EXPLORING THE IMPACT OF ARTIFICIAL INTELLIGENCE ON PERSONALIZED ENGLISH LANGUAGE LEARNING ACROSS DIFFERENT PROFICIENCY LEVELS

Qodirqulova Maftunaxon Muhiddin qizi
Chirchiq Davlat Pedagogika Universiteti ingliz tili

Abstract: Personalized learning within ESL and EFL contexts is increasingly powered by artificial intelligence. This study investigates how AI-enhanced tools influence English language acquisition across varying proficiency levels—beginner, intermediate, and advanced. Participants engaged with adaptive dashboards offering real-time feedback on grammar, vocabulary, pronunciation, and reading comprehension over a twelve-week period. Engagement analytics, language performance measures, learner interviews, and motivational reflections were gathered and examined. Findings suggest that AI personalization significantly boosts linguistic competence and vocabulary retention, especially among beginners. Intermediate learners show notable improvement in grammatical precision and fluency building, while advanced learners benefit from nuanced polishing of complex expressions. Learner motivation rises across all levels, though advanced learners report mixed feelings about AI feedback on subtle language choices. Ethical concerns around data privacy and over-reliance on automated corrections also emerged. Implications for integrating AI tools thoughtfully into language programs are discussed. Educators, instructional designers, and EdTech developers can leverage these findings to better tailor AI-supported learning experiences.

Keywords: artificial intelligence, personalized learning, English language learning, proficiency levels, adaptive feedback, learner engagement

Introduction

Artificial intelligence is reshaping educational landscapes, particularly in language acquisition. English language learning has benefited from the emergence of intelligent tutoring systems, chatbots, pronunciation evaluators, grammar correction engines, and adaptive flashcard programs. Historically, personal tutoring in classrooms has been resource-limited, with instructors unable to tailor feedback in real-time to every learner. AI technologies now address this gap by providing scalable, data-driven personalization. Yet questions remain about how these tools function for learners at different stages: does a beginner respond to AI scaffolding differently than an advanced learner fine-tuning idiomatic expression? What motivates learners to continue beyond novelty? And how does autonomy support differ across proficiency bands?

This study seeks to elucidate how AI-driven personalization influences language acquisition outcomes across beginner, intermediate, and advanced English learners. It explores the multifaceted impact on vocabulary building, grammatical accuracy, fluency, and learner motivation while being attentive to potential risks associated with data usage and reliance on automation.

Method

An exploratory approach was employed within urban adult learning centers, recruiting approximately one hundred fifty English learners, evenly distributed across three proficiency tiers. Over a three-month intervention period, participants engaged with AI-enhanced platforms that combined adaptive vocabulary practice, real-time writing feedback, speech recognition for pronunciation training, and contextualized reading comprehension tasks.

At the outset, pre-intervention assessments gauged each learner's English proficiency. During the intervention, usage data was logged to capture session frequency, duration, error correction patterns, and progression. Additionally, weekly reflective journals provided qualitative insight into motivation, perceived difficulty, and emotional response. Towards the end, post-intervention assessments measured linguistic gains. A subset of participants joined semi-structured interviews to elaborate on their experiences, attitudes toward AI feedback, and concerns about privacy.

Quantitative analyses compared performance improvements across proficiency groups, while thematic analysis was applied to reflective journals and interviews to derive learner perceptions and experiences.

Results

Across all groups, participants made measurable progress. Beginners demonstrated substantial vocabulary growth and evident grammar improvement. The AI flashcard system's spaced repetition and replay options enabled rapid consolidation of new terms. Writing modules provided immediate correction suggestions, enabling learners to practice correct sentence structures and word usage.

Intermediate learners achieved moderate vocabulary increase and showed advancement in applying grammatical rules independently. They responded well to contextualized writing feedback that highlighted nuanced forms such as conditionals and modal verbs. Reading comprehension, especially inference-making and recognizing discourse markers, also improved.

Advanced learners exhibited modest vocabulary gains but notable refinement in writing style, complexity, and idiomatic usage. The AI assisted in distinguishing subtle differences in phrasal verbs, register, and cohesive devices. However, feedback loops occasionally flagged correct but low-frequency expressions as errors, leading to hesitation and occasional frustration.

Learner engagement remained high throughout the intervention. Beginners reported feeling empowered by immediate success in interactive tasks, while intermediate and advanced learners valued progress benchmarks and the convenience of continual feedback. Those at higher levels expressed some reservations about automated over-corrections but appreciated the boost in fluency confidence.

Data privacy concerns surfaced less frequently but were noted primarily by intermediate and advanced learners, who expressed caution about the long-term retention of personal speech samples and writing data.

Discussion

AI-based personalized tools clearly foster significant progress in vocabulary acquisition and grammar consolidation, especially for beginners. The scaffolding mechanism appears essential for building confidence and avoidance of fossilized errors. For intermediate learners, it transitions from explicit correctness to fluent production, while advanced learners benefit more from stylistic suggestions and discourse-level enhancements.

However, variation in learner experience is noteworthy. Beginners embrace the structure wholeheartedly, while more proficient learners require AI to respect nuance and register variation. When AI misclassifies a legitimate expression, friction arises. This suggests that adaptive systems should allow greater flexibility and customization for advanced learners, such as toggling feedback for optional corrections or focusing on discourse coherence rather than prescriptive grammar alone.

Motivation emerges as a critical dimension across all levels. Automated feedback fosters autonomy and sustained engagement, but it must be paired with human mediation. Instructors reported rebalancing their role from traditional correction to coaching students in interpreting and integrating AI feedback. Learners appreciated hybrid collaboration: AI for real-time suggestions, instructors for deeper discussion and cultural context.

Ethical considerations, including informed consent, data security, and transparency about AI decisions, must remain central. Participants appreciated reassurances that their speech samples were anonymized and not used to train commercial systems without permission.

Conclusion

Artificial intelligence holds transformative potential for English language learning through scalable personalization. This study confirms that adaptive AI tools significantly support vocabulary retention, grammar fluency, and learner motivation across all proficiency levels. Beginners benefit most in foundational skills, intermediate learners strengthen productive command, and advanced learners refine nuanced expression. To maximize benefits, AI must be integrated within pedagogically

sound frameworks that allow for human oversight, learner control over feedback, and ethical data practices.

Future development should explore long-term retention, hybrid AI-teacher models, and AI feedback customization. Ultimately, effective AI-enhanced language instruction requires designing systems that adapt to developmental needs, respect cultural and rhetorical complexities, and empower learners—not replace educators.

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