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THE ROLE OF NEURAL NETWORKS AND AI IN THE TEACHING OF FOREIGN LANGUAGES

Анотація. *У статті розглядається роль нейронних мереж і технологій штучного інтелекту у викладанні іноземних мов у сучасному освітньому середовищі. Проаналізовано основні напрями використання AI, зокрема автоматизований переклад, чат-боти, системи адаптивного навчання та генеративні мовні моделі. Особлива увага приділяється тому, як ці технології впливають на формування мовних навичок, автономію студентів і організацію навчального процесу. Водночас підкреслюються ризики, пов'язані зі стандартизацією мовлення, зниженням критичного мислення та залежністю від технологій.*

Дослідження базується на аналізі сучасних наукових джерел і педагогічних практик. У статті обґрунтовується необхідність поєднання технологічних інновацій із критичним підходом у викладанні мов.

Ключові слова: *штучний інтелект, нейронні мережі, викладання іноземних мов, цифрова освіта, міжкультурна комунікація, ESP, мовні навички.*

Summary. *This paper examines the role of neural networks and artificial intelligence (AI) in the teaching of foreign languages in contemporary educational contexts. It explores key applications of AI, including machine translation, chatbots, adaptive learning systems, and generative language models. Particular attention is paid to how these technologies influence language skills development, learner autonomy, and teaching practices. At the same time, the paper highlights potential risks, such as the standardization of language use, reduced critical thinking, and growing dependence on technology. The study is based on the analysis of recent research and pedagogical practices. It argues for the need to combine technological innovation with a critical approach to language teaching.*

Key words: *artificial intelligence, neural networks, foreign language teaching, digital education, intercultural communication, ESP, language skills.*

Problem statement. The rapid development of artificial intelligence and neural networks has significantly transformed many areas of human activity, including education. In foreign language teaching, AI-based tools are increasingly used to support learning, automate routine tasks, and personalize instruction. As a result, teaching practices are becoming more flexible and technology-driven. However, the integration of AI into language education raises important questions. While these technologies offer

new opportunities for improving language learning, they also reshape the roles of teachers and learners. Moreover, the use of AI is not neutral; it reflects particular technological, cultural, and ideological assumptions.

The problem addressed in this study is the need to critically evaluate how AI and neural networks influence language teaching practices, particularly in ESP contexts such as English for Marketing and Management [1; 3]. While many studies emphasize the effectiveness of AI tools, fewer explore how these technologies shape professional communication skills, domain-specific language use, and learners' readiness for real business environments. This paper aims to address this gap.

Analysis of recent research. Recent research shows a growing interest in the use of artificial intelligence in education. Scholars such as W. Holmes, M. Bialik, and C. Fadel highlight the potential of AI to support personalized learning and improve educational outcomes. AI-powered systems can adapt to learners' needs, provide immediate feedback, and support self-directed learning.

In the field of language education, neural networks are widely used in machine translation, speech recognition, and language generation. These technologies enable learners to practice language skills in more interactive and accessible ways. At the same time, researchers such as R. Luckin emphasize that AI should be seen as a tool that supports, rather than replaces, human teaching [2].

From a critical perspective, it is important to consider how AI shapes language use and communication. Similar to discourse practices, AI-generated language reflects patterns found in training data and may reproduce dominant linguistic norms and cultural assumptions [3; 5]. This raises concerns about standardization and the potential loss of linguistic diversity. Thus, while AI offers significant opportunities, it also requires careful and critical integration into educational contexts.

In ESP contexts, particularly in business-related fields, AI tools are increasingly used to simulate professional communication scenarios. Learners can engage in tasks such as writing marketing emails, preparing business presentations, or negotiating in simulated environments. However, these practices often rely on standardized models of communication, which may not fully reflect the complexity and variability of real business interactions.

Methodology. This study is based on qualitative analysis of recent academic literature and pedagogical practices related to AI in language teaching. The research adopts a discourse-oriented perspective, focusing on how AI technologies are described and used in educational contexts.

The analysis includes examples of AI-based tools used in ESP contexts, particularly in teaching English for Marketing and Management, such as business communication simulators, AI writing assistants, and automated feedback systems. Particular attention is paid to how these tools influence teaching strategies and learner behavior. The study also incorporates a reflexive perspective, acknowledging that interpretations of AI in education depend on the researcher's theoretical and methodological position.

Main findings and discussion. The analysis shows that AI and neural networks play an increasingly important role in foreign language teaching. One of the main advantages of these technologies is their ability to provide instant feedback and support individualized learning.

Students can practice grammar, vocabulary, and pronunciation using interactive tools, which increases engagement and motivation. Another important benefit is accessibility. AI tools make language learning more flexible, allowing students to study independently and at their own pace. From an ESP perspective, particularly in teaching English for Marketing and Management, AI tools play a significant role in developing professional communication skills. Students can practice writing emails, creating marketing content, and participating in business negotiations using AI-supported platforms. These tools help simulate real-world tasks and increase learners' confidence in professional communication.

At the same time, the analysis shows that such tools often promote standardized forms of business communication. For example, AI-generated emails and reports tend to follow predictable structures and stylistic conventions. While this may be useful for beginners, it can limit learners' ability to adapt their communication to different cultural and professional contexts. However, the study also identifies several challenges. First, AI systems tend to promote standardized language use. Generated texts often follow typical patterns and may not reflect the diversity of real communication. Second, there is a risk

of reduced critical thinking. When students rely heavily on AI tools, they may become less engaged in the learning process and less aware of linguistic choices. Third, AI technologies may reinforce existing inequalities. Access to advanced tools is not always equal, and certain language norms – especially those associated with native speakers – may be privileged.

These findings suggest that AI should be used as a supportive tool rather than a replacement for traditional teaching. Teachers play a crucial role in guiding students, developing critical awareness, and ensuring meaningful learning. In the fields of marketing and management, communication is not only about clarity but also about persuasion, creativity, and cultural sensitivity. However, AI tools often prioritize efficiency and correctness over these more complex communicative goals. As a result, students may develop technically accurate but less context-sensitive communication skills.

Conclusions. The study demonstrates that neural networks and artificial intelligence are transforming foreign language teaching in significant ways. They offer new opportunities for personalized, flexible, and interactive learning. At the same time, they introduce new challenges related to standardization, critical thinking, and inequality. In ESP contexts, especially in teaching English for Marketing and Management, this balance is particularly important. AI tools can support the development of professional communication skills, but they should be used critically and in combination with pedagogical guidance. Future research should focus on how AI can better reflect the complexity of real business communication and support more flexible and culturally aware language use.

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