For example, if it is difficult for a fifth grader to master the definition of "photosynthesis", the AI will pick up an analogy related to his interests: "Photosynthesis is like a charge for plants, only instead of an outlet they use the sun".

• Find ideas for custom assignments. Teachers often look for ways to make lessons more interesting, but they don't always know where to start. Neural networks help to come up with lesson scenarios, games and creative tasks.

• Saving teacher time Hours are vacated for creative work and communication with students.

• Individual approach. Learning becomes more effective, as it takes into account the characteristics and pace of each student.

• Availability 24/7. Students can get help or access training materials at any time.

• Inclusivity. Artificial intelligence helps people with disabilities. For example: conversion of text into speech for the visually impaired or automatic decryption of watches for creative work, audio/video for the hearing impaired.

• Increased activity. When checking standardized tasks with clear criteria, AI is less susceptible to subjective factors than humans.

• Variety of formats. AI helps create interactive tasks, educational games, complex visualizations, increasing motivation more fun.

Students use artificial intelligence to study to search for information, simplify complex topics and prepare for lessons. It is important to choose the right tool and be able to check its answers. Some models are able to search for data on the Internet, others work only with the existing knowledge base. Below are several neural networks that are suitable for working in an educational environment:

1. GigaChat and YaGPT are text neural networks that help you find information, explain complex topics and formulate answers to questions. These tools allow you to quickly understand a new topic, clarify details or prepare for a test. GigaChat does a good job of analyzing texts and answering questions on the school curriculum. It helps to analyze articles, select arguments for essays and answer questions on the curriculum. YaGPT is built into Alice's voice assistant interface and can search for information on the Internet. This is useful when you need to clarify the definition, historical fact or find examples for scientific terms.

2. ChatGPT - universal assistant. It helps with different learning tasks: explaining theories, offering examples and checking texts.

3. DeepSeek - text neural network. Works similarly to ChatGPT and helps process large amounts of text. It is suitable for analyzing educational materials, translating terms and finding arguments for essays. When a student writes a research paper, he may ask the neural network to briefly retell several articles. DeepSeek will do this quickly and retain the core ideas.

4. Masterpiece and Midjourney - image generators Create illustrations and diagrams that make learning clearer. The masterpiece is suitable for creating simple illustrations. If a student is preparing a history report, a neural network can draw an ancient Roman city or a medieval castle. Midjourney creates realistic images.

5. **Perplexity AI** is an artificial intelligence-based search engine that finds information and immediately shows sources. It helps students find accurate and relevant information for educational projects and research.

On November 2, 2023, the UK, USA, Australia, China and several other countries at a summit held in the UK signed the first ever international declaration stating that artificial intelligence (AI) poses a potentially catastrophic risk to humanity. More than 100 politicians and business figures took part in the British summit on the safe use of artificial intelligence, 28 countries signed the so-called Bletchley declaration on the first day of the summit on the safe use of AI. The countries agreed to work together on AI security research. British Prime Minister Rishi Sunak noted: "There is nothing more transformative for the future of our children and grandchildren than technological advances such as artificial intelligence. However, we are obliged to provide them with the safe and responsible development of AI, realizing the risks that it poses in the early stages of the process" (Zhuravkov, 2024). Neural networks help students learn, but do not replace independent thinking. It is important for the teacher to explain that artificial intelligence can be wrong and invent facts. The information must be verified before it can be used. Artificial intelligence helps solve educational

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problems, but requires the right approach. He does not think like a person, but predicts likely answers based on the data studied. The teacher and student must check the information, adjust the requests and understand where the neural network may be wrong. Here are just a few features to consider:

a) Artificial intelligence does not know, but predicts. AI does not store facts as an encyclopedia. It analyzes millions of texts and calculates which word or phrase is most likely to be answered. It is important not to perceive the answers as truth, but to treat them as a draft that requires clarification.

b) AI can come up with information. Neural networks sometimes provide information that sounds plausible, but may be erroneous or fictitious. They may report non-existent historical dates, distort scientific facts, or cite false sources. This is especially dangerous for students without developing critical thinking, since they can take such information for the truth. Therefore, it is always necessary to check the facts both for the teacher and for the student himself.

c) You must specify the most accurate query. The more detailed the question, the better the answer. Neural networks understand natural language, but the more specific the formulation, the more useful the result will be. For example, if you ask "How to conduct a foreign language lesson?". The AI will issue general recommendations. If you clarify "How to conduct a lesson on the topic "My family" in the format of a role-playing game?". You will get a clear plan of action and a prescribed script.

d) Artificial intelligence can be trained in dialogue. If you are not satisfied with the answer, you can refine the request or ask additional questions. Neural networks are able to adapt to the style of communication and clarify the details.

e) Cheating and superficial knowledge. The temptation to entrust AI with homework, writing abstracts or coursework is great. This leads to poor absorption of the material and a decrease in the ability to solve problems on their own. There is a risk that the new generation will not learn to think without AI prompts.

f) Data security. For AI to work, systems need access to large amounts of personal data of students and teachers. Leaks or hacker attacks are a real threat to privacy. However, educational institutions and universities often cannot provide reliable information protection. g) Adaptation problems. Not all teachers are ready to master new technologies. For example, in 2023, only 10% of universities actively changed them. For the situation to change, large-scale overgrazing programs are needed.

h) Ethical issues and bias. AI is trained on data from the Internet, which may contain discriminatory attitudes or outdated views. The neural network can unconsciously reproduce them in its answers or recommendations. Also controversial is the issue of copyright for content used to train AI.

i) Digital inequality. Not all schools and universities, especially in remote areas, have the necessary equipment, high-speed Internet and trained personnel for the introduction of AI. This can lead to an increased gap in the quality of education.

Predictions in the field of education are closely related to the development of AI.

1. Adaptive learning will become the norm. AI will select the most effective formats and optimal pace, analyzing the student's academic performance, learning style and emotional state.

2. AI will become part of the daily curriculum at all levels - from school to university. New standards governing the use of technology will be developed and implemented.

3. Intellectual assistants will become assistants to teachers - from automating reporting to selecting the best methods for each class or student.

4. AI tools to support students with different needs will become the standard for equipping educational institutions.

5. The formats of exams and tests will change towards project work, oral interviews, solutions of practical cases - where it is more difficult to connect AI and write off ready-made answers.

6. Freed from routine, teachers will be able to devote more time to the development of students' critical thinking, creativity, communication and collaboration - something that AI has not yet replaced.

7. The development of hybrid clouds (a combination of private and public services) will become the standard for AI platforms. This will increase data security when working with biometrics and engagement analytics, while maintaining the benefits of scalability.

Given the importance of the step for the development of this area, Decree of the Government of the Republic of Kazakhstan dated July 24, 2024 No. 592 adopted the Concept for the Development of Artificial Intelligence for 2024-2029. At a meeting of the Government of the Republic of Kazakhstan chaired by Olzhas Bektenov, a strategic document was adopted for the introduction of artificial intelligence technologies in various sectors of the economy and education. Minister of Science and Higher Education Sayasat Nurbek, as well as Minister of Digital Development, Innovation and Aerospace Industry Zhaslan Madiev reported on the development of AI in Kazakhstan and the legal regulation of the digital environment. The development of the Concept for the Development of Artificial Intelligence is being implemented on behalf of President Kassym-Zhomart Tokayev, announced at an expanded meeting of the Government on February 7, 2025 (adilet.zan.kz/P2400000592). It approves the National Strategy for the Development of Artificial Intelligence for the Period up to 2030 and identifies measures aimed at ensuring national interests and implementing strategic national priorities, including in the field of scientific and technological development. In particular, the document refers to the development and implementation of educational modules within the framework of educational programs of all levels of education, advanced training and professional retraining programs for citizens to acquire knowledge, acquire competencies and skills in the field of mathematics,

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programming, data analysis, machine learning, contributing to the development of artificial intelligence. "The above approaches will lead to the creation of a favorable environment for the development of artificial intelligence, provide a multiplier effect through the growth of entrepreneurial activity in the IT services market in the domestic and international markets, create jobs, increase productivity and profitability of enterprises in all sectors of the economy, and improve the quality of life of the population. As a result, Kazakhstan will create competitive products and technologies of artificial intelligence, which will lead to an increase in the export of goods and services of information and communication technologies"(adilet.zan.kz/P2400000592).

At the moment, the use of artificial intelligence technologies established by the state is not widespread in the educational process throughout the Republic of Kazakhstan, this is largely due to insufficient technical support. But this does not negate the interest of students in the abilities of AI-based technologies.

Materials and methods. The authors of the article conducted theoretical (analysis of scientific literature and Internet sources) and practical (local survey, interview, discussion) research methods.

To identify the use of neural networks by students for educational purposes and their attitude to artificial intelligence, an oral survey was conducted among 1-2 year students of the Faculty of Foreign Languages of Karaganda University named after Academician E.A. Buketov in 2024/25. As a stating stage in the study of the problem, 123 students took part in this survey, who gave a 100% affirmative answer to the question "Have they heard about neural networks?" and 76% of respondents used them only once or twice, but still do not fully know how to work with it.

More than half of the students surveyed (67%) said that they learned to use neural networks within the walls of the university, and the rest (12%) - on their own thanks to materials on the Web, more (3%) studied using the poke method, and another 18% of respondents used the help of tips from friends, acquaintances and fellow students.

ChatGPT, which is the most popular AI-based service, is accessed by 84% of survey participants. Most often, students use technology to write and edit texts, also to create multimedia presentations. Students even write essays using artificial intelligence without human intelligence. It is important to note that the teachers themselves use ChatGPT. Judging by the results of the survey, they use neural networks even more often than students. Neural networks help teachers find educational material, come up with topics for classes and provide many more opportunities for use. In second place was Midjourney, an artificial intelligence that creates images from text descriptions, which is used by 28% of respondents.

Most of the students surveyed (89%) use neural networks to write and edit texts. 72% of respondents use them to prepare or edit essays and essays, another 76% translate foreign texts, 17% create illustrations for their works, 31% process

photos and images. Another 8% of the surveyed students use neural networks as a cheat sheet at border control and exam.

Results and discussion. Considering the results of an oral survey of students, the following can be distinguished:

The most advantageous condition for using AI, according to the respondents, is saving time, this is the most popular reason for students (82%), second place shared by problem solving assistance and accessibility (45%);, third - ease of use (41%), getting recommendations (27%), quality of information (43%), improvement of own knowledge (48%), creative solutions and proposals (16%);, increases the effectiveness of own training (28%), the efforts of the teacher are not enough (22%), optimization of mental processes (11%).

According to the respondents, AI also performs the following tasks:

• Helps you quickly find and capture the information you need

• Answer difficult questions

• help with writing and correcting code;

• filling in the text and searching for information;

• collection and systematization of information, as well as the selection of literature and the search for articles in scientific journals.

Along with positive feedback, there are also negative aspects in working with AI. The most global disadvantages in the use of AI in the educational space are the lack of creativity and there are even fears that AI can take away jobs from real working people.

But, despite the gloomy forecasts, the main shortcomings of AI are the following factors:

• AI cannot show emotion, which can be a problem in interacting with people in some cases.

• AI requires a lot of data to train and tune its algorithms, which can be a challenge if there isn't enough data.

• The use of AI can lead to security risks and breaches of data privacy if appropriate safeguards are not taken.

• AI algorithms can contain errors and inaccuracies, which can lead to undesirable results.

It is important to be aware of the issue of independent use of AI for school graduates and primary students. It is important for these groups to lay the foundation for further social and personal development, professional development, etc. The problem is that the educational process and the educational program are aimed at such an outcome as assessing knowledge, and not at gaining knowledge in the process. In the education system, knowledge assessment is carried out through traditional forms of control, such as exams, tests, tests and tests. These are the main methods for assessing student performance and making decisions about their advancement to the next level of study. However, this approach can lead to a situation where students concentrate only on obtaining grades, without thinking about a deep understanding of the educational material.

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The educational process is a complex and labor-intensive process for all its participants. Students are not always driven by an interest in the subjects with which they learn, or an awareness of the importance of their professional development. It is a separate art to capture the hearts of students and give motivation to learn something. And if it does not work out, then the educational process can become boring and inexpressive for students, which will lead to low motivation and ineffective training.

The use of AI by students instead of their own intellectual capabilities facilitates the solution of the tasks of the educational process and transfers some of the cognitive abilities of users, but does not increase their actual level of knowledge.

The value of educational outcomes is comparable to the value of what effort was put into achieving those outcomes. This is the essence of education - to overcome difficulties in order to become stronger. What we do not attach importance to is equally easily depreciated and forgotten in the future. Subsequent training with this approach will have a negative manifestation in the form of some dependence on neural network technologies. A student or student simply will not represent something as a separate person from this technology with his own baggage of knowledge and experience, this is especially important when training takes place in a highly qualified field, for example, medicine, engineering, legal sphere, etc.

It should also be noted the influence on the creative side of the student's activity - creativity, his original ideas and the self-sufficiency of his creations. The use of AI in solving problems where it is necessary to use these aspects of the human psyche can lead to the denigration of these skills, and even the results of this work can not be ethically called "their own" (Shishov, 2022).

It should be understood that at this level of development of artificial "intelligence" is a systematic processing and analysis of existing databases. AI can use algorithms of any complexity and solve the problems studied for it in the shortest possible time or in large volumes, but it cannot independently come up with an innovative idea that affects the course of human life. A person is a unique thinking person who has his own ways of perceiving and analyzing the world around him, only a person is able to combine knowledge, experience and intuition, and thanks to these unique qualities of human nature, a person is able to find new ways of development and make discoveries. (Shishov, 2023).

Conclusion. Summing up, it is worth noting that information technologies are rapidly developing and it is useless and pointless to ignore developments in this area. "The basic idea of this direction can be formulated as follows: "The only object capable of thinking is the human brain, so any thinking device must somehow reproduce its structure"- wrote V.E. Kuznetsov. But, despite such a statement, with its steady pace, the digital environment using AI technologies was introduced into the education system, this was reflected in the work on expanding the possibilities of the educational process, helping teachers solve typical problems, determining the individual educational needs of students, and in the development of individual educational route programs for students.

The considered problem of the use of artificial intelligence by a student in solving individual educational problems and its negative manifestations are possible if mistakes are made both by the teacher and by the administration of the educational organization. To level undesirable actions and increase the favorable influence on the solution of educational problems of students in the training system, teachers need to set tasks in which AI can help the student, and not replace him. An astute person, especially a teacher, who is driven by a sense of pedagogical duty and love for students, will notice a discrepancy between the content of the student's work and his actual intellectual abilities. Such a responsible mentor will make it clear that you should not treat the tasks set so simply, which in turn will later be an excuse for the student to refrain from replacing his individual intellectual abilities by resorting to AI. It is necessary to instill in students the ability to analyze the information that is provided to them, and not to take it on faith thoughtlessly. They should be able to ask questions, check sources, critically evaluate the information received and, most importantly, think. "Artificial intelligence is a science aimed at studying and modeling the main property of human thinking "(Yasnitsky, 2011).

The dissemination and provision of open access to educational platforms developed using AI technologies will help to maintain transparent control over the educational process of students by the teacher and the educational system. This guarantees the use of the advantages of AI technology in the information and educational environment of the university and will contribute to the effective and safe use of technology in the educational process by students, increasing its quality and effectiveness. Accordingly, to train modern teachers, it is necessary to develop programs to study the possibilities and methods of using modern digital technologies.

Artificial intelligence can make education more efficient, affordable and individual. He gives everyone a chance to learn at their own pace, receiving support when needed. It is important to use new technologies correctly, developing critical thinking and independence among students. AI must process data and automate routine processes, and humans must learn, create, analyze, and make decisions.

Future of AI education. Imagine a school or university where each lecture is recorded, disassembled and analyzed by AI to help students better absorb material. Or a system that recommends professions based on your interests and abilities. It's not fantasy - it's our future.

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