IRSTI 15.81.99 https://doi.org/10.26577/JPsS20259546

V. Shmit[1], M. Abdykalikova[1*], A. Jumageldinov[2], S. Zholdybaeva[3]

[1]L.N. Gumilev Eurasian National University, Astana, Kazakhstan
[2] Independent Researcher, Le Havre, France
[3]International Educational Corporation, Almaty, Kazakhstan
*e-mail: martadaria2019@gmail.com

A STUDY OF THE PERCEPTION AND ATTITUDE OF UNIVERSITY STUDENTS TOWARDS CHATBOTS BASED ON ARTIFICIAL INTELLIGENCE

In recent years, chatbots with artificial intelligence have been actively spreading to various spheres of life, including education. In this regard, there is an increasing number of studies examining the potential advantages and disadvantages of using chatbots, as well as the possible consequences of these innovations. Given the active dissemination of these tools in the learning process, it becomes necessary to determine how students perceive and relate to them. This paper is devoted to comparing the attitude of students before and after the purposeful integration of artificial intelligence into the educational process. 110 students from Kazakhstan universities participated in the experimental study. The results showed that the majority of students demonstrate a positive attitude towards chatbots and show interest in using them. However, after the experiment, there was a statistically significant difference in the students' opinions. This suggests that students' beliefs about artificial intelligence and its capabilities are in the formative stages. Direct experience of interacting with this technology can have an impact on attitudes towards it. The results of the study make it possible to expand the understanding of students' attitude to artificial intelligence and may be useful in developing rules for its effective integration into the educational process.

Keywords: artificial intelligence, chatbots, students, attitude to artificial intelligence, trust.

В.Р. Шмит[1], М.Н. Әбдіқалықова[1*], А.Н. Джумагельдинов[2], С.А. Жолдыбаева[3]

[1]Л.Н.Гумилев атындағы Еуразия ұлттық университеті, Астана, Қазақстан
[2]Тәуелсіз зерттеуші, Гавр, Франция
[3]Халықаралық білім беру корпорациясы, Алматы, Қазақстан
*e-mail: martadaria2019@gmail.com

Жоғары оқу орындары студенттерінің жасанды интеллект негізіндегі чат-боттарға қабылдауы мен қатынасын зерттеу

Соңғы жылдары жасанды интеллект чатботтарының өмірдің әртүрлі салаларына, соның ішінде білімге белсенді таралуы байқалды. Осыған байланысты чатботтарды қолданудың ықтимал артықшылықтары мен кемшіліктерін, сондай-ақ осы инновациялардың ықтимал салдарын зерттейтін зерттеулер саны артып келеді. Осы құралдардың оқу процесіне белсенді таралуын ескере отырып, студенттердің оларды қалай қабылдайтынын және оларға қалай қарайтынын анықтау қажеттілігі туындайды. Бұл жұмыс студенттердің оқу процесіне жасанды интеллекттің мақсатты интеграциясына дейінгі және кейінгі қатынастарын салыстыруға арналған. Эксперименттік зерттеуге қазақстандық жоғары оқу орындарының 110 студенті қатысты. Нәтижелер студенттердің көпшілігі чатботтарға оң көзқараспен қарайтынын және оларды пайдалануға қызығушылық танытатынын көрсетті. Алайда эксперимент жүргізілгеннен кейін студенттердің пікірінде статистикалық маңызды айырмашылық байқалды. Бұл студенттердің жасанды интеллект және оның мүмкіндіктері туралы сенімдері қалыптасу сатысында екенін көрсетеді. Осы технологиямен өзара әрекеттесудің тікелей тәжірибесі оған деген көзқарасқа әсер етуі мүмкін. Зерттеу нәтижелері студенттердің жасанды интеллектке деген көзқарасын кеңейтуге мүмкіндік береді және оны оқу процесіне тиімді біріктіру ережелерін әзірлеуде пайдалы болуы мүмкін.

Түйін сөздер: жасанды интеллект, чатботтар, студенттер, жасанды интеллектке деген көзқарас, сенім.

В.Р. Шмит[1], М.Н. Абдыкаликова[1*],
А.Н. Джумагельдинов[2], С.А. Жолдыбаева[3]
[1]Евразийский национальный университет имени Л.Н. Гумилева, Астана, Казахстан
[2]Независимый исследователь, Гавр, Франция
[3]Международная образовательная корпорация, Алматы, Казахстан
*e-mail: martadaria2019@gmail.com

Исследование восприятия и отношения студентов высших учебных заведений к чат-ботам на основе искусственного интеллекта

В последние годы наблюдается активное распространение чат-ботов с искусственным интеллектом в различные сферы жизни, включая образование. В связи с этим возрастает количество исследований, в которых изучаются потенциальные преимущества и недостатки применения чат-ботов, а также возможные последствия данных нововведений. Учитывая активное распространение данных инструментов в процесс обучения, возникает необходимость определения того, как студенты воспринимают и относятся к ним. Данная работа посвящена сравнению отношения студентов до и после целенаправленной интеграции искусственного интеллекта в учебный процесс. В экспериментальном исследовании приняли участие 110 студентов казахстанских вузов. Результаты показали, что большинство студентов демонстрирует положительное отношение к чат-ботам и проявляют интерес к их использованию. Однако после проведения эксперимента наблюдалась статистически значимая разница в мнениях студентов. Это говорит о том, что убеждения студентов об искусственном интеллекте и его возможностях находятся на стадии формирования. Непосредственный опыт взаимодействия с данной технологией может оказывать влияние на отношение к ней. Результаты исследования позволяют расширить представление об отношении студентов к искусственному интеллекту и могут быть полезны при разработке правил эффективной интеграции его в учебный процесс.

Ключевые слова: искусственный интеллект, чат-боты, студенты, отношение к искусственному интеллекту, доверие.

Introduction

Modern artificial intelligence technologies are entering many areas of human activity, changing the process of data processing, decision-making, creating new opportunities and prospects in various industries, including education. Chatbots are an artificial intelligence-based program that is capable of simulating communication with humans. (Chen et al., 2024). These programs can work on websites, mobile applications, and messengers. Using machine learning and improving natural language processing allows them to understand context, analyze data, and provide meaningful responses to user queries (de Saint Laurent, 2018). This makes interaction with chatbots more natural and productive. Most studies focus on the capabilities and limitations of artificial intelligence (Rashidov et al., 2024; Awad and Oueida, 2024; Rajput, 2025), while the subjective positions and attitudes of users do not receive sufficient research attention. This is especially important in the field of education, since it is the attitude of users, their trust, perception of benefits and risks that determine their learning motivation and willingness to implement artificial intelligence tools in the learning process. If students are negative and skeptical about such innovations, it will make it difficult for them to integrate into the learning process. At the same time, excessive trust in artificial intelligence can negatively affect their ability to independently solve learning tasks and critically evaluate the information they receive. Moreover, researchers claim that there is a risk of becoming addicted to chatbots (Bouteraa, 2024; Ciudad Fernández et al., 2025; Huang et al., 2025).

Since artificial intelligence is a relatively new phenomenon in educational practice, the number of reliable and valid questionnaires to determine students' attitudes remains limited. The existing questionnaires are designed exclusively for students of certain specialties. There is also no data on whether they take into account cultural and national peculiarities.

Thus, the relevance of research on this topic is due to the rapid spread of chatbots in the educational process and the lack of empirical data on students' attitudes to this technology, their expectations and interaction experience. This study aims to fill this knowledge gap. The purpose of the article is to determine how Kazakhstan students relate to chatbots and whether attitudes and perceptions towards this technology may change after its purposeful use in educational activities.

The results obtained make it possible to expand the understanding of attitudes, the degree of trust and concerns of students towards these technologies. This, in turn, can become the main reason for the thoughtful integration of artificial intelligence into the educational process.

Literature review

Artificial intelligence is a branch of computer science that aims to create programs capable of performing tasks that require human intelligence. Such tasks include reasoning, decision-making, and learning (Holyoak, 2024). Today, artificial intelligence is a rapidly developing interdisciplinary field of knowledge that is not limited to computer science alone.

One of the most common types of this technology is generative artificial intelligence. It learns from existing data and can create new content, such as text, image, or video (Salah et al., 2024). Chatbots are the most common tool of generative artificial intelligence. It is chatbots such as ChatGPT that are actively used by students in the learning process. Therefore, the introduction of such artificial intelligence tools into the educational process is becoming an urgent subject of scientific research. Chatbots, being interactive communication systems, allow you to get a detailed answer to the question in a short time (Labadze et al., 2023). The convenience and ease of use of these chatbots makes them universal assistants in an educational environment.

Many scientists note that these technologies open up new opportunities for students, improving the quality of education (Sok, 2023; Atlas, 2023). For example, I. Dekker (2020) suggests that the introduction of chatbots can help students overcome the difficulties they face when moving to higher education, as well as improve their academic performance and reduce the risk of psychological problems.

H. Margono, M. Saud, M. Falahat (2024) argue that chatbots help in finding the relevant educational information, generate the necessary explanations and provide information based on user preferences, which helps to personalize learning and take into account the individual educational needs of each student.

According to N. Baizhanov (2024), the ability of artificial intelligence to process extensive databases in real time contributes to a more accurate analysis and determination of the level of knowledge and skills of students, as well as their learning style, motivation level and emotional state characteristics. Another evaluation opportunity may be the addition of interactive tasks to the artificial intelligence algorithm that require communication skills and creativity.

Artificial intelligence can automate some routine tasks, freeing up teachers' time for more interaction with students (Navarro et al., 2023). Moreover, the instant feedback received from artificial intelligence helps in the early detection of students' academic difficulties (Fernández-Prados, et al., 2025). This, in turn, allows for early intervention to eliminate these difficulties and improve the effectiveness of the learning process.

At the same time, other researchers claim that the use of chatbots can cause certain problems, such as privacy risks and ethical issues (Chukwuere, 2023; Lund and Wang, 2023), limited creativity and originality of responses generated by artificial intelligence (Dwivedi et al., 2023), biased responses or results (Halaweh, 2023; Lund et al., 2023). The use of chatbots in education also raises concerns about academic dishonesty (Lo, 2023; Firat, 2023; Zhang and Tur, 2023).

Despite such an ambiguous assessment of the consequences of integrating artificial intelligence into the educational process, there is a steady increase in the number of students who use chatbots to solve educational tasks. According to data for 2025, more than half of Italian students (University of Udine) use ChatGPT, while 40.9% of them use it to solve learning tasks (Farinosi and Melchior, 2025). More than 70% of Chinese students (Baise University) actively use generative artificial intelligence (Xiao et al., 2025). More than 88% of students at a private university in Bahrain use artificial intelligence in their studies (Alalawi et al., 2025). At the same time, the question remains how students evaluate the possibilities and limitations of this technology. M. Gerlich (2023) conducted a comprehensive study involving 1,389 scientists from Germany, the United States, Switzerland, and the United Kingdom. The relationship between users' opinions about artificial intelligence and factors such as reliability, possible risks, and the degree of acceptance was revealed. Those people who view artificial intelligence as a threat tend to negatively evaluate its results. At the same time, those people who are optimistic about these technologies emphasize their potential.

In a review of 24 empirical articles conducted by O.M. Schei, A. Møgelvang and K. Ludvigsen, (2024), it was revealed that students perceive chatbots as useful personal assistants. They find instant feedback and help in writing texts especially useful. At the same time, students express concern about the accuracy of chatbot responses and the confidentiality of their data (Phua et al., 2025; Bouziane et al., 2025). Moreover, providing distorted or incorrect information negatively affects students' desire to further use artificial intelligence in the learning process (Sustaningrum et al., 2025).

M. Zou and L. Huang (2023) revealed a positive attitude towards the use of ChatGPT among doctoral students in the process of writing certain assignments and papers. At the same time, important predictors are the attitude of doctoral students towards the chatbot, perceived usefulness and perceived ease of use. J.M. Golding, A. Lippert, J.S. Neuschatz, I. Salomon, K. Burke (2024), after conducting a survey among college students in the United States, concluded that students are familiar with chatbots and are most likely to use them in the learning process, most often when performing written assignments.

However, the context of the countries in which such surveys were conducted should be taken into account. This may limit the generalization of the results of students' perception and attitudes in other cultural and educational environments. D. Ma, H. Akram and I.H. Chen (2024) revealed cultural differences in students' perception of artificial intelligence. Comparing the opinions of Chinese and international students, they concluded that international students are more open to new technologies and use artificial intelligence in their studies (78%) compared to Chinese students (53%). This study proves that the results obtained among representatives of one culture cannot be transferred to students of other cultures.

Some studies are devoted to the study of factors that increase students' trust in chatbots. Such factors include features of anthropomorphism and novelty of design (Polyportis and Pahos, 2024), perception of the value of a chatbot (Al-Abdullatif, 2023), students' awareness of the advantages of using them, the usefulness of chatbots, as well as the opportunity to try them out (Ayanwale et al., 2024), ease of use and interest (Acosta-Enriquez et al., 2024). According to N. Bora, S. Thokan (2023), extrinsic motivation is an important factor influencing students' interaction with these tools. Chatbots are used by students to improve academic performance, which leads to a reduction in academic anxiety. In addition, it was found that students positively evaluate the feedback provided by chatbots (Otto et al., 2024). This suggests that these technologies are perceived by students as a useful tool for supporting the learning process and receiving timely recommendations to improve learning outcomes. The opportunity to provide such feedback is especially important for those students who feel uncomfortable receiving comments. The neutral and objective recommendations of chatbots allow students to calmly accept comments, adjust their activities and their results.

Thus, the use of chatbots in the field of education is a promising area of research that can offer a large number of opportunities for both teachers and students. However, the introduction of this technology into the educational process requires a careful approach and the study of many aspects. Research is required that includes self-report data and objective indicators (for example, test data or student performance indicators). This will allow for more objective results and a deeper understanding of how students interact and perceive chatbots.

Materials and methods

To achieve this research goal, a questionnaire was compiled, which was filled out by students twice: at the beginning and end of the semester. The questionnaire was developed based on a Scale of General Attitudes towards artificial intelligence (GAAIS) (Schepman and Rodway, 2023). This scale was developed by researchers from the United Kingdom. It allows you to identify common attitudes towards artificial intelligence. The questionnaire contains 20 statements, which are divided into 2 subscales. 12 statements contain positive attitudes towards artificial intelligence; 8 statements contain negative attitudes and concerns. Respondents need to read each statement and rate it on a scale of 1 (absolutely disagree) up to 5 (absolutely agree). For each subscale (Positive GAAIS and Negative GAAIS), the average value is calculated. A higher score on any of the subscales indicates a more positive attitude towards AI due to reverse-scoring.

The choice of this scale was determined by its proven reliability and validity (Cronbach's alpha coefficient for the positive scale $\alpha = 0.88$; for the negative scale $\alpha = 0.82$). Before collecting the data,

the questionnaire was reviewed by two independent experts in the field of educational psychology for the reliability of the content.

The questionnaire addressed questions about trust in chatbots, opinions about academic integrity, the expected impact on the quality of learning and cognitive processes, as well as the intention to use artificial intelligence tools in the future. The questionnaire questions were evaluated on a five-point Likert scale ranging from 1 (absolutely agree) up to 5 (absolutely disagree).

The study was conducted among 110 students of Kazakhstan universities. Participation in the experiment was completely voluntary. Before starting the study, the students were informed of its purpose and filled out an informed consent form. During the semester, chatbots based on artificial intelligence were integrated into the educational process within the framework of the Psychology discipline. Students were asked to answer questions from practical classes using chatbots. At the lessons utilized various chatbots, including ChatGPT, Microsoft Copilot, Gemini, ChatInfo, and Perplexity. These tools were chosen due to their wide popularity and accessibility. After the students had prepared the answers using chatbots, a joint discussion was held. During this discussion, the students compared the answers they received, analyzed their accuracy and reliability, shared their experiences and drew independent conclusions.

A comparison of the survey results before and after the experiment made it possible to determine how students' attitudes towards this technology change during their purposeful use to solve educational problems.

The data obtained was analyzed using IBM SPSS Statistics 30.0.

Results and discussion

The results of an empirical study showed that before the experiment began, students had varying levels of trust in the chatbots' responses: only 16.3% of respondents fully trusted the chatbot responses, while 40% were undecided. Meanwhile, 43.5% either disagreed or strongly disagreed. This indicates a cautious attitude toward chatbot use. The data obtained confirm the concerns about the accuracy of chatbot responses identified by O.M. Schei, A. Møgelvang and K. Ludvigsen (2024).

Regarding the academic fairness of using chatbots in the learning process, 40% of students were undecided, while another 40% agreed or strongly agreed that such use was academically honest. At the same time, 20% disagreed with this statement, pointing to certain ethical concerns. These results may indicate that students either do not perceive the use of artificial intelligence as a violation of academic integrity, or do not have a clear understanding of the boundaries of academic integrity.

Regarding the impact on the quality of knowledge, the majority of students (72.7%) agreed that using chatbots positively affect the learning process by improving access to information and comprehension. Only 5.4% expressed disagreement, and 21.8% were undecided. The results obtained are consistent with the students' perceptions of the positive impact of artificial intelligence on their academic performance identified by G. Tovmasyan (2025). These results also confirm the conclusions of R. Sustaningrum and M. Haldaka (2025) that students consider artificial intelligence tools to be "very useful" for solving academic problems.

The impact on cognitive processes: while 32.6% disagreed, 29% of students believed that chatbots could positively influence cognitive processes. Another 38.2% were undecided. Such results may be due to the fact that students had not previously thought about this aspect. For many students, this question is not obvious, and they do not think about the relationship between their cognitive development and the use of artificial intelligence technologies.

Regarding the intention to use chatbots in the future, 92.6% of students agreed or strongly agreed, and no students disagreed. Only 7.3% were undecided. This indicates a high initial readiness for continued use of chatbots. These results indicate a positive attitude of the students, their interest in this technology and their high initial willingness to continue using chatbots. This trend coincides with the conclusions about the positive attitudes of students made by M. Zou and L. Huang (2023) and J.M. Golding, A. Lippert, J.S. Neuschatz, I. Salomon, K. Burke (2024). The results of the survey before and after the experiment are visually presented in Figure 1.

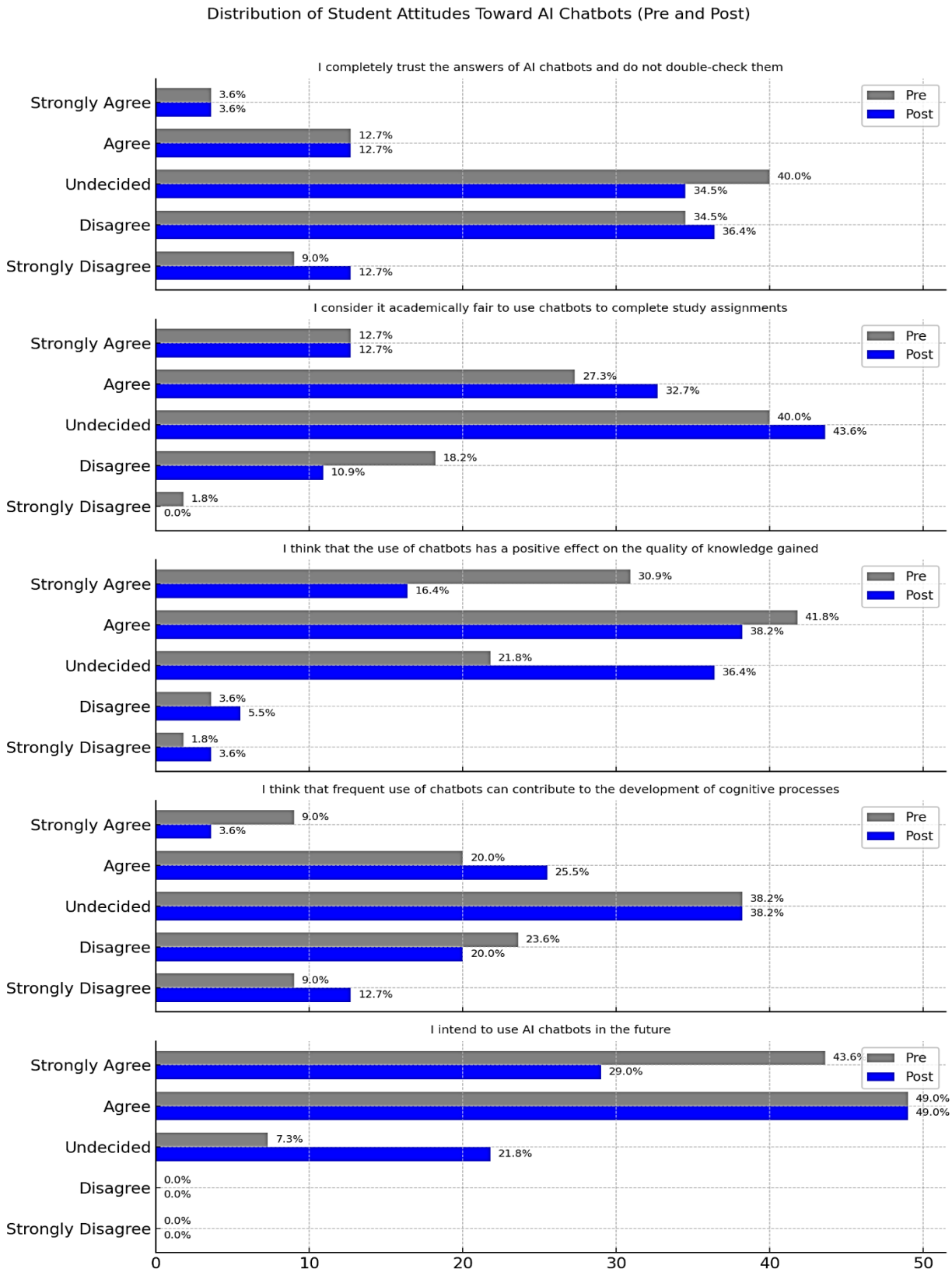

Figure – Pre- and post-experiment questionnaire results on students' perceptions and attitudes regarding chatbots use in education

Figure 1 shows that the students' opinion changed after the end of the experiment. After conscious interaction with chatbots, students began to be more critical of the responses they received. There is a decrease in the number of students who fully trusted the chatbot responses and did not double-check them.

On the second question, there is an increase in the number of students who agree that using chatbots in the course of completing academic assignments is academically fair. Such results may be related to the fact that students received specific instructions during the experiment on how to rationally and consciously use this technology in the learning process. At the same time, there is a decrease in the number of students who agree that the use of chatbots has a positive effect on the quality of their knowledge. The increase in the number of neutral and dissenting responses reflects a decrease in students' initial optimistic expectations. Perhaps this is due to the critical reflection of the answers received during the joint discussions.

There is an uncertain dynamic regarding the impact of chatbots on cognitive development. At the same time, there are still a large number of students who responded neutrally. This may be due to the fact that students are not aware of or have not thought about this question, so they do not have a clear opinion.

Also, after the experiment, a noticeable decrease in the intention to use chatbots in the future was revealed. However, there are no answers about the complete abandonment of this technology. But the number of students who gave a neutral answer has increased. In other words, students have become less unambiguously confident in their position.

Statistical analysis was conducted to compare responses before and after the experiment. Assessment of the normality of the distribution using the Kolmogorov-Smirnov test showed that the data significantly deviated from a normal distribution ($p < 0.05$ for most items). Therefore, the Wilcoxon signed-rank test was applied. The analysis revealed statistically significant changes in two out of the five questionnaire items. Students' belief in the positive impact of artificial intelligence on the quality of acquired knowledge significantly decreased ($Z = -2.760$, $p = 0.006$). This indicates a more critical perspective among students after the experiment regarding the role of artificial intelligence in learning. A significant decrease was also observed in the intention to use chatbots in the future ($Z = -3.087$, $p = 0.002$). For the remaining questions, such as trust in chatbot responses ($p = 0.350$), academic fairness ($p = 0.095$), and the impact on cognitive processes ($p = 0.376$), no statistically significant differences were found (see Table 1).

Table – Results of the comparison of questionnaire responses before and after the experiment (Wilcoxon Signed-Rank Test)

№	Question	Wilcoxon Z	p-value
1	I completely trust the answers of AI chatbots and do not double-check them	- 0.935	0.350
2	I consider it academically fair to use chatbots to complete study assignments (for example, essays, tests, essays)	-1.669	0.095
3	I think that the use of chatbots has a positive effect on the quality of knowledge gained, as chatbots help to better search for and assimilate information	-2.760	0.006
4	I think that frequent use of chatbots can contribute to the development of cognitive processes (for example, increase the level of attention, thinking, and memory capacity)	-0.885	0.376
5	I intend to use AI chatbots in the future	-3.087	0.002

The survey results showed that although students were generally open to using artificial intelligence tools, especially in terms of practical benefits, many expressed doubts about the credibility of the answers, academic fairness, and the potential impact on cognitive processes. At the same time, many students chose the "Undecided" option on several issues. This pattern indicates some uncertainty or ambivalence in their attitude towards artificial intelligence tools in the learning process. Such fluctuations may be caused by a lack of a clear understanding of the capabilities and limitations of chatbots or insufficient experience in using them.

After the introduction of chatbots in the classroom, there is a decrease in the number of students who are convinced of the positive impact of the acquired knowledge and intend to use it in the future. This indicates that students are still in the process of forming attitudes towards this technology. Therefore, it is important to develop guidelines or train them to use artificial intelligence responsibly and effectively in the learning process.

Conclusion

In the context of the rapid growth of the use of chatbots with artificial intelligence, the number of psychological studies devoted to the study of various features of the integration of this technology into the educational process is increasing. This study was aimed at studying the attitude of Kazakhstan students to artificial intelligence, taking into account cultural and educational characteristics. As a result of the survey, it was revealed that students, in general, have a positive attitude towards the use of chatbots in educational activities. The results obtained are consistent with surveys conducted among students from other countries (Gherheș and Obrad, 2018; Zou and Huang, 2023; García et al., 2024; Golding et al., 2024; Phua et al., 2025). A comparison of responses before and after the integration of chatbots showed statistically significant differences in students' opinions. After the experiment, there was a decrease in the number of students who were convinced of the positive impact of chatbots on the quality of education. In addition, there was a decrease in the number of students who clearly intend to use artificial intelligence in the future. These changes may be related to the fact that the positive attitude of students towards chatbots before the experiment was formed on the basis of expectations, active popularization in the media and social networks. However, the conscious experience gained during the experiment made it possible to critically evaluate and independently verify the actual capabilities of these tools.

It is important to mention the limitations of the study. Only 1st year undergraduate students took part in the experiment. This makes it difficult to generalize the results to a wider sample. Therefore, future research should be conducted with a more expanded sample, including students from different courses. It is also recommended to conduct a study with students from different regions of Kazakhstan to gain a deeper understanding of this issue. It is also recommended to study the attitude of people of different age groups to chatbots, including schoolchildren, adults and the elderly. This will allow you to form a holistic view of the attitudes and beliefs of users. A promising area of future research is the use of qualitative methods that will deepen the identified knowledge and better understand the subjective perception and experience of using chatbots.

Thus, the conducted research revealed a positive attitude towards chatbots among students. At the same time, these installations are only at the stage of formation and may change. An important factor in the formation of students' attitudes towards artificial intelligence is the direct experience of its use. This highlights the need for the rational integration of these tools into the learning process, as well as the development of rules and recommendations for their informed application.

References

Acosta-Enriquez, B. G., Arbulú Ballesteros, M. A., Huamaní Jordan, O., López Roca, C., & Saavedra Tirado, K. (2024). Analysis of college students' attitudes toward the use of ChatGPT in their academic activities: effect of intent to use, verification of information and responsible use. *BMC psychology*, 12(1), 255. https://doi.org/10.1186/s40359-024-01764-z

Al-Abdullatif, A. M. (2023). Modeling students' perceptions of chatbots in learning: Integrating technology acceptance with the value-based adoption model. *Education Sciences*, 13(11), 1151. https://doi.org/10.3390/educsci13111151

Alalawi, M. S. M., Mohammed, M. M., Bukhari, S., & Hashem, A. F. (2025). Awareness of Artificial Intelligence in Higher Education and Its Influence on Student Academic Outcomes: A Case Study at a Private University in Bahrain. In *Integrating Big*

Data and IoT for Enhanced Decision-Making Systems in Business: Volume 2 (pp. 97-106). Cham: Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-97613-1_9

Atlas, S. (2023). ChatGPT for higher education and professional development: A guide to conversational AI.

Awad, P., & Oueida, S. (2024). The potential impact of artificial intelligence on education: Opportunities and challenges. In *Future of Information and Communication Conference*, pp. 566-575 https://doi.org/10.1007/978-3-031-53963-3_39

Ayanwale, M. A., & Ndlovu, M. (2024). Investigating factors of students' behavioral intentions to adopt chatbot technologies in higher education: Perspective from expanded diffusion theory of innovation. *Computers in Human Behavior Reports*, 14, 100396. https://doi.org/10.1016/j.chbr.2024.100402

Bajzhanov, N. (2024). Iskusstvennyj intellekt v obrazovatel'noj testologii: perspektivy primenenija i psihologicheskie aspekty [Artificial intelligence in educational testing:application prospects and psychological impact on students and teachers]. *Bulletin of Abai KazNPU. Series of Psychology,* 79(2), pp. 4-12. https://doi.org/10.51889/2959-5967.2024.79.2.013 (In Russian)

Bora, N., & Thokan, S. (2023). Relationship of Conversational Artificial Intelligence with Academic Anxiety and Academic Motivations in Indian Students. *International Journal of Indian Psychology*, 11(4). https://doi.org/10.25215/1104.183

Bouteraa, M., Bin-Nashwan, S. A., Al-Daihani, M., Dirie, K. A., Benlahcene, A., Sadallah, M., ... & Chekima, B. (2024). Understanding the diffusion of AI-generative (ChatGPT) in higher education: Does students' integrity matter?. *Computers in Human Behavior Reports*, 14, 100402. https://doi.org/10.24250/jpe/Vol.321/2023/DR/GR

Bouziane, A., & Bouziane, K. (2025). Analysis of artificial intelligence acceptance in humanities and social sciences: the case of Moroccan universities. *Discover Education*, 4(1), 424. https://doi.org/10.1007/s44217-025-00632-1

Chen, D., Liu, Y., Guo, Y., & Zhang, Y. (2024). The revolution of generative artificial intelligence in psychology: The interweaving of behavior, consciousness, and ethics. *Acta Psychologica,* 251, 104593. https://doi.org/10.1016/j.actpsy.2024.104593

Chukwuere, J. E. (2023). ChatGPT: The game changer for higher education institutions. *Jozac Academic Voice*, 3(1), 22-27.

Ciudad-Fernández, V., von Hammerstein, C., & Billieux, J. (2025). People are not becoming "AIholic": Questioning the "ChatGPT addiction" construct. *Addictive Behaviors*, *166*, 108325. https://doi.org/10.1016/j.addbeh.2025.108325

de Saint Laurent, C. (2018). In defence of machine learning: Debunking the myths of artificial intelligence. *Europe's journal of psychology*, 14(4), 734. https://doi.org/10.5964/ejop.v14i4.1823

Dekker, I., De Jong, E. M., Schippers, M. C., De Bruijn-Smolders, M., Alexiou, A., & Giesbers, B. (2020). Optimizing students' mental health and academic performance: AI-enhanced life crafting. *Frontiers in psychology*, 11, 1063. https://doi.org/10.3389/fpsyg.2020.01063

Dwivedi, Y. K., Balakrishnan, J., Baabdullah, A. M., & Das, R. (2023). Do chatbots establish "humanness" in the customer purchase journey? An investigation through explanatory sequential design. *Psychology & Marketing*, 40(11), 2244-2271. https://doi.org/10.1002/mar.21888

Farinosi, M., & Melchior, C. (2025). 'I Use ChatGPT, but Should I?'A Multi-Method Analysis of Students' Practices and Attitudes Towards AI in Higher Education. *European Journal of Education*, 60(2), e70094. https://doi.org/10.1111/ejed.70094

Fernández-Prados, J. S., Lozano-Díaz, A., Bellido-Cáceres, J. M., & Martínez-Salvador, I. (2025). Percepciones de la inteligencia artificial en estudiantes universitarios. El rol de la ansiedad tecnológica y las competencias digitales. *Formación universitaria*, 18(5), 115-124. https://doi.org/s0718-50062025000500115

Firat, M. (2023). What ChatGPT means for universities: Perceptions of scholars and students. *Journal of Applied Learning and Teaching*, 6(1), 57-63. https://doi.org/10.37074/jalt.2023.6.1.22

García, L. C. E., Laitano, C. M. F., & Flores, L. G. R. (2024). Attitude of undergraduate students of the Law Program in UNITEC Honduras towards Artificial Intelligence, an instrumental adjustment. In *4th LACCEI International Multiconference on Entrepreneurship, Innovation and Regional Development-LEIRD*, pp. 2-4. https://doi.org/10.18687/LEIRD2024.1.1.362

Gerlich, M. (2023). Perceptions and acceptance of artificial intelligence: A multi-dimensional study. *Social Sciences*, 12(9), 502. https://doi.org/10.3390/socsci12090502

Gherheș, V., & Obrad, C. (2018). Technical and humanities students' perspectives on the development and sustainability of artificial intelligence (AI). *Sustainability*, 10(9), 3066. https://doi.org/10.3390/su10093066

Golding, J. M., Lippert, A., Neuschatz, J. S., Salomon, I., & Burke, K. (2024). Generative AI and college students: Use and perceptions. *Teaching of Psychology*, 52(3), 369-380. https://doi.org/10.1177/00986283241280350

Halaweh, M. (2023). ChatGPT in education: Strategies for responsible implementation. *Contemporary educational technology*, 15(2). https://doi.org/10.30935/cedtech/13036

Holyoak, K. J. (2024). Why I am not a turing machine. *Journal of Cognitive Psychology,* 1-12. https://doi.org/10.1080/20445911.2024.2395573

Huang, Y., & Huang, H. (2025). Exploring the effect of attachment on technology addiction to generative AI chatbots: A structural equation modeling analysis. *International Journal of Human–Computer Interaction*, 41(15), 9440-9449. https://doi.org/10.1080/10447318.2024.2426029

Labadze, L., Grigolia, M., & Machaidze, L. (2023). Role of AI chatbots in education: systematic literature review. *International journal of Educational Technology in Higher education,* 20(1), 56. https://doi.org/10.1186/s41239-023-00426-1

Lo, C. K. (2023). What is the impact of ChatGPT on education? A rapid review of the literature. *Education sciences*, 13(4), 410. https://doi.org/10.3390/educsci13040410

Lund, B. D., & Wang, T. (2023). Chatting about ChatGPT: how may AI and GPT impact academia and libraries? *Library hi tech news*, 40(3), 26-29. https://doi.org/10.1108/LHTN-01-2023-0009

Lund, B. D., Wang, T., Mannuru, N. R., Nie, B., Shimray, S., & Wang, Z. (2023). ChatGPT and a new academic reality: Artificial Intelligence-written research papers and the ethics of the large language models in scholarly publishing. *Journal of the Association for Information Science and Technology*, 74(5), 570-581. https://doi.org/10.1002/asi.24750

Ma, D., Akram, H., & Chen, I. H. (2024). Artificial intelligence in higher education: A cross-cultural examination of students' behavioral intentions and attitudes. *International Review of Research in Open and Distributed Learning*, 25(3), 134-157. https://doi.org/10.19173/irrodl.v25i3.7703

Margono, H., Saud, M., & Falahat, M. (2024). Virtual Tutor, Digital Natives and AI: Analyzing the impact of ChatGPT on academia in Indonesia. Social Sciences & Humanities Open, 10, 101069. https://doi.org/10.1016/j.ssaho.2024.101069

Navarro, J. R. S., Pérez, Y. S., Bravo, D. D. P., & Núñez, M. D. J. C. (2023). Incidencias de la inteligencia artificial en la educación contemporánea. *Comunicar: Revista Científica de Comunicación y Educación*, vol. 77, pp. 97-107. https://doi.org/10.3916/C77-2023-08

Otto, D., Assenmacher, V., Bente, A., Gellner, C., Waage, M., Deckert, R., & Kuche, J. (2024). Student acceptance of AI-based feedback systems: An analysis based on the technology acceptance model (TAM). In *INTED2024 Proceedings*p, pp. 3695-3701. IATED. https://doi.org/10.21125/inted.2024.0973

Phua, J. T. K., Neo, H. F., & Teo, C. C. (2025). Evaluating the Impact of Artificial Intelligence Tools on Enhancing Student Academic Performance: Efficacy Amidst Security and Privacy Concerns. *Big Data and Cognitive Computing*, 9(5), 131. https://doi.org/10.3390/bdcc9050131

Polyportis, A., & Pahos, N. (2025). Understanding students' adoption of the ChatGPT chatbot in higher education: the role of anthropomorphism, trust, design novelty and institutional policy. *Behaviour & Information Technology*, 44(2), 315-336. https://doi.org/10.1080/0144929X.2024.2317364

Rajput, R. (2025). Overcoming Barriers to AI Implementation in the Classroom: A Roadmap for Educational Transformation. In *Navigating Barriers to AI Implementation in the Classroom*, pp. 401-436. https://doi.org/10.4018/979-8-3373-1827-1.ch015

Rashidov, A., & Rashidova, F. (2024). Challenges and limitations in the use of artificial intelligence in research and some options to overcome them. In *2024 15th International Conference on Computing Communication and Networking Technologies (ICCCNT)*6 pp. 1-4. https://doi.org/10.1109/ICCCNT61001.2024.10724588

Salah, M., Abdelfattah, F., & Al Halbusi, H. (2024). The good, the bad, and the GPT: Reviewing the impact of generative artificial intelligence on psychology. *Current Opinion in Psychology*, 59, 101872. https://doi.org/10.1016/j.copsyc.2024.101872

Schei, O. M., Møgelvang, A., & Ludvigsen, K. (2024). Perceptions and use of AI chatbots among students in higher education: A scoping review of empirical studies. *Education Sciences*, 14(8), 922. https://doi.org/10.3390/educsci14080922

Schepman, A., & Rodway, P. (2023). The General Attitudes towards Artificial Intelligence Scale (GAAIS): Confirmatory validation and associations with personality, corporate distrust, and general trust. *International Journal of Human–Computer Interaction*, 39(13), 2724-2741. https://doi.org/10.1080/10447318.2022.2085400

Sustaningrum, R., & Haldaka, M. (2025). Student utilization and perceptions of AI technology for academic purposes: a mixed-method analysis. *Cogent Education*, 12(1), 2553835. https://doi.org/10.1080/2331186X.2025.2553835

Tovmasyan, G. (2025). Higher education in Armenia adopting AI and digital technologies: Students' experiences and perspectives. *Issues in Educational Research*, 35(2), 798-817.

Xiao, L., Pyng, H. S., Ayub, A. F. M., Zhu, Z., Gao, J., & Qing, Z. (2025). University students' usage of generative artificial intelligence for sustainability: A cross-sectional survey from China. *Sustainability*, 17(8), 3541. https://doi.org/10.3390/su17083541

Zhang, P., & Tur, G. (2024). A systematic review of ChatGPT use in K-12 education. *European Journal of Education*, 59(2), e12599. https://doi.org/10.1111/ejed.12599

Zou, M., & Huang, L. (2023). To use or not to use? Understanding doctoral students' acceptance of ChatGPT in writing through technology acceptance model. *Frontiers in Psychology*, 14, 1259531. https://doi.org/10.3389/fpsyg.2023.1259531

Литература

Acosta-Enriquez, B. G., Arbulú Ballesteros, M. A., Huamaní Jordan, O., López Roca, C., & Saavedra Tirado, K. Analysis of college students' attitudes toward the use of ChatGPT in their academic activities: effect of intent to use, verification of information and responsible use //*BMC psychology*. – 2024. – Т. 12. – №. 1. – P. 255. https://doi.org/10.1186/s40359-024-01764-z

Al-Abdullatif A. M. Modeling Students' perceptions of chatbots in learning: Integrating technology acceptance with the value-based adoption model //*Education Sciences*. – 2023. – Т. 13. – №. 11. – P. 1151. https://doi.org/10.3390/educsci13111151

Alalawi M. S. M., Mohammed, M. M., Bukhari, S., & Hashem, A. F. Awareness of Artificial Intelligence in Higher Education and Its Influence on Student Academic Outcomes: A Case Study at a Private University in Bahrain //*Integrating Big Data and IoT for Enhanced Decision-Making Systems in Business*. – Cham: Springer Nature Switzerland, 2025. – Volume 2. – P. 97-106. https://doi.org/10.1007/978-3-031-97613-1_9

Atlas S. ChatGPT for higher education and professional development: A guide to conversational AI. – 2023.

Awad P., Oueida S. The potential impact of artificial intelligence on education: Opportunities and challenges //*Future of Information and Communication Conference.* – Cham: Springer Nature Switzerland, 2024. – P. 566-575. https://doi.org/10.1007/978-3-031-53963-3_39

Ayanwale M. A., Ndlovu M. Investigating factors of students' behavioral intentions to adopt chatbot technologies in higher education: Perspective from expanded diffusion theory of innovation //*Computers in Human Behavior Reports.* – 2024. – T. 14. – P 100396. https://doi.org/10.1016/j.chbr.2024.100402

Байжанов Н. Искусственный интеллект в образовательной тестологии: перспективы применения и психологические аспекты //*Вестник КазНПУ имени Абая. Серия: Психология.* – 2024. – Т. 79. – №. 2. – С. 4-12. https://doi.org/10.51889/2959-5967.2024.79.2.013

Bora N., Thokan S. Relationship of Conversational Artificial Intelligence with Academic Anxiety and Academic Motivations in Indian Students // *International Journal of Indian Psychology*. – 2023. – Т. 11. – №. 4. https://doi.org/10.25215/1104.183

Bouteraa M. Understanding the diffusion of AI-generative (ChatGPT) in higher education: Does students' integrity matter? // *Computers in Human Behavior Reports.* – 2024. – Т. 14. – P. 100402. https://doi.org/10.24250/jpe/Vol.321/2023/DR/GR

Bouziane A., Bouziane K. Analysis of artificial intelligence acceptance in humanities and social sciences: the case of Moroccan universities // *Discover Education*. – 2025. – Т. 4. – №.1. – P.424. https://doi.org/10.1007/s44217-025-00632-1

Chen D. et al. The revolution of generative artificial intelligence in psychology: The interweaving of behavior, consciousness, and ethics // *Acta Psychologica*. – 2024. – Т. 251. – P. 104593. https://doi.org/10.1016/j.actpsy.2024.104593

Chukwuere J. E. ChatGPT: The game changer for higher education institutions //*Jozac Academic Voice*. – 2023. – Т. 3. – №. 1. – С. 22-27.

Ciudad-Fernández V., von Hammerstein C., Billieux J. People are not becoming "AIholic": Questioning the "ChatGPT addiction" construct //*Addictive Behaviors*. – 2025. – Т. 166. – P. 108325. https://doi.org/10.1016/j.addbeh.2025.108325

De Saint Laurent C. In defence of machine learning: Debunking the myths of artificial intelligence //*Europe's journal of psychology.* – 2018. – Т. 14. – №. 4. – С. 734. https://doi.org/10.5964/ejop.v14i4.1823

Dekker, I., De Jong, E. M., Schippers, M. C., De Bruijn-Smolders, M., Alexiou, A., Giesbers, B. Optimizing students' mental health and academic performance: AI-enhanced life crafting //*Frontiers in Psychology*. – 2020. – Т. 11. – P. 1063. https://doi.org/10.3389/fpsyg.2020.01063

Dwivedi Y. K. Balakrishnan, J., Baabdullah, A. M., & Das, R. Do chatbots establish "humanness" in the customer purchase journey? An investigation through explanatory sequential design //*Psychology & Marketing*. – 2023. – Т. 40. – №. 11. – P. 2244-2271. https://doi.org/10.1002/mar.21888

Farinosi M., Melchior C. 'I Use ChatGPT, but Should I?'A Multi-Method Analysis of Students' Practices and Attitudes Towards AI in Higher Education //*European Journal of Education*. – 2025. – Т. 60. – №. 2. – P. 70094. https://doi.org/10.1111/ejed.70094

Fernández-Prados J. S. et al. Percepciones de la inteligencia artificial en estudiantes universitarios. El rol de la ansiedad tecnológica y las competencias digitales //*Formación universitaria*. – 2025. – Т. 18. – №. 5. – P. 115-124. https://doi.org/s0718-50062025000500115

Firat M. What ChatGPT means for universities: Perceptions of scholars and students //*Journal of Applied Learning and Teaching.* – 2023. – Т. 6. – №. 1. – P. 57-63. https://doi.org/10.37074/jalt.2023.6.1.22

García L. C. E., Laitano C. M. F., Flores L. G. R. Attitude of undergraduate students of the Law Program in UNITEC Honduras towards Artificial Intelligence, an instrumental adjustment //*4th LACCEI International Multiconference on Entrepreneurship, Innovation and Regional Development-LEIRD.* – 2024. – P. 2-4. https://doi.org/10.18687/LEIRD2024.1.1.362

Gerlich M. Perceptions and acceptance of artificial intelligence: A multi-dimensional study //*Social Sciences*. – 2023. – Т. 12. – №. 9. – P. 502. https://doi.org/10.3390/socsci12090502

Gherheș V., Obrad C. Technical and humanities students' perspectives on the development and sustainability of artificial intelligence (AI) //*Sustainability*. – 2018. – Т. 10. – №. 9. – P. 3066. https://doi.org/10.3390/su10093066

Golding J. M. Lippert, A., Neuschatz, J. S., Salomon, I., Burke, K. Generative AI and college students: Use and perceptions // *Teaching of Psychology*. – 2025. – Т. 52. – №. 3. – P. 369-380. https://doi.org/10.1177/00986283241280350

Halaweh M. ChatGPT in education: Strategies for responsible implementation //*Contemporary educational technology.* – 2023. – Т. 15. – №. 2. https://doi.org/10.30935/cedtech/13036

Holyoak K. J. Why I am not a turing machine //*Journal of Cognitive Psychology*. – 2024. – P. 1-12. https://doi.org/10.1080/20445911.2024.2395573

Huang Y., Huang H. Exploring the effect of attachment on technology addiction to generative AI chatbots: A structural equation modeling analysis //*International Journal of Human–Computer Interaction*. – 2025. – Т. 41. – №. 15. – P. 9440-9449. https://doi.org/10.1080/10447318.2024.2426029

Labadze L., Grigolia M., Machaidze L. Role of AI chatbots in education: systematic literature review //*International journal of Educational Technology in Higher education*. – 2023. – Т. 20. – №. 1. – С. 56. https://doi.org/10.1186/s41239-023-00426-1

Lo C. K. What is the impact of ChatGPT on education? A rapid review of the literature //*Education sciences*. – 2023. – Т. 13. – №. 4. – P. 410. https://doi.org/10.3390/educsci13040410

Lund B. D. ChatGPT and a new academic reality: Artificial Intelligence-written research papers and the ethics of the large language models in scholarly publishing //*Journal of the Association for Information Science and Technology*. – 2023. – T. 74. – №. 5. – P. 570-581. https://doi.org/10.1002/asi.24750

Lund B. D., Wang T. Chatting about ChatGPT: how may AI and GPT impact academia and libraries? //*Library hi tech news.* – 2023. – T. 40. – №. 3. – P. 26-29. https://doi.org/10.1108/LHTN-01-2023-0009

Ma D., Akram H., Chen I. H. Artificial intelligence in higher education: A cross-cultural examination of students' behavioral intentions and attitudes //*International Review of Research in Open and Distributed Learning.* – 2024. – T. 25. – №. 3. – P. 134-157. https://doi.org/10.19173/irrodl.v25i3.7703

Margono H., Saud M., Falahat M. Virtual Tutor, Digital Natives and AI: Analyzing the impact of ChatGPT on academia in Indonesia //*Social Sciences & Humanities Open*. – 2024. – T. 10. – P. 101069. https://doi.org/10.1016/j.ssaho.2024.101069

Navarro J. R. S. et al. Incidencias de la inteligencia artificial en la educación contemporánea //*Comunicar: Revista Científica de Comunicación y Educación.* – 2023. – №. 77. – P. 97-107. https://doi.org/10.3916/C77-2023-08

Otto D. Assenmacher, V., Bente, A., Gellner, C., Waage, M., Deckert, R., ... Kuche, J. Student acceptance of AI-based feedback systems: An analysis based on the technology acceptance model (TAM) //*INTED2024 Proceedings*. – IATED, 2024. – P. 3695-3701. https://doi.org/10.21125/inted.2024.0973

Phua J. T. K., Neo H. F., Teo C. C. Evaluating the Impact of Artificial Intelligence Tools on Enhancing Student Academic Performance: Efficacy Amidst Security and Privacy Concerns //*Big Data and Cognitive Computing*. – 2025. – T. 9. – №. 5. –P. 131. https://doi.org/10.3390/bdcc9050131

Polyportis A., Pahos N. Understanding students' adoption of the ChatGPT chatbot in higher education: the role of anthropomorphism, trust, design novelty and institutional policy //*Behaviour & Information Technology*. – 2024. – P. 1-22. https://doi.org/10.1080/0144929X.2024.2317364

Rajput R. Overcoming Barriers to AI Implementation in the Classroom: A Roadmap for Educational Transformation // *Navigating Barriers to AI Implementation in the Classroom*. – IGI Global Scientific Publishing, 2025. – P. 401-436. https://doi.org/10.4018/979-8-3373-1827-1.ch015

Rashidov A., Rashidova F. Challenges and limitations in the use of artificial intelligence in research and some options to overcome them //2024 15th *International Conference on Computing Communication and Networking Technologies (ICCCNT).* – IEEE, 2024. – P. 1-4. https://doi.org/10.1109/ICCCNT61001.2024.10724588

Salah M., Abdelfattah F., Al Halbusi H. The good, the bad, and the GPT: Reviewing the impact of generative artificial intelligence on psychology //*Current Opinion in Psychology*. – 2024. – T. 59. – P. 101872. https://doi.org/10.1016/j.copsyc.2024.101872

Schei O. M., Møgelvang A., Ludvigsen K. Perceptions and use of AI chatbots among students in higher education: A scoping review of empirical studies //*Education Sciences*. – 2024. – T. 14. – №. 8. – P. 922. https://doi.org/10.3390/educsci14080922

Schepman A., Rodway P. The General Attitudes towards Artificial Intelligence Scale (GAAIS): Confirmatory validation and associations with personality, corporate distrust, and general trust //*International Journal of Human–Computer Interaction.* – 2023. – T. 39. – №. 13. – P. 2724-2741. https://doi.org/10.1080/10447318.2022.2085400

Sustaningrum R., Haldaka M. Student utilization and perceptions of AI technology for academic purposes: a mixed-method analysis //*Cogent Education*. – 2025. – T. 12. – №. 1. – P. 2553835. https://doi.org/10.1080/2331186X.2025.2553835

Tovmasyan G. Higher education in Armenia adopting AI and digital technologies: Students' experiences and perspectives // *Issues in Educational Research*. – 2025. – T. 35. – №. 2. – P. 798-817.

Xiao L. Pyng, H. S., Ayub, A. F. M., Zhu, Z., Gao, J., Qing, Z. University students' usage of generative artificial intelligence for sustainability: A cross-sectional survey from China // *Sustainability*. – 2025. – T. 17. – №. 8. – P. 3541. https://doi.org/10.3390/su17083541

Zhang P., Tur G. A systematic review of ChatGPT use in K-12 education //*European Journal of Education*. – 2024. – T. 59. – №. 2. – P. 12599. https://doi.org/10.1111/ejed.12599

Zou M., Huang L. To use or not to use? Understanding doctoral students' acceptance of ChatGPT in writing through technology acceptance model //*Frontiers in Psychology*. – 2023. – T. 14. – P. 1259531. https://doi.org/10.3389/fpsyg.2023.1259531

Information about authors:

Shmit Viktoriya – doctoral student of L.N. Gumilyov Eurasian National University (Astana, Kazakhstan, e-mail: viktoriya_kostanay98@mail.ru);

Abdykalikova Marta (corresponding-author) – Candidate of Psychological Sciences, Associate Professor of L.N. Gumilyov Eurasian National University (Astana, Kazakhstan, e-mail: martadaria2019@gmail.com);

Jumageldinov Askar – PhD, Independent Researcher (Le Havre, France, e-mail: jumaskar75@gmail.com);

Zholdybaeva Saule – Assistant Professor of the Department of Social and Humanitarian Disciplines, International Educational Corporation (Almaty, Kazakhstan, e-mail: saule_22@inbox.ru)

Авторлар туралы мәлімет:

Шмит Виктория Руслановна – Л.Н. Гумилев атындағы Еуразия ұлттық университетінің докторанты (Астана, Қазақстан, e-mail: viktoriya_kostanay98@mail.ru);

Әбдіқалықова Марта Наушақызы (корреспондент-автор) – психология ғылымдарының кандидаты, Л.Н. Гумилев атындағы Еуразия ұлттық университетінің ассоциированный профессоры (Астана, Қазақстан, e-mail: martadaria2019@gmail.com);

Джумагельдинов Асқар Нуркенұлы – PhD, тәуелсіз зерттеуші (Гавр, Франция, e-mail: jumaskar75@gmail.com);

Жолдыбаева Сауле Аширбековна – Әлеуметтік-гуманитарлық пәндер кафедрасының ассистент- профессоры, Халықаралық Білім беру корпорациясы (Алматы, Қазақстан, e-mail: saule_22@inbox.ru)

Сведения об авторах:

Шмит Виктория Руслановна – докторант Евразийского национального университета имени Л.Н. Гумилева (Астана, Казахстан, e-mail: viktoriya_kostanay98@mail.ru);

Абдыкаликова Марта Наушаевна (автор-корреспондент) – кандидат психологических наук, ассоциированный профессор Евразийского национального университета имени Л.Н. Гумилева (Астана, Казахстан, e-mail: martadaria2019@gmail.com);

Джумагельдинов Аскар Нуркенович – PhD, независимый исследователь (Гавр, Франция, e-mail: jumaskar75@gmail.com);

Жолдыбаева Сауле Аширбековна – ассистент-профессор кафедры социально-гуманитарных дисциплин, Международная образовательная корпорация (Алматы, Казахстан, e-mail: saule_22@inbox.ru).

Келіп түсті: 28 ақпан 2025 жыл
Қабылданды: 02 желтоқсан 2025 жыл