



THE USE OF AI CHATBOTS IN HIGHER EDUCATION: THE PROBLEM OF PLAGIARISM

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ABSTRACT

Background: The use of ChatGPT in the learning process is becoming a common practice. Researchers identify opportunities to improve the learning process using AI tools. At the same time, there are many unresolved problems and threats from the use of ChatGPT. These include unreliable information, false information, lack of references to primary sources, lack of intellectual property protection, and especially the problem of plagiarism in academic texts.

Objectives: The purpose of the study is to summarise the results of published research on the benefits and threats of using ChatGPT in higher education and to analyse the experience of using AI to write academic assignments by university students in compliance with the requirements of academic integrity.

Methods: A survey was conducted among Kyiv National Economic University named after Vadym Hetman (KNEU) students about their experience of using ChatGPT in performing academic tasks and the degree of satisfaction with this tool.

Results: The survey involved 58 KNEU students. We have analysed how satisfied students are with using ChatGPT for different learning purposes. Students are most satisfied with using ChatGPT to quickly find information and translate texts. The majority of respondents said that ChatGPT does not always provide accurate and reliable information. Students also pointed to the problem of violating academic integrity when using ChatGPT to complete their assignments.

Conclusions: The study shows the general advantages and disadvantages of using ChatGPT in higher education. Particular attention should be paid to the level of borrowing in academic texts prepared with the help of ChatGPT.

Keywords: ChatGPT, higher education, plagiarism, learning purposes, AI tools



Introduction.

Since November 2022, consumers all over the world have been using ChatGPT for work and play. During this time, a number of studies have been conducted that allow us to draw conclusions about the advantages and limitations of AI, in particular, in education. Some authors (Holmes et al., 2021; Chiu et al., 2023) note that the impact of AI in the educational process on learning outcomes remains uncertain. The most important advantages of using AI in education include the ability to take into account individual learning needs of students, reducing the time spent searching for necessary information, high-quality text editing, saving time on checking learning tasks, diversifying tasks for students, etc. However, there are certain limitations and threats that need to be taken into account when using AI for educational purposes. The (European University Association, 2023) has identified the following threats to the widespread use of AI in education: lack of references to information sources; inaccuracy of data and algorithms; uncertainty of intellectual property and copyrights; problems related to privacy, data security, and integrity.

Literature review.

The main requirement for the use of AI is the issue of ethics, trust and reliability, which is reflected in the EU framework documents: Recommendation of the Council on Artificial Intelligence (OECD, 2019); Ethics guidelines for trustworthy AI (High-Level Expert Group on Artificial Intelligence, 2019b). This approach leads to the generation of fundamental principles that are a priority for all international and national regulatory, political, economic and legal documents, as well as those related to human rights, consumer and personal data protection, intellectual property rights, responsible business and competition, property rights. (Metz, 2023) pointed out the following potential risks of using AI: it is a tool for disinformation; filling with unreliable texts, photos, videos, which can lead to the inability of a person to establish the truthful information. (European Commission, 2021) among the four levels of risks associated with the use of AI, high risk was identified: used in critical infrastructures, education and training. The following threats to the use of AI in higher education (Tambuskar, 2022) have been identified: lack of understanding of the context, threat to academic integrity, and perpetuation of discrimination in education, democratisation of plagiarism, and reduction of high-level cognitive skills (Farrokhnia et al., 2023). Researchers have found that the use of ChatGPT (Silva & Janes, 2022) can lead to writing texts that look plausible but are not true. This is also due to the fact that reliable information sources were not used when developing and setting up the ChatGPT (Fütterer et al., 2023). The Cabinet of Ministers of Ukraine, 2022 has determined that the use of AI in education in Ukraine is slowing down due to a number of factors, including non-compliance with the principles of academic integrity due to the use of a large number of information sources.

Researchers (Montenegro-Rueda et al., 2023; Gilson et al., 2023; Megahed et al., 2023) have identified the following limitations to the use of AI in education: ChatGPT's knowledge is still limited and has not yet been updated with information beyond 2021; therefore, its answers may not always be accurate or reliable, especially on specialized topics and recent events. In addition, ChatGPT may generate incorrect or even inaccurate information. Taking these limitations into account, teachers have to check the reliability of the chatbot (Majorana, Gonçalves, Neto & Camargo, 2022) before using it in education.



Given the growing proliferation of AI tools, many countries are developing measures at the state level to regulate the use of AI, including ChatGPT. For example, in Ukraine the Institute of Artificial Intelligence Problems of the Ministry of Education and Science of Ukraine and the National Academy of Sciences of Ukraine was established in 1991, whose scientists have developed a draft National Strategy for the Development of Artificial Intelligence in Ukraine 2021-2030 (Institute of Artificial Intelligence Problems of the Ministry of Education and Science of Ukraine and the National Academy of Sciences of Ukraine, 2021). The government approved the Concept for the Development of Artificial Intelligence in Ukraine (Cabinet of Ministers of Ukraine, 2020) and an action plan for its implementation for 2021-2024 (Cabinet of Ministers of Ukraine, 2021). *The aim of the study* is to analyse the experience of using AI to write academic assignments by university students in compliance with the requirements of academic integrity. A survey was conducted among Ukrainian university students about the use of AI tools in completing academic assignments.

Methodology.

We assumed that students are familiar with ChatGPT potential and have experience of using it, including for training. We conducted a survey of Kyiv National Economic University named after Vadym Hetman, Ukraine students about their use of ChatGPT in the learning process. The questions concerned the level of ChatGPT use for information search, text editing and preparation of assignments. We also asked the respondents to assess the level of satisfaction with using ChatGPT for different types of tasks.

Results. The survey involved 58 students of the Kyiv National Economic University named after Vadym Hetman (KNEU), including 11 first-year bachelors, 5 and 6 -second- and third-year bachelors, 20 fourth-year bachelors, 10 master's students and 6 PhD students (Figure 1).

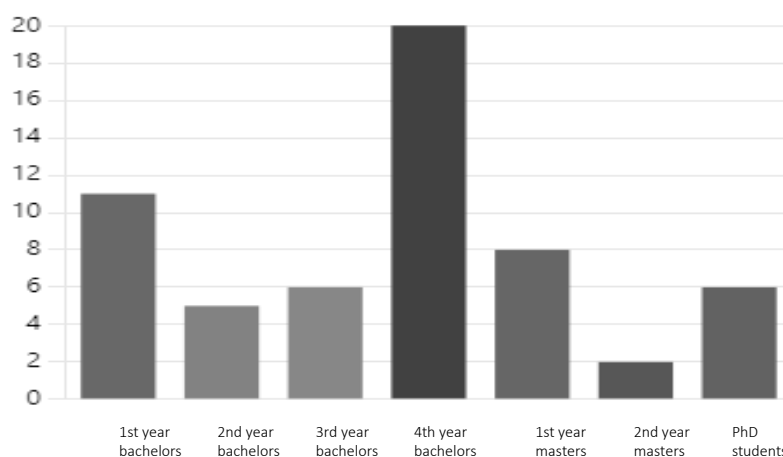


Figure 1. Distribution of respondents by year and level of education, number of students

The first question was: Do you have any experience of using ChatGPT in your studying? 86 percent of respondents had experience of using ChatGPT in their learning activities.

Then we asked students, for what purposes they mostly used ChatGPT? The results show that 33 percent of 58 respondents used ChatGPT when completing their assignments; 80 percent of respondents used this tool to search for information; 38 percent used it to edit texts (Figure 2).

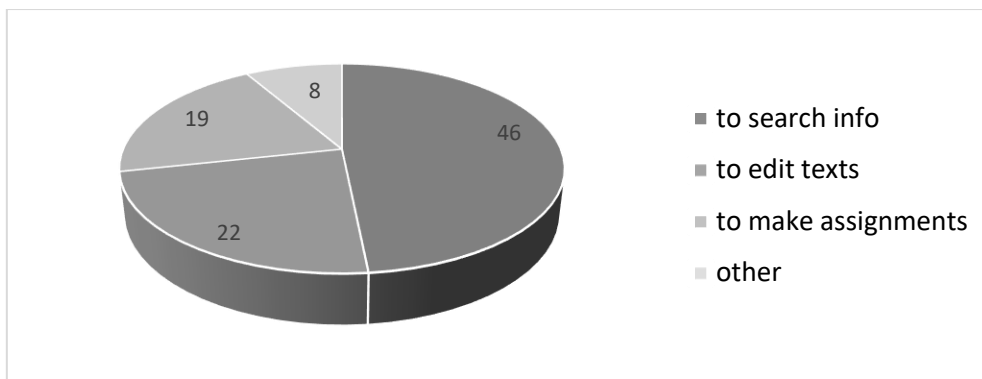


Figure 2. Breakdown of respondents by the purposes for which they most often used ChatGPT, number of answers

The following questions were aimed at finding out how satisfied students were with using ChatGPT for various purposes. 57 percent of respondents were satisfied with the results of searching for information, when 33 percent – rather dissatisfied and 10 percent – not at all satisfied (Figure 3).

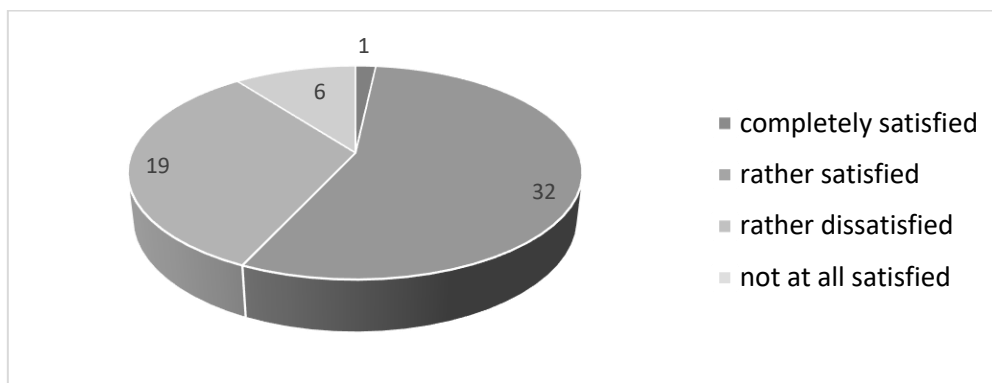


Figure 3. Distribution of answers to the question of how satisfied students are with the results of using ChatGPT to find information, number of answers

More than 58 percent of students were satisfied by using ChatGPT for text editing, 22 percent – rather dissatisfied and 20 percent – not at all satisfied (Figure 4).

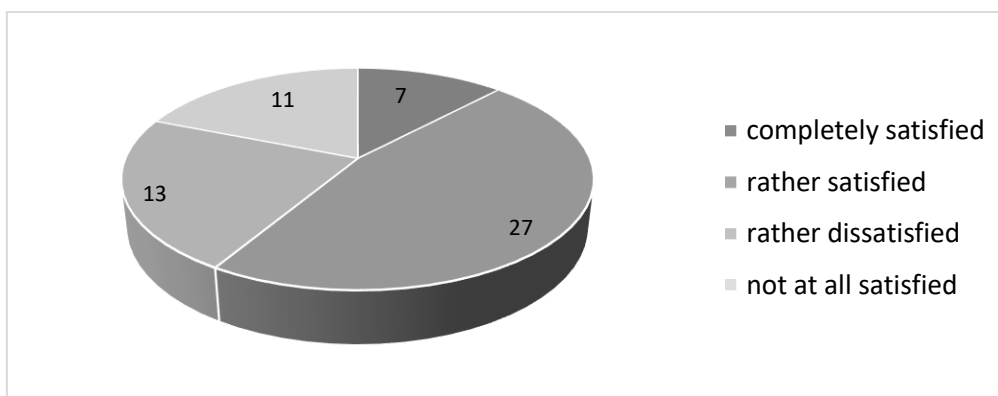
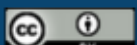


Figure 4. Distribution of answers to the question of how satisfied students are with the results of using ChatGPT for text editing, number of answers





There were fewer positive responses regarding the level of satisfaction with the results of using ChatGPT to complete tasks if compare with searching for information and editing texts. Only 33 percent of respondents were satisfied by using ChatGPT to complete tasks or prepare assignments. At the same time 34 percent of students were rather dissatisfied and 33 percent – not at all satisfied (Figure 5).

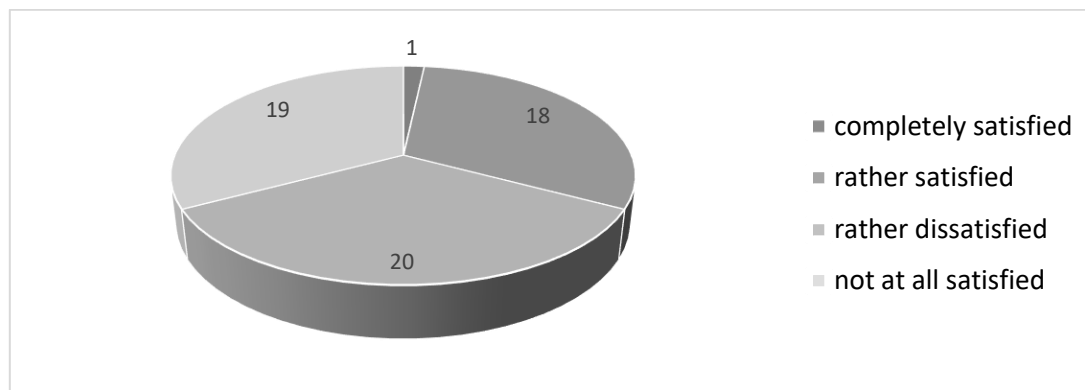


Figure 5. Distribution of answers to the question of how satisfied students are with the results of using ChatGPT to complete learning tasks, number of answers

The survey participants noted that the advantages of using ChatGPT are the speed and convenience of information search; the ability to quickly complete large tasks (essays, reports, answers to theoretical questions); possibility to edit text in a narrative style, to format text; comparatively better translation of foreign literature than Google Translate; the best assistant in the process of learning a foreign language (English, German).

At the same time, students identified certain disadvantages or limitations in the use of ChatGPT. Among the disadvantages, they mentioned the need to verify the accuracy of information; information is not backed up by the resources from which it is taken; cannot filter out reliable and unreliable sources of information; does not have access to most scientific databases; ChatGPT makes a lot of mistakes and often chooses the wrong answers; chat does not solve calculation problems correctly; many students misuse AI and do not "generate" their own thoughts at all.

Many respondents noted that chat should only be an auxiliary tool in learning and not a substitute for the process of thinking and forming one's own opinions. Among other things, the problem of authorship of academic texts was raised, as chat-generated texts show a high level of uniqueness.

The same conclusion was made during the research of ethical issues pertains to ChatGPT's potential (Mogavi et al., 2024, p. 14): "One of the most significant [issue is] to promote academic dishonesty. Specifically, ChatGPT's ability to produce contextually coherent text enables students to easily plagiarize, paraphrase, or distort content in their writing assignments and exams. This compromises academic integrity and undermines the educational value of specific assessment methods. Consequently, instructors face immense difficulty in accurately assessing students' genuine understanding and skills". This threat to academic integrity has led some universities, schools (New York school devices and networks) or even countries (North Korea, Iran, Syria, Russia, China, Italy – for a certain time) to abandon the use of ChatGPT (Sukhpal et al., 2024; Labadze et al., 2023). In practice, it was found that the ChatGPT can quickly generate text on a certain topic, which allows students to order AI to





perform their tasks, and scientists to write articles and monographs. In these cases, copied content, wrong replies and improper referencing or no referencing at all may be found. Students who use ChatGPT for assignments have significantly higher rates of plagiarism compared to those who do not use it (Sullivan, 2023).

Conclusions.

The results of our survey indicate that students are actively using the potential of chat in the learning process. The benefits of using chat, as indicated by the students surveyed, are the same as those identified by other researchers. Likewise, the disadvantages of using chat, as indicated by the students in the survey, are the same as those indicated by the results of other studies we analysed.

Given the fact that existing plagiarism checkers do not detect texts created with ChatGPT as plagiarism, the academic community faces the problem of ensuring academic integrity in the performance of educational or research tasks. One way to solve this problem is to modernize text borrowing checking programs that should identify text created by AI. In turn, university professors and research institutions should formulate clear recommendations for using ChatGPT in the preparation of academic texts.

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