ДНІПРОВСЬКИЙ ДЕРЖАВНИЙ АГРАРНО-ЕКОНОМІЧНИЙ УНІВЕРСИТЕТ

Кафедра філології

СУЧАСНА ПЕДАГОГІКА
ТА
ЛІНГВОДИДАКТИКА

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КАФЕДРА ФІЛОЛОГІЇ

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У статті розглядається питання використання інтерактивних технологій в німецькому класі, що також було метою нашого дослідження. Для досягнення цієї мети використовувалися різні теоретичні методи дослідження: аналіз, порівняння, спостереження і синтез. Встановлено, що використання інтерактивних технологій у викладанні іноземної мови в університетах є досить перспективним. Встановлено, що інтерактивне навчання сприяє розвитку особистості студента університету та підвищує якість освіти в цілому. У статті стверджується, що рольова гра, кейсдослідження, мозковий штурм і метод проекту є ефективними інтерактивними технологіями навчання у вищих сільськогосподарських вищих навчальних закладах. Автори пояснюють новизну і практичну значимість досліджуваної проблеми.

Ключові слова: інтерактивність, технологія, німецька мова, мотивація, аграрні вищі навчальні заклади.

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ARTIFICIAL INTELEGENCE AS AN EFFECTIVE TOOL FOR LEARNING ENGLISH FOR ACADEMIC PURPOSE BY PHD STUDENTS

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The article is devoted to the problem of artificial intelegence application for learning English for academic purpose by PhD students. In the study, the authors attempts to describe the concept of "artificial intelegence", which should be understood as the field of computer science dedicated to solving cognitive problems commonly associated with human intelligence, such as learning, problem-solving, and pattern recognition. Special attention is devoted to the examination of the main platform, which can be used for learning English for academic purpose, such as Adaptive Learning Platforms, Language Assessment and Feedback, Chatbots for Conversational Practice, Personalized Lesson Plans, Natural Language Processing (NLP) for Language Analysis, Interactive Language Tutors, Language Translation and Vocabulary Building, Gamification for Engagement, Augmented Reality (AR) Language Learning, Text-toSpeech and Speech-to-Text Tools, Language Learning Analytics, Cultural Context Awareness. The authors determined the disadvanteges of AI usage, namely: lack of personalization, overreliance on technology, lack of emotional intelligence and technological barriers. Thus, application of the given AI platforms for language learning environments can create more personalized, efficient, and engaging experiences for PhD students.

Key words: artificial intelegence, PhD students, learning platforms, learning tools, English for academic purpose

Introduction. The 21st century is a great challenge for the humanity, which is to some extent related to technological progress and the geopolitical situation. In the modern conditions of social development, training of the specialists who knows foreign languages to such an extent that they can establish professional ties and contacts not only within their own country, but at the international level as well, is one of the main attributes of the education system. Furthermore, high-quality foreign language skills will allow PhD students to participate in international conferences, symposia, congresses, to undergo an internship abroad in order to improve academic and scientific skills.

According to the concept of the Cabinet of Ministers of Ukraine from December 2021, artificial intelligence technologies should be

actively implemented in the field of education [2]. So, nowadays artificial intelligence (AI) is an essential part of the educational process, which is able to transform the functioning of the education system, increase the competitiveness of institutions and empower teachers and students at all levels.

Thus, AI usage for studying English for academic purpose by PhD students is a quite relevant problem.

Analysis of recent research and publications. Theoretical and practical explorations regarding the AI usage in education can be found in the works of foreign (S. Ahmad, A. Alam, A. Mohanty, I. Kelik, H. Chen, L. Chen, Z. Lin, J. Devi, et al.) and national scientists (O. Baranov, N. Buglai, I. Viznyuk, S. Zaitseva, V. Kylyvnyk, V. Kotsovsky, L. Kutsak, A. Melnyk, A. Polishchuk, N. Rudenko, S. Terepeschy, S. Sharov, etc.). The problem of using AI to study foreign language was investigated in the works of Dr. Graham Neubig, a researcher and assistant professor at Carnegie Mellon University, Dr. Kyunghyun Cho, an Associate Professor at New York University, Dr. Emma Marsden, a professor of Second Language Education at the University of York, Dr. Annette Hautli-Janisz, a researcher at the Institute of Computer Science at the HumboldtUniversity of Berlin,

Dr. Diane Litman, a professor at the School of Computing and Information at the University of Pittsburgh and others.

Despite the fact that AI becomes an integral part of the educational process in higher education institutions, the issue of it's usage for studying English for academic purpose by PhD students remains insufficiently covered.

The aim of the article – to reveal AI new features and efficacy at a studying English for academic purpose by PhD students.

Materials and methods. Techlologization of the 21st has led to radical changes in the educational system. Application of artificial intelligence changes not only the roles played by teachers and learners, but also the traditional and virtual patterns of interaction in the educational process. Teachers and learners are dealing with interactive machines to share educational experience, and achieve the required objectives. These machines will offer interactive educational platforms that conduct discussions with the students and respond to their questions and reactions.

The field of research requires determination of such a basic concept like AI, which, according to scientists, is to be understood as the field of computer science dedicated to solving cognitive problems commonly associated with human intelligence, such as learning, problem-solving, and pattern recognition [11].

The scientific literature analysis allowed us to define the following technologies PhD students can use for studying English for academic purpose:

1. Adaptive Learning Platforms

Adaptive learning platforms use AI algorithms to tailor educational content and activities to the individual learner's needs. These platforms assess a learner's proficiency level, learning style, and progress to dynamically adjust the difficulty and pace of lessons. This ensures that learners receive content that matches their current skill level, optimizing their language learning experience.

For example, **Duolingo** platform uses AI to adapt its lessons based on user performance. It adjusts the difficulty of exercises and introduces new content according to the learner's progress.

2. Language Assessment and Feedback:

AI can assess language proficiency through various means, including automated quizzes, exercises, and even speech recognition for pronunciation evaluation. Immediate feedback is provided to learners, highlighting areas for improvement and offering guidance on how to enhance their language skills.

For example, **Babbel** incorporates AI-driven assessment tools to evaluate learners' language proficiency. Immediate feedback is provided after exercises to guide learners in areas that need improvement.

3. Chatbots for Conversational Practice:

AI-driven chatbots simulate conversations in the target language, allowing learners to practice in a conversational context. These chatbots engage users in dialogues, respond to queries, and provide a realistic conversational experience, helping learners improve their speaking and comprehension skills.

For example, **Replika,** which is primarily a conversational AI for general purposes, can be used for language learning by engaging users in text-based conversations in the target language. *4. Personalized Lesson Plans:*

AI algorithms analyze learner performance data to create personalized lesson plans. By identifying strengths and weaknesses, AI can customize learning materials and activities to address specific areas where the learner needs improvement, making the learning process more efficient.

For example, **Rosetta Stone** uses AI algorithms to create personalized lesson plans based on learner performance, adapting the content to focus on areas where improvement is needed.

5. Natural Language Processing (NLP) for Language Analysis:

NLP is a field of AI that focuses on the interaction between computers and human language. In language learning, NLP can be used to analyze and understand the complexities of language, including syntax, semantics, and pragmatics. This helps learners grasp context, idioms, and cultural expressions in a more nuanced way.

For example, **Grammarly**, while known for grammar checking, also uses NLP to provide suggestions for improving writing style and language usage, aiding learners in understanding linguistic nuances.

6. Interactive Language Tutors:

AI-powered virtual tutors engage learners in interactive lessons. These tutors can explain concepts, answer questions, and provide additional examples to reinforce learning. They adapt to individual learning styles and pace, offering personalized guidance throughout the language learning journey.

For example, **Busuu** employs AI-driven virtual tutors that provide interactive lessons, personalized feedback, and guidance to learners as they progress through language learning exercises.

7. Language Translation and Vocabulary Building:

AI-powered translation tools assist learners in understanding and translating text in real-time. Additionally, vocabulary-building apps leverage AI to recommend and reinforce new words based on a learner's progress. These tools contribute to expanding vocabulary and improving overall language comprehension.

For example, **Google Translate** uses AI for language translation, helping learners understand and translate text in real-time. Vocabulary-building apps like Quizlet also leverage AI to recommend new words based on user interactions.

8. Gamification for Engagement:

Gamification incorporates game elements into the language learning process to enhance engagement and motivation. AI can be used to make language learning games more adaptive and personalized, adjusting difficulty levels based on individual performance and providing a more enjoyable and effective learning experience.

For example, **Memrise** uses gamification elements to make language learning fun and engaging. It adapts content based on learner performance, creating a dynamic and motivating learning experience.

9. Augmented Reality (AR) Language Learning:

AR applications use AI to create immersive language learning experiences. For example, AR can label objects in the learner's environment with their corresponding names in the target language, providing a contextual and interactive approach to language acquisition.

For example, **MondlyAR** is an AR language learning app that uses AI to enhance the learning experience by labeling objects in the real world with their names in the target language.

10. Text-to-Speech and Speech-to-Text Tools:

Text-to-speech tools convert written text into spoken language, helping learners with pronunciation and oral comprehension. Speech-to-text tools, on the other hand, transcribe spoken language into written form, offering learners opportunities to practice articulating and expressing themselves in the target language.

For example, **Microsoft Translator** offers text-to-speech and speech-to-text features, aiding learners in pronunciation and oral comprehension by converting written and spoken language.

11. Language Learning Analytics:

Language learning analytics involve the use of AI to analyze large sets of data generated by learners. This data can reveal patterns, areas of improvement, and effective learning strategies. Educators and learners can leverage these insights to tailor instruction and optimize language learning approaches.

For example, **Knewton** is an adaptive learning platform that uses analytics and AI to provide insights into learner performance, helping educators tailor instruction based on individual needs.

12. Cultural Context Awareness:

AI can enhance language learning by providing insights into cultural nuances associated with language use. Understanding the cultural context of expressions and language usage fosters a more authentic and comprehensive grasp of the language, beyond just vocabulary and grammar.

For example, **Cultural Detective,** which is not directly a language learning platform, provides insights into cultural nuances, helping learners understand the cultural context associated with language usage [1] [4] [5] [6] [7] [8] [9] [10].

In our opinion, the disadvantages associated with the use of AI for learning English for academic purpose cannot be ignored. Here are some common issues associated with applying AI tools for language learning:

• *lack of personalization*: despite advances in AI, achieving truly personalized learning experiences for every individual can be challenging. AI systems may struggle to fully understand the unique learning styles, preferences, and cultural backgrounds of each learner.

• *overreliance on Technology*: there's a risk of learners becoming overly dependent on AI tools, neglecting traditional language learning methods or human interaction. A balanced approach that combines technology with other learning resources is essential.

• *lack of emotional intelligence*: AI lacks emotional intelligence, which is crucial for language learning, especially in areas like motivation and encouragement. Human educators often excel in providing emotional support, understanding learner frustration, and adapting their approach accordingly.

• *technological barriers:* access to AI-powered language learning tools may be limited by technological barriers, such as the availability of high-speed internet, compatible devices, and the affordability of advanced technology in certain regions [3] [5] [7] [10].

Conclusion. So, application of the given AI platforms for language learning environments can create more personalized, efficient, and engaging experiences for PhD students, ultimately facilitating language acquisition and proficiency.

Prospects for further research can be seen in more in-depth exploring of the conditions, factors and regularities of AI usage while studying English for academic purpose by PhD students.

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ШТУЧНИЙ ІНТЕЛЕКТ ЯК ЕФЕКТИВНИЙ ЗАСІБ ДЛЯ ВИВЧЕННЯ АНГЛІЙСЬКОЇ МОВИ ДЛЯ АКАДЕМІЧНИХ ЦІЛЕЙ

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Стаття присвячена проблемі застосування штучного інтелекту для вивчення англійської мови для академічних цілей.

У дослідженні автори намагаються описати концепцію «штучного інтелекту», яку слід розуміти як галузь інформатики, присвячену вирішенню когнітивних проблем, зазвичай пов'язаних з людським інтелектом, таких як навчання, вирішення проблем і розпізнавання образів.

Особлива увага приділяється перевірці основної платформи, яку можна використовувати для вивчення англійської мови для академічних цілей, а саме: адаптивні