JOURNAL OF APPLIED SCIENCE AND SOCIAL SCIENCE
eISSN 2229-3113 pISSN 2229-3205

Volume 15 Issue 11, November 2025
Impact factor: 2019: 4.679 2020: 5.015 2021: 5.436, 2022: 5.242, 2023: 6.995, 2024 7.75

PEDAGOGICAL AND PSYCHOLOGICAL CAUSES OF STUDENTS' DEPENDENCE ON ARTIFICIAL INTELLIGENCE TOOLS

Polvanova Dilrabo Tagaymuratovna
(A Case Study of Students Studying in Uzbek at UzSWLU)
Senior Lecturer, Department of Pedagogy and Psychology,
Uzbekistan State World Languages University, PhD (Psychological Sciences)

ABSTRACT: The aim of the article is to explore pedagogical and psychological problems caused by the use of artificial intelligence (AI), such as students' tendency to prefer ease and speed, the desire to reduce workload, fear of making mistakes, the lack of clear pedagogical and psychological guidelines for using AI, declining self-confidence, and increased laziness. The study seeks effective scientific, psychological, and pedagogical solutions to these issues.
Keywords: Artificial intelligence, AI in education, AI dependence, critical thinking, independent learning, cognitive autonomy, didactic strategies, cognitive abilities, information literacy, decreased learning motivation.

Artificial intelligence (AI) is a product of modern technologies and is regarded as a human invention designed to imitate human cognition. AI represents a complex system of digital technologies and software integrated into robots, computers, mobile phones, and various smart devices.

Modern AI has reached a significantly advanced level, and today it is capable of performing tasks such as learning, analyzing information, reasoning, problem-solving, perception, understanding language, and translating texts. The main purpose of using AI is to enable computers and contemporary machines to make independent decisions or to perform any type of task quickly and easily with minimal human involvement.

Scholars classify AI into the following types based on its functions and areas of application:

1. **Narrow AI**- This type of AI is created to perform a specific task. Examples include chess-playing programs, image-processing and image-generating tools (such as Copilot), and chatbots (Gemini, ChatGPT, Grok) that communicate through voice or text and search for information.
2. **General AI**- This type is theoretically capable of performing all tasks—both intellectual and physical—at the level of a human being. Although it has not yet been fully developed, General AI plays an important role in robotics and industrial engineering.

Modern AI has entered almost every field, including education. Its ability to work with language and speech has made AI tools widely used by researchers, teachers, learners, and especially university students. The most widely used models—Gemini and ChatGPT—are capable of generating essays, presentations, reports, and other academic materials tailored to the required level, audience, or topic.

Another important function of AI is its ability to translate texts from any language, including Uzbek, into other languages. Thanks to automatic translation, such chatbots can provide information in any desired language. Chatbots are capable not only of generating academic content but also of answering and analyzing complex logical questions and problem-solving tasks.

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In short, AI can serve as an unlimited source of knowledge for students and offer convenient learning methods, yet it may also cause individuals to become dependent on the system.

Being aware of these AI capabilities, we decided to investigate the consequences that emerge among students and to identify the pedagogical and psychological causes of AI dependence.

Based on our observations, we analyzed the main pedagogical factors within the teaching and assessment process that contribute to AI dependence among students. These include:

First, one of the traditional teaching methods involves the teacher assigning a student a task such as preparing a report on "The Life and Works of Alisher Navoi." If the teacher focuses more on the volume of the report than on its essence or content, students may experience stress and attempt to avoid responsibility. When quantity is prioritized over quality, the likelihood of students turning to AI increases.

Second, students may rely on Gemini or ChatGPT when completing logical or analytical tasks because their critical-thinking skills are underdeveloped. Therefore, it is essential to enhance critical-thinking components when designing textbooks for school education.

Third, teachers' insufficient digital competence can also be a contributing factor. For example, a teacher may struggle to verify whether a student's assignment generated with AI is original using plagiarism-detection software or may fail to prove plagiarism with concrete evidence. This situation negatively affects the development of genuine independent learning skills.

Fourth, students studying in Uzbek face a shortage of high-quality scientific, practical, and statistical information available on the Uzbek-language (.uz) Internet domain. Existing resources often contain orthographic, stylistic, or structural shortcomings. Therefore, it is crucial to produce high-quality academic literature in Uzbek, ensure free access on the .uz domain, and continuously improve the quality of translation technologies. Since AI can present information in Uzbek using complex linguistic structures, students frequently use AI to find the modern scientific terminology equivalents that are missing from Uzbek textbooks and dictionaries.

Psychological factors are associated with students' internal states, motivation toward learning, and attitudes toward academic tasks. These include:

Avoidance of mental effort. The human brain is naturally inclined to simplify difficult tasks, and using AI accelerates this tendency, leading to laziness. Since AI is easily accessible through mobile phones and students often use their phones during classes, the desire to avoid learning difficulties becomes stronger.

Examining international university practices, it becomes clear that restricting access to social media and limiting the use of AI tools during lessons is necessary to maintain learning discipline.

Lack of balanced motivation. In the learning process, students should complete tasks with genuine curiosity and a desire to deepen their knowledge. However, if a student is motivated merely by the desire to obtain a high grade, they turn to AI without hesitation. As a result, they do not master the material; they simply copy and submit it.

Fear of making mistakes. Students who are afraid of failure tend to rely heavily on AI, believing that its answers are "error-free" and "perfect." For instance, when assigned an essay, students often check it with AI instead of their instructor, asking AI to correct errors and revise content.

Loss of self-confidence. Regular use of AI may diminish students' belief in their own academic capabilities. Students may begin to think, "I cannot do anything without AI," and eventually struggle even with simple daily decision-making processes.

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We observed students' daily activities and decided to investigate in which situations they most frequently turn to AI tools. For this purpose, we developed a 12-item questionnaire titled "Artificial Intelligence (AI) Through the Eyes of Students." To identify the main causes of AI dependence and to explore why students currently tend to use chatbots, we conducted the survey among students of the Faculty of English Philology at Uzbekistan State World Languages University. Nearly 300 students participated in the survey.

According to the results, when asked how often they use ChatGPT (AI) during the week to complete academic tasks, 77 percent of the respondents indicated that they use it almost every day, 17 percent use it once a week, 3 percent rely entirely on ChatGPT, and 3 percent stated that they do not use it at all (Figure 1).

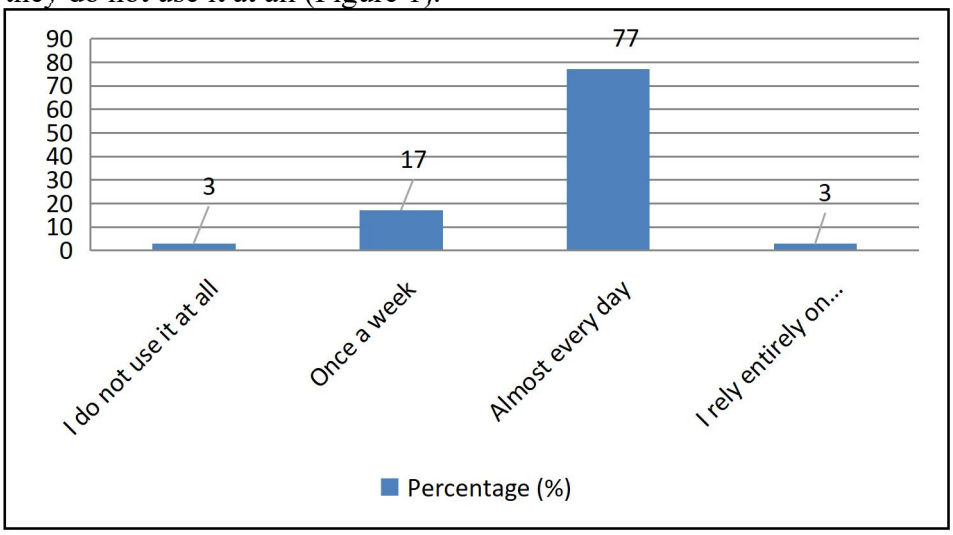

Figure 1.

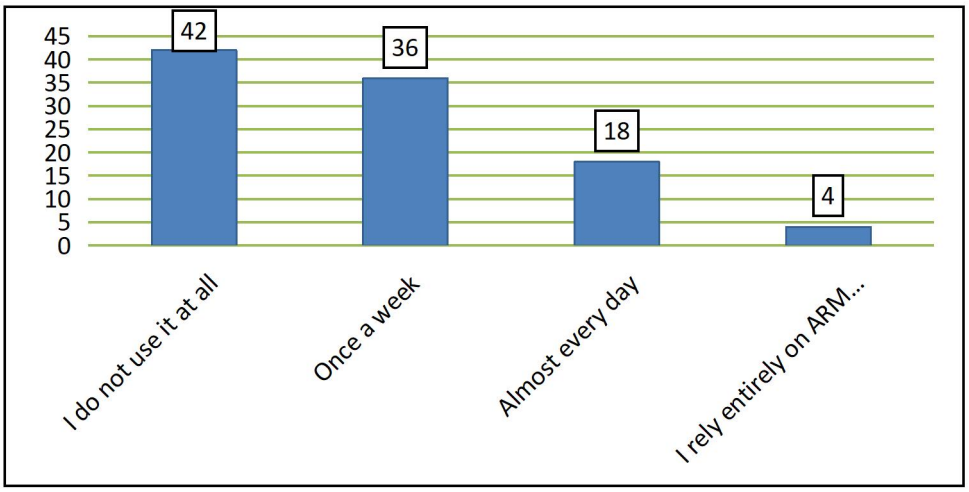

Figure 2.

When students were asked about their frequency of using the university's information resource center, 4 percent stated that they rely entirely on the available resources, 18 percent use them

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almost every day, 36 percent use them once a week, and 42 percent reported that they do not use them at all (Figure 2).

When asked why they frequently turn to artificial intelligence during lesson preparation, 72 percent of students indicated that AI makes it easy to find information and does not require specific time or location, which is why they prefer using it. Nine percent stated that they struggle to complete assignments independently but find the process faster and easier with AI. Fourteen percent of students reported that due to the large number of assignments, they do not have time to read books and therefore make use of AI tools. Meanwhile, 5 percent said they rely only on the information delivered during lectures and do not use either AI tools or the resources of the information center in their learning process (Figure 3).

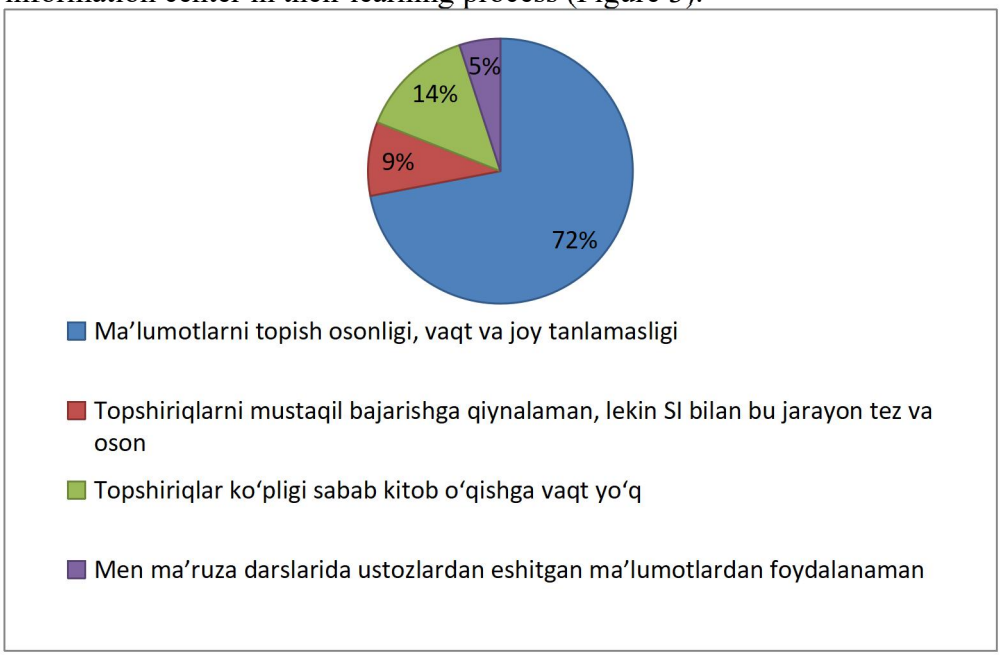

Figure 3.

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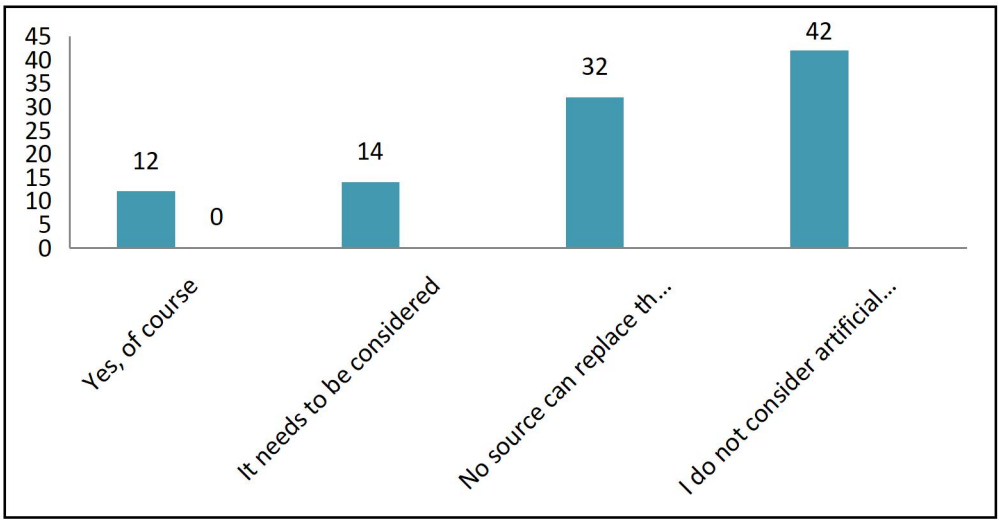

Figure 4.

When asked the question: "If given the opportunity, would you choose to acquire your professional specialization with the help of artificial intelligence?", 12 percent of the students responded "Yes, of course," 14 percent said "It needs to be considered," 32 percent replied "No source can replace the role of a teacher in gaining a profession," and 42 percent stated "I do not consider artificial intelligence to be a source capable of developing professional expertise" (Figure 4).

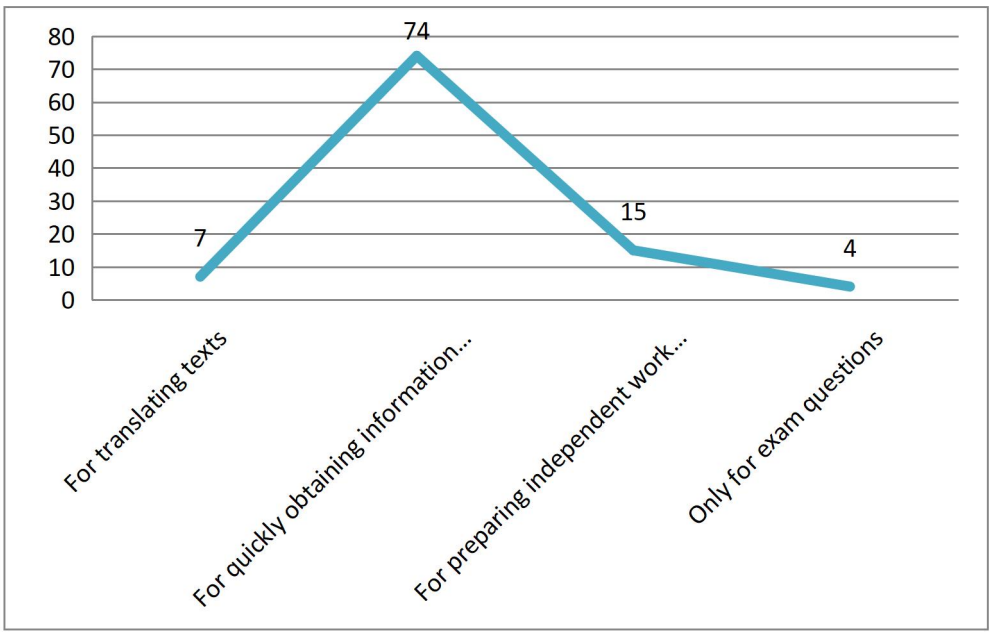

Figure 5.

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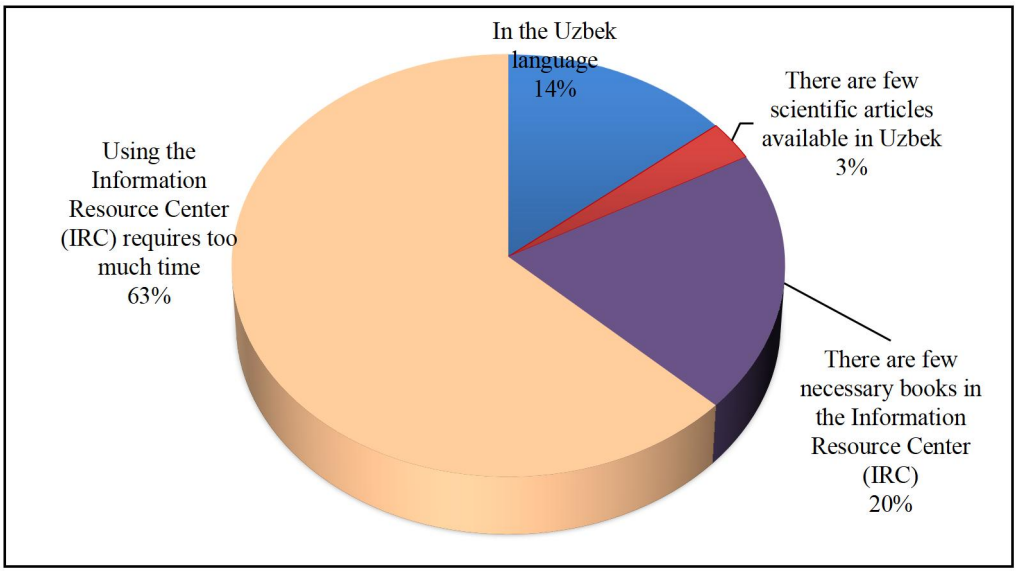

Figure 6

In Figure 5, the students' responses regarding the specific purposes for which they use artificial intelligence during the learning process are presented. According to the results, 7 percent of the students use AI to quickly and easily translate texts, 74 percent use it to obtain general and up-to-date information from various internet sources related to their topics, 15 percent use it to prepare independent assignments, presentations, and course papers, while 4 percent use AI only during difficult situations, particularly to find answers to exam questions (Figure 5).

When asked, "Why do you prefer turning to artificial intelligence rather than the resources of the Information Resource Center?", 14 percent of the students stated that it is difficult to find academic materials in the Uzbek language, 3 percent noted the lack of scientific articles available in Uzbek, 20 percent reported that the Information Resource Center does not provide the necessary literature or such literature is scarce, and 63 percent indicated that searching for and using information from the resource center requires too much time and effort (Figure 6).

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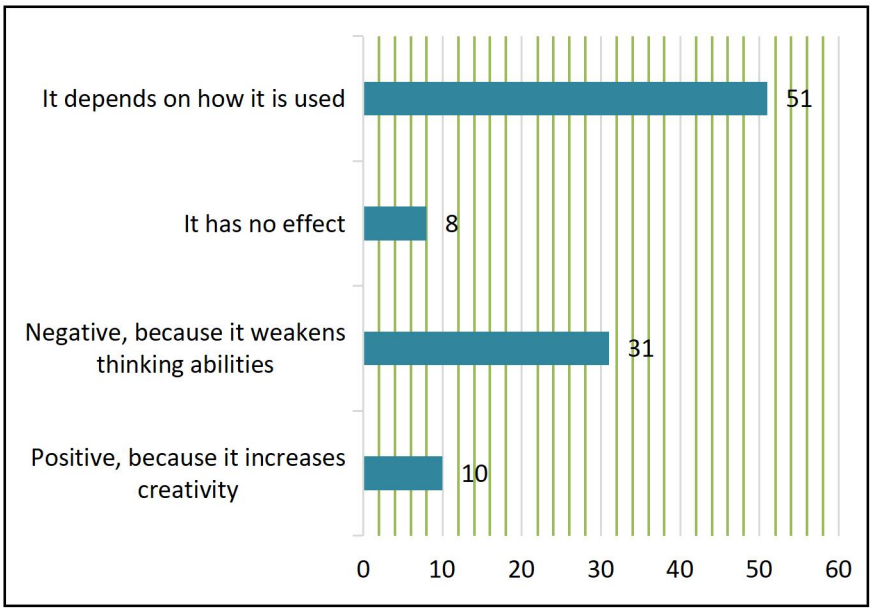

Figure 7.

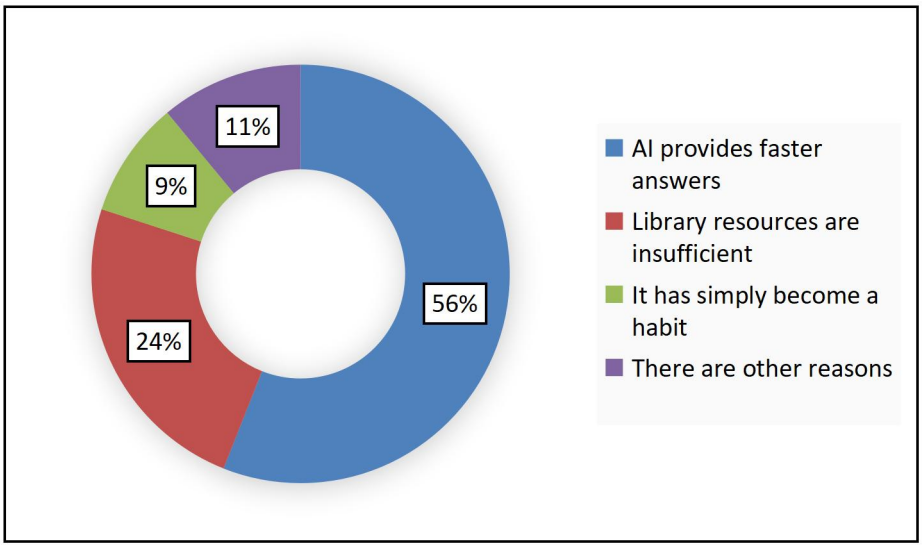

Figure 8.

When students were asked how the use of artificial intelligence tools affects their independent thinking skills, 51 percent stated that "it depends on how it is used," 10 percent responded that AI has a positive effect because it increases creativity, 31 percent considered it negative because it weakens thinking abilities, and 8 percent believed that it has no effect. Overall, 61 percent of the students rated the use of AI positively, 31 percent rated it negatively, and 8 percent evaluated it neutrally.

In response to the question "What is your main reason for using artificial intelligence instead of searching for information in the library?", 56 percent of the students emphasized the speed of AI,

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24 percent stated that library resources do not provide sufficient up-to-date information, 9 percent indicated that using AI has become a simple habit, and 11 percent pointed out that they have other reasons.

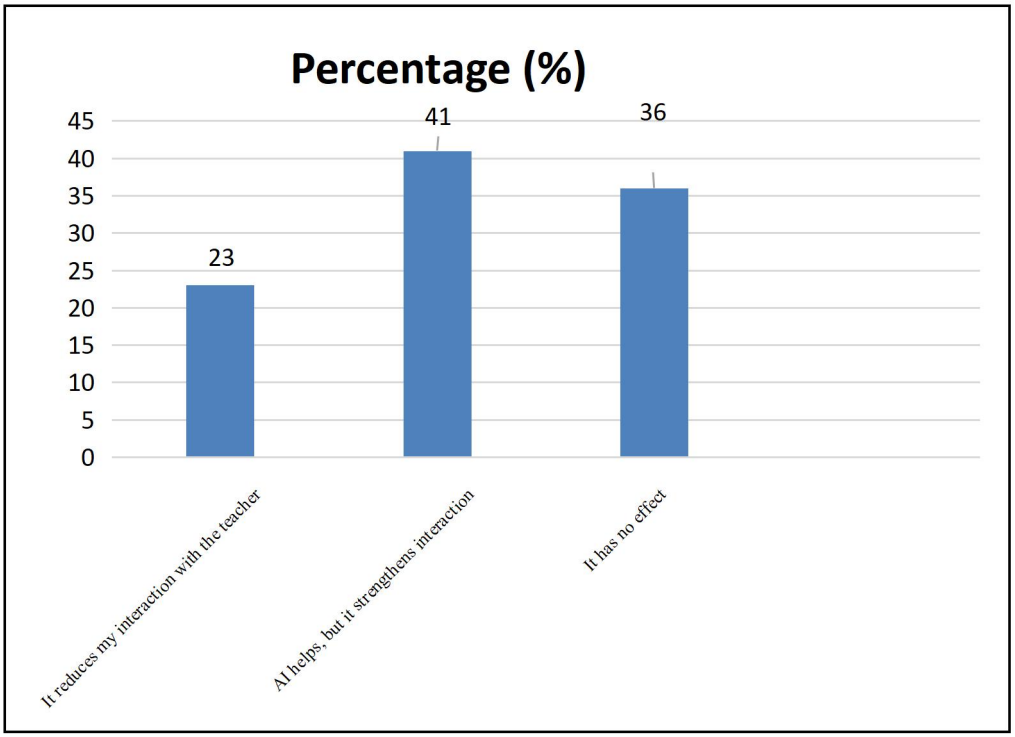

Figure 9.

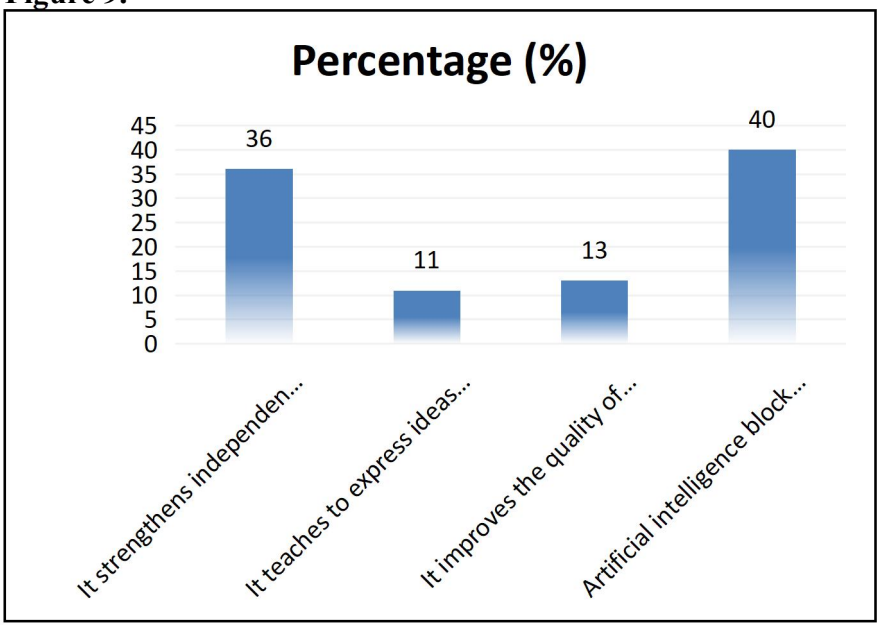

Figure 10.

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In response to the question "How does the use of artificial intelligence affect your interaction with your teacher?", 23 percent of the students stated that it reduces their interaction with the teacher because they ask everything from AI, 41 percent said that AI helps them learn, but it also strengthens their communication and exchange of ideas with the teacher, while 36 percent believed that AI has no effect on their interactions.

To the question "Do you think students' use of artificial intelligence has a positive impact on the learning process?", 36 percent of the students answered that it strengthens independent study and learning, 11 percent said that it helps them express their ideas more clearly, 13 percent noted that it contributes to improving the quality of education, and 40 percent stated that artificial intelligence blocks positive thinking and makes students overly dependent on it.

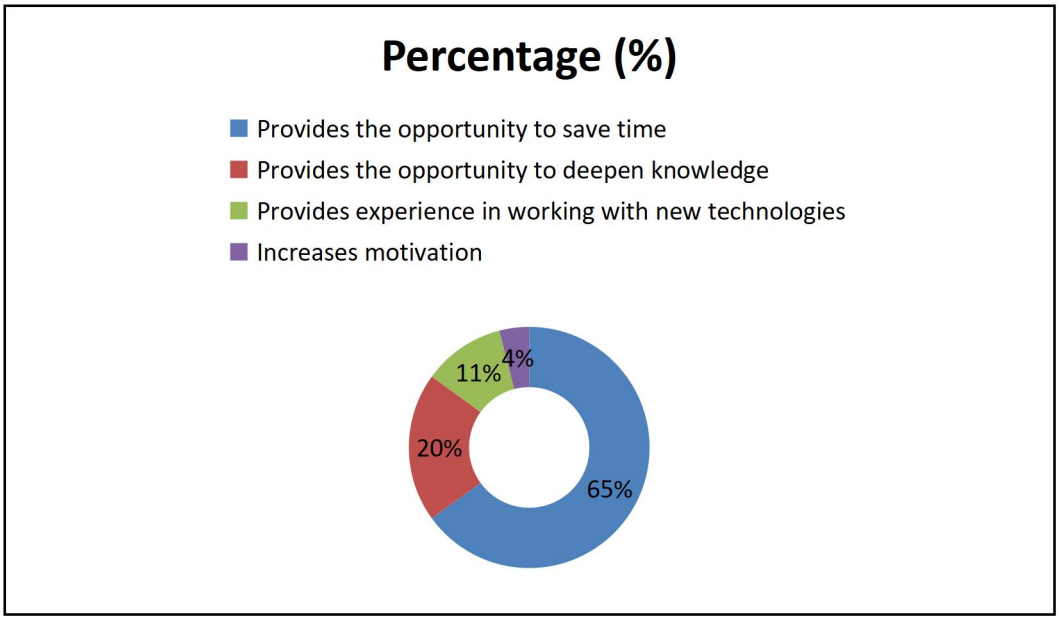

Figure 11.

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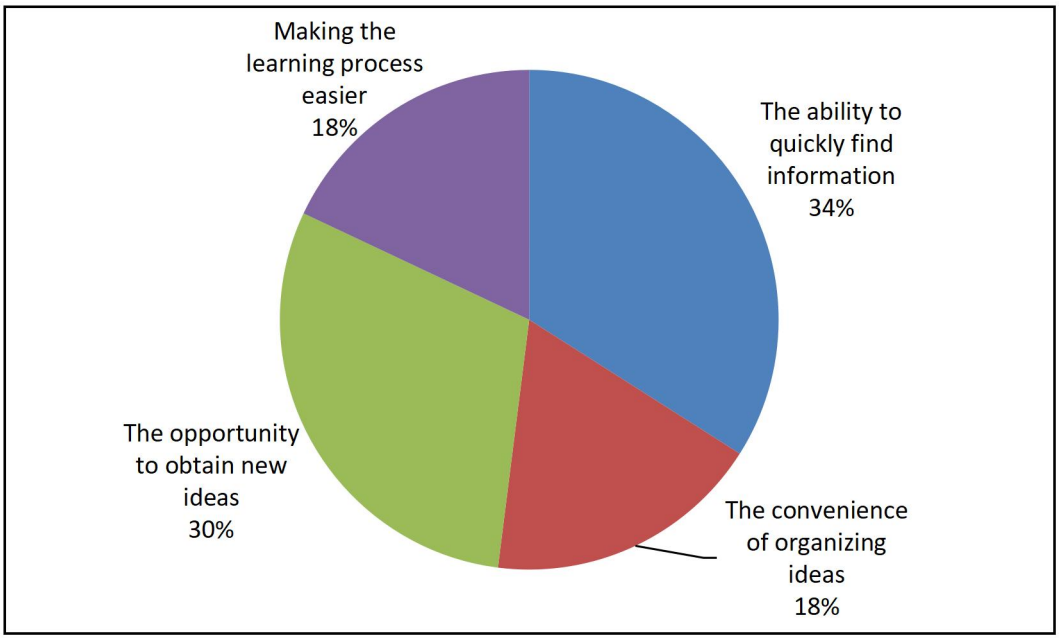

Figure 12.

When students were asked what benefits artificial intelligence provides during library or classroom activities, 65 percent noted that it offers the opportunity to save time, 20 percent highlighted the opportunity to deepen knowledge, 11 percent stated that it improves experience in working with new technologies, and 4 percent indicated that it increases learning motivation.

In response to the question "Which aspect do you consider most important when using artificial intelligence?", 34 percent of the students rated the ability to quickly find information as the most significant factor, 18 percent emphasized the convenience of organizing and analyzing ideas, 30 percent valued the opportunity to generate new ideas, and another 18 percent considered the ease it brings to the learning process to be important.

Based on the results of our small-scale study, conducted in response to the growing influence of the Internet and artificial intelligence on youth, education, and upbringing, we developed the following conclusions and recommendations:

- The survey results show that AI has deeply penetrated the educational process. Therefore, this issue must be studied thoroughly and systematically.
- Digital literacy and Internet-use competencies should be developed among students beginning from school years.
- Young people should be trained to evaluate information based on its necessity and relevance, and use it responsibly.
- Drawing on the experience of foreign universities, it is advisable to limit social networks during university classes and partially restrict access to AI tools during academic activities.

Artificial intelligence (AI) imitates human cognitive abilities through computer systems equipped with intellectual mechanisms, advanced algorithms, and machine-learning capabilities. It can rapidly analyze large volumes of data and make decisions based on them. Undoubtedly, AI is one of humanity's greatest inventions and achievements. We support the idea of using AI wisely in the educational process because AI should not create dependency among learners but rather contribute to the development of their cognitive skills.

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