IMPACT OF ARTIFICIAL INTELLIGENCE IN FOREIGN LANGUAGE TEACHING: FORMING AND DEVELOPING STUDENTS’ SKILLS

Abstract. The article examines the impact of introducing artificial intelligence into the educational process. The main areas of the use of artificial intelligence technology are analysed: teacher-oriented systems; student-oriented systems; systems focused on the organization of the educational process as a whole. Artificial intelligence has all the means to make the student's learning process personalized and adaptive. Adaptive learning involves the selection of educational content according to the needs of each student with different levels of training, with the ability to monitor learning progress and change its direction depending on the results. Artificial intelligence takes into account the methodology and pace of learning the material, the needs of each student, his personal interests and preferences. The current state of the implementation of artificial intelligence technologies in the educational process is described, the relevance of the use of artificial intelligence technologies during foreign language learning is highlighted. Examples of the use of artificial intelligence technologies during foreign language learning are given. It is concluded that currently artificial intelligence is an auxiliary, but valuable tool that can perform and improve a significant number of operations and help in organizing an effective educational process, forming and developing students' skills.

Keywords: artificial intelligence, foreign language learning, students' skills, teacher training, educational process, language acquisition.
Problem statement. There is now a wide variety of technological resources and educational digital tools applicable to all forms of learning, including distance learning. However, it is not enough to implement a particular technology, it is necessary to ensure its lasting effect. Artificial intelligence has great potential in this area, as it opens up new possibilities for teaching and learning and has the potential to fundamentally change the management of educational organisations.

The nature of research on the topic at hand is deepening; artificial intelligence is increasingly penetrating the teaching of foreign languages. Under the influence of artificial intelligence, the methods, contents, teachers' responsibilities and even the system of foreign language teaching are changing nowadays. On the one hand, foreign language teachers have to cope with the challenges of information society. On the other hand, new technologies also make foreign language teachers rethink their role in the educational process. For example, thanks to image recognition technology, teachers are relieved of the need to check homework and test papers; speech recognition and semantic analysis technology not only helps teachers to conduct oral tests, but also corrects and improves students' pronunciation. As another example, human-machine dialogue technology allows teachers to answer students' questions online. In addition, artificial intelligence technologies such as personalised learning, intelligent learning feedback and robotic distance learning are also rapidly evolving and improving, changing the current structure of the educational process.

Analysis of recent research and publications. Currently, some speculate that we are on the edge of a revolution: what some call “Generative Artificial Intelligence” as described by S. Mondal, S. Das and V.G. Vrana [1]. It uses machine learning and deep learning to produce datasets that generate models to produce a variety of texts. With deep learning the human brain’s neural networks are simulated to discern data patterns and rules. New data is generated that conforms to the data that was mined [2].

Many researchers have argued that the development of artificial intelligence has more potential to change higher education than any other technological advance. For instance, Klutka et al. has listed the following goals for artificial intelligence in higher education: increase outcomes; increase access; increase retention; lower cost; decrease time to completion. Furthermore, Klutka et al. claim that artificial intelligence can cope with many of the routine functions currently undertaken by instructors and administrators, freeing them up to solve more complex problems and to connect with students on deeper levels [3]. This reinforces the view that the role of the instructor or teacher needs to move away from content presentation, content management and testing of content comprehension – all of which can be done by computing – towards skills development.

As the researcher A. Schleicher noted, innovation in education is not just a matter of introducing new technologies into the learning process, it is about providing approaches to learning in such a way that students acquire the skills and abilities needed to thrive in a competitive global economy [4].
Considering artificial intelligence as an educational technology, its characteristic features should be noted: the ability to self-learning; the ability to make decisions and perform a certain set of actions peculiar to human nature; functioning as an auxiliary informational, cognitive and educational resource that stimulates the development of knowledge, skills and abilities, as well as contributes to the formation of language experience for the purpose of its further use in language practice.

J. Black doesn’t advise a total ban on artificial intelligence usage in schools. Taking the pros and cons of artificial intelligence into account, he recommends that we use generative artificial intelligence in classrooms only when we – as educators – think students could benefit, selecting GAIs (Generative Artificial Intelligence) carefully, and using them to promote knowledge and skill development in our classrooms today. He advocates for is that educators include GAIs by using them some of the time – not all of the time – in a knowledgeable, up-to-date, very discerning manner, by being aware of the risks, teaching learners what the shortcomings are, being cognizant of its benefits to student learning and making sure that pupils do not lose valuable skills as a result of relying on this newly emergent technology [5].

Various artificial intelligence algorithms and tools can be used for teaching or learning foreign languages. Hence, integrating artificial intelligence into a learning management system makes the learning platform smarter for learning a foreign language [6].

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The following forms of artificial intelligence can be distinguished, which are most often used in the process of teaching a foreign language: automatic evaluation systems; neural machine translation; intelligent tutoring systems; smart bots/AI chatting robots; intelligent virtual reality; affective computing.

In education, artificial intelligence can perform tasks such as recording student attendance, checking and correcting homework, correcting test papers, and calculating grades. In addition, foreign language learning software supported by artificial intelligence can check students' command of a foreign language from many different aspects; speech recognition technology can help correct pronunciation in real time, and a foreign language listening and speaking testing system with intelligent voice technology can conduct automatic oral tests with objective evaluation, etc. Innovative technology will undoubtedly help teachers to free
themselves from a number of tasks. At the same time, it will make teachers think about changing their role in the educational process in order to effectively adapt to the educational environment of new times.

In today's society, not only thriving but also surviving is only possible with the help of computer and mobile technology as well as the Internet. Students' foreign language learning is gradually transforming from the traditional classroom format to the format of mobile and blended learning. Such learning is not limited by time or place. An intelligent foreign language learning platform can accurately record and analyse data from the educational process and provide teachers with first-hand information to enable them to understand the progress and competence level of each student. In addition, the artificial intelligence is able to customise the curriculum, design personalised courses according to the level of learners, as well as according to their character, strengths and interests. In addition, the system is able to communicate and interact with learners. Artificial intelligence has completely changed the traditional foreign language teaching model as well as teaching methods. Consequently, foreign language teachers nowadays should respond to the changes that have occurred in personalised education as soon as possible.

The purpose of this article is to provide a comprehensive exploration of the suitable and compatible artificial intelligence tools that are combined for teaching or learning foreign languages, with a specific focus on the key steps necessary for their implementation in teaching foreign languages. The article aims to reveal the impact of artificial intelligence during foreign language learning using learning systems by systematically reviewing studies related to the area.

Presentation of the main material. The introduction of changes in the process of teaching foreign languages in the learning process and in examinations represents a turning point. Teachers are faced with a choice: to continue using the traditional hands-on learning format or to introduce an interactive mode with the use of artificial intelligence technologies. In the classical teaching format, the lack of an environment for students to use natural language is an objective problem. Language use requires interaction with people. But not every student can go to a foreign language environment for a month; it is impossible to attach a separate foreign language teacher to every student. Fulfilling these two conditions is not possible for most foreign language learners. Consequently, it is difficult for teachers to provide interactive language teaching and individualised remedial guidance to each student.

The use of artificial intelligence technology in the educational process has attracted widespread attention because it is the only technology that can mimic live teachers in order to provide learners with personalised, interactive learning. Modern artificial intelligence technologies in the educational process are highly interactive and human-centred; the interests and needs of each learner are taken into account. The functionalities of the training programs include pronunciation correction; exercises on composing sentences from separate words; practice of dialogue and
other situations of practical language use; automatic test aimed at checking the level of listening and speaking. By applying such techniques as pronunciation analysis, speech recognition, image recognition, natural language understanding, human-machine dialogue and other technologies, it is possible to create an artificial teacher who can listen, speak, correct mistakes, assess the level of competence and apply different approaches depending on the learner's needs.

Whether the student is mastering his or her mother tongue or consciously learning a foreign language, listening and speaking are the foundation of this process, and the key to improving these competences is imitation. But after leaving infancy, people's linguistic imitation ability is greatly reduced, hence the need for constant reminders and corrections. This is one of the obstacles in the field of foreign language learning. Therefore, the use of artificial intelligence technology to imitate a live teacher in order to correct students' pronunciation when teaching reading is an important element of foreign language learning. This role of modern technology represents a breakthrough in foreign language teaching. Nowadays, artificial intelligence is a listening and speaking coach who patiently guides and helps each learner.

Artificial intelligence pronunciation evaluation doesn't seem difficult for humans either, but artificial intelligence is still better at it. The essence of traditional speech recognition technology is that no matter how poorly a student speaks otherwise, it is necessary to clearly understand their speech in order to recognise it. The main thing in the educational process is to find problems and errors in students' pronunciation and point them out in a timely manner. That is why high-level speech recognition technologies that can understand the learner's speech and its content no matter how unintelligible he speaks are not suitable for learning a foreign language, because they cannot point out his mistakes and help him correct them. Much better suited are technologies that are of somewhat lower quality, so they do not always understand the learners' speech. They are more likely to be able to make the language learner realise where they have made mistakes in pronunciation.

Traditional speech recognition technology uses big data, technology that is essentially a kind of statistics. The system stores a statistical model of the pronunciation of thousands of students, so it technically cannot answer the question of a perfect score. Meanwhile, the lack of standards in teaching is unacceptable, so traditional intelligent technology is not suitable for foreign language teaching. Thus, a pronunciation correction system with a clear standard for identifying errors and correcting them in a timely manner is a direction that information technology experts have been working on for decades.

The work of automatic evaluation systems is based on the use of large amounts of information combined with neurolinguistic programming technology. Appropriate software analyses incoming information in oral or written form and generates a conclusion. Modern software that uses automatic assessment systems for
written work helps to improve learners' performance and enhance learning motivation. A number of online services correct errors and provide recommendations regarding the tone of the written communication. Similarly, automatic grading systems are used in speaking software. They help to improve pronunciation, fluency and accuracy.

Neural machine translation has evolved from automated translation. However, unlike the latter, it is based on the use of neural networks. Currently, Google Translate and the Microsoft Translator (Bing) widely use neural machine translation tools. From a cognitive and linguistic point of view, this form of artificial intelligence stimulates learners' autonomy, improves lexicogrammatical knowledge, develops productive (writing) and receptive (reading) language skills, increases motivation and language confidence. The result of neural machine translation can be used in the comparative analysis of the original and translated text, which requires learners' analytical skills and critical thinking.

Smart support systems are designed to provide personalised learning control within the framework of given models, patterns, algorithms and neural networks. By providing high quality instant feedback, intelligent tutoring systems independently suggest relevant learning materials for a particular learner based on his or her level of knowledge and difficulties. Lingualeo is an example of such software. Using a questionnaire, the neural network analyses the learner's interests and knowledge level and generates a personalised learning programme, offering learning materials tailored to the learner's interests, which has a positive effect on motivation.

Smart bots, or chat bots, are computer programmes using artificial intelligence to simulate human communication in written or spoken form. The functionality of such smart bots as Edwin, AndyRobot and Cleverbot is oriented towards the development of all components of foreign language communicative competence. Chat bots not only contribute to the improvement of language knowledge, primarily grammatical and lexical aspects, but also develop communication, listening, reading and argumentation skills. Chat bots build learners' confidence, reduce stress and increase interest in learning. The range of smart bots oriented towards educational goals is steadily growing.

Over the last two decades, virtual reality tools such as Google Earth, Google Tour Creator and Google Expeditions have been widely used in language learning. They provide additional opportunities for vocabulary development, as they can serve as an additional stimulus for speaking. Learners develop creative thinking in the process of creating their ideal virtual world and avatar.

Artificial intelligence is creating technologies for various spheres of life that can replace humans. In particular, artificial intelligence has given rise to many robot teachers, adjunct teachers, virtual teachers and so on, all of which have revolutionised the traditional model of teaching, which is based on one teacher addressing many learners at the same time. Today's information technology helps
instructors handle a range of functions, including gathering information resources for instruction, transferring knowledge, correcting homework assignments, and even interacting with students. Using big data, virtual teachers are able to gather resources needed in the educational process; students can also search for personalised learning resources recommended by virtual teachers using speech recognition technology. Helping foreign language learners, the robot teacher collects data and patterns of each learner's learning process from its database, analyses the available information and provides recommendations, helps teachers detect problems in the learning process in time, and effectively analyses the language competence level of each learner. J. Maderer believes that artificial intelligence in the future will replace most of the administrative staff and teaching support staff in higher education institutions [7].

Thanks to the Internet and artificial intelligence technology, a diversified trend of education can be observed at the moment. Thanks to artificial intelligence technology, distance education is no longer tied to the original video classroom model and does not even necessarily use the labour of live teachers. Artificial intelligence technology is able to take programmed learning content and use new technologies such as speech recognition, visual analysis, machine learning, data mining, etc. for human-computer interaction in the educational process. Currently, the role of teachers is to help students find ways to learn independently and guide them in the required direction. In doing so, the mechanical part of knowledge transfer can be replaced by artificial intelligence. Even with the continuous development of artificial intelligence and advanced neurobiology technologies, certain thinking actions can also be performed with the help of artificial intelligence.

Significant enrichment of teaching resources has been facilitated by the widespread use of the Internet and big data. Teaching resources and methods are no longer limited to traditional textbooks and electronic materials derived from books. Instead, big data is used in the educational process to collect a variety of learning materials. In addition, the enrichment of teaching resources and technologies also comes from various platforms, software, online learning materials, instructional videos and broadcasts, automatic tracking of learning progress, and so on.

Non-formal education is becoming a real application of artificial intelligence technology in practice. Artificial intelligence has enriched language teaching methods by adding such educational technologies as human-machine dialogue interaction, classroom interaction between robots and students, and so on. The combination of artificial intelligence and virtual reality technologies helps in the process of introducing situational learning into pedagogical practice. With speech recognition technology, it is possible to first understand students' questions, then analyse their content, search the database for the required answer, and finally express that answer using artificial speech synthesis. Some systems are able to perform instant translation, so that the technology is not limited to a specific language and a specific country. This enables multilingual dialogue with learners from all over the
world. This technology is already widely used in foreign language teaching; however, it also has considerable potential for development.

A. Schleicher points out that educational innovation is not just the introduction of new technologies, but changes in teaching methods. Educational innovation is aimed at enabling learners to acquire competences necessary for success in the global economic competition [8]. Artificial intelligence offers new ideas in the field of foreign language learning. That part of the educational process, which is realistic to mechanise, can be performed with the help of artificial intelligence technologies. For example, it can be such sections of foreign language learning as grammar, memorisation of phrases and sentence patterns, vocabulary enrichment, test tasks, formatted writing and so on. This part of the learning process can be fully automated without the need for live teachers. Artificial intelligence can perform targeted exercises according to the needs of students, as well as analyse the progress of the educational process in a timely manner and make the necessary conclusions. Also, it can clearly understand the dynamics of learning by capturing students' strengths and weaknesses. Advanced virtual reality technologies transform traditional classroom learning into situational learning. In this process, they can also interact using automatic speech recognition technology to provide language practice to simulate real-life situations. This technology is an alternative to traditional educational technology, which has the disadvantage of being theoretical and too detached from the language environment. The use of artificial intelligence and virtual reality technologies can significantly increase the enthusiasm of students and the level of interaction in the classroom. All this can have a positive effect on the learning process.

**Conclusion.** Thus, educational technologies based on artificial intelligence definitely have practical value in teaching foreign languages. Having analysed the most popular forms of artificial intelligence used in the process of teaching a foreign language, we can come to the conclusion that technologies based on artificial intelligence make it possible to form and develop students’ skills such as independent acquisition of new knowledge, application of acquired knowledge and skills in practical activities to solve life problems, self-learning and self-development, autonomy in learning. Artificial intelligence makes learning a foreign language more accessible and convenient, allows to simulate learning situations as close as possible to real ones, increases motivation to learn and reduces language uncertainty.

**References:**