INTEGRATING AI INTO LANGUAGE TEACHING PLATFORMS

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Annotation. The use of artificial intelligence (AI) to language learning platforms and its effects on second language acquisition (SLA) are examined in this study. Artificial intelligence (AI) technologies including natural language processing, intelligent tutoring systems, and automated feedback have become essential parts of contemporary digital language learning settings due to the rising demand for adaptive and individualized training. The results show that personalized pacing and more efficient feedback cycles are supported by AI-driven education, which enhances task focus and understanding. The study finds that although careful design and continuous evaluation are necessary for sustainable implementation, the learning experience can be greatly improved by the intelligent integration of AI into pedagogically based language systems.

Anotatsiya. Til o'rganish platformalarida sun'iy intellektdan (AI) foydalanish va uning ikkinchi tilni o'zlashtirishga (SLA) ta'siri ushbu tadqiqotda ko'rib chiqilgan. Sun'iy intellekt (AI) texnologiyalari, shu jumladan tabiiy tilni qayta ishlash, aqlli repetitorlik tizimlari va avtomatlashtirilgan geribildirim moslashuvchan va individual o'qitishga bo'lgan talabning ortishi tufayli zamonaviy raqamli tillarni o'rganish sozlamalarining muhim qismlariga aylandi. Natijalar shuni ko'rsatadiki, shaxsiylashtirilgan pacing va yanada samarali teskari aloqa tsikllari Ai-ga asoslangan ta'lim tomonidan qo'llab-quvvatlanadi, bu esa vazifalarni diqqat va tushunishni kuchaytiradi. Tadqiqot shuni ko'rsatadiki, barqaror amalga oshirish uchun ehtiyotkorlik bilan loyihalash va doimiy baholash zarur bo'lsa-da, AI ning pedagogik asoslangan til tizimlariga aqlli integratsiyasi orqali o'quv tajribasini sezilarli darajada yaxshilash mumkin.

Аннотация. В данном исследовании рассматривается использование искусственного интеллекта (ИИ) в платформах для изучения языков и его влияние на овладение вторым языком (SLA). Технологии искусственного интеллекта (ИИ), включая обработку естественного языка, интеллектуальные системы обучения и автоматизированную обратную связь, стали неотъемлемой частью современных цифровых систем изучения языков в связи с растущим спросом на адаптивное и индивидуальное обучение. Результаты показывают, что персонализированный темп и более эффективные циклы обратной связи поддерживаются обучением,

основанным на ИИ, что улучшает концентрацию на задаче и понимание. Исследование показало, что, хотя для устойчивого внедрения необходимы тщательная разработка и постоянная оценка, процесс обучения может быть значительно улучшен за счет интеллектуальной интеграции искусственного интеллекта в языковые системы, основанные на педагогических принципах.

Keywords: Artificial intelligence, language platforms, adaptive learning, personalization, automation, second language acquisition, digital tools, educational technology, intelligent systems

Kalit so'zlar: sun'iy intellekt, til platformalari, adaptiv ta'lim, shaxsiylashtirish, avtomatlashtirish, ikkinchi tilni o'zlashtirish, raqamli vositalar, ta'lim texnologiyalari, aqlli tizimlar

Ключевые слова: искусственный интеллект, языковые платформы, адаптивное обучение, персонализация, автоматизация, овладение вторым языком, цифровые инструменты, образовательные технологии, интеллектуальные системы

Introduction

A revolutionary development in educational technology is the use of Artificial Intelligence (AI) into language learning platforms. AI's ability to offer real-time feedback, adaptive education, and individualized learning experiences makes it a potent language acquisition aid as digital learning gains traction. AI-driven platforms, in contrast to conventional static tools, continuously evaluate learner input and behavior to maximize engagement and material delivery (Luckin et al., 2016).[1] Intelligent tutoring systems, AI chatbots, speech recognition, and natural language processing characteristics that mimic human interactions are examples of recent developments. These developments give students the opportunity to learn target languages in a dynamic way while getting assistance that is pertinent to their circumstances. One of AI's advantages is its capacity to scale individualized instruction, which presents a problem for human teachers in big or distant classrooms (Holmes et al., 2019).[2]

However, careful alignment with language learning theories, task design, and learner demands is necessary when incorporating AI into pedagogy. Although artificial intelligence (AI) systems can automate vocabulary scaffolding or corrective feedback, their effectiveness depends on pedagogical frameworks. Furthermore, Zawacki-Richter et al. (2019) state that ethical issues pertaining to learner autonomy, algorithmic openness, and data privacy must be addressed.[3] The methodological merit, cognitive impact, and consequences for SLA research of AI's integration into language teaching platforms are the main topics of this

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[2] Holmes, W., Bialik, M., & Fadel, C. (2019). Artificial intelligence in education: Promises and implications for teaching and learning. Center for Curriculum Redesign.

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work. It summarizes previous research, gives empirical data on learner performance and engagement in AI-enhanced environments, and introduces a novel small-scale study.

Literature review

It is becoming more widely acknowledged that artificial intelligence (AI) in language learning systems can spur innovation in second language acquisition (SLA). According to Heil et al. (2020), recent studies have highlighted how AI technologies support adaptive learning environments by customizing content to each learner's unique needs and proficiency levels.[4] These technologies have been demonstrated to improve learner autonomy and engagement by continuously gathering and analyzing data to personalize education. For instance, AI-powered writing aides provide automatic grammatical correction and style recommendations, assisting students in improving their language proficiency by providing them with real-time, personalized feedback (Ranalli, 2018).[5] Likewise, chatbots and conversational agents can mimic real-world communication situations, encouraging pragmatic skill and speaking fluency in a relaxed environment (Fryer & Carpenter, 2006).[6] In addition to being practice spaces, these technologies are also evaluation tools that may monitor students' progress over time.

The incorporation of speech recognition into AI-enhanced platforms is a developing field of study that enables learners to strengthen their listening comprehension and pronunciation by providing them with real-time phonetic feedback (Liakin, Cardoso, & Liakina, 2015).[7] When paired with natural language processing, these systems are able to assess intricate learner answers and dynamically modify the level of difficulty. Some academics warn against relying too much on AI, though. Wang and Vasquez (2012), for example, contend that although AI can aid in language acquisition, it cannot take the place of the socio-interactional components of human teaching.[8] Furthermore, openness and trust are still major issues, particularly when AI algorithms make judgments on their own that affect students' educational courses (Baker & Smith, 2019).[9]

Lastly, the key to a successful AI integration is learner adaptation and platform usability. According to research by Tsai et al. (2020), scaffolded

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[4] Heil, C. R., Wu, J. S., Lee, J. J., & Schmidt, T. (2020). A review of mobile language learning applications: Trends, challenges, and opportunities. The EuroCALL Review, 28(1), 1–14. https://doi.org/10.4995/eurocall.2020.11317

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[9] Baker, T., & Smith, L. (2019). Educ-AI-tion rebooted? Exploring the future of artificial intelligence in schools and colleges. Nesta. https://www.nesta.org.uk/report/education-rebooted/

onboarding and user-friendly interfaces are crucial for promoting sustained use and reducing cognitive overload while doing tasks.[10] Collectively, these works demonstrate the practical difficulties and pedagogical promise of integrating AI into language learning platforms. They lay the groundwork for this paper's exploration of the effects of AI tools on learner performance, engagement, and strategy use in authentic learning environments.

Methods

Participants

Thirty intermediate English language learners (B1–B2 CEFR) enrolled in a university language program participated in the study. The participants were evenly split by gender and ranged in age from 18 to 24. Before the study, none of them had utilized AI-driven language tools, but they all had prior experience with digital learning platforms. Informed consent was acquired, and participation was entirely voluntary.

Design and Instruments

The study examined the effects of AI integration on learner behavior and task performance using a quasi-experimental design. Using an AI-enhanced language platform with features like speech-to-text assistance, vocabulary recommendations, and automated feedback, participants finished two kinds of reading and writing assignments.

The study used two main tools to observe user behavior: OBS Studio, a screen recording program, to record time on task, navigation patterns, and AI feature usage; Questionnaire for post-task reflection that includes both open-ended and Likert-scale questions to gauge how learners feel about the AI technologies.

Procedure

Participants were divided into two groups at random: the experimental group used the AI-integrated platform, and the control group used a digital platform without AI to accomplish the same tasks. Over the course of a 90-minute session, each group worked independently on two assignments: one that required reading and one that required writing.

 The linguistic objectives and task cues were the same on both systems. But whereas the non-AI platform forced students to rely on their own knowledge or dictionaries, the AI platform provided real-time grammatical and vocabulary feedback. Participants completed the reflection questionnaire after finishing the exercises.

Data Analysis

Screen captures were coded for quantifiable behaviors such task-switching patterns, editing operations, and the frequency of AI tool usage. To find patterns

[10] Tsai, Y. S., Poquet, O., Gašević, D., Dawson, S., & Pardo, A. (2020). Complexity leadership in learning analytics: Drivers, challenges, and opportunities. British Journal of Educational Technology, 51(3), 592–610. https://doi.org/10.1111/bjet.12959

in learner satisfaction, the perceived usefulness of features, and self-reported techniques, the questionnaire answers were descriptively examined.

To find out if the AI-supported group showed noticeably different involvement or results, data from the two groups were then compared using ANOVA. Cronbach's alpha was used to assess the questionnaire's internal consistency, and the reliability score of 0.87 indicated high consistency.

Results and Discussion

In terms of engagement, task performance, and learning behavior, the analysis showed significant differences between the control group and the AI-integrated group. The AI-enhanced platform's users completed tasks more frequently, engaged with the information more actively, and revised their writing assignments more frequently. Particularly during writing exercises, these students made substantial use of real-time grammar feedback and vocabulary recommendations, which produced more accurate and coherent work. Screen recordings showed that learners with AI support halted more often to edit phrases using automated suggestions, indicating a higher level of metalinguistic awareness. They also displayed superior time management, switching less often between projects or unrelated internet tabs. The control group, on the other hand, showed less effective navigation habits and depended more on outside resources like dictionaries. The AI group beat the control group on task accuracy and completion metrics, with a statistically significant difference ($p < 0.05$), according to quantitative analysis using ANOVA. Furthermore, the majority of AI-platform users rated the automatic feedback as "helpful" or "very helpful," especially when it came to recognizing grammar mistakes and learning synonyms, according to post-task questionnaire responses. Additionally, learners reported feeling more confident about finishing assignments on their own.

Not every answer, though, was overwhelmingly complimentary. A tiny percentage of participants were worried that their writing flow was being disturbed by continuous automatic feedback. A possible over-reliance on technology was indicated by several students' admission that they relied too much on AI recommendations without critically assessing the modifications. Additionally, some found it difficult to understand some of the AI-generated corrections, indicating that human scaffolding is necessary for even clever systems to fully comprehend. These results demonstrate the advantages and difficulties of using AI into language learning settings. On the one hand, it is evident that AI promotes self-correction, tailored training, and more student autonomy. On the other hand, learners' digital literacy and capacity for critical engagement with feedback are essential for the efficient use of AI tools.

Overall, when paired with user-centered design and pedagogical objectives, the incorporation of AI into teaching platforms seems to enhance language learning results. However, to guarantee balanced, efficient use, such systems must be implemented with the right direction.

Conclusion

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The influence of integrating artificial intelligence into language learning systems on student behavior, engagement, and task performance was the main emphasis of this study. The study showed that AI-driven solutions greatly improve language learning by providing tailored, real-time feedback and adaptive content delivery in a controlled study involving intermediate English learners. Students that utilized AI-enabled systems demonstrated increased task accuracy, enhanced metalinguistic awareness, and increased independence in finishing projects. The findings demonstrated that features like speech-to-text capabilities, vocabulary recommendations, and grammatical correction not only promote language development but also deeper interaction with educational resources. The insightful criticism was well received by the participants, who found it to be both inspiring and educational. These results support the larger goal of employing AI to tailor instruction and give students more agency over their own development.

However, the study also identified several drawbacks. Some students over-relied on AI-generated recommendations without critically analyzing them, indicating the need for digital literacy training and scaffolding. Furthermore, learners' normal writing processes were periodically disturbed by the continuous automatic feedback. These difficulties imply that although AI has the potential to greatly enhance instruction, its incorporation needs to be carefully considered and driven by pedagogical concepts rather than technological innovation. This study emphasizes the significance of striking a balance between automation and user control for educators and platform developers, making sure that AI tools enhance human contact and cognitive engagement rather than replace it. Language systems ought to be made to encourage autonomous language use and lead students toward thoughtful thinking on AI feedback.

In conclusion, when applied with respect for learners' needs and digital competencies and in line with instructional objectives, artificial intelligence (AI) has a great potential to improve language training. Future studies could examine the long-term effects of using AI in various learning environments and look into how AI technologies can help multilingual learners or supplement in-person instruction. The future of language education will be greatly influenced by the careful incorporation of technology into language pedagogy as it develops.

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