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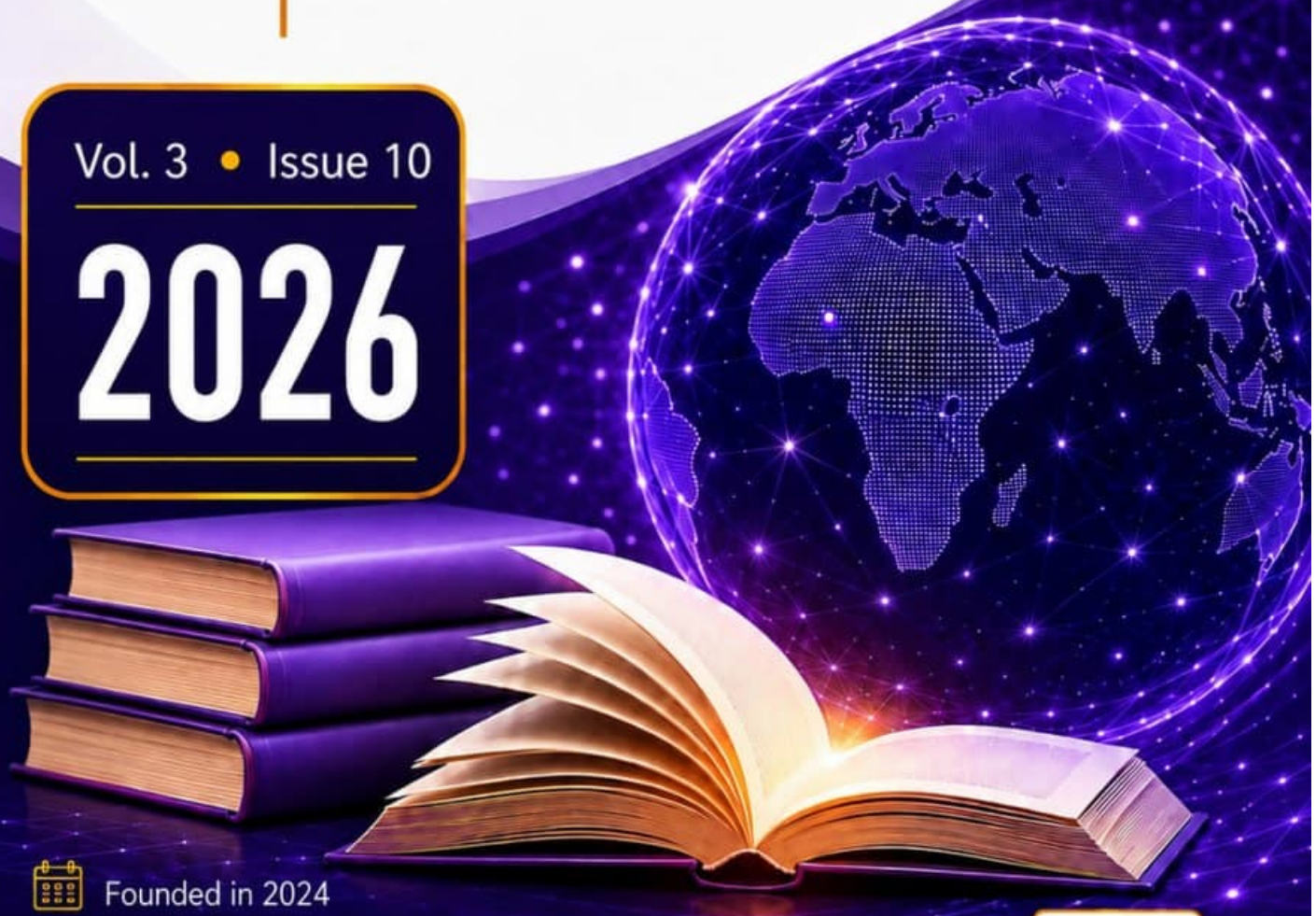
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CHET TILLARINI O‘QITISHDA SUN’IY INTELLEKT TEXNOLOGIYALARINING PEDAGOGIK IMKONIYATLARI

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Annotatsiya.

Mazkur maqolada sun’iy intellekt (SI)ning zamonaviy chet tillarini o‘qitishdagi o‘rni tadqiq etiladi. Tabiiy tilni qayta ishlash (Natural Language Processing — NLP) va nutqni avtomatik tanib olish (Automatic Speech Recognition — ASR) texnologiyalariga asoslangan sun’iy intellekt vositalari individuallashtirilgan ta’lim trayektoriyalarini shakllantirish, real vaqt rejimida diagnostik teskari aloqani ta’minlash hamda chet tilida so‘zlashish bilan bog‘liq xavotirni kamaytirish imkonini beradi. Tadqiqotda sun’iy intellektni dars jarayoniga samarali integratsiya qilishga qaratilgan besh bosqichli metodik model taklif etiladi: diagnostika, differensiallashtirilgan topshiriqlarni taqsimlash, sun’iy intellekt bilan interaktiv hamkorlik, o‘qituvchi tomonidan nazorat va muvofiqlashtirish hamda metakognitiv refleksiya. Tadqiqot natijalari texnologiya inson tomonidan amalga oshiriladigan ta’lim jarayonining o‘rnini bosa olmasligini ko‘rsatadi. Aksincha, eng yuqori pedagogik samaradorlikka texnologik imkoniyatlarni ta’lim oluvchiga yo‘naltirilgan yondashuvlar bilan uyg‘unlashtiruvchi «O‘qituvchi – Talaba – Sun’iy intellekt» uch tomonlama hamkorlik modeli orqali erishiladi.

Kalit so‘zlar: ta’limda sun’iy intellekt, til o‘qitish pedagogikasi, tabiiy tilni qayta ishlash (NLP), individuallashtirilgan ta’lim trayektoriyasi, chatbotlar, nutqni tanib olish, «O‘qituvchi – Talaba – Sun’iy intellekt» triadasi, o‘z-o‘zini boshqarib o‘rganish.

ПЕДАГОГИЧЕСКИЙ ПОТЕНЦИАЛ ТЕХНОЛОГИЙ ИСКУССТВЕННОГО ИНТЕЛЛЕКТА В ОБУЧЕНИИ ИНОСТРАННЫМ ЯЗЫКАМ

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Аннотация.

В статье рассматривается роль искусственного интеллекта (ИИ) в современном обучении иностранным языкам. Инструменты искусственного интеллекта, основанные на технологиях обработки естественного языка (Natural Language Processing — NLP) и автоматического распознавания речи (Automatic Speech Recognition — ASR), способствуют формированию индивидуализированных образовательных траекторий, обеспечению диагностической обратной связи в режиме реального времени и снижению тревожности при устном общении на иностранном языке. В исследовании предлагается структурированная пятиэтапная методическая модель интеграции искусственного интеллекта в учебный процесс, включающая диагностику, распределение дифференцированных заданий, интерактивное взаимодействие с искусственным интеллектом, педагогическую модерацию и метакогнитивную рефлексию. Результаты исследования подчёркивают, что технологии не способны заменить преподавателя. Напротив, оптимальная педагогическая эффективность достигается посредством трёхстороннего взаимодействия «Преподаватель – Студент – Искусственный интеллект», объединяющего технологические возможности с личностно ориентированными подходами к обучению.

Ключевые слова: искусственный интеллект в образовании, методика преподавания языков, обработка естественного языка (NLP), индивидуализированная образовательная траектория, чат-боты, распознавание речи, триада «Преподаватель – Студент – Искусственный интеллект», саморегулируемое обучение.

PEDAGOGICAL POTENTIAL OF ARTIFICIAL INTELLIGENCE TECHNOLOGIES IN FOREIGN LANGUAGE EDUCATION

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Abstract.

This paper examines the role of artificial intelligence (AI) in modern foreign language education. By leveraging Natural Language Processing (NLP) and Automatic Speech Recognition (ASR), AI-powered tools facilitate personalized learning trajectories, real-time diagnostic feedback, and reduced speaking anxiety. The study proposes a structured five-step methodological model for integrating AI into classroom practice: Diagnostics, Differentiated Task Assignment, Interactive AI Engagement, Teacher Moderation, and Metacognitive Reflection. The findings emphasize that technology cannot replace human instruction. Instead, optimal pedagogical effectiveness is achieved through a collaborative "Teacher–Student–AI" triad that integrates technological capabilities with learner-centered teaching approaches.

Keywords: artificial intelligence in education, language pedagogy, Natural Language Processing (NLP), personalized learning trajectory, chatbots, speech recognition, "Teacher–Student–AI" triad, self-regulated learning.

Introduction. In the 21st century, the rapid and intensive integration of digital technologies is driving profound transformational processes across all spheres of societal life, particularly within the modern educational system. The era of digitalization has challenged the field of pedagogy to reconsider the content, formats, tools, and methodological foundations of the learning process. Emerging as the pinnacle of this technological revolution, artificial intelligence (AI) technologies are penetrating deeply into the educational environment today, opening up unprecedented opportunities and new horizons in foreign language teaching methodology.

Artificial intelligence refers to a set of technologies designed to perform human cognitive activities through digital systems. In other words, a computer does not merely execute given commands; rather, it analyzes information, categorizes data, predicts future outcomes, understands human language, and proposes optimal solutions to defined problems.

In foreign language education, the core foundation of artificial intelligence is **Natural Language Processing (NLP)** technology. NLP serves as a bridge that eliminates the language barrier between humans and computers. Thanks to this technology, digital systems can comprehend written or spoken human language, provide meaningful responses to queries, automatically generate texts and translations, and objectively evaluate learners' speech by analyzing their language proficiency.

Scientific research confirms that learning languages through artificial intelligence tools enhances learners' ability to engage in independent self-study and manage their own learning process. In this context, computer software and applications act not merely as instructional guides but as intelligent assistants accompanying learners at every stage of the process.

Artificial intelligence streamlines the learning process step by step: it initially assists in formulating a knowledge acquisition plan, subsequently selects the necessary exercises, immediately reviews completed tasks to point out errors, and finally highlights key areas to focus on for further knowledge consolidation.

The greatest advantage of artificial intelligence in foreign language teaching is its ability to construct a personalized learning trajectory tailored to each student's individual capabilities. In traditional classroom or group settings, all students complete the same tasks simultaneously. In practice, however, their levels of preparation, vocabulary size, grammatical proficiency, and language learning objectives vary significantly.

Intelligent AI systems analyze each learner's previous test results and performance history to pinpoint their specific weaknesses. Subsequently:

- *Students struggling with grammar are provided with supplementary exercises that explain rule structures;*
- *Students with a limited vocabulary are offered targeted lexical tasks designed to teach the correct context-based application of words.*

Modern chatbots serve as virtual practice partners available at any time for students learning a foreign language. The learner asks questions in the target language, receives immediate responses, and continues the conversation much like interacting with a human speaker. This method is particularly beneficial for developing oral communication skills and overcoming speaking anxiety.

Chatbots can be effectively utilized both in classroom settings and during independent study across the following domains:

1. Communication Exercises: Practicing everyday conversation, domain-specific business dialogue, and job interview scenarios;

2. Role-playing Games: Simulating real-life scenarios (such as interactions at an airport, hotel, or doctor's office);

3. Knowledge Assessment and Language Practice: Conducting Q&A sessions based on written texts, identifying and correcting grammatical errors, and generating specialized tasks to reinforce new vocabulary.

Accurate pronunciation is one of the most critical skills for a foreign language learner. Artificial intelligence-based speech recognition software listens to every word spoken by the student and precisely highlights errors and deficiencies in their pronunciation.

For instance, if an English language learner struggles to pronounce words that feature sounds not present in Uzbek

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(such as think, this, and three), the computer system analyzes their audio input. Subsequently, it identifies the exact sound where the error occurred and suggests targeted exercises to rectify the pronunciation.

Key Benefits of Chatbots: Scientific research confirms that continuous oral interaction with chatbots offers learners the following advantages:

1. Reduction of Speaking Anxiety: Because students interact with technology rather than a human interlocutor, they fear making mistakes less, which boosts their self-confidence;

2. Increased Speech Activity: Learners engage with and use the target language more frequently;

3. Enhanced Pronunciation Fluency: Regular practice and targeted feedback render word pronunciation increasingly accurate and intelligible.

For artificial intelligence to deliver genuine educational value in the classroom, it must be applied through well-structured, planned stages. To this end, the following simple and effective five-step methodological model is recommended:

1. Diagnostics (Assessing Prior Knowledge): At the beginning of the lesson, students' language proficiency levels are evaluated through a short test or a brief Q&A session.

2. Differentiated Task Assignment: Based on diagnostic outcomes, students are assigned level-appropriate tasks:

A2 Level: Constructing simple sentences and expressions;

B1 Level: Preparing short, clear dialogues;

B2 Level: Expressing opinions on problem-based scenarios;

C1 Level: Participating in academic-level debates and discussions.

3. Interactive Engagement with AI: The student interacts with AI based on the assigned task. For instance, the AI simulates an international conference environment ("Introduce yourself and explain your research topic"), the student responds in English, and subsequently refines their speech based on the feedback provided by the AI.

4. Teacher Moderation: The instructor reviews the recommendations and evaluations provided by the AI, making necessary adjustments. This stage is crucial because artificial intelligence can never fully replace the teacher.

5. Reflection (Final Review and Analysis): At the end of the lesson, the student analyzes what they have learned, identifies areas of difficulty, and evaluates how AI assisted them. This stage enhances the quality of the student's independent self-study skills.

Today, the use of artificial intelligence technologies in foreign language teaching is becoming one of the fundamental requirements of modern education. Intelligent chatbots, speech recognition software, adaptive learning platforms, and generative AI text-creation tools offer immense potential for developing students' speaking skills, grammatical proficiency, and independent learning abilities.

Why Is Technology Alone Not Enough? Research shows that the greatest strength of AI technology lies in its ability to allocate time and conditions tailored to each learner's individual aptitude and provide immediate feedback on errors. However, simply bringing computers or software into the classroom does not inherently enhance instructional quality. AI tools deliver genuine results only when aligned with clear learning objectives and pedagogical plans, under the active supervision of the teacher.

A New Educational Model: The "Teacher – Student – Artificial Intelligence" Triad. The most effective approach to modern language instruction is based on this three-way collaboration:

The Teacher designs the lesson plan, provides pedagogical direction, and monitors final learning outcomes;

The Student acts not merely as a passive listener but as an active participant who actively applies and acquires the language;

Artificial Intelligence generates level-appropriate exercises, corrects errors, and creates a virtual environment for interactive communication.

In conclusion, the future of artificial intelligence-based foreign language teaching does not lie in merely introducing technology into the classroom. Rather, it relies on effectively leveraging its capabilities in tandem with humanistic pedagogical approaches that prioritize the learner's individuality, communicative competence, and independent thinking.

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