



AI-Powered Language Learning Systems: A Study on Personalized Learning for Foreign Language Learners

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I certify that I have read this thesis and that in my opinion it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Science.

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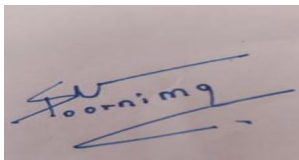
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DECLARATION

This is to certify that the work is entirely my own and not of any other person, unless explicitly acknowledged (including citation of published and unpublished sources). The work has not previously been submitted in any form to the Sri Lanka Institute of Information Technology or to any other institution for assessment for any other purpose.

Subhani Jayasekara

A handwritten signature in blue ink, appearing to read 'Subhani Jayasekara', is written over a light blue horizontal line. The signature is stylized and cursive.

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Date: 5th January 2026

ABSTRACT

Development of a Methodology for foreign language learners using AI

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Artificial Intelligence (AI) is increasingly transforming the field of education, with personalized learning emerging as one of its most impactful applications. This study investigates the role of AI-powered personalized learning systems in supporting beginner-level foreign language learners. The research was motivated by the challenges beginners face in traditional learning environments, such as limited practice opportunities, delayed feedback, and lack of adaptive content.

A quantitative survey was conducted with 173 participants engaged in learning German, French, or Japanese using AI-based platforms. The study examined learner demographics, perceptions, effectiveness of personalization, and associated challenges. The conceptual framework positioned AI-powered personalization as the independent variable, learner engagement and competency as mediators, and learning outcomes—measured in terms of retention, motivation, and performance—as dependent variables.

The findings reveal that AI personalization has a significant positive effect on both learner engagement and competency, which in turn are strongly associated with improved learning outcomes. Mediation analysis confirms that engagement and competency jointly strengthen the link between personalization and outcomes. While most learners perceived AI tools as engaging and motivating, concerns were raised about technical reliability, privacy, and over-adaptation of content.

The study concludes that AI-powered personalization enhances early-stage language acquisition but requires careful refinement to address ethical and technical limitations. Recommendations are provided for educators, developers, and institutions to integrate AI as a supplementary tool while maintaining safeguards around learner data and pedagogical balance.

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