


Chapter 8

Challenges of Integrating Artificial Intelligence With Language Curriculum: Addressing Pedagogical, Technological, and Ethical Barriers

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ABSTRACT

This chapter explores the multifaceted challenges of integrating Artificial Intelligence (AI) into language curricula, focusing on pedagogical, technological, and ethical barriers. It begins by examining the theoretical foundations of AI in education and its potential to enhance language learning through personalized and adaptive teaching methods. However, the integration is complicated by pedagogical challenges such as alignment with curriculum objectives, teacher preparedness, and the need for effective assessment strategies. Technological hurdles include access disparities, infrastructure limitations, and the necessity for adaptable AI tools. Ethical concerns, particularly regarding data privacy, algorithmic bias, and the evolving role of educators, are critically analyzed. By addressing these barriers, the chapter aims to provide insights into creating a balanced, inclusive, and effective AI-enhanced language curriculum for diverse educational contexts.

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1. INTRODUCTION

The integration of Artificial Intelligence (AI) into educational contexts has emerged as a transformative force, promising to enhance teaching and learning processes. In the realm of language education, AI technologies hold the potential to personalize learning experiences, improve access to educational resources, and facilitate innovative pedagogical approaches. However, the journey toward integrating AI with language curricula is fraught with challenges that must be addressed to realize its full potential. This chapter explores the multifaceted barriers—pedagogical, technological, and ethical—that hinder the effective integration of AI in language education.

1.1 Pedagogical Challenges

At the core of the pedagogical challenges is the alignment between AI-driven tools and established educational objectives. While AI can automate certain aspects of language learning, it cannot replace the critical human elements of empathy, cultural nuance, and interpersonal interaction that are essential for effective language acquisition. Language learning is inherently social, requiring nuanced communication and contextual understanding that AI systems often struggle to replicate (Almalki, M., & Aziz, M. A. (2022)). Furthermore, the effectiveness of AI tools is contingent upon educators' preparedness to incorporate these technologies into their teaching practices. Many teachers lack the necessary training and support, resulting in resistance to adopting AI-driven methodologies. Consequently, a significant gap exists between the potential benefits of AI and the realities of classroom implementation.

1.2 Technological Challenges

The technological barriers to integrating AI into language curricula are equally substantial. The successful deployment of AI tools requires robust infrastructure, including access to reliable internet and devices, which can be a significant hurdle in under-resourced educational settings. Additionally, the interoperability of AI applications with existing educational platforms poses a challenge (Anderson, T., & Dron, J. (2011)). Educators often find themselves grappling with compatibility issues, which can lead to fragmented learning experiences. Moreover, the development of AI technologies requires vast amounts of quality data. In the context of language education, this can be particularly complex, as the datasets must encompass a diverse range of languages, dialects, and cultural contexts to avoid bias and enhance relevance.

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