IMPLEMENTATION OF AI-POWERED ADAPTIVE LEARNING SYSTEMS IN TEACHING ENGLISH TO APPLICANTS FOR HIGHER EDUCATION

ВПРОВАДЖЕННЯ АДАПТИВНИХ НАВЧАЛЬНИХ СИСТЕМ НА БАЗІ ШТУЧНОГО ІНТЕЛЕКТУ У НАВЧАННІ АНГЛІЙСЬКОЇ МОВИ ЗДОБУВАЧІВ ВИЩОЇ ОСВІТИ

The author of the article brings up the problem of implementation of artificial intelligence (AI) and its tools in teaching English to students of non-linguistic higher education institution. The paper discusses different AI services and tools that can be applied at the lessons by foreign language teachers (FLT). The author notes that implementation of AI-powered learning systems in teaching a foreign language has become very popular nowadays and is widely spread in education. AI services and tools are characterised and main points are emphasized. Much attention is paid to the role of GPT chatbots in teaching English. The article addresses to its capabilities and functions, provides information about their efficiency while teaching English in the classroom. Different tasks and assignments based on AI are suggested in the paper. The author doesn't only describe them, but also gives examples how AI services, tools and GPT chatbots can challenge in preparation for classes and help FLTs save their precious time checking students' works. The author demonstrates results that can be achieved due to implementation of new technologies in teaching a foreign language on the example of a focus-group of the first-year students. Students can apply to AI services and tools practising all types of speaking activities and benefit much from the well-organized work with AI systems, improving and developing their skills in reading, writing, listening and speaking. According to the survey training experience, which learners get working with AI services is great.

The study of the problem is the subject of research of many scientists and still is the issue the day. The problem that is also taken into consideration in the paper concerns the full replacement of teachers by AI in the class. From the author's point of view it's impossible. AI lacks the ability to conduct lessons, motivating students to personal development, encouraging them to critical thinking, supporting their overall growth.

Implementation of AI-learning systems in teaching a foreign language must be focused not only on creation of new AI-instruments, but also on close interaction between AI on the one hand, teachers and learners on the other hand. Such collaboration will influence on students' progress in learning a foreign language.

Key words: *AI-adaptive learning systems, chatGPT, innovative technologies, educational platforms, applicants for higher education.*

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навчального закладу. У статті розглядаються різні сервіси та інструменти штучного інтелекту, які можуть бути використані на заняттях викладачами іноземної мови (ВІМ). Автор зазначає, що впровадження систем навчання на базі штучного інтелекту у викладанні іноземної мови сьогодні стало дуже популярним і набуває широкого поширення в освіті. У дослідженні охарактеризовано та освітлено основні моменти роботи сервісів та інструментів ШІ. Значну увагу приділено ролі чат-ботів GPT у навчанні студентів англійської мови. Розглянуто можливості та функції роботи чат-ботів, надано інформацію про їх ефективність під час викладання англійської мови на занятті. У статті представлено різні завдання, які викладач іноземної мови може запропонувати студентам на основі ШІ. Автор не лише описує ці завдання, а й наводить приклади того, як сервіси, інструменти та чат-боти GPT можуть спростити підготовку до занять і допомогти ВІМ заощадити їх дорогоцінний час на перевірку робіт. На прикладі фокус-групи студентів першого курсу автор демонструє результати, яких можна досягти під час впровадження розглянутих у статті технологій навчання іноземної мови. Студенти мають можливість використовувати сервіси та інструменти ШІ, практикуючи всі види мовленнєвої діяльності та отримуючи значну користь від правильно організованої роботи з системами ШІ, покращуючи та розвиваючи свої навички з читання, письма, аудіювання та говоріння. Згідно з опитуванням, досвід, який студенти отримують, працюючи з сервісами ШІ, є позитивним.

Вивчення проблеми є предметом досліджень багатьох вчених і досі залишається актуальним. Проблема, яка також освітлена у роботі, стосується загрози повної заміни викладачів на сервіси ШІ. З точки зору автора, це неможливо. ШІ не може проводити заняття, мотивуючи студенів до особистісного розвитку, заохочуючи їх до критичного мислення, підтримуючи загальний розвиток студенів. Впровадження систем навчання ШІ у викладанні іноземних мов має бути зосереджено не лише на створенні нових інструментів ШІ, а й на тісній взаємодії між ШІ з одного боку, викладачами та студентами з іншого боку. Така співпраця вплине на прогрес здобувачів вищої освіти у вивченні іноземної мови.

Ключові слова: *адаптивні системи навчання штучного інтелекту, чат-бот GPT, інноваційні технології, освітні платформи, здобувачі вищої освіти.*

Автор статті висвітлює проблему впровадження штучного інтелекту (ШІ) та його інструментів у викладанні англійської мови студентам нелінгвістичного вищого

Problem statement. Currently more and more new forms of artificial intelligence (AI) appear every day in different spheres of life. There is a boom in the development of neural networks and chatbots in many areas, including education. AI tools can generate lesson plans, presentations, images, texts, questions, mind maps and other educational materials in a few seconds according to the teacher's request. Chatbots are able to keep up a conversation, answer the question, comment on a work and provide leaners

with recommendations on how it can be improved. In this regard many teachers can face the problem of students' academic dishonesty, as applicants for higher education can stop acting fairly and honestly using AI for writing essays and doing different tasks designed to practise their language skills. So, lecturers lose the sense of giving students homework and other assignments when students' academic integrity can fail. In addition, many teachers suppose that in future AI will be able to replace them and teaching staff of any educational institution will remain unemployed. As a result, we face some problems: if a foreign language teacher can withstand the risks and threats of digitalization; if it's possible for FLT make artificial intelligence serve lecturers as an assistant and friend in educational process, presenting quality and efficiency at work.

In the article the author tries to analyze AI – powered learning systems while teaching English to the first-year students of non-linguistic higher education institution, giving examples of AI implementation in language learning.

Analysis of recent research and publications. The implementation of AI into the educational process is an inevitable consequence of the digitalization of education. The problem is the subject of research of many Ukrainian and foreign scientists and still is the issue the day. According to V. Varynskyi, I. Donnikova, N. Savinova "the phenomenon of artificial intelligence is connected with the beginning of the development of computer technologies and its awareness from the standpoint of cognitivism: as a tool for understanding the process of learning people with a further focus on the development of AI" [4]. Taking into account the scientific works of Ukrainian scientists M. Marienko and V. Kovalenko AI is supposed to be an educational toolkit [3]. V. Hrytsyshyn, N. Habrusieva, A. Shevchenko, N. Androshchuk studying the use of chatbots in educational process distinguish their functions and types and consider chatbots to be effective teaching applications [7]. Main directions of AI work are determined by the «Beijing Consensus on Artificial Intelligence and Education». It stresses that the development of AI must be carried out under human control and be oriented towards people, their interests and be able to enhance their potential [8].

Many researchers and scientists, who study this problem, consider that lots of professions are being changed nowadays as a result of digitalization, including the profession of a foreign language teacher. One of the examples of such transformation is the development of online educational platforms, the virtual environment and the development of AI tools that can easily replace people in the area of education. A teacher as a source of knowledge transmission loses its sense. New roles and functions appear – a tutor, a moderator, a developer of study programs, an organizer of project training, a coordinator of online educational platforms.

The purpose of the article. The lack of experience of FLTs to deal with AI tools and services during the classes hinders the process of effective teaching a foreign language. So, the main scientific and practical purposes of the study are to present and analyse tasks and assignments based on AI –powered adaptive learning systems and demonstrate their efficiency in teaching English to students of non-linguistic higher education institution on the example of a focus-group of first year students. New approaches and techniques help applicants for higher education master a foreign language better on the one hand and enjoy the learning process on the other hand. We suppose the stated problem is the issue of the day in Ukraine.

Presentation of the main materials. The ability to interact with AI and use it for the purpose of teaching a foreign language is a component of the digital competence of a foreign language teacher. FLT should be able to use digital tools, programs and online resources to teach a foreign language effectively, create own digital learning materials and digital environment, organize and manage the learning process. A teacher who does not have a high level of digital competence will not be able to use AI technologies in the educational process in a proper way.

W. Holmes, M. Bialik, C. Fadel, the authors of the book "Artificial Intelligence in Education", provide readers with the understanding of the impact of AI on the goals and methods of education in the 21st century. They suppose that AI is changing the knowledge and skills students need to be successful in life, enabling powerful methods of teaching and learning. They state that by 2030 AI will learn help teachers in their work, collaborating with them and go-between lecturers and students [2].

There are many AI services and tools that help FLTs create engaging and personalized lesson plans, track and assess students' progress. The most popular AI-powered adaptive learning systems are:

1. **DeepAI**. It's used for creativity in the classroom. DeepAI offers a set of tools that generate images based on text queries and has 11 styles in the free version (no registration required).

2. **Paint by text.** Edit your photos and create presentation materials based on instructions using AI (no registration required).

3. **Talk to Books.** It's a neural network that answers questions using quotes from books.

4. **Microsoft Designer**. AI tool that is good for creating visual effects and designs. It can be used both for lessons and for promoting educational products.

5. **Duolingo.** This educational platform offers courses in more than 30 languages. The Duolingo BirdBrain AI tool studies each user's profile and makes predictions about progress of every student,

providing an individual approach to learning. The system tracks the tasks that caused difficulties for the leaner and also remembers the mistakes made in these tasks on the basis of which it forms a further training plan. **The Explain My Answer** platform allows language learners to communicate with the Duo bot. The bot can assist and comment on the answer, as well as offer additional examples that will help a student understand and learn material better.

6. **Babbel** is an interactive online language learning course. Thanks to AI technologies, the Babbel system is able to recognize speech and correct pronunciation by comparing the words spoken by a student with speech samples in the database recorded by the course editors, for whom this language is native.

7. **Grammarly**. The service can correct more than 150 types of errors, such as errors in grammar, spelling, punctuation, writing style and sentence structure. If there are errors, Grammarly provides recommendations for their correction, offering various options. Working with this service students are able to analyze their texts, developing critical thinking skills, that are important for writing term papers, master's theses, scientific articles, abstracts etc.

8. AI–teaching assistant **Twee**. This platform was developed specifically to facilitate the process of preparing assignments on various aspects of a foreign language (vocabulary, grammar, reading, listening, speaking and writing). With its help you can create texts and different questions to them (multiple choice tests, true/false exercises, etc). In addition, the platform generates lexical and grammatical exercises for filling in the gaps, matching words with definitions, opening brackets, placing words in the correct order, etc. Twee transcribes videos, makes questions for these videos, finds interesting facts and quotes from famous people on the chosen topic, composes discussion questions, lists of advantages and disadvantages, lists of topics for essays, etc.

Speaking about **ChatGPT**, we can't but mention that it is a large language model developed by Open AI. One of the important features of chatGPT is its ability for context-sensitive understanding and text generation. The platform takes into account previous messages and responds taking into consideration the context, creating natural and appropriate communication situations. This feature of GPT chat allows teachers and students to interact with a virtual interlocutor: to conduct dialogues, discuss various topics, ask and answer the questions. This modern AI tool provides invaluable assistance in learning foreign languages. A review of ChatGPT work in teaching English for the first-year students is presented in the paper.

The study program "Foreign Language" for bachelor's degree students aims the development of skills and abilities that will ensure effective and flexible use of a foreign (English) language in public life. One of the topics that is learnt by the first-year students is "Travelling". ChatGPT helped students create a glossary of terms that corresponded to the learning topic. As part of the activation of lexical units of pre-intermediate level, ChatGPT offered students some new lexical units that are demonstrated in Figure 1.

Then ChatGPT suggested students to do an exercise for revision of lexical items on the topic and refresh grammar rules of Simple Present Tense and Present Progressive.

After students finished the exercise ChatGPT checked the works and provided students with feedback. At a closing stage ChatGPT proposed a test. It consisted of different tasks that allowed a teacher to track students' progress in speaking, reading, listening and writing. Based on the results of the focus group survey on the effectiveness of learning English using ChatGPT, it was determined
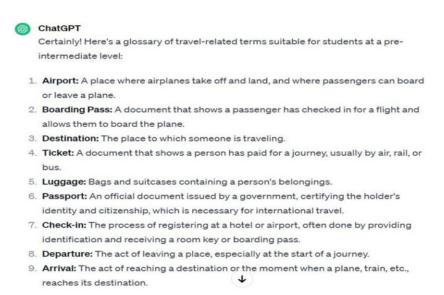

ChatGPT

Certainly! Here's a glossary of travel-related terms suitable for students at a pre-intermediate level:

1. **Airport:** A place where airplanes take off and land, and where passengers can board or leave a plane.
2. **Boarding Pass:** A document that shows a passenger has checked in for a flight and allows them to board the plane.
3. **Destination:** The place to which someone is traveling.
4. **Ticket:** A document that shows a person has paid for a journey, usually by air, rail, or bus.
5. **Luggage:** Bags and suitcases containing a person's belongings.
6. **Passport:** An official document issued by a government, certifying the holder's identity and citizenship, which is necessary for international travel.
7. **Check-in:** The process of registering at a hotel or airport, often done by providing identification and receiving a room key or boarding pass.
8. **Departure:** The act of leaving a place, especially at the start of a journey.
9. **Arrival:** The act of reaching a destination or the moment when a plane, train, etc., reaches its destination.

Fig. 1. A glossary of terms on the topic "Travelling" for pre-intermediate level students

Fig. 2. An exercise proposed by ChatGPT for grammar and lexical revision

that most of students achieved good results on the learning topic, could improve their speaking skills and increase communicative competence.

Another helpful service for controlling students' progress is Conker platform that can propose teachers the tests on any topic. Students' answers are checked by a program. The results can be analyzed after the test was finished. This service was also used by the author for checking students' knowledge on the topic "Travelling". Figure 3 demonstrates the QR code of the test that was created with the help of Conker platform.

Conclusions. Summing up the information presented above, it's worth noting that the use of AI – powered adaptive learning systems in teaching English becomes more accessible, interesting and effective. AI services and tools help students get individual training, provide them with the immediate feedback and develop practical skills. Students find lots of possibilities both to improve their language skills and enjoy the learning process. Implementation of AI-educational services and platforms have potential benefits in promoting both teaching and learning, providing students with an innovative and effective way to master a foreign language easily.

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Fig. 3. The example of QR code proposed to students for tracking their progress