THE USE OF GPT CHAT AMONG STUDENTS IN UKRAINIAN UNIVERSITIES

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Summary

The authors of the article analyzed the issues of using the GPT chat in the process of training students of the State University of Telecommunications, Taras Shevchenko National University of Kyiv and Admiral Makarov National University of Shipbuilding. It is noted that the digital revolution 4.0 is accelerating in all areas of activity, and education is no exception; all of humanity is discovering how to use these systems and intelligent machines to improve human capabilities.

The response of educational institutions around the world has been controversial, from restricting student access to Chat GPT to adopting the technology and using it to improve assessment and training original thinking among students. To conduct the research, the authors developed questionnaires in Google Form to determine the level of use of the GPT chat by students during training; its impact on the development of their skills and competencies and the attitude of the applicants to the concept of academic integrity in the context of using AI tools.

According to the results of the survey, it can be stated that students widely use chat bots in the learning process, they believe that teachers should use AI tools when conducting classes, and some students noted that they had their papers returned due to plagiarism, through the use of chat bots.

The authors found that open educational systems have radical changes; can use the power of artificial intelligence tools like ChatGPT to optimize teaching, learning and educational management, which are the three irreplaceable pillars of every successful educational institution.

Key words: innovation, digitalization, educational process, artificial intelligence, plagiarism.

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1. Introduction

The use of artificial intelligence (AI) as part of technological progress is facilitating the world of education and learning. Many artificial intelligence-based systems are often used in educational institutions in Ukraine, such as voice assistants, innovative content, smart classrooms, automatic assessment, and personalized, adapted learning. Most of the users of

these systems in Industrial Age 4.0 are Gen Y, Z, and Alpha *(Rudolph, 2023).* These generations are known as digital natives who understand computers and the Internet better than previous generations, so the use of AI tools is quite typical for them. Therefore, the main task of educators is to make changes in their education system to increase the competitiveness of graduates in the competitive struggle, to teach them to think critically, creatively and be able to cooperate.

2. Analyzing the publication of scientific sources

Research related to the use of artificial intelligence in education can be found in the works of domestic scientists O. Spirin, L. Kartashova, V. Glushkov, T. Brovchenko, O. Humennyi, A. Matviichuk, N. Volkova and others. Among foreign scholars, we can mention A. Samuel, W. Pitts, A. Turing, D. McCarthy, N. Wiener, P. Vinson, W. McCulloch, and others. Many researchers who have studied the problem of artificial intelligence believe that achieving medium-level success in this area will affect the daily life of all segments of the population around the world. According to Bozik, ChatGPT is a powerful tool that has the potential to transform the way we interact with technology, enabling more natural and intuitive communication between humans and machines. It is already being used in a variety of applications, including customer service chatbots, language translation tools, and virtual assistants, and its use in education is also being explored as a way to enhance student learning and engagement *(Božić, 2023).*

The purpose of our study is to provide a detailed understanding of the appropriateness of GPT use among stakeholders such as teachers, university administrators, and students, as well as to analyze the specifics of GPT use in Ukrainian higher education institutions.

3. The role of GPT chat in education

Educational technology as an industry is growing exponentially and is valued at nearly $90 billion. in 2020; at a projected rate, it will grow by 20% annually by 2028. Industry experts predict continued growth in artificial intelligence tools; widespread use in education of AR and VR-integrated educational technology products in the coming years, the widespread adoption of GPT chat *(Duff, 2020).*

The use of artificial intelligence tools in academia is currently a hot topic in educational field, although it raises concerns about academic integrity and plagiarism. The appearance of ChatGPT in November 2022 almost instantly sparked a technological panic about the impact of artificial intelligence (AI) on education.

Generative Pre-training Transformer-GPT, or Chat GPT, a generative language model which is based on the "transformer" architecture. These models can handle a lot of text and learn to do tasks that involve natural language processing very well. In particular, the GPT-3 model has 175 billion parameters, which makes it the biggest language model ever trained. GPT needs to be "trained" on a lot of text before it can work. For example, the GPT-3 model was trained on a set of text that had more than 10 billion words and more than 8 million documents. From this text, the model learns how to process natural language and write well-structured text. Reinforcement learning, which is based on human feedback, is used to train this model. In the end, by fine tuning under supervision. The people training the artificial intelligence had conversations where they were both the user and the AI assistant. There were also written suggestions given to the coaches to help them write their proposals. So, they combined this new dataset with the Instruct GPT dataset, which had been turned into a dialogue format. Once the model has been well trained, GPT can be used to do a wide range of tasks *(Haida, 2022).*

Today, the digitalization of education and science and the use of artificial intelligence tools, including ChatGPT, in education is a top priority that will enable the rapid and efficient development of the digital society in Ukraine. Legislative documents at the state level confirm the relevance of this issue: "Digital Agenda of Ukraine – 2020", "Ukraine 2030E – a country with a developed digital economy", "Education 4.0; Ukrainian Dawn", etc.

4. GPT chat: advantages, risks, Academic dishonesty, plagiarism

Technological progress has made it possible to master and use effective technologies in the teaching and learning process. During the pandemic, educational technologies turned from an advantage into a necessity for all educational institutions, which continue to use distance and blended learning methods to this day.

Artificial intelligence tools are increasingly being used in industry, and if we want graduates to have the skills they need for employment, it is important to teach them how to use artificial intelligence tools responsibly, as they are likely to encounter them at work. GPT can be considered a student-centered tool because students can use it to improve their deep learning, critical thinking, and writing skills. It is worth noting that GPT has numerous applications in the educational environment in terms of its use by teachers, pedagogues and pedagogical and scientific staff.

This helps reduce the workload on teachers by automating tasks such as writing lesson plans, developing notes, creating questions for quizzes/tests, evaluating students' success, creating classes, etc. GPT can assist educators in writing and updating their learning objectives based on learners' needs and interests. Additionally, GPT can generate reports for HEI administrations that summarize students' success and identify their strengths and weaknesses, enabling administrations to proactively support student learning.

To sum up, integrating GPT into the educational process can significantly reduce the workload for teachers and allow a better focus on the individual needs of each student.

However, there are a number of risks associated with using GPT. According to the authors, one of the most important is academic dishonesty. Plagiarism in the academic environment threatens the veracity of any discipline. However, estimating the actual prevalence of plagiarism is difficult due to the sensitive nature of free admission of factual wrongdoing.

In the Fundamental Values of Academic Integrity of the International Center for Academic Integrity at the Rothland Institute of Ethics (USA), the concept of academic integrity is defined as the commitment of the academic community to values, namely: respect, trust, honesty, justice, responsibility, courage *(Fishman, 2012).*

The ChatGPT chatbot can generate student work, such as essays, term papers, and theses, as well as answers to exam questions. This is a cause for concern among educators around the world, as students may stop doing their homework on their own, which requires a rethinking of the exam system and its evaluation. The issue of combating plagiarism has become a very acute one for Ukrainian education in the twenty-first century. A new challenge is a chatbot that generates plagiarism-free student papers. It paraphrases the information it finds, thus avoiding easily detectable borrowings. This will require a rethinking of the standard system of knowledge testing and assessment. To counteract the new technology, developers have already created GPT Detector. However, this model is not perfect, so it cannot be relied upon completely *(Haida, 2022).*

Based on the above, it can be noted that the use of ChatGPT can help improve the efficiency of time use, but the use of information technology cannot completely replace the human role. For example, the assessment process should involve interaction between teachers

and students in order to gain a deeper understanding of students' thoughts and ways of thinking. In the digital world, the choices for using technology are almost limitless: HEIs that have made a decisive strategic choice and embraced it within their community will succeed in their digital transformation.

5. Results of the study

For our study, the respondents were students of the State University of Telecommunications, Taras Shevchenko National University of Kyiv, and Admiral Makarov National University of Shipbuilding.

When developing the questionnaire, the authors focused on the peculiarities of using AI and the application of ChatGPT in the context of academic integrity. The authors define academic integrity as the expectation of and commitment to the values of courage, justice, honesty, responsibility, respect, and trust that underlie ethical decision-making in teaching, learning, research, and the advancement of knowledge *(Hearn, 2020)*. According to this definition, concepts such as ethics, integrity assurance, and research integrity also reflect an understanding of academic integrity.

A total of 120 students aged 21-23 took part in the survey, including 48% women and 52% men. The authors developed a Google Form survey to determine the level of use of GPT chat by students during their studies; its impact on the development of their skills and competencies; and the attitude of students to the concept of academic integrity in terms of using AI tools.

Research methodology: data collection by conducting a survey among university students who use the GPT chatbot system; analysis of the data obtained, use of statistical methods to evaluate the results of the study.

The survey results are presented in Fig. 1.

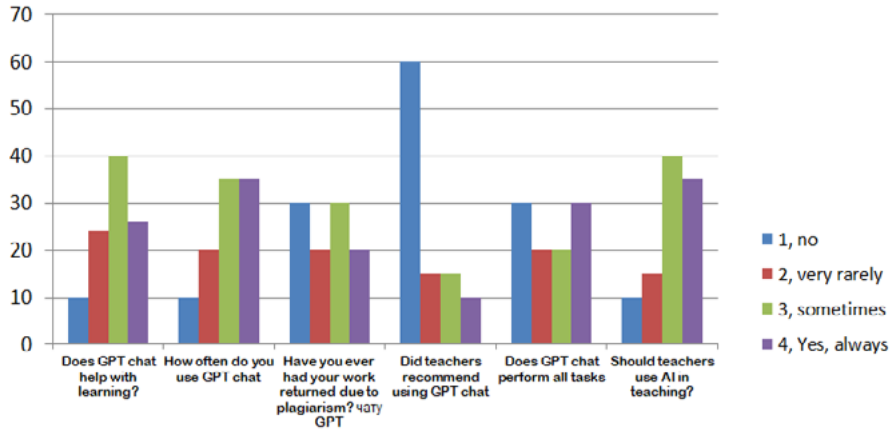

Fig. 1. Respondents' answers about their use of GPT chat in the learning process

The students of the State University of Telecommunications, Taras Shevchenko National University of Kyiv, and Admiral Makarov National University of Shipbuilding had to answer six questions in the survey and rate them on a 4-point scale: where 1 point means no, never; 2 points means very rarely; 3 points means sometimes; 4 points means yes, always.

According to the survey, students widely use chatbots in the learning process (66%), and believe that teachers should use AI tools in their classes (a total of 40% of students gave a 3-point rating and 35% gave a 4-point rating). Only 10% of respondents said that they do not use chatbots, and 30% said that GPT chat does not fulfill all the tasks assigned to it. 60% of respondents said that their professors do not recommend using GPT chat, while 20% said that they had had their papers returned due to plagiarism because of the use of a chatbot. The next stage of the study was an open survey where students had to indicate the risks that they believe GPT chatbot use entails. Here are the most common answers:

– Gives incorrect and biased results.
– It's easy to write a text paper with a chatbot, but difficult to complete technical tasks.
– It does not always provide up-to-date information.
– Impossibility to check the veracity of the information it generates.

The third stage of the study was to determine the level of plagiarism through the use of ChatGPT. The applicants were given 2 tasks: one was to write a 1-page text message on a given topic in English; the other was to complete a technical task – to make a calculation for a future term paper using ChatGPT. The anti-plagiarism check was performed using the GPT-2 Output Detector service and gltr.io. The results of the check are shown in Fig. 2.

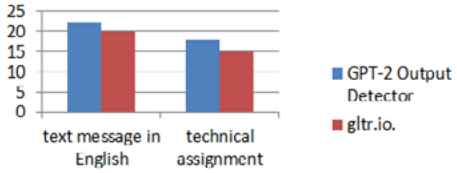

Fig. 2. Checking applicants' works for plagiarism using artificial intelligence tools

The authors calculated and derived an average indicator for the result of the work performed: a text message in English and a completed technical task. In both cases, the anti-plagiarism software demonstrates similar mathematical expectation values. The GPT-2 Output Detector program gives only a 22% probability of artificial intelligence intervention when writing a text assignment and 18% when completing a technical task. In turn, the gltr.io program gave a 20% probability of artificial intelligence interference when writing a text task and 15% when completing a technical task. It is worth noting that when checking these works, the teachers found the following shortcomings, namely: repeated words and sentences were used in the writing of the text assignment, the structure of the text was similar for the vast majority of applicants, the sentences were quite simple; some works had a special focus that was repeated, that is, the descriptions themselves looked like a paraphrased version of another. There was hardly any personal opinion in the text, mostly well-known facts were reflected. Summarizing the above, the authors note that no matter how exciting ChatGPT may seem at first glance, users realize that it is still in its infancy. It is very important for students to have someone to observe and guide them during their studies, so the responsibilities of humans and machines complement each other.

6. Conclusions

The use of AI-based technologies is changing the paradigm in higher education infrastructure. When educational systems are open to such radical change, they will be able to leverage the power of artificial intelligence tools like ChatGPT to optimize teaching, learning, and educational management, which are the three indispensable pillars of every thriving educational institution. In general, while students can benefit from ChatGPT, they need guidance on how to use it in order to fully understand a particular topic, think logically, and evaluate the performance of the GPT when performing certain tasks. ChatGPT is undoubtedly a powerful tool that is already changing established stereotypes about education.

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