

## PSYCHOLOGICAL DEPENDENCE OF STUDENTS ON ARTIFICIAL INTELLIGENCE IN THE EDUCATIONAL PROCESS

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**Annotation.** The article examines the phenomenon of students' psychological dependence on neural networks in the educational process. The factors contributing to the formation of addiction are analyzed. The psychological aspects of the degradation of critical thinking and creativity with excessive use of AI are considered. A classification of the stages of addiction formation and measures to prevent negative consequences are proposed.

**Keywords:** neural networks, artificial intelligence, psychological dependence, educational process, cognitive abilities, students.

**Introduction.** Artificial intelligence is being actively introduced into education, providing students with convenient tools for completing learning tasks. However, the ability to instantly generate answers leads to addiction: students complete tasks without deep analysis, which reduces their critical thinking and cognitive skills. Students with low academic self-efficacy become particularly susceptible to this addiction, using neural networks to reduce learning stress. The consequences are loss of independent thinking, limited self-reflection, and decreased creativity.[1] Despite its relevance, the psychological mechanisms of this dependence have not been sufficiently studied. The relevance of this study is due to the need to understand the mechanisms of this dependence in order to develop effective strategies to preserve the cognitive health of students in the context of digital transformation and the active introduction of artificial intelligence.

**Main part.** Psychological dependence on neural networks in the educational process is a persistent need for a person to use artificial intelligence tools to solve learning problems, accompanied by disregard for their own cognitive abilities, reduced tolerance to uncertainty and discomfort when access to these technologies is impossible.

The key factors contributing to the formation of this addiction are:

1 the principle of least effort and accessibility. Research shows that the main reason for students to use neural networks is to save time (59.1% of respondents), as well as help in solving problems and accessibility (45.5% each) [1]. The human brain is always looking for ways to simplify, and neural networks perfectly meet this need: they are available at any time, easy to use and give instant results. However, as the researchers note, using AI instead of its own intellectual capabilities makes it easier to solve learning problems, but does not increase the actual level of knowledge. This can make students dependent on neural networks, depriving them of the ability to build their own knowledge, creativity and self-sufficiency [1].

2 cognitive degradation. An experiment by scientists at the Massachusetts Institute of Technology showed that when using ChatGPT to write an essay, the subjects showed the least brain involvement. The EEG data recorded a decrease in activity in the areas responsible for attention, memory and creativity. The participants who used neural networks simply copied the text without delving into the content, while those who wrote independently demonstrated high neural activity [2]. The regular delegation of creative tasks to the neural network generates passive consumption instead of active thinking, which leads to cognitive degradation and the consolidation of dependence.

3 shifting responsibilities and delegating decisions. By accessing the neural network, the student shifts to it not only the search for information, but also the responsibility for its reliability. A pattern is being formed in which neural networks become a tool whose decisions are made without critical verification [3]. This reduces one's own activity and independence, consolidating dependence.

4 emotional comfort and anxiety relief. Research shows that academic anxiety is a key mediator between low academic self-efficacy and dependence on neural networks [1]. Students who are not confident in their abilities experience anxiety when performing learning tasks and turn to AI as a tool

to reduce this stress. High expectations from the results of using neural networks further enhance this dependence. However, the price for emotional comfort is a decrease in the ability to think independently and critically.

Based on the analysis of the key factors of the formation of dependence on artificial intelligence, the stages of dependence formation can be distinguished. They are shown in table 1.

Table 1 – Stages of formation of psychological dependence on artificial intelligence

| Stage               | Characteristic                                                                                                                                                                                    | Example of behavior                                                                                                          |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Situational use     | The neural network is used only as an auxiliary tool for finding ideas or verifying solutions. One's own cognitive efforts prevail                                                                | The student asks the neural network to generate topic options for the course paper, but writes it himself                    |
| Regular use         | The neural network is becoming the main tool for solving typical tasks. Critical analysis of artificial intelligence results is declining                                                         | A student generates a draft of an essay using AI, and then corrects it                                                       |
| Addiction formation | Performing tasks independently without the help of a neural network causes discomfort, anxiety, and doubts about the correctness of one's cognitive abilities                                     | A student cannot write a simple essay or solve a problem without first contacting artificial intelligence for a ready answer |
| Total addiction     | Full delegation of training tasks to the neural network. Renunciation of one's own mental activity. When access to artificial intelligence is blocked, a state of anxiety and helplessness occurs | The student uses AI to complete all tests, term papers, and even simple homework, losing the ability to learn independently  |

The negative psychological consequences of such dependence include the degradation of critical thinking, decreased creativity, as well as increased anxiety and self-doubt in the absence of access to artificial intelligence technologies.

To prevent and overcome this addiction, an integrated approach is needed, including: 1) creation of a new type of tasks that require analysis of the results of neural networks; 2) development of clearer instructions for completing tasks in order to reduce the temptation of using neural networks; 3) increasing the time to complete tasks for the possibility of independent comprehension of the material without haste; 4) a shift in the emphasis in education from evaluating the result to evaluating the process of completing tasks; 5) developing a healthy attitude towards errors as an indicator of growth areas, rather than an excuse for anxiety and recourse to neural networks; 6) psychological education of students about the risks of addiction and its various consequences; 7) gradually increasing the difficulty of tasks so that students can figure things out on their own, without resorting to AI at the first sign of difficulty.

**Conclusion.** Psychological dependence on artificial intelligence in the educational process poses a real threat to the development of students' cognitive abilities and personality. It is formed under the influence of accessibility factors, the speed of obtaining solutions and avoiding intellectual stress. Understanding the stages and mechanisms of this dependence is necessary to develop various approaches aimed at forming healthy and responsible interaction between students and artificial intelligence technologies, where neural networks act as a tool rather than a substitute for thinking. The future of education depends on our ability to maintain a balance between technological progress and the development of human thinking.

### References

1. The chain mediating effect of academic anxiety and performance expectations between academic self-efficacy and generative AI reliance. [Electronic resource]. Mode of access: <https://www.sciencedirect.com/science/article/pii/S2666557325000345>. Date of access: 01.03.2026.
2. ИИ снижает когнитивную активность: эксперимент с ChatGPT. [Electronic resource]. Mode of access: <https://science.mail.ru/news/3934-chatgpt-otklyuchaet-mozg/>. Date of access: 01.03.2026.
3. «ИИ-зависимость»: какие эффекты уже заметны, а какие – вероятны. [Electronic resource]. Mode of access: <https://iq-media.ru/trends/ii-zavisimost-kakie-effekty-uzhe-zametny-a-kakie-veroyatny>. Date of access: 01.03.2026.