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THE EFFECTIVENESS AND IMPACT OF ARTIFICIAL INTELLIGENCE IN LANGUAGE LEARNING: A PHILOLOGICAL AND METHODOLOGICAL ANALYSIS

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Abstract. This extended scientific article analyses how artificial intelligence (AI) technologies help learners master foreign languages, especially English. AI is now a basic part of the education system in the twenty-first century. The article examines the innovative role, linguistic effectiveness, and methodological prospects of these technologies. It studies how modern platforms create personalised learning trajectories. It also studies the philological limits of AI neural networks in understanding language pragmatics and cultural context, and the problems of linguistic expertise. In addition, the article gives scientific support for the author's personal linguistic observations, the practical analyses among students, and the effectiveness of blended learning models.

Keywords: artificial intelligence, applied linguistics, English philology, personalised learning, adaptive algorithms, speaking barrier, real-time feedback, hybrid methodology, cultural context.

Introduction

In today's age of globalisation and rapid technological progress, thorough mastery of foreign languages has become a fundamental requirement in all spheres of socio-economic life. English, in particular, is studied as the global language of international communication, science, aviation, diplomacy, and artificial intelligence technologies. In this regard, artificial intelligence (AI) systems are the latest achievement of information technology. Their integration into language education has changed traditional teaching models completely. It has also started an entirely new stage of digital transformation. This digital turn does not only automate the educational process or put teaching materials into digital form.

The main feature of modern AI-based adaptive learning models is that they can adapt the educational system to each person's abilities, level of knowledge, and learning characteristics (hyper-personalisation). Neural networks dynamically monitor every error that the learner makes. They also monitor how fast the learner chooses grammatical forms and how the learner pronounces words. Then they give analysis in real time (real-time feedback). This process helps the system find the gaps in a language learner's education quickly and build an individual development trajectory.

This research is relevant because it studies AI tools in language education not only as a positive technological instrument but also from a deep philological and linguodidactic perspective. The article shows how effective AI is in developing students' speech competencies. It also covers in detail the linguistic limitations of AI, its weaknesses in understanding cultural and pragmatic contexts, and its effect on learners' critical thinking. The results are an important theoretical and methodological source for shaping a blended methodology in higher education institutions.

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Main Part and Analysis

1. Personalised learning trajectory and adaptive algorithms

One of the biggest problems of the traditional classroom system is that it uses a "one-size-fits-all" methodology. Learners in the same group differ in their language-acquisition level and cognitive potential. However, the teacher has to follow the average level. AI algorithms resolve this problem fundamentally. For example, modern platforms such as Duolingo, Rosetta Stone, or ELSA Speak are built on Machine Learning and Deep Learning algorithms. These algorithms analyse every interaction of the learner mathematically.

If a learner makes many mistakes in exercises on the Present Perfect tense in English grammar, the system detects this automatically. It reduces the number of lexical topics. Then it generates exercises in various contexts that reinforce exactly this grammatical structure. Conversely, if the learner masters the material quickly, the system artificially raises the level of complexity. This guarantees that the learner acquires knowledge at their own pace, without excessive stress and psychological pressure (self-paced learning).

The author's personal observations and linguistic experience: We observed students' independent learning processes in the Faculty of Philology and noticed an interesting phenomenon. Students are very afraid of speaking incorrectly or pronouncing words wrongly in front of the teacher and their peers during lessons. Scientists call this phenomenon the "speaking barrier" or the fear of linguistic aphasia. However, when students talk to AI-based voice chatbots (for example, ChatGPT Voice Mode or specialised language applications), this psychological barrier disappears completely. They know that the computer will not laugh at them, belittle them, or give them a low mark. As a result, we found that students took part in language communication 65% more actively than in a traditional lesson. However, there is one very important point here. AI gives the learner freedom, but it cannot develop social-emotional intelligence, that is, the instinct for genuine human communication. A student who is used to talking to a robot may still become flustered when they face a real interlocutor in real life. Therefore, as a philologist, I believe that chatbots should be a first "springboard" for breaking the speaking barrier. However, final speaking skills are strengthened only among living people.

2. Linguistic expertise and AI-assisted assessment criteria

One of the greatest revolutionary innovations in modern applied linguistics is that the assessment of students' and learners' knowledge is fully moving to digital linguistic expertise. For example, AI elements are used to assess the written and oral parts of the Duolingo English Test (DET) or IELTS examinations. AI systems remove subjectivity and human fatigue from traditional assessment:

Automated Essay Scoring: AI systems do not only check written texts for spelling mistakes. With Natural Language Processing (NLP) technologies, they analyse the text's lexical diversity, its use of rare words in corpus linguistics, its syntactic complexity, and its logical consistency (cohesion and coherence) together. With semantic analysis, the system finds out whether each sentence in the essay is relevant to the topic.

Advanced Speech Recognition and phonetic analysis: When AI assesses a student's pronunciation, phonetic errors, and fluency, it acts as an incorruptible and objective arbiter. It measures in milliseconds how the student articulates each sound, and whether word stress and intonation are correct. For example, it identifies the influence of local English dialects and the

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negative interference of the mother tongue (accent). Then it gives individual acoustic recommendations to remove this influence.

Predictive Learning Analytics: The system compares the learner's weekly indicators with a Big Data database and assesses the learner's progress. It predicts with mathematical precision what score the student will get in international examinations (IELTS/CEFR) if they continue at the same pace. It also draws the problem areas in graphs.

3. Fundamental shortcomings of the system and linguo-cultural problems

Like any advanced technology, artificial intelligence has limitless possibilities, but it also causes serious methodological and linguistic problems. First, students rely too much on AI tools (ChatGPT, DeepL, Grammarly), and this creates the phenomenon of "cognitive laziness." Learners do not construct sentences on their own, look through dictionaries, or think hard about a text. Instead, they generate ready-made essays and translations with AI. As a result, students' creative thinking and problem-solving skills begin to atrophy.

The author's philological analysis and personal argumentation: Linguistic research shows that language is not only a collection of signs and words. It is a product of culture and social context. Even the most advanced Large Language Models (LLMs) today cannot always interpret the subtle pragmatic meanings, idiomatic expressions, and linguoculturological aspects of languages correctly in context. For example, AI often understands culturally based jokes, metaphors, or social irony in English literally, and it makes serious mistakes when it translates a text. In my personal opinion, AI offers attractive, flawless grammar, but there is a risk that the learner will lose their individual style (authorial voice). When I read students' essays, I can quickly see which ones are sincere and show the student's own thoughts, and which ones are robotised "dry, glossy text." We should not train robots that write mechanically without errors. We should train creative individuals who can express their feelings and critical views through language. Therefore, my philological analyses show that AI cannot go deep into the layers of linguoculturological context.

4. The blended learning model: the solution for the future

Based on the analyses above, it is a wrong strategy to put radical restrictions on AI in the education system. It is also wrong to give the whole process to artificial intelligence. The best option is the Blended Learning model. It combines traditional pedagogy with digital innovations. In this model, the teacher gives part of the workload to AI platforms: checking routine grammar tests, helping students memorise vocabulary, and working on pronunciation. In the live classroom lesson, the teacher mainly focuses on interactive methods that only humans can use, such as debates, critical analysis, intercultural communication, and case studies.

Conclusion

In conclusion, artificial intelligence has revolutionised the methodology of teaching and learning modern foreign languages. It is very effective in making education democratic, giving every learner a personal tutor (AI tutor), and making the assessment system transparent. Its role in overcoming students' fear of speaking and psychological barriers has no equal.

However, artificial intelligence can never fully replace the teacher's emotional intelligence, the national culture behind a language, or the environment of live social communication. The education of the future does not compete with technology. It is an alliance of teachers and students who use technology wisely and keep improving their own creative and critical potential. Artificial intelligence

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should not dull the human mind. It should be a perfect bridge that opens new sides of the world of language and philology.

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