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UNIVERSITY STUDENTS' COMPETENCES THAT CAN BE FORMED THROUGH AI USAGE WHILE STUDYING ESP

КОМПЕТЕНЦІЇ СТУДЕНТІВ, ЯКІ МОЖУТЬ БУТИ СФОРМОВАНІ ЗАВДЯКИ ВИКОРИСТАННЮ ШТУЧНОГО ІНТЕЛЕКТУ ПІД ЧАС ВИВЧЕННЯ АНГЛІЙСЬКОЇ МОВИ ДЛЯ СПЕЦІАЛЬНИХ ЦІЛЕЙ

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Abstract. *The integration of artificial intelligence into teaching English for specific purposes in technical universities gives a perfect opportunity to form a range of vital competences in students. Beyond traditional linguistic proficiency, AI-powered tools can significantly enhance learners' digital literacy, autonomous learning skills, critical thinking, and advanced communication abilities tailored to their technical fields. This article examines how various artificial intelligence applications, including intelligent tutoring systems, specialized language models, and data analysis tools, contribute to the development of these essential skills. We state that strategic integration of artificial intelligence in teaching English for specific purposes provides a more adaptable, self-directed, and technologically proficient generation of technical professionals, who are equipped not only with language skills but also with the vital competences required for the contemporary globalized workplace.*

Key words: *artificial intelligence, English for specific purposes, technical university, competence development, digital literacy, autonomous learning, critical thinking, technical communication*

Introduction.

Modern landscape of higher education, particularly in technical fields, demands graduates who are not only proficient in their specialized disciplines but also have advanced English language skills. English serves as the up-to-date lingua franca of science, technology, engineering, and mathematics, making effective communication in this language essential for global collaboration, research dissemination, and career advancement. At the same time, the rapid rise of artificial intelligence (AI) across industries necessitates that future professionals are not merely users of technology but intelligent collaborators with it.

The article explores the relationship between artificial intelligence integration in teaching English for specific purposes (ESP) and the formation of critical competences in technical university students. While much of the existing resources focuses on AI's role in automating tasks or supporting teachers, this paper shifts the

focus to the direct impact on student skill development. We argue that a strategic and thoughtful application of AI tools within ESP curricula can form a diverse set of competences, ranging from digital literacy to sophisticated critical evaluation, in such a way preparing students for the demands of a rapidly evolving global technical environment.

Main text.

AI tools offer diverse possibilities that can be implemented into English for specific purposes contexts to improve students' competences. Let's study in detail its several key areas.

The interacting with AI-powered language tools can develop students' fundamental digital literacy skills, that include the ability to navigate, utilize, and troubleshoot digital environments. More specifically, it improves AI fluency, which involves understanding artificial intelligence capabilities and limitations**,** effective prompt engineering, and ethical AI usage. Thus, while having a possibility to use AI in their studies, students learn what AI can and cannot do in language processing, assessment, and content generation. Interacting with large language models for tasks like technical writing, summarizing research papers, or preparing presentations requires precise and effective prompt engineering, that is the art of crafting queries to elicit optimal AI responses. This trains students to articulate their needs clearly and logically. Discussions around artificial intelligence tools in language learning naturally lead to considerations of plagiarism, data privacy, and intellectual property, fostering an understanding of ethical AI usage in academic as well as in professional contexts.

At the same time, AI platforms can empower students to fostering their autonomous learning and self-regulation. Thus, AI algorithms can identify individual strengths and weaknesses in ESP, such as specific grammar points for scientific abstracts or common errors in technical report writing. This allows students to focus on areas requiring improvement at their own pace, promoting self-directed study. Also, AI tools providing instant feedback on grammar, vocabulary, pronunciation, or even the structure of a technical explanation enable students to identify and correct

errors independently. This immediate feedback loop is crucial for students' self-correction and continuous improvement, reducing reliance on constant teacher intervention. Besides, many AI-powered learning platforms allow students to set learning goals and track their progress over time, improving their metacognitive skills related to planning, monitoring, and evaluating their own learning strategies.

In addition, while artificial intelligence can provide vast amounts of information, integrating it into teaching English for specific purposes also develops students' sophisticated information literacy and critical evaluation skills. Thus, AI-powered search tools and summarizers can help students quickly go through large volumes of technical English texts (e.g., research papers, manuals) to extract relevant information, improving their research efficiency. At the same time, students learn to critically assess the accuracy, relevance, and bias of AI-generated text or explanations, especially in specialized technical domains where precision is very important. This necessitates cross-referencing information and applying domain-specific knowledge to validate AI output. Also, using artificial intelligence to assist in gathering and organizing information for technical presentations or reports requires students to synthesize information from various sources, including AI-generated content, with a critical eye.

We must also admit that AI tools can serve as powerful practice partners for developing highly specialized technical communication skills in English, such as:

– refining technical writing. That is, artificial intelligence grammar and style checkers, particularly those trained on technical corpora, can help students identify and correct errors specific to scientific writing, improve clarity, conciseness, and adherence to academic conventions. LLMs can assist in drafting technical reports, proposals, or abstracts, allowing students to focus on content and logical structure;

– practicing technical presentations and spoken English practicing. Thus, AI-powered pronunciation and speech analysis tools offer immediate feedback on clarity, intonation, and rhythm relevant to delivering technical presentations. In addition, chatbots designed for ESP can simulate technical discussions, helping students practice vocabulary and discourse markers relevant to their fields;

– adapting to different communication contexts. By engaging with AI tools that offer different stylistic suggestions, for instance, formal vs. informal technical language, students can learn to adapt their English communication to various professional contexts and audiences.

While AI provides solutions, its intelligent integration can also enhance problem-solving and even foster creativity in language use. Thus, when an AI tool finds an error, students are prompted to diagnose the problem and find solutions, thereby reinforcing their understanding of English grammar and usage in a practical context. Also, artificial intelligence can act as a brainstorming helper for technical writing assignments, suggesting vocabulary, phrasing, or even structural elements for complex arguments, thereby stimulating students' creative output and problem-solving approaches to linguistic challenges.

Despite the mentioned potential, realizing these competence formations with the help of artificial intelligence requires addressing several challenges. Among them we can name:

- curriculum integration. It is necessary to admit that developing ESP curricula that effectively integrate AI tools requires careful planning and teacher training to ensure that tools are used pedagogically correct and not merely as substitutes for effort.
- teacher training. It is clear that teachers need to be proficient in using AI tools themselves and understand how to guide students in leveraging them effectively and ethically, and it requires the appropriate trainings for techers.
- over-reliance and critical thinking. Guarding against students becoming overly reliant on artificial intelligence for basic tasks and ensuring they develop proper understanding and critical thinking, rather than just automated compliance, is vital.
- assessment adaptation. Assessment methods need to evolve to account for artificial intelligence assistance, focusing more on higher-order skills, critical evaluation, and the process of using AI responsibly.

Summary and conclusions.

The strategic integration of artificial intelligence into teaching English for specific purposes in technical universities represents a significant opportunity to educated a new generation of technical professionals equipped with a up-to-date competences. By engaging with AI-powered language tools, students do not just improve their English, they cultivate essential skills in digital literacy, autonomous learning, critical evaluation, and technical communication. These competences are very important for being successful in contemporary globalized environment, where the ability to effectively communicate complex technical information and intelligently interact with advanced technologies is essential.

The future of teaching English for specific purposes in technical universities is not about artificial intelligence replacing teachers, but rather about AI serving as a powerful helper for forming a more capable, adaptable, and critically aware students. Teachers, researchers, and policymakers nowadays must collaborate to design curricula and pedagogies that use AI's potential, ensuring that students emerge not just as skilled English speakers, but as highly competent global citizens and innovators.