

THE IMPACT OF AI-POWERED TOOLS (CHAT GPT) ON ENGLISH LANGUAGE LEARNING IN EFL CLASSROOMS: A CASE STUDY IN UZBEKISTAN

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ABSTRACT

The rapid advancement of artificial intelligence has introduced new paradigms in English as a Foreign Language (EFL) education. This study investigates the impact of AI-powered tools, particularly Chat GPT, on the English language learning outcomes of university-level EFL students in Uzbekistan. Using a mixed-methods approach, 60 students were divided into a control group (traditional instruction) and an experimental group (AI-assisted instruction) over one semester. Pre- and post-test scores, classroom observations, and structured interviews were employed as data collection instruments. The results revealed statistically significant improvements in writing proficiency ($p < 0.05$) and vocabulary acquisition among the experimental group. Students reported higher levels of motivation and autonomy when using ChatGPT as a learning assistant. However, concerns regarding academic integrity and over-reliance on AI were also identified. These findings suggest that integrating AI tools into EFL classrooms can enhance language learning, provided that clear pedagogical frameworks and ethical guidelines are established.

Keywords: AI tools, ChatGPT, EFL, English language learning, Uzbekistan, writing proficiency, motivation

1. INTRODUCTION

The integration of technology into language education has been a subject of growing scholarly interest over the past two decades. With the emergence of large language models (LLMs) such as ChatGPT, developed by OpenAI, a new frontier has opened for English as a Foreign Language (EFL) instruction. These AI-powered tools offer learners

immediate, personalized feedback on grammar, vocabulary, and writing structure — capabilities that were previously only accessible through direct teacher interaction (Brown & Lee, 2020).

In the Central Asian context, Uzbekistan has undergone significant educational reforms aimed at improving English language proficiency across the population. The 2021 Presidential Decree on the Development of the English Language reinforced the national commitment to widespread English literacy, creating both demand and opportunity for innovative teaching methodologies (Ministry of Education, Uzbekistan, 2021). Despite this policy emphasis, EFL classrooms in Uzbekistan continue to face challenges, including large class sizes, limited exposure to authentic English input, and insufficient individualized feedback mechanisms.

AI tools such as ChatGPT present a potentially transformative solution to these challenges. By acting as an always-available language tutor, ChatGPT can provide learners with instant corrections, model sentences, and explanations that scaffold their linguistic development. However, empirical research examining the effectiveness of such tools in the specific Uzbek EFL context remains sparse. This study therefore aims to fill that gap by conducting a controlled experimental investigation of ChatGPT's impact on EFL learners' writing proficiency, vocabulary acquisition, and learning motivation.

The research is guided by the following questions: (1) Does the use of ChatGPT significantly improve the writing proficiency of EFL learners compared to traditional instruction? (2) What is the effect of AI-assisted learning on vocabulary acquisition? (3) How do EFL learners perceive the use of ChatGPT in terms of motivation and autonomous learning? Addressing these questions contributes to the broader discourse on technology-enhanced language learning (TELL) and provides actionable insights for language educators in Uzbekistan and similar EFL contexts.

2. LITERATURE REVIEW

The use of digital technologies in language learning has been extensively documented in the literature. Computer-Assisted Language Learning (CALL) emerged in the 1960s and

has since evolved through multiple phases — from simple drill-based programs to sophisticated interactive platforms (Warschauer & Healey, 1998). More recently, mobile-assisted language learning (MALL) and web-based tools have expanded access to authentic language resources, enabling learners to engage with English beyond the physical classroom (Kukulska-Hulme & Shield, 2008).

Research consistently demonstrates that technology integration enhances motivation and engagement in language learning. Dörnyei (2001) identifies motivational strategies as central to language acquisition, and studies have shown that digital tools, particularly those offering immediate feedback, positively affect learner self-efficacy. The interactive and adaptive nature of modern AI platforms aligns well with constructivist theories of language learning, where learners build knowledge through active engagement rather than passive reception (Vygotsky, 1978).

Since its public release in late 2022, ChatGPT has attracted significant attention from language educators and researchers. Several studies have explored its potential as a writing assistant, conversational partner, and grammar checker. Rudolph et al. (2023) found that ChatGPT can generate contextually appropriate feedback on student essays, rivaling the quality of peer feedback in several dimensions. Similarly, Kasneci et al. (2023) argued that LLMs represent a paradigm shift in educational technology, offering unprecedented opportunities for personalized, scalable language support.

However, concerns have also been raised. Scholars such as Cotton et al. (2023) highlight the risk of academic dishonesty when students submit AI-generated text as their own work. Additionally, the potential for learners to develop dependency on AI tools — thereby bypassing the effortful cognitive processing necessary for deep language acquisition — has been flagged as a pedagogical concern (Bender et al., 2021). Balancing the benefits of AI assistance against its risks remains a central challenge for educators adopting these technologies.

Research on EFL instruction in Central Asia, including Uzbekistan, is a relatively emerging field. Studies have identified common challenges such as the dominance of

grammar-translation approaches, limited opportunities for communicative practice, and a shortage of qualified English teachers in rural areas (Hasanova & Shadieva, 2008). More recent scholarship has examined the potential of blended learning models to address these gaps, though empirical studies specifically investigating AI integration in Uzbek EFL classrooms are virtually absent from the literature.

3. METHODOLOGY

This study employed a quasi-experimental pre-test/post-test control group design, supplemented by qualitative data from interviews and classroom observations. This mixed-methods approach was chosen to capture both quantitative learning outcomes and the qualitative dimensions of learner experience, consistent with recent recommendations for CALL research (Plonsky & Ziegler, 2016).

Participants

Sixty undergraduate students (n=60) enrolled in an English for Academic Purposes (EAP) course at a state university in Tashkent, Uzbekistan, participated in the study. Participants were at the B1 level of the Common European Framework of Reference (CEFR), as confirmed by an Oxford Placement Test administered at the outset. They were randomly assigned to either the experimental group (n=30), which received AI-assisted instruction incorporating ChatGPT, or the control group (n=30), which received conventional instruction without AI tools. All participants provided informed consent, and ethical clearance was obtained from the university's research committee.

Data Collection Instruments

Three instruments were used to collect data. First, a writing proficiency test — adapted from the IELTS Academic Writing Task 2 format — was administered as both pre-test and post-test to measure changes in writing ability. Essays were evaluated using a four-criteria rubric: task achievement, coherence and cohesion, lexical resource, and grammatical range and accuracy. Second, a vocabulary acquisition test comprising 50

items drawn from the Academic Word List (AWL) was used to measure lexical development. Third, semi-structured interviews were conducted with 12 purposively selected students (6 from each group) at the end of the study to explore learner perceptions of the learning experience.

The intervention lasted 14 weeks, corresponding to one full academic semester. Both groups received identical instructional content based on the university's official EAP curriculum, covering academic writing genres, argumentation, and vocabulary in context. The experimental group was additionally introduced to ChatGPT during the second week, with guided sessions on how to use the tool responsibly — including instructions on using it for feedback, idea generation, and self-correction rather than text generation. Students in the experimental group were required to document their weekly ChatGPT interactions in a reflective learning journal. Data were analyzed using SPSS 27.0 for quantitative measures and thematic analysis for qualitative data.

4. RESULTS

Pre-test scores for both groups were comparable, with no statistically significant difference ($p = 0.84$), confirming baseline equivalence. Post-test results, however, revealed a significant difference between the groups. The experimental group achieved a mean post-test score of 74.3 ($SD = 6.2$) compared to 65.8 ($SD = 7.1$) for the control group. An independent samples t-test confirmed that this difference was statistically significant ($t(58) = 4.97$, $p < 0.001$, $d = 1.28$), indicating a large effect size. Improvements in the experimental group were particularly pronounced in the lexical resource and coherence dimensions, suggesting that regular interaction with ChatGPT supported vocabulary use and structural organization in writing.

On the AWL vocabulary test, the experimental group demonstrated greater gains than the control group. The mean gain score for the experimental group was 12.4 items ($SD = 3.1$), compared to 7.9 items ($SD = 3.8$) for the control group. This difference was statistically significant ($t(58) = 4.92$, $p < 0.001$), suggesting that AI-assisted learning environments facilitated more effective vocabulary acquisition. Qualitative data from the

interviews indicated that students valued ChatGPT's ability to provide contextual examples and collocations for new words, which they reported as more memorable than dictionary definitions.

Thematic analysis of the interview data revealed three dominant themes: enhanced motivation, increased learner autonomy, and concerns about dependency. The majority of experimental group students (10 out of 12 interviewed) described ChatGPT as a non-judgmental, always-available tutor that reduced their anxiety about making mistakes. One participant stated: 'I felt more confident writing in English because I could check my ideas with ChatGPT before submitting.' Several students also reported extending their English practice beyond scheduled class hours, suggesting an increase in autonomous learning behaviors. However, four students expressed concern that over-reliance on AI might prevent them from developing independent writing skills, a concern echoed by the course instructors.

5. DISCUSSION

The results of this study provide compelling evidence that integrating ChatGPT into EFL instruction can yield significant benefits in writing proficiency and vocabulary acquisition. These findings are consistent with Rudolph et al. (2023), who reported positive effects of AI feedback on student writing quality, and with broader CALL literature emphasizing the motivational benefits of interactive digital tools (Dörnyei, 2001). The large effect size observed in writing proficiency ($d = 1.28$) is particularly noteworthy, suggesting that the intervention had a substantial practical impact beyond statistical significance.

The mechanism behind these gains appears to be twofold. First, ChatGPT provided learners with immediate, iterative feedback that allowed them to revise and improve their writing in real time — a process that mirrors the formative assessment practices shown to be most effective in writing instruction (Black & Wiliam, 1998). Second, the tool's ability to generate contextually embedded examples of academic vocabulary facilitated the kind of incidental learning that is associated with deep lexical knowledge (Nation, 2001).

Nevertheless, the study also highlights important pedagogical cautions. The concerns about dependency and academic integrity raised by participants and instructors echo warnings in the literature (Cotton et al., 2023). These findings underscore the importance of structured AI integration, where clear guidelines distinguish between AI as a learning scaffold and AI as a substitute for independent work. Teacher training in AI-literate pedagogy thus emerges as a critical priority.

6. CONCLUSION

This study demonstrates that the integration of ChatGPT into EFL instruction at the university level in Uzbekistan can significantly improve writing proficiency and vocabulary acquisition while enhancing learner motivation and autonomy. However, these benefits are best realized within a structured pedagogical framework that promotes critical and independent engagement with AI tools. The findings contribute to the growing body of evidence supporting the potential of AI in language education and offer practical implications for curriculum designers, EFL teachers, and educational policymakers in Uzbekistan and analogous contexts.

Future studies should employ larger, more diverse samples and longitudinal designs to examine the sustained effects of AI integration on language proficiency. Investigation of AI's impact on speaking and listening skills — dimensions not addressed in the current study — would further enrich the evidence base for AI-enhanced EFL instruction.

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