Chapter 6
Redesigning AI for Inclusion:
University Students' Experiences With Cultural Exclusion in AI Learning Systems

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ABSTRACT

The current study examined how AI systems marginalize students from diverse cultural and linguistic backgrounds and proposed strategies to enhance inclusivity in AI-driven educational environments. Using a phenomenological design, in-depth semi-structured interviews were conducted with 11 university students. The data were analyzed using a thematic data analysis technique. The findings showed that students liked how AI systems made learning more personalized. However, most of them reported cultural biases in how the AI systems gave feedback and predicted their performance. The students reported that automated feedback often failed to appreciate context-specific linguistic variations, labeling non-standard expressions or culturally differentiated arguments as "poor grammar" or "unclear thinking." Content suggestions in learning platforms also appeared to support Western-centric narratives. Several participants reported that AI-generated predictions regarding their academic performance did not match their actual learning efforts. This chapter had several practical implications.

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INTRODUCTION

The integration of Artificial Intelligence (AI) into higher education (HE) has transformed traditional pedagogical practices by providing new platforms for personalised learning, student support, and administrative decision-making (Anierobi et al., 2025). AI-driven learning platforms that track students' behaviour, evaluate their performance patterns, and generate predictions to inform timely educational interventions (Amjad et al., 2024). AI systems can foster educational outcomes by providing data-driven insights that support academic rigor (Lin & Albahli, 2025). AI tools have become increasingly popular in higher education within the current tech-driven era (Malik & Amjad, 2025). Higher education students now heavily rely on applications like ChatGPT and other generative AI platforms for academic support (Nguyen, 2025). These tools assist them in their academic tasks, such as writing, summarizing texts, answering content-related queries, and providing explanations in multiple languages (AlShaikh et al., 2024). Typically, university students utilize these AI tools for academic tasks, such as providing feedback and clarifying concepts, and occasionally for academic writing assistance (Khalifa & Albadawy, 2024).

Although these AI platforms have several advantages. However, some serious concerns exist regarding how culturally and linguistically diverse students experience these AI systems (Olmos-Gómez et al., 2022). These AI tools are trained on large datasets that reflect dominant Western values and context, language structures, and cultural preferences (Lewis et al., 2025; Tao et al., 2024). So, students from non-Western or multilingual backgrounds find that these tools do not understand their ways of reasoning, expression, or writing. For example, students receive feedback that their grammar is incorrect or that their arguments are unclear, even based on valid cultural communication styles. These experiences highlight concerns regarding fairness, inclusion, and cultural sensitivity in AI use (Cachat-Rosset & Klarsfeld, 2023).

In this regard, the opinions of university students are often overlooked when discussing AI in education. In the past, researchers have focused on the technological aspects or output of AI tools (Mikalef et al., 2023; Olan et al., 2022). There is limited insight into how culturally and linguistically sensitive students perceive communication with these AI-enabled systems. Students from rural regions or lower socio-economic backgrounds may not only face linguistic exclusion but also lack digital capital, resulting in compounded marginalization (Kukulska-Hulme et al., 2023). Similarly, gendered language norms or expectations may not be accounted for in feedback algorithms, further deepening the misalignment between AI systems and student realities(S. Jiang et al., 2024). Research suggests that these intersecting identities shape students' access, recognition, and inclusion in algorithmic environ-