

# Integration of Artificial Intelligence in Flipped Learning Models: Redefining Language Pedagogy

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## Abstract

This paper explores the transformative impact of integrating Artificial Intelligence (AI) with the Flipped Learning (FL) model in language pedagogy. FL, a learner-centered approach that inverts traditional classroom dynamics by introducing content outside of class and reserving in-class time for interactive activities, is proving effective in enhancing learner engagement and comprehension. The addition of AI tools offers new opportunities to further personalize and optimize language instruction. AI technologies, such as intelligent tutoring systems, natural language processing (NLP) tools, and speech recognition software, enable learners to practice language skills autonomously, receive instant feedback, and access customized learning resources. This paper examines how AI-driven tools can complement FL by facilitating self-paced learning, identifying individual learning gaps, and adapting content to meet diverse language proficiency levels. By exploring the practical applications of AI in Flipped classrooms, this research highlights the pedagogical benefits, such as increased learner motivation, improved retention, and enhanced linguistic skills. Furthermore, it addresses potential challenges, including ethical considerations and the need for instructor training in technology integration. Ultimately, this study argues that combining AI with FL offers a dynamic approach to language teaching, fostering a more engaging and personalized learning experience.

**Keywords:** Autonomy, Flipped Classroom; Personalization; Technology