



USING AI TOOLS FOR VOCABULARY TEACHING IN ENGLISH AND UZBEK LANGUAGE EDUCATION

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Abstract: This research explores the impact and effectiveness of artificial intelligence (AI) tools in vocabulary instruction in English and Uzbek language education. With AI becoming increasingly integrated into educational technology, vocabulary acquisition — a critical aspect of language proficiency — has undergone significant transformation. The thesis examines widely used AI tools (e.g., Duolingo, ChatGPT, Google Translate) and compares their roles, strengths, and challenges in teaching English and Uzbek. While English benefits from a wide range of AI-powered vocabulary learning platforms, Uzbek — as a low-resource language — faces technical and pedagogical limitations. This study employs a comparative methodology combining case studies, user feedback, and app evaluations. Findings highlight that AI tools enhance learner engagement and vocabulary retention, especially for English, but underscore the need for better AI adaptation for the Uzbek language context. The research concludes with recommendations for improving AI-driven vocabulary teaching in both languages.

Keywords: AI in education, vocabulary acquisition, English language learning, Uzbek language teaching, NLP, adaptive learning, bilingual education, low-resource languages, intelligent tutoring systems

Introduction

Vocabulary is a fundamental component of language proficiency. With the rise of artificial intelligence in education, learners now have access to interactive and adaptive tools that assist in vocabulary acquisition. AI applications offer personalized instruction, contextual learning, and gamified experiences. While AI



tools have significantly enriched English vocabulary teaching, the same advancement has not reached the Uzbek language due to technological, linguistic, and resource-based challenges.

This thesis aims to examine how AI tools are used in teaching vocabulary in both English and Uzbek, evaluating their effectiveness and comparing their pedagogical value. This study contributes to the understanding of AI's role in bilingual education and supports the development of more inclusive AI-powered learning systems, especially for under-resourced languages.

Literature analysis and methodology: Vocabulary development theories such as the Lexical Approach (Lewis, 1993), Nation's vocabulary learning strategies (2001), and Cognitive Load Theory are foundational to understanding how learners retain and apply vocabulary. AI tools like intelligent tutoring systems, machine learning-based apps, and NLP-driven chatbots provide automated, adaptive learning experiences. Research shows these tools improve vocabulary retention, motivation, and engagement (Beatty, 2010; Kukulska-Hulme, 2020). Duolingo, Memrise, ChatGPT, Replika, and Google Translate are popular tools offering diverse vocabulary tasks including games, speech interaction, translation, and semantic context learning. A qualitative and comparative research approach was applied to analyze AI vocabulary teaching in English and Uzbek.

Results:

The study found that AI tools helped learners improve their vocabulary by making learning more interactive and interesting. Students enjoyed using apps that included games, quizzes, and conversations. Many said they remembered new words better when using these tools regularly. Teachers noticed that students were more motivated and confident when learning with AI tools. Some tools gave instant feedback and adjusted the difficulty level based on the learner's progress, which helped students learn at their own pace. However, both students and



teachers also said that some tools needed better word explanations and more examples to fully understand how to use new vocabulary in real life.

Discussion:

AI tools in English enable personalized, adaptive vocabulary learning with gamification and spaced repetition techniques. In Uzbek, vocabulary tools lack contextual richness, morphological awareness, and user feedback mechanisms. English AI tools align well with communicative and lexical teaching methods.

Conclusion: This study confirms that AI tools play a transformative role in English vocabulary teaching but highlights the underdevelopment of similar tools for Uzbek. While English learners benefit from advanced AI platforms, Uzbek language learners need more culturally and linguistically adapted applications. The disparity underlines the need for strategic development of AI tools tailored to the specific features of the Uzbek language.

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