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AI IN THE ESL CLASSROOM: A NEW FRONTIER IN LANGUAGE EDUCATION

Annotation

The integration of Artificial Intelligence (AI) into English as a Second Language (ESL) education is rapidly transforming traditional pedagogical models. While numerous AI tools are emerging, there remains limited empirical exploration of their real-world classroom impact and ethical implications. This qualitative-analytical study analyzed secondary sources and observed online ESL classes using ChatGPT, Grammarly, Duolingo, and ELSA Speak across Uzbekistan, India, and global platforms. The results showed that AI enhanced learner autonomy, fluency, writing precision, pronunciation, and motivation, though challenges such as over-reliance, digital inequality, and ethical concerns persisted. The study suggests that AI, when balanced with human instruction, can foster more personalized and interactive ESL learning, but its success depends on equitable access, teacher training, and ethical integration.

Key words: Artificial Intelligence, ESL, language education, ChatGPT, Grammarly, Duolingo, ELSA Speak, digital pedagogy, learner autonomy, ethical challenges.

ИИ В КЛАССЕ ESL: НОВЫЙ РУБЕЖ В ЯЗЫКОВОМ ОБРАЗОВАНИИ

Аннотация

Интеграция искусственного интеллекта (ИИ) в образование на английском языке как втором (ESL) стремительно трансформирует традиционные педагогические модели. Несмотря на появление многочисленных инструментов ИИ, эмпирическое исследование их влияния в реальных классах и этических последствий остается ограниченным. Данное качественное аналитическое исследование проанализировало вторичные источники и наблюдения за онлайн-классами ESL с использованием ChatGPT, Grammarly, Duolingo и ELSA Speak в Узбекистане, Индии и на глобальных платформах. Результаты показали, что ИИ повысил самостоятельность учащихся, беглость речи, точность письма, произношение и мотивацию, хотя сохранялись такие проблемы, как чрезмерная зависимость, цифровое неравенство и этические вопросы. Исследование предполагает, что ИИ, при сбалансированном подходе с человеческим инструктажем, может способствовать более персонализированному и интерактивному изучению ESL, но его успех зависит от равного доступа, обучения учителей и этичной интеграции.

Ключевые слова: Искусственный интеллект, ESL, языковое образование, ChatGPT, Grammarly, Duolingo, ELSA Speak, цифровая педагогика, самостоятельность учащихся, этические проблемы.

ESL SINFIDA SUN'IY INTELLEKT: TIL TA'LIMIDA YANGI CHEGARA

Annotation

Ingliz tilini ikkinchi til sifatida o'rgatish (ESL) ta'limiga sun'iy intellektning (SI) integratsiyasi an'anaviy pedagogik modellarni tez sur'atda o'zgartirmoqda. Ko'plab SI vositalari paydo bo'lishiga qaramay, ularning haqiqiy sinflardagi ta'siri va axloqiy oqibatlarini bo'yicha empirik tadqiqotlar cheklangan. Ushbu sifatli-analitik tadqiqot ikkilamchi manbalarni va O'zbekiston, Hindiston va global platformalarda ChatGPT, Grammarly, Duolingo va ELSA Speak yordamida o'tkazilgan onlayn ESL darslarini kuzatishni tahlil qildi. Natijalar shuni ko'rsatdiki, SI o'quvchilarning o'zini o'zi boshqarishini, ravonligini, yozish aniqligini, talaffuzini va motivatsiyasini oshirdi, garchi haddan tashqari qaramlik, raqamli tengsizlik va axloqiy muammolar kabi qiyinchiliklar ham saqlanib qoldi. Tadqiqot shuni taklif qiladiki, SI inson o'qituvchilari bilan muvozanatli bo'lsa, yanada shaxsiy va interaktiv ESL o'rganishni rag'batlantirishi mumkin, ammo uning muvaffaqiyati teng huquqli kirish, o'qituvchilar malakasini oshirish va axloqiy integratsiyaga bog'liq.

Kalit so'zlar: Sun'iy intellekt, ESL, til ta'limi, ChatGPT, Grammarly, Duolingo, ELSA Speak, raqamli pedagogika, o'quvchilarning o'zini o'zi boshqarish, axloqiy muammolar.

Introduction. The accelerating growth of digital technology in education has brought unprecedented innovations to language learning. Among these innovations, Artificial Intelligence (AI) has emerged as a powerful tool that is reshaping the landscape of English as a Second Language (ESL) education. In recent years, AI-powered platforms and applications have introduced new ways of teaching and learning English that go beyond traditional methods. The COVID-19 pandemic further accelerated this transformation by pushing institutions worldwide to explore flexible, technology-based

solutions to continue instruction in remote or hybrid formats [1].

AI offers ESL learners a rich array of features such as real-time feedback, personalized instruction, natural language interaction, and adaptive learning pathways. Tools such as ChatGPT, Grammarly, Duolingo, and ELSA Speak are widely used to enhance speaking, writing, and comprehension skills, simulating human-like interactions that foster learner autonomy and engagement. These technologies allow learners to progress at their own pace while providing instructors with data-driven insights into learner performance and challenges [2].

The implementation of AI in ESL classrooms, however, is not without its challenges. Educators must navigate digital literacy gaps, ethical concerns, infrastructure limitations, and questions of pedagogical appropriateness. Moreover, the role of the human teacher remains central in guiding learners, interpreting AI-generated data, and designing context-appropriate learning experiences.

This paper explores how AI technologies are being integrated into ESL instruction and examines their implications for pedagogy, learner motivation, assessment, and classroom dynamics. The study aims to provide a comprehensive view of how AI tools support and transform English language learning, while critically evaluating the challenges and limitations that come with their adoption. By doing so, it aims to contribute to the growing field of research that seeks to align educational technology with effective language pedagogy in the 21st century [3].

Literature Review. Artificial Intelligence (AI) has rapidly emerged as a significant component in modern language education, influencing teaching strategies, learner engagement, and assessment practices. Numerous researchers have explored the potential of AI to support and transform ESL instruction by providing adaptive learning environments and intelligent feedback mechanisms.

According to Graesser, Intelligent Tutoring Systems (ITS) are capable of simulating one-on-one human tutoring through natural language dialogue, offering students individualized support that enhances cognitive engagement. These systems draw on principles from educational psychology and computational linguistics to interact with learners in a dynamic, context-sensitive manner. Such capabilities are particularly valuable in ESL instruction, where learners benefit from repeated exposure to authentic language use and context-rich input [4].

Liu and Wang emphasize the role of Natural Language Processing (NLP) in enabling AI applications to understand, analyze, and generate human language. NLP-based tools, such as ChatGPT and other language models, facilitate realistic conversation practice, grammar correction, and vocabulary building. These tools contribute significantly to language acquisition by providing learners with instant and context-aware responses, which are often difficult to replicate in traditional classroom settings.

Several studies have also highlighted the motivational advantages of AI in ESL classrooms. Hartshorne notes that gamified AI-driven platforms like Duolingo enhance learner engagement through adaptive learning paths and immediate feedback. Similarly, Neupane found that mobile-assisted language learning apps that utilize AI features boost learner autonomy and promote sustained learning habits [5].

Shonazarov examined the development of intercultural competence in English language education and argued that technology, including AI, can be instrumental in simulating cross-cultural communication [6]. Meanwhile, Kayumova explored the integration of AI tools in tertiary language instruction and emphasized the importance of aligning digital resources with pedagogical goals to ensure meaningful learning experiences.

Despite the enthusiasm surrounding AI in education, several researchers have identified limitations and concerns. Crompton warns that over-reliance on AI tools may lead to reduced human interaction, which is critical for socio-emotional development in language learning. Furthermore, ethical concerns surrounding data privacy, algorithmic bias, and equitable access must be addressed before large-scale implementation can be considered sustainable [7].

In summary, the existing body of literature supports the notion that AI has significant potential to enhance ESL teaching and learning. However, its effectiveness depends on thoughtful integration, teacher training, and a commitment to learner-centered design. This paper builds upon these findings by exploring how ESL learners and teachers interact with AI tools in real-world educational settings.

Methodology. This study adopts a qualitative-analytical methodology to examine the integration of Artificial Intelligence (AI) in the ESL (English as a Second Language) classroom. The aim is to investigate how AI-powered tools are utilized by both learners and educators to enhance language acquisition, focusing on practical applications, observed outcomes, and pedagogical considerations.

The research primarily relies on secondary data collected from scholarly journals, conference proceedings, educational reports, and existing case studies that document the use of AI in language learning environments. Special attention is given to peer-reviewed publications between 2020 and 2025, which reflect the most current developments in AI-assisted ESL education.

Additionally, the study includes observational data from online ESL classrooms that implement AI-based tools such as ChatGPT, Grammarly, Duolingo, and ELSA Speak. These observations were conducted informally by analyzing recorded class sessions, digital discussion boards, and feedback exchanges between teachers and students. The classrooms examined belong to tertiary-level institutions in Uzbekistan, India, and selected online platforms operating globally.

In total, six ESL teachers and approximately forty ESL learners were included as part of the observational sample. The educators were selected based on their experience in using AI tools for instruction, while the learners were chosen based on their active engagement with AI-powered applications as part of their language learning routine.

Data analysis was conducted through thematic coding, allowing the identification of recurrent patterns related to AI usage, learner autonomy, engagement levels, and challenges encountered. The findings are presented through descriptive narratives and categorized by tool type, user role (teacher/learner), and perceived effectiveness.

The research is limited by the lack of direct in-person interaction and the reliance on digital traces and reflections. However, it offers valuable insights into the evolving nature of ESL pedagogy in AI-rich environments. Ethical considerations, including participant privacy and data anonymization, were maintained throughout the study.

Findings and Discussion. ChatGPT and Natural Language Interaction. ChatGPT, a conversational AI model developed by OpenAI, has become increasingly popular in ESL instruction due to its ability to simulate real-time dialogue with human-like accuracy. In observed ESL classrooms, students used ChatGPT to practice informal and formal conversations, ask grammar-related questions, and receive instant feedback on sentence structures.

Learners noted that ChatGPT encouraged more autonomous learning and reduced their fear of making mistakes, as the system provided corrections in a non-judgmental and supportive manner. Teachers reported that students' fluency improved over time, especially in areas such as spontaneous speaking, paraphrasing, and expressing opinions. Moreover, the tool allowed students to explore multiple answers to the same question, fostering critical thinking and linguistic flexibility [8].

Despite these advantages, some students relied too heavily on AI-generated responses and showed reduced initiative in forming original ideas. This highlights the need for

balanced integration, where AI supplements but does not dominate classroom discourse.

4.2 Grammarly and Writing Skills Development

Grammarly is an AI-powered writing assistant widely used to correct grammar, punctuation, and stylistic issues. In ESL writing courses, Grammarly served both as a corrective and instructive tool, providing immediate explanations for errors and suggestions for improvement.

Students using Grammarly showed visible improvement in sentence structure, verb usage, and clarity of expression. The software's real-time feedback mechanism encouraged iterative writing and revision. Moreover, the vocabulary enhancement feature helped learners replace repetitive or incorrect word choices with more precise alternatives [9].

However, teachers cautioned against uncritical reliance on Grammarly, as students sometimes accepted suggested corrections without understanding the grammatical rule involved. To address this, educators began pairing Grammarly with reflective tasks, such as "explain the correction," to deepen understanding [10].

4.3 Duolingo and Personalized Learning Paths

Duolingo's gamified learning environment uses AI to customize learning sequences based on individual performance. Students engage in vocabulary drills, grammar games, and pronunciation activities tailored to their strengths and weaknesses.

The app's visual design, progress badges, and timed challenges increased student motivation and created a sense of routine. ESL learners appreciated the ability to practice independently and receive immediate rewards for consistency and accuracy. Duolingo's adaptive algorithms ensured that weaker areas received more attention, resulting in more balanced skill development [11].

However, the lack of contextual learning and limited creative language use within Duolingo's environment were noted as drawbacks. Teachers emphasized the need to integrate Duolingo with real-life communication tasks to foster authentic language use [12].

4.4 ELSA Speak and AI-Powered Pronunciation Training

ELSA Speak is a mobile app that uses AI and speech recognition to assess and improve learners' pronunciation, stress, and intonation. In ESL pronunciation classes, ELSA proved especially helpful for learners struggling with sound distinctions not present in their native languages.

The app provided visual indicators of pronunciation accuracy and offered immediate corrective feedback. Students appreciated the repetition and goal-setting features, which helped build muscle memory and pronunciation fluency. ELSA was particularly effective in improving confidence in oral communication and reducing anxiety in speaking assessments [13].

Nonetheless, some learners reported frustration when the app misjudged accents or failed to recognize subtle improvements. Teachers recommended using ELSA as a practice tool in combination with teacher-led pronunciation drills and peer interaction to ensure a more comprehensive learning experience [14].

4.5 Pedagogical Challenges and Ethical Considerations

While AI offers valuable pedagogical tools, its integration into ESL education poses significant challenges. One major concern is digital equity: students from rural areas or under-resourced institutions often face connectivity issues, outdated devices, or lack of digital literacy.

Furthermore, educators expressed concern about data privacy and the ethical use of student interaction data by AI platforms. Questions also arose about algorithmic bias, especially when AI tools were trained on English varieties unfamiliar to ESL learners [15].

Another challenge lies in the shifting role of the teacher. Some educators feared being replaced by AI or losing classroom control due to over-dependence on technology. To mitigate these concerns, it is crucial to view AI not as a substitute but as an extension of the teacher's toolkit enhancing, not replacing, human-led instruction.

Conclusion. The integration of Artificial Intelligence (AI) into English as a Second Language (ESL) classrooms represents a transformative shift in language education. This study has demonstrated that AI-powered tools such as ChatGPT, Grammarly, Duolingo, and ELSA Speak offer considerable potential in enhancing various aspects of language learning, including speaking fluency, writing accuracy, pronunciation, and learner motivation. These tools not only support personalized and adaptive learning experiences but also foster greater learner autonomy and self-reflection.

The use of ChatGPT enabled realistic conversational practice and supported spontaneous language use in a safe digital environment. Grammarly served as a digital tutor for writing, providing instant feedback that encouraged revision and clarity. Duolingo's gamified platform increased engagement and consistency, while ELSA Speak targeted pronunciation with AI-driven precision. Together, these tools created a more diverse, flexible, and responsive ESL learning environment.

However, the findings also highlight critical challenges that must be addressed to ensure effective and ethical use of AI in language classrooms. These include issues of digital inequality, over-reliance on AI-generated responses, data privacy concerns, and the need for pedagogical training among educators. Moreover, while AI can simulate human interaction, it cannot fully replace the empathy, contextual understanding, and cultural sensitivity of a skilled teacher.

To maximize the benefits of AI in ESL education, a balanced and well-informed approach is essential. Teachers should act as facilitators who guide learners in using AI tools critically and creatively. Institutions must invest in infrastructure, training, and ethical frameworks that support AI integration while safeguarding learner rights and data.

As AI technologies continue to evolve, future research should explore how emerging innovations such as voice-enabled feedback, emotion recognition, and multilingual NLP models can further personalize and humanize the language learning experience. With thoughtful application, AI can serve as a bridge not a barrier toward more inclusive, interactive, and learner-centered ESL education.

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