Chapter 1
Evaluation of Artificial Intelligence Applications for Foreign Language Learning in the Context of Skills, Gamification, and Interaction

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ABSTRACT

This study examines the role of AI and gamification in foreign language learning, analyzing 29 AI-driven applications based on their support for speaking, listening, reading, and writing, as well as interaction types. Findings show that speaking and listening are the most supported skills (over 60% rated "high"), while writing

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receives less emphasis. Gamification enhances engagement, particularly in learner-content and learner-interface interactions, but lacks sufficient teacher-learner and learner-learner engagement. Notable applications like Gliglish and eigo.ai perform well across all skills using multimodal AI, while Rosetta Stone and Babbel provide comprehensive interaction frameworks. The study highlights the need for balanced interaction strategies, recommending improved AI-driven feedback for writing, expanded gamification, and further research on long-term learning impacts.

INTRODUCTION

Artificial intelligence (AI) applications, emerging and evolving with technological advancements, are now integral to various professional fields and everyday activities. From academic tools like online courses and videos to banking, transportation, and entertainment systems, AI has become a transformative force in modern life (Komalavalli et al., 2020). In educational contexts, particularly in foreign language education, AI has opened new avenues for independent and interactive learning by offering personalized learning experiences, adaptive feedback, and real-time interaction (Huang et al., 2022). However, AI tools vary in their capabilities; some rely on predictive AI models that use rule-based algorithms, while others employ generative AI models that enable real-time, context-aware interaction (IBM, 2024).

Among AI-based technologies, chatbots powered by natural language processing (NLP) systems have become particularly effective tools in language education. AI-driven chatbots simulate human communication through text or voice-based interactions (Shevat, 2017) and continuously refine their responses through learning-based interaction (Haristiani, 2019). These features make AI chatbots highly valuable in foreign language education, where authentic dialogue, contextual learning, and real-time feedback are critical components of skill development.

The purpose of this study is to evaluate AI-supported language learning applications in terms of their effectiveness in improving language skills, fostering interaction, and utilizing gamification strategies. By systematically analyzing 29 widely-used AI-powered applications, this research aims to identify their strengths and limitations in facilitating speaking, listening, reading, and writing skills, as well as their capacity to support different types of learner interactions and engagement mechanisms.The concept of AI traces back to the mid-20th century, with milestones such as Turing's (1950) exploration of machine thinking and the Dartmouth Conference in 1956 that laid the foundation for AI research. Over time, AI applications like Eliza, Parry, and more recently, A.L.I.C.E have advanced human-machine interaction capabilities, forming the basis for modern educational tools (Belda-Medina and Ferrer, 2022). These developments have particularly influenced language education, where AI

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