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ARTIFICIAL INTELLIGENCE CHATBOTS IN TEACHING WRITING TO FUTURE ENGINEERS

Alina Kotkovets¹, Natalia Nikitina²

1. Lecturer*National Technical University of Ukraine
"Igor Sikorsky Kyiv Polytechnic Institute", UKRAINE***ORCID ID: 0000-0003-0894-0374****2. Lecturer***National Technical University of Ukraine
"Igor Sikorsky Kyiv Polytechnic Institute", UKRAINE***ORCID ID: 0000-0002-1867-0294**

Nowadays, the effective collaboration of experts of any field, including engineers, greatly depends on their abilities to communicate. Writing skills play a vital role in a successful engineering career since engineers have to deal with writing a variety of technical documents including reports, proposals, emails, summaries, descriptive essays, research articles, instructions and safety procedures etc. Students may find technical and academic writing in English challenging, as it not only requires precision and clarity of expressing ideas but also students' knowledge of English grammar, vocabulary, spelling, punctuation, as well as style and register. Artificial intelligence (AI) has opened new horizons in teaching writing, offering unique opportunities for both the teachers and the students. Educators might apply AI chatbots to generate relevant tasks, sample works and comprehensible guidelines.

AI refers to a broad range of technologies designed to solve problems and accomplish tasks autonomously, without direct human intervention [2, p. 3]. AI has penetrated all spheres of our lives. It is also being increasingly used in education, in particular, in learning and teaching English for specific purposes (ESP). It can therefore be a valuable tool in the process of formation and development of the English language competence in writing which is a component of professional communicative competence of engineers-to-be. It can greatly contribute to the development of students' writing skills.

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As prominent Ukrainian methodologists define it, a writing competence is the ability to engage in written communication in life-essential areas and communicative situations that are appropriate for a specific age, in accordance with a communicative task. It is based on the complex and dynamic interaction of relevant skills, abilities, knowledge, and the communicative capabilities of the individual [1, p. 390]. Writing skills are essential for future engineers and require specific attention. With the advance of AI-driven resources, enhancing writing skills has become even more accessible. According to H. Aljuaid, AI-powered writing aids are emerging tools in education, using Natural Language Processing (NLP) models trained on large datasets of human-written text. Research increasingly supports their effectiveness in improving students' writing skills, confidence, and productivity [3, 27]. AI chatbots may be of great help to teachers and students in the development of English language competence in writing.

Some of the most common AI chat bots are chatGPT, Google Gemini, Microsoft Copilot, HuggingChat and others. All of them are free to use and have some common functions that can assist educators. AI chat bots listed above share several core capabilities that make them particularly effective in developing English writing competence suited to technical and professional contexts. One of the ways for language teachers to use the AI assistants is creating writing tasks tailored to students' specialty and proficiency level. AI chatbots are able to generate a variety of tasks that will be interesting, creative and useful for future engineers. Chatbots can simulate industry scenarios, allowing students to practice documentation and reporting in realistic engineering contexts. Whether describing a design, analyzing test results, or drafting proposals, this exposure helps learners develop writing skills relevant to real-world engineering tasks. Not only can an AI chatbot formulate the task but also provide detailed instructions for students, such as the structure of their piece of writing and what exactly should each paragraph include. Moreover, an AI-driven assistant may also provide samples for students, which can be extremely helpful in demonstrating effective writing techniques, structure, and vocabulary relevant to specific contexts. Chatbots can generate sample sections of technical reports, lab reports, experiment documentation, project proposals, abstracts, formal emails, summaries or literature reviews, procedural or instructional writing, such as assembly instructions or troubleshooting guides and other types of written text that may not always be easy to find in open sources. Another great way of using an AI chatbot is to create checklists or reflection questions for students. An AI-powered tool may summarize all the requirements to the piece of writing and provide the students with a list of to check themselves, helping them organize their work, verify essential components, and ensure quality in their assignments. The list of possible ways of

using AI chatbots in teaching writing to future engineers can be continued. These assistants may also be useful for students for developing writing skills. However, the concerns related to the wise and responsible use of AI for producing written texts by students are still present.

To sum up, AI chatbots offer significant potential for enhancing the writing competence of future engineers, helping to deal with some challenges they have in mastering technical and academic English. By creating tailored writing tasks and sample texts, AI tools assist teachers in the process of developing students' writing skills. These assistants support both students and educators in developing key skills necessary for professional communication in engineering. However, while AI-driven tools present valuable learning opportunities, it is crucial to ensure their responsible use.

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