Artificial Intelligence in Students' Learning Activities

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Abstract

The introduction and strengthening of the role of artificial intelligence (AI) in society determines the need to modernize the educational policy of modern universities. The purpose of the article is to study the practices of using AI in the educational activities of students, their attitudes and requests for neural networks, to assess the possible risks and consequences of these processes for the formation of students' media competencies. In the course of work on the article, sociological research methods were used (an online questionnaire survey of students). The sample includes 691 respondents, mainly studying in bachelor's degree programs. Modern students use neural networks to search for the necessary information (76.1 %), increase the originality of the text (30.5 %), write term papers, essays and theses (27.8 %). The hypothesis was confirmed that the increase in requests to "digital intermediaries" (chatbots based on neural networks) during students' educational activities is associated with the spread of practices of using AI in their everyday lives. Despite the high level of loyalty to neural networks, young people are very wary of the practices of expanding their functionality in terms of knowledge control and building individual learning algorithms. Empirical data illustrate the presence of interpretative biases in assessing the potential of AI, the prevalence of consumer demands of students. The risks of the spread of AI in educational activities are highlighted: a decrease in students' media competencies in terms of analyzing educational material, its reflection, erosion of traditional educational values, an increase in academic fraud, a reduction in the potential of AI in terms of building individual educational trajectories, monitoring and assessing knowledge. The article offers recommendations for improving the pedagogical practice of teaching media literacy to prevent destructive risks of introducing artificial intelligence into the educational process.

Keywords: artificial intelligence, neural networks, higher education, educational activities, educational values, media competence, media skills, text analysis, knowledge assessment, risks.

1. Introduction

The introduction of digital technologies into the educational process significantly changes the educational landscape, transforming the communicative practices of interaction between teachers and students, the specifics of the formation of their medical competence in the educational space of higher education. Digital technologies are one of the key factors in increasing the effectiveness of training, expanding the boundaries of its adaptability, focusing on the individual needs of students

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(Yakovleva, 2025). The phenomenon of artificial intelligence (AI) as an attribute of modern digital reality is becoming the object of close attention of higher education entities. According to experts, the ability of AI to become a new driver of economic development (Ibragimova et al., 2023) requires the training of specialists capable of using it effectively (Kohli, 2024), which in turn will affect the labor market (Fayzullin et al., 2025). The widespread use of AI technology is associated with the emergence of generative artificial intelligence (GigaChat, YandexGPT, ChatGPT, Claude, etc.), which allows users, even without training, to process large volumes of text information, create presentations, compose music, etc. At the same time, the scaling of information and the expansion of its processing capabilities by AI tools impose higher demands on teaching students media literacy. The development of neural networks actualizes the issue of the reliability of information, its critical perception and evaluation. In these conditions, the creation of an educational environment in higher educational institutions for the development of students' media literacy is one of the key factors in the social security of society.

According to experts, AI makes significant changes in the forms of media consumption of young students, focusing the latter's attention on the potential of generative intelligence in searching and processing data. Simplification of interpretative procedures for working with media content, both during classes and in students' everyday practices, determines the specifics of the formation of young people's media competencies, the possible vector of their development in modern conditions.

Approximation of AI capabilities, due to technological or cognitive barriers of the educational environment, is also intended to align the educational process of higher education with the differentiated interests of students and the updated needs of the labor market. This thesis is actively supported by the current state policy: within the framework of the "National Strategy for the Development of Artificial Intelligence for the Period up to 2030", the use of AI is positioned as a significant component of the information space for the reproduction of scientific and applied knowledge. Being a set of "technological solutions that allow simulating human cognitive functions", AI acts in two roles: 1) a digital intermediary between a student and information; 2) a digital tool/technology for finding solutions, obtaining results of intellectual activity "comparable to human" (Avramenko et al., 2024). This provision became the starting point and served as a methodological vector for this study.

2. Materials and methods

The purpose of the work is to study the practices of using artificial intelligence in the educational activities of students, to determine the target settings of respondents in the process of using neural networks, to analyze the possible risks and social consequences of these processes, including in the context of the formation of media competence of young people. The following research tasks were set in the work:

– To analyze the orientations and needs of students that determine their use of AI in the learning process.

– To determine the students' readiness to expand the functionality of AI in education (definition of learning algorithms, knowledge control).

– To determine the key risks of using AI in the educational activities of students.

– To study the role of teaching students media literacy and its potential to overcome the destructive effects of using AI in education.

An online questionnaire survey of student youth was defined as the basic research method. The choice of this method is due to the need for a wide coverage of the opinions of the object of study, as well as territorial remoteness. The total sample was N = 691, which corresponds to the objectives of the pilot type of research. The sample is dominated by students studying in bachelor's programs (75.3 %). The spontaneous nature of the sample formation can be considered as a limitation of this study.

Research hypotheses:

1. The spread of AI practices in the everyday life of modern youth causes an increase in requests for "digital intermediaries" (chatbots based on neural networks) during educational activities.

2. Destructive practices of using AI in the educational activities of young people limit the potential of higher education in the formation of media competence of young people.

3. The potential for using AI in the practice of student educational activities is determined by a utilitarian approach, focusing on solving a narrow range of problems of their own academic performance (searching for material, rewriting, writing papers). At the same time, the prospects for expanding the boundaries of AI use in the processes of planning training and monitoring students' knowledge are perceived negatively.

3. Discussion

The conceptualization of ideas for using AI in education has its own history from establishing its adaptive functions to recognizing its ability to independently generate new knowledge. The first "ideologists" of this approach focused their attention on the adaptive capabilities of AI in intellectual support for speech recognition and synthesis, finding solutions according to a predetermined algorithm of actions (Notkin, 2009).

Quite quickly, the "digital crutch" acquired the features of an "intelligent companion" that is capable of cognitively adapting educational content to the capabilities and interests of each student at the student's request. On the part of the educational institution, recognition of this role of AI can be traced in the development of various variations of intelligent assistants – virtual student assistants integrated into educational platforms, chatbots and other services (Chertovskikh, 2019; Gálik, 2020; Gáliková Tolnaiová, Gálik, 2020).

The further vector of implementation and strengthening of the role of AI in education focused on its "generative" potential. An example is "chatGPT", the importance of which for the progressive development of the students' knowledge system has been widely recognized in foreign studies (Yuen, Schlote, 2024). In particular, the diffusion of information flows has actualized the ability of chatGPT to quickly process large amounts of data, create new information content based on knowledge obtained from outside (Kavitha, Joshith, 2024). At the same time, scientists draw attention to the role of teaching media literacy in the new conditions. Didactic approaches to developing students' media literacy involve developing young people's skills for critically assessing media content, stimulating behavioral patterns associated with "questioning and assessing the reliability and credibility of information sources" (Beikutova et al., 2024: 25).

The increased attention in the domestic agenda to end-to-end digital technologies has formed a demand not only for the labor market, but also for the higher education system to train specialists with the appropriate media skills and capable of using AI to process and analyze data. Thus, there is a transformation of the role of AI into a "digital intermediary", the use of which technologies should be learned.

The creation of digital interfaces in the educational space of higher education can be considered as the initial step towards creating controlled systems for monitoring students' cognitive involvement in the educational process. Of interest in this context are the arguments of S.P. Elshansky (Elshansky, 2021). According to the scientist, the potential of AI is not limited to the possibility of impersonal control of students' knowledge or the preparation of interactive tasks by a teacher designed to retain the interest of listeners (Rogach et al., 2024). The possible essence of AI may also lie not so much in the field of generating and accumulating knowledge, but, more significantly, in tracking the process of its loss. A shift in the educational perspective in the use of AI as a tool to counter the negative consequences of digitalization is becoming a predicate for the intensification of personalized learning. Its key features can be considered as follows: selection of an individual learning pace and format of educational content, taking into account the abilities and characteristics of the student's perception of the material, tracking the reduction of the student's academic knowledge, timely detection of possible cognitive deficits and losses of the material covered. Assessing the likelihood of a student forgetting the material is based not on his traditional reflection within the framework of a lesson with a teacher, but on the ability of AI to track the educational attention of students. In particular, more advanced technologies introduced into the educational process are able to "read" the level of student involvement in the assimilation of the material: the frequency of distractions by gadgets, communication with friends, the amount of time spent reading the material, the level of his functional literacy, as well as the stress experienced by students. In this context, the use of AI can provide the teacher with prompt information about the development or degradation of students' media skills.

It is worth noting that "digital optimism" in scientific discourse exists on par with critical perception of the expanding influence of AI in the modern education system. The long-term trend expressed in the use of AI can lead to cognitive atrophy, loss of basic media competencies,

which will lead to the inability of the student to independently search for and analyze large arrays of data. The replacement of functional literacy with digital literacy cannot be considered equivalent in this context.

The issue in foreign studies is also raised not in the methodological framework of combining digital and functional-cognitive skills of students, but rather in the focus of replacing the student's media competence with AI technologies. This replacement, according to N. Smith and D. Vickers, forms a broader field for discussion, raising the question of virtue and morality, the possibility of reproducing these values due to the lack of need for analysis and reflection of previous human experience (Smith, Vickers, 2024). Developing this point of view, S. Linderoth, M. Hultén and L. Stenliden talk about the need to take into account the social and technological consequences of the introduction of artificial intelligence in educational practice, assessing the long-term consequences and risks of these processes (Linderoth et al., 2024). Scientific studies emphasize the need to expand curricula aimed at developing the media competence of young people in the context of scaling AI technologies, their penetration into all spheres of public life (Luttrell et al., 2020).

Large-scale digitalization of all spheres of public life, the transfer of digital technologies from the sphere of innovations to routine practices, have led to the expansion of the boundaries of the use of neural networks in the educational activities of students. The study confirmed the hypothesis that the growth of appeals to "digital intermediaries" (chatbots based on neural networks) in the performance of educational tasks is determined by the spread of AI practices in the everyday life of modern youth.

Achieving academic performance goals in modern conditions is associated with qualified information search, its analysis and processing, preparation of high-quality content, which determines the formation of a request for "digital intermediaries" who are able to solve the tasks in a short time. However, simplifying the goals of using AI during training can lead to a number of destructive consequences for the medical competence of students. B.H. Nam and Q. Bai draw attention to the risks of academic fraud caused by the use of neural networks in the performance of educational tasks (Nam, Bai, 2023). Similarly, C.K. Filson and D. Atuase, confirming the relevance of the problem, talk about the growth of unfair practices in the use of AI in the educational environment, the need to revise the policies of universities, its focus on the ethical principles of academic honesty (Filson, Atuase, 2024).

According to A.Yu. Sogomonov, new trends in students using AI as a digital mediator when writing papers are destroying traditional university values of persistent intellectual work (Sogomonov, 2024). According to modern scientists, negative trends are largely due to information deficiencies among young people and insufficient awareness of students in the practice of determining the boundaries of illegal behavior (Nortes et al., 2024). N.V. Sushcheva draws attention to the need to implement educational activities in the field of AI, digital culture and media literacy (Sushcheva, 2024). New risks and the actualization of public demands for media literacy training for young people are related to the fact that the level of criticality in assessing and perceiving information generated by AI is decreasing. The deficit of media literacy among young people leads to the expansion of the boundaries of manipulation of public opinion.

Analysis of empirical data shows that modern students, despite their digital optimism regarding artificial intelligence, are nevertheless very cautious in recognizing the subjectivity of AI, and, consequently, expanding its functionality in the process of developing learning algorithms, monitoring and assessing knowledge. In contrast to students' judgments, scientists conclude that AI has significant potential in this area, which allows personalizing the learning process, building individual educational trajectories for each student, and ensuring higher student engagement (Keep, Brown, 2018; Kumar et al., 2024). As E.K. Belikova notes, it is the organization of the educational and methodological process that is the most significant area of using AI in higher education (Belikova, 2023). F. Filgueiras, supporting this conclusion, believes that AI is a driver of innovation, a factor in increasing the effectiveness of curricula and teaching methods (Filgueiras, 2023).

We can talk about the presence of interpretative biases in AI assessments, where the repertoire of using its technologies is compressed to the utilitarian roles of a "digital assistant" to whom the student delegates the performance of educational tasks. In this case, the consequences of using AI are concentrated in reducing students' media competence and simplifying their skills in working with information. Assigning functions of searching and primary processing of data to AI can be reflected in low critical thinking and irrelevant assessment of the reliability of the information source.

According to J.-C. Ruano-Borbalan, despite the technological optimism and excitement of AI fans, its potential in education has not yet been fully realized and there are no guarantees for the implementation of these positive scenarios in the near future (Ruano-Borbalan, 2025). As A.M. Al-Zahrani and T.M. Alasmari rightly note, the introduction of AI into the educational process should be consistent with the key target settings for the development of education as a whole, primarily improving its quality, developing students' competencies, and their creativity (Al-Zahrani, Alasmari, 2024).

However, it should be noted that, despite the existing risks, AI is becoming a new reality (about 85 % of surveyed students already use AI in the learning process), an attribute of everyday practices of young people, including educational, scientific and professional-labor. According to M.T. Marino, E. Vasquez, L. Dieker, J. Basham, J. Blackorby, AI is a revolutionary technology that transforms the goals and objectives of professional education (Marino et al., 2023). Developing this conclusion, B. Karan and G. R. Angadi analyze the impact of AI on the lives of students, learning styles, approaches to teaching, and the mechanism of managing an educational organization (Karan, Angadi, 2024). According to M. Esplugas, despite public prejudice regarding the risks of integrating artificial intelligence into the educational process, there is evidence confirming the potential of AI in developing students' communication and analytical skills (Esplugas, 2023).

At the same time, the introduction of AI into the educational process should be accompanied by the expansion of pedagogical practices aimed at teaching media literacy to young people. Training courses to improve the skills of critical perception of information, assessing the risks of its falsification can become a compensator for the destructive consequences of the introduction of AI into the educational process.

4. Results

In the first part of the study, students were asked questions that allowed to identify and reflect on the initial level of their ability to work with the educational material. Thus, according to the obtained results, almost half of the respondents (47.0 %) have difficulties with the assimilation of some of the data. It can be assumed that in the context of scaling information, insufficient attention to teaching media literacy has a negative impact on the learning process as a whole. At the same time, 3.5 % of students noted an extreme degree of misunderstanding of the educational information (the answer "I don't understand anything"). The answers received generally correlate with the self-assessment of students' academic performance. Thus, only 3.3 % of respondents assess their level as "below average", while 39.5 % of students speak of an average level of their academic performance in academic disciplines.

The students' lack of knowledge raises the question of respondents' use of AI in preparation for the learning process. This mostly concerns the use of chatbots based on neural networks (GigaChat, YandexGPT, ChatGPT, Claude, etc.). According to the data obtained, 47.3 % of students give a clearly positive answer, another third of respondents (36.3 %) note fragmentary use of such practices. Compared to the answers to a similar question, but in the context of everyday student practices, the variation range in respondents' answers seems insignificant. The data obtained allow us to conclude that the boundaries of neural network use in the educational and life fields of students are merging (Table 1).

Table 1. The relationship between the use of chatbots based on neural networks in everyday life and in the learning process, %

Do you use chatbots based on neural networks (GigaChat, YandexGPT, ChatGPT, Claude, etc.) in everyday life?	Do you use chatbots based on neural networks (GigaChat, YandexGPT, ChatGPT, Claude, etc.) in the learning process?		
	yes	sometimes/rarely	no
yes	79.5	18.5	2.0
sometimes/rarely	14.7	71.0	14.3
no	9.3	19.6	71.1
Sample mean	*47.3*	*36.7*	*15.9*

The results of the study illustrate a stable relationship between the prevalence of AI in everyday life and the use of neural networks in the learning process. The value of the χ2 criterion is

506.618. The critical value of χ2 at a significance level of p = 0.01 is 13.277. The relationship between the factor and result features is statistically significant at a significance level of p < 0.01. The significance level is p < 0.001.

Among active users of chatbots, the share of those who also use them in the learning process is significantly higher (79.5 %, which is 1.7 times higher than the average!). The penetration of AI into the everyday practices of young people is so great that students do not consider it necessary to change the established approach in the academic environment. The obtained results indicate the relevance of issues of media literacy of young people. The widespread use of neural networks increases the competence deficits of young people in the sphere of media consumption, creates risks of manipulation of public opinion.

The dominant target setting of students in using chatbots based on neural networks focuses on finding information necessary for studying (76.1 %). At the same time, there is still a share of students who use AI capabilities as a replacement for their own cognitive efforts to process and analyze information: 27.8 % of students use neural network capabilities to write term papers, essays, and theses (Figure 1).
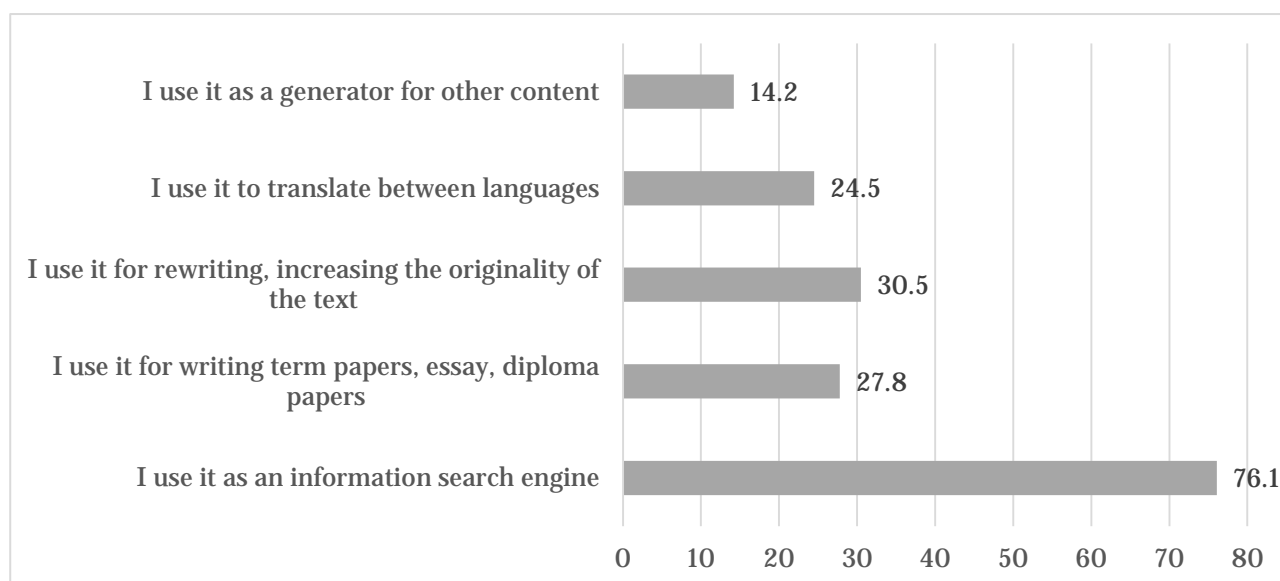

Fig. 1. Distribution of answers to the question: "For what purpose do you use chatbots based on neural networks (GigaChat, YandexGPT, ChatGPT, Claude, etc.)?" (multiple choice), %

Thus, the use of AI leads to risks of reducing the level of media competence of student youth. The atrophy of student media skills related to searching, primary systematization and critical understanding of educational information, due to lack of demand and ease of replacement with AI tools, can increase its scale and change the educational practices of higher education.

The results of the study showed a certain relationship between students' academic performance and the frequency of using artificial intelligence in the learning process. The most striking differentiation in student assessments isobserved in groups with high and low academic performance (Table 2).

Thus, if in the group of students with a below average level of academic performance they admit that they resort to the help of AI in the learning process – 61.5 %, then among excellent students – 55.3 %. An even more significant variation range in assessments is characteristic of respondents who do not use neural networks (this answer option was chosen by 22.3 % of excellent students and 15.4 % of students with a low level of academic performance). Statistical analysis shows the presence of dependencies between these variables. The value of the χ2 criterion is 15.138. The critical value of χ2 at a significance level of p = 0.05 is 12.592. The relationship between the factor and result features is statistically significant at a significance level of p < 0.05.

Table 2. Relationship between the use of chatbots based on neural networks and students' academic performance, %

How do you rate your academic performance?	Do you use chatbots based on neural networks (GigaChat, YandexGPT, ChatGPT, Claude, etc.) in the learning process?		
	yes	sometimes/rarely	no
excellent	55,3	22,3	22,3
above average	45,3	40,5	14,2
average	45,1	39,6	15,4
below average	61,5	23,1	15,4
Sample mean	*47,3*	*36,7*	*15,9*

Despite the expansion of the boundaries of the use of neural networks in the educational activities of students, respondents are quite cautious in their assessments when it comes to recognizing the subjectivity of AI, transferring part of the functionality to it when planning the academic load. In particular, students are less inclined to agree with AI guiding them in their studies, setting tasks based on the assessment of the level of knowledge and training of the student. More than a quarter of students express doubts about the need for these practices (27.2 % – "not sure"). Almost the same proportion of respondents surveyed expresses a negative opinion (Table 3).

Table 3. Prospects for the use of artificial intelligence in the educational process in students' assessments, %

Do you agree that a chatbot based on neural networks...	*Answer option*				
	Absolutely agree	*Rather yes*	*Not sure*	*Rather no*	*Absolutely disagree*
helped you in finding and mastering the material	35.2	42.7	13.0	4.5	3.8
guided you in your studies, set tasks for you based on your level of knowledge and preparation	19.8	32.1	27.2	12.2	8.7
gave you grades	6.1	12.0	31.4	23.7	26.8

Students are even more repulsed by the idea of transferring knowledge assessment functions to artificial intelligence. Thus, only 18.1 % agreed to have a chatbot based on neural networks give them grades during the learning process. Thus, the results of the study showed that AI, on the one hand, expanded the educational potential of higher education, on the other - caused the formation of new risks. These risks are associated with a decrease in the criticality of student perception of information, his desire to shift the role of an evaluator of media content, its end consumer, to AI. The results obtained indicate the need to expand pedagogical practices for teaching media literacy in the context of large-scale penetration of neural networks into the educational process. In particular, didactic approaches to the development of students' media competence based on the use of AI tools in the preparation of creative tasks, scenarios for business games, and completing practice-oriented cases are considered promising. In addition, to reduce these risks, it is necessary to introduce into the educational process academic disciplines that ensure the development of skills in using AI in the educational process while maintaining and increasing students' competence in working with media content.

5. Conclusion

Modern students use chatbots based on neural networks to write term papers/diploma theses, search for information, and improve the level of text originality. At the same time, one of the most pressing issues of both scientific discourse and educational practice is the problem of defining the ethical boundaries of using AI in students' educational activities. In this context, the development of media education for young people can be considered as a tool for forming ethical standards for working with information.

The results of the study showed the presence of interpretative biases in assessing the potential of AI, the dominance of consumer interests of student youth, focused on using its technologies as a digital assistant, to whom the performance of educational tasks is delegated. The risks of introducing AI into the educational activities of students are due to the leveling of the value of academic work, scientific authorship, a decrease in analytical competencies, and cognitive atrophy of young people.

Despite digital optimism regarding the capabilities of AI in preparing for classes and completing assignments, students were quite skeptical about the prospects for using AI in the practice of grading and organizing the educational process. The insufficient level of application of AI resources in the processes of knowledge control, planning educational and methodological work, and developing individual learning algorithms indicates significant dysfunctions in the processes of digitalization of education.

Pedagogical practices for teaching media literacy should include the following areas to prevent destructive risks of introducing AI into the educational process:

– Analysis of media content generated by AI, its critical assessment and reflection, identification of risks of data falsification;

– Implementation of gamification methods to improve media literacy, skills to identify falsified information;

– Development of prompting skills, to optimize interaction with AI, increase the relevance and accuracy of search queries;

– Research activities aimed at analyzing information systems, forming multi-level queries to AI based on system research and integration of information from various sources;

– Project activities that involve using the creative potential of young people to supplement information generated by AI, create creative content that surpasses the capabilities of AI in its characteristics;

– Broadcasting ethical standards and requirements indicating the inadmissibility of the incorrect use of AI in the practice of completing educational tasks.

Artificial intelligence, as a breakthrough technology of the future, is becoming a new reality that significantly changes the landscape of higher education, including teaching methods, interactions and knowledge control. The key tasks for higher education in the new conditions are finding solutions that allow for the most effective implementation of AI technologies in the educational process in order to improve the quality of education, and the formation of competencies of young people in demand on the labor market.

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