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THE PECULIARITIES OF USING ARTIFICIAL INTELLIGENCE IN TEACHING FOREIGN LANGUAGES IN HIGHER EDUCATION INSTITUTIONS IN UKRAINE

This article is dedicated to studying and analyzing the peculiarities of using artificial intelligence in the context of teaching foreign languages in higher education institutions in Ukraine. The authors define the current role of AI in foreign language learning, its significance, and the extent to which it can replace human resources. The authors explore various aspects of the role of AI in education, focusing on the impact of technology on the quality of education and student performance. The article analyzes the use of intelligent agents, machine translation, virtual assistants, and other innovative solutions in this context.

The authors provide an overview of current trends in the development of artificial intelligence and explore the possibilities of its effective implementation in the educational process. The analysis is based on specific practical examples of using artificial intelligence in teaching foreign languages in Ukrainian higher education institutions. The article identifies the positive and challenging aspects of using this technology in the educational process and discusses the prospects for further development in this direction. The article also highlights the ethical aspects of using AI in foreign language learning and the importance of ensuring accessibility and equality in education when implementing technological solutions.

The article examines the peculiarities of using artificial intelligence in teaching foreign languages at higher education institutions in Ukraine. The authors have analyzed the current state of AI utilization in the educational process and identified its advantages and limitations. The article also discusses various AI methods and tools that can be used to enhance the effectiveness of teaching foreign languages. It highlights the opportunities and challenges arising from the implementation of AI in the educational process, and offers recommendations for optimal use of this technology to achieve maximum pedagogical impact.

This article serves as an important contribution to understanding and optimizing the use of artificial intelligence in foreign language learning in Ukrainian higher education institutions. The findings can be valuable for educators, researchers, and education professionals interested in integrating artificial intelligence into the process of foreign language learning.

Key words: *artificial intelligence, foreign language learning, higher education, educational technologies, innovations in education, virtual assistants, personalized education, learning effectiveness.*

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ОСОБЛИВОСТІ ВИКОРИСТАННЯ ШТУЧНОГО ІНТЕЛЕКТУ ПРИ ВИКЛАДАННІ ІНОЗЕМНИХ МОВ У ЗАКЛАДАХ ВИЩОЇ ОСВІТИ УКРАЇНИ

Ця стаття присвячена вивченню та аналізу особливостей використання штучного інтелекту в контексті навчання іноземних мов у вищих навчальних закладах України. Визначається актуальна роль ШІ у вивченні іноземних мов, його значущість та ступінь можливості замінити їм людські ресурси. Автори досліджують різноманітні аспекти ролі ШІ у навчанні, зосереджуючись на впливі технологій на якість освіти та результативність студентів. Стаття аналізує використання інтелектуальних агентів, машинного перекладу, віртуальних асистентів та інших інноваційних рішень у цьому контексті.

Автори проводять огляд сучасних тенденцій в розвитку штучного інтелекту та досліджують можливості його ефективного впровадження в освітній процес. В основі аналізу лежать конкретні практичні приклади використання штучного інтелекту у викладанні іноземних мов в українських вищих навчальних закладах. Визначаються позитивні та викликові аспекти використання цієї технології в навчальному процесі та розглядаються перспективи подальшого розвитку в цьому напрямі. Стаття також висвітлює етичні аспекти використання ШІ у вивченні іноземних мов та важливість забезпечення доступності та рівності в освіті при впровадженні технологічних рішень.

Стаття розглядає особливості застосування штучного інтелекту у викладанні іноземних мов у закладах вищої освіти України. Автори проаналізували поточний стан використання ШІ в освітньому процесі та визначили його переваги та обмеження. Стаття також розглядає різноманітні методи та інструменти ШІ, які можуть бути використані для підвищення ефективності навчання іноземних мов. Висвітлено можливості і виклики, які виникають у зв'язку з імплементацією ШІ в освітній процес, а також запропоновано рекомендації щодо оптимального використання цієї технології для досягнення максимального педагогічного ефекту.

Ця стаття слугує важливим внеском у розуміння та оптимізацію використання штучного інтелекту при вивченні іноземних мов в українських закладах вищої освіти. Отримані результати можуть бути корисними для педагогів, дослідників та фахівців в галузі освіти, які цікавляться інтеграцією штучного інтелекту в процес вивчення іноземних мов.

Ключові слова: *штучний інтелект, вивчення іноземних мов, вища освіта, освітні технології, інновації в освіті, віртуальні асистенти, індивідуалізація освіти, ефективність навчання.*

Introduction. Artificial intelligence, undoubtedly, becomes a key factor in the modern world, transforming traditional approaches to education. Ukrainian higher education institutions are not left aside from this technological progress, especially when it comes to learning foreign languages. The application of artificial intelligence in the context of foreign language education is not only relevant but also an extremely promising direction. This is driven by the necessity to

support students in achieving language proficiency and developing intercultural interaction in the conditions of globalization. In this context, it is important to consider the peculiarities of using artificial intelligence in the educational processes of foreign languages in Ukrainian higher education institutions, to identify the advantages and challenges of this approach, and to highlight its impact on the quality of education and the preparation of qualified professionals.

Artificial Intelligence (hereinafter referred to as AI) is a field of computer science that studies the development of systems capable of performing tasks that typically require human intelligence. These systems can include algorithms that enable computers to recognize patterns, make decisions, solve problems, learn, and adapt to new situations. The online dictionary gives the following definition of this term: “A particular computer system or machine that has some of the qualities that the human brain has, such as the ability to interpret and produce language in a way that seems human, recognize or create images, solve problems, and learn from data supplied to it.” (Online Cambridge Dictionary).

In modern education, AI plays an important role in many aspects. The first one is personalized learning as the tailoring of educational content, pace, and learning pathways to meet the individual needs, interests, and learning styles of each student. AI systems can adapt educational material to the needs of individual students, developing personalized learning programs. The second aspect is automated assessment. AI enables the automation of knowledge and skills assessment processes, using algorithms to analyze and evaluate the level of material understanding. The third one is learning efficiency. AI systems can provide educational resources, tools, and hints that contribute to improving the quality and effectiveness of learning. Also, AI allows the creation of interactive online courses and platforms for distance learning, making education accessible to a wide range of people. And the last aspect is predictive analysis. AI helps predict learning success, identify potential issues, and propose strategies to address them.

Thus, artificial intelligence plays a crucial role in modernizing the educational process, contributing to the improvement of accessibility, quality, and effectiveness of education.

The aim of the article is to investigate and analyze the specific ways in which artificial intelligence is employed within the context of foreign language instruction in Ukrainian higher education institutions. The article aims to define the current role of artificial intelligence in foreign language education, assess its significance, and explore the extent to which it can potentially replace human resources. Additionally, the article seeks to examine various aspects of the role of AI in education, with a particular focus on its impact on the quality of education and the performance of students.

Research analysis. Nowadays there are a lot of scientists who are actively investigating the peculiarities of using artificial intelligence in the context of teaching foreign languages: Dr. Cristina

Perez-Guillot (**Perez-Guillot, 2019**), her work focuses on natural language processing and its applications in language learning, including the use of AI for personalized language instruction; Dr. Kristina Gulordava (Gulordava, 2020) explores the intersection of artificial intelligence and linguistics, with a focus on developing AI-driven language learning tools; Dr. Diane Litman (Tran N., Pierce B., Litman D., et al., 2023) examines the use of natural language processing and machine learning techniques for intelligent tutoring systems, including those designed for language learning; Dr. Marcello Federico's (Zuluaga-Gomez J., Huang Z., Federico M., et al., 2023) work spans machine translation, speech recognition, and language learning technologies, with a focus on developing AI-driven solutions for multilingual education. These scientists are among many others who are actively engaged in research aimed at harnessing the power of artificial intelligence to enhance language education. Their work contributes to the ongoing advancement of AI-driven approaches in teaching foreign languages.

Researchers and educators from various fields are addressing the issue of using artificial intelligence in the context of teaching foreign languages in higher education institutions in Ukraine: I. Kozubai (Kozubai, 2023) conducts an analysis of the impact of artificial intelligence on the teaching and learning of foreign languages; L. Viktorova (Viktorova, 2021) examines the application of artificial intelligence technologies and chatbots in the study of foreign languages in higher education institutions; L. Kartashova (Kartashova, 2022) investigates artificial intelligence as a means of shaping the educational experience of the future; O. Zubenko (Zubenko, 2023) defines the role of artificial intelligence in studying foreign languages in an academic environment.

Results and discussion. The impact of AI on the process of teaching and learning foreign languages can be significant and has several key aspects. AI systems can adapt educational programs and materials to the needs of each student. This allows students to learn the language according to their level, interests, and individual needs. Some programs and platforms using artificial intelligence can provide interactive exercises, games, and simulations that help students actively engage with the language and gain practical experience. AI can be used for automated assessment of language skills, including grammar, pronunciation, and comprehension. This enables faster and more objective evaluation of students' performance. AI systems can analyze students' progress and automatically adjust educational material and tasks to better accommodate their needs and development.

AI can make learning more accessible for people with various abilities and needs by providing adapted materials and tools.

Overall, AI can significantly improve the effectiveness and accessibility of foreign language learning, providing students with personalized approach, greater interactivity, and quick feedback.

However, alongside the advantages, there are also some limitations to the use of AI: impersonal approach (misuse of AI can lead to alienation and lack of individualized approach to learning, which can affect students' motivation and performance); potential errors (machine learning algorithms may result in mistakes or incorrect conclusions, especially if they are based on limited or incomplete data); lack of flexibility (some AI systems may be less flexible and adaptive to changes in students' needs or learning styles compared to human teachers); cost and accessibility (developing and implementing AI systems can be costly and require significant investment, which may be a limitation for many educational institutions); ethical considerations (the use of AI can raise ethical dilemmas, such as data privacy, biases, and accountability for decisions made).

Although the use of artificial intelligence in education has the potential for significant improvements, it is important to carefully consider these limitations and ethical aspects to ensure effective and responsible use of these technologies.

The use of AI in education brings to the forefront a number of ethical issues that require careful study and discussion. The collection, storage, and processing of students' personal data using AI systems can pose a threat to their privacy. It is important to develop mechanisms for data protection and ensure their confidentiality. The use of autonomous AI systems may raise questions about accountability for the decisions made. It is important to develop mechanisms for control and accountability for the actions of AI systems in educational settings. Machine learning algorithms may be influenced by personal or cultural biases, which can lead to unfair treatment of some students. It is important to develop and apply algorithms that minimize the risks of bias and ensure fairness in data processing. The use of AI systems should be accessible to all students, regardless of their abilities and needs. It is important to consider individual characteristics and provide inclusive access to educational resources. AI can impact labor market needs and educational requirements, creating new challenges for students and educational institutions. It is important to consider these changes and adapt educational programs to meet the modern needs of

the job market. Ethical principles should also be considered in the development and use of AI systems in education, including transparency, fairness, trust, and openness to discussion. These ethical aspects of using artificial intelligence in education require careful study, discussion, and consideration to ensure a fair, accessible, and effective learning process for all participants in the educational environment.

Ukrainian higher education institutions are actively advancing towards the use of AI in the educational process. Some of the projects and initiatives conducted in Ukraine include: utilization of intelligent systems for educational process management; development of interactive learning platforms; research in machine learning and natural language processing; organization of conferences and seminars; partnership with IT companies.

Here are a few specific examples of projects and initiatives from Ukrainian higher education institutions in the field of AI: "AI Hub" project at Kyiv Polytechnic Institute (KPI); "Data Science UA" project at the National Technical University of Ukraine "Kyiv Polytechnic Institute" (NTUU "KPI"); "AI Education" project at Lviv Polytechnic University (LPU); "Digital Education" project at ITMO University (Information Technologies, Mechanics, and Optics) in Ukraine; "Smart Campus" project at Kharkiv National University of Radio Electronics (KhNURE), etc.

These projects are just a few examples of the numerous initiatives being implemented in Ukrainian higher education institutions in the field of artificial intelligence. They demonstrate a growing interest in this topic and a commitment to innovation in education.

The field of using AI in language education holds promising avenues for future research and development. Some potential areas for exploration include: advanced adaptive learning systems, natural language processing for language learning, virtual reality and immersive learning environments, ethical considerations and Human-AI interaction, longitudinal studies and educational outcomes, teacher training and support. Overall, continued research and development in these areas have the potential to revolutionize language education, making it more personalized, effective, and accessible to learners worldwide.

Summarizing the above, we can state that the role of AI in the study of foreign languages is quite significant today and continues to grow. AI has great potential in the field of education and teaching foreign languages. However, at the moment, its functionality in this area is limited. Therefore, it is advisable to

apply AI only to tasks where it is most effective and not attempt to completely replace human resources in foreign language education.

Further, we will consider different methods of using ChatGPT in foreign language classes (English and German), which we use at Poltava State Agrarian University at the Department of Humanities and Social Studies.

Method 1. Communicating with a bot, practicing written speech

The first method involves interacting with a bot to improve students' written communication skills. This method may include the following steps:

1. Setting a goal. Determining what exactly they want to improve in their written communication, whether it's grammar, sentence structure, or vocabulary.

2. Choosing the right bot. Finding a bot or application capable of providing feedback on their written communication. This could be artificial intelligence capable of analyzing text and suggesting corrections.

3. Regular interaction. Interacting with the bot on a regular basis. Writing texts, sentences, or even essays, and asking the bot to evaluate them or suggest corrections.

4. Analyzing the feedback. Carefully studying the feedback provided by the bot. Paying attention to the mistakes they make and trying to avoid them in the future.

5. Expanding the vocabulary. Using the bot to expand the vocabulary. Requesting synonyms, expressions, and phrases that can make their written communication more varied.

6. Experimenting with different topics. Writing on different topics to broaden their experience and covering various styles and genres.

This method provides a structured approach to practicing written communication, as well as allowing the use of artificial intelligence technologies to receive feedback.

The idea of conversations with a machine is not new: for example, there is already a tool called Character.ai (<https://beta.character.ai/>), where students can choose a character and communicate in their style. But simply conversing often does not improve language skills: students just discuss what they already know. In ChatGPT, we are interested in the ability to communicate on various topics, with the level gradually increasing. This requires an influx of new vocabulary and its constant training, and constant practice, integrating it into active vocabulary. Also, there should be feedback and error correction. It's necessary to determine the topic that needs practice.

It could be something as simple as "how are you" if students are just beginning to learn the language. Similarly, it could be practicing a complex topic where reaching a professional level is important (for example, being able to discuss AI in detail). Asking questions oneself and asking to be asked something. Studying the machine's response for interesting constructions and words. In return, students write a mini-composition on the given topic, trying to use new vocabulary or grammatical structures. Asking for their mistakes to be corrected.

Method 2. Requesting theory: the difference in words

This method involves several steps to deepen students' understanding of the difference in meanings of words. They determine a set of words whose differences in meanings they would like to study. These could be synonyms, antonyms, or words with similar but not identical meanings. After that, they request theoretical information about the differences in meanings of the selected words from a bot or other resources. This may include definitions, usage contexts, and example sentences. Then they see how these words are used in real contexts. They can do this by reading texts, looking at examples of usage in dictionaries, or even discussing them with native speakers. Further, they practice by creating their own sentences using the words they're studying. This will help them solidify the difference in their meanings. If possible, they discuss their examples with native speakers, teachers, or even with a bot. After that, students keep track of their own list of words with differences in meanings and add new words to it as they study them. This method allows for actively studying the differences in meanings of words, while also providing a structured approach to assimilating them.

It's true that explanations might not be perfect, and working with primary sources like dictionaries and grammar guides will likely be more accurate. However, for many of us, the fact that we can request explanations right away, without additional searching on Google, often compensates for any inaccuracies.

Method 3. Generating educational materials

Learning a language is most enjoyable for students when they're engaging with content that interests them. However, finding texts and audio on topics they're interested in can be challenging for several reasons. Native materials are often either lengthy, complex, or in an inappropriate format. Here, they can specify the topic, indicate the maximum number of words, and state whether they want a text, dialogue, or abstract. They can also request a text in a specific tense (for example, Present Continuous). From there, various options are possible:

- Simply learn new words in context.
- Input the text into a speech reader (<https://www.naturalreaders.com/online/>) and listen, improving their listening skills.
- Enhance their spoken language skills by retelling the text based on the new vocabulary.

Method 4. Paraphrasing text, changing the tone of voice

Often in language, we rely on the same constructions. On one hand, this helps us feel confident, but on the other hand, it simplifies our speech and deprives it of nuances. In some cases, communication can be perceived as too direct and even negatively affect relationships. ChatGPT can be asked to rephrase a message to find synonyms and enrich students' speech. Or they can ask it to convey the same idea with a friendlier context, for example.

Method 5. Prepare for specific situations

One of our favorite ways to use ChatGPT is for preparing for specific situations. It's great for students who want to prepare for a particular scenario but aren't quite sure how conversations typically unfold or what they should ask. Students can engage in role-playing exercises where they simulate real-life situations such as ordering food at a restaurant, checking into a hotel, or resolving a customer service issue. They can interact with ChatGPT to practice their conversational skills and receive immediate feedback. The suggested phrases can be learned and rehearsed right in the chat.

These examples demonstrate how ChatGPT can be a valuable tool for language learning and teaching, offering opportunities for practice, feedback, and exploration across various language skills and contexts.

Conclusions. The use of artificial intelligence in the context of teaching foreign languages in higher education institutions in Ukraine has significant potential to improve the quality of education and the effectiveness of the learning process. Firstly, artificial intelligence can provide a personalized approach to learning, taking into account the needs of each student and offering personalized materials and tasks. Additionally, AI systems can provide real-time instruction, providing instant feedback and hints to students during task completion or learning exercises.

Furthermore, the use of artificial intelligence contributes to the improvement of assessing students' academic achievements. Automated systems can analyze written and oral responses, evaluate pronunciation and grammar, thereby ensuring objective assessment and prompt feedback to enhance learning outcomes.

Moreover, artificial intelligence can serve as a source of additional educational resources and materials for students, providing access to a vast number of texts, audio, and video materials for independent language learning. This expands students' opportunities for in-depth language learning and skills practice in various situations.

Overall, the use of artificial intelligence in teaching foreign languages in higher education institutions in Ukraine is a promising direction that can contribute to enhancing the quality of education, increasing student motivation, and improving their learning outcomes. However, it is essential to ensure appropriate technological and methodological support for the implementation of such systems, as well as to carefully consider ethical and confidentiality issues in their use.

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