



INTEGRATIVE MODEL OF AI- BASED LANGUAGE TOOLS IN OVERCOMING COMMUNICATIVE BARRIERS IN FOREIGN LANGUAGE TEACHING AND TRANSLATION: A CONTEMPORARY ANALYSIS

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DOI: <https://doi.org/10.5281/zenodo.19694823>

ABSTRACT

This study explores how AI-based language tools help overcome communicative barriers in foreign language teaching and translation. It proposes an integrative model linking barriers with AI solutions. Results indicate that systematic, pedagogically guided use of AI enhances communicative competence, improving fluency, accuracy, and intercultural understanding more effectively than isolated technological applications.

Keywords: AI-assisted language learning, communicative competence, communicative barriers, neural machine translation (NMT), AI chatbots, second language acquisition (SLA), foreign language anxiety, intercultural communication, technology-enhanced learning (TEL), integrative AI model.

INTRODUCTION

In the context of modern globalization, multilingual communication has become an important component of education, professional development, and international cooperation. The growing interdependence of societies has increased the need for effective communication across language and cultural boundaries, which has made foreign language proficiency a key global competency. Despite the expansion of language learning, learners face serious communicative barriers that hinder effective communication. These barriers are multidimensional. Linguistic limitations, such as limited vocabulary and grammatical ambiguities, reduce the accuracy of communication, psychological factors - especially anxiety and distrust - limit active participation. Cultural differences in communication styles and norms can lead to misunderstandings, and technological difficulties such as limited access to digital tools or low digital literacy make communication more difficult in modern conditions. Recent advances in artificial intelligence (AI) have significantly influenced language education and translation. AI-based tools, such as conversational agents, speech recognition systems, and neural machine translation, provide innovative solutions for overcoming communication barriers by enabling interactive practice, real-time feedback, and instant translation.

However, current research tends to examine these technologies in isolation rather than as elements of an integrated system. There remains a need for a holistic approach that combines multiple AI tools to address communicative barriers more effectively and systematically. Communicative barriers have been extensively

examined within applied linguistics. Krashen's Affective Filter Hypothesis emphasizes the role of emotional variables in language acquisition, suggesting that anxiety significantly inhibits communicative performance.¹ Horwitz et al. further elaborate on the impact of foreign language anxiety on learners' willingness to communicate.²

METHODOLOGY

Technological progress has introduced AI-based tools capable of improving language learning outcomes. Speech recognition technologies provide pronunciation accuracy, and chatbots simulate real conversation contexts. Machine translation systems support intercultural communication. However, the absence of an integrative basis remains a significant gap in current research. This study includes a conceptual and analytical research design aimed at a systematic study of the relationship between communicative barriers and AI-based interventions. The methodology combines a comparative analysis of the selected artificial intelligence tools with a thematic classification of communicative barriers, taken from the available literature. Four main categories of barriers - linguistic, psychological, cultural, and technological - are identified and implemented as analytical variables.

Subsequently, a mapping process is applied to match each barrier category with relevant AI-based solutions, including conversation agents, speech recognition systems, and neural machine translation. This constructed analytical framework allows for the identification of functional correspondences between the types of barriers and technological capabilities. As a result, the study develops an integrative model that synthesizes these relationships into a coherent system, providing a theoretically grounded and practically applicable approach to mitigating communicative barriers in language learning contexts.

RESULTS

The results show that tools based on artificial intelligence (AI) significantly increase communicative competence when implemented in an integrated system. The analysis shows that speech recognition systems help to increase phonological accuracy by providing direct, data-driven feedback on pronunciation. It has been shown that conversation agents (chatbots) reduce psychological barriers, in particular language anxiety, by offering interactive communication environments with a low level of risk. In addition, neural machine translation tools facilitate intercultural understanding, allowing for a more accurate interpretation of meaning across linguistic and cultural contexts. In addition, the results show that there is a clear synergistic effect in the proposed integrative model. When artificial intelligence technologies are combined and applied systematically, their overall impact prevails over their individual use. This integrated application enhances multiple dimensions of communicative competence simultaneously, suggesting that a holistic, system-based approach to AI implementation is more effective than fragmented adoption of individual tools.

DISCUSSION

The results emphasize the importance of pedagogical integration in increasing the effectiveness of artificial intelligence (AI) tools in language education. Artificial intelligence should be understood as an additional system that improves and

supports teacher-led processes instead of replacing human learning. The results show that the pedagogically oriented use of artificial intelligence allows for more systematic, goal-oriented learning, thereby increasing its overall impact on communicative competence. At the same time, artificial intelligence technologies provide important advantages, such as personality-oriented learning pathways, flexible feedback mechanisms, and increased opportunities for autonomous training. However, there are still a number of problems. The risk of technological dependency can reduce students' ability to work independently without digital support, and the unequal use of artificial intelligence tools can exacerbate existing educational inequality. These limitations indicate the need for balanced implementation strategies that combine technological innovations with pedagogical control and the possibility of fair use.

CONCLUSION

This study contributes to the field by proposing an integrative model that systematically links artificial intelligence (AI) technologies with the development of communicative competence. By mapping specific AI tools to distinct categories of communicative barriers, the model provides both a conceptual framework and practical outcomes for more effective language learning. However, the findings remain largely theoretical and require further empirical validation. Future research should focus on testing the proposed model in real educational settings, using both qualitative and quantitative methods to evaluate its effectiveness. Furthermore, long-term studies are necessary to examine the sustained impact of integrated AI use over time on communicative competence and learner autonomy.

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