

Technology Integration for Diverse Learners: A Scoping Review of Inclusive and Culturally Responsive Practices in Higher Education

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ABSTRACT:

Higher education institutions are enrolling increasingly diverse student populations, intensifying the need for teaching approaches that are both inclusive and culturally responsive. Technology has emerged as a promising means of supporting diverse learners, yet research on educational technology, inclusive education, and culturally responsive teaching has developed largely along separate lines, leaving their intersection poorly mapped. This scoping review examined how technology integration is conceptualized and enacted to support diverse learners through inclusive and culturally responsive practices in higher education. Guided by Arksey and O'Malley's framework and reported in accordance with the PRISMA Extension for Scoping Reviews, the review systematically searched four academic databases, namely Google Scholar, ERIC, Scopus, and Web of Science, for studies published between 2015 and 2025. From an initial 612 records, 25 studies met the inclusion criteria and were analyzed through thematic synthesis. Four overarching themes emerged: Universal Design for Learning as a framework for technology mediated inclusion, culturally responsive pedagogy and the localization of digital tools, faculty readiness and institutional support, and access, equity, and the persistence of the digital divide. The findings indicate that technology advances inclusion only when it is embedded within deliberate pedagogical design, grounded in learners' cultural realities, supported by capable faculty and institutions, and accompanied by equitable access. A recurring gap between aspiration and capacity was evident across all themes, particularly in under resourced and Global South contexts such as the Philippines. The review underscores the need for sustained faculty development, equity centered design, and longitudinal, participatory research, offering a foundation for advancing inclusive instructional practice in alignment with Sustainable Development Goal 4 and Sustainable Development Goal 10.

Keywords: Universal Design for Learning, digital divide, equitable access, faculty readiness, educational equity, Global South.

1. Introduction

Higher education institutions worldwide are enrolling increasingly diverse student populations, encompassing learners who differ in

ability, language, culture, socioeconomic background, and prior educational experience (Awang-Hashim et al., 2019; Srivastava et al., 2022). This growing diversity has elevated

inclusive education from a marginal concern to a central institutional priority, reinforced by global commitments such as Sustainable Development Goal 4, which calls for inclusive and equitable quality education, and Sustainable Development Goal 10, which targets the reduction of inequalities within and among nations (Akbar et al., 2023; Taga, 2026b). Within this context, technology has emerged as a powerful means of supporting diverse learners, offering tools that can personalize instruction, expand access, and accommodate variability in how students engage with and demonstrate learning (Abimbola et al., 2024; Kansara, 2025; Pandey & Mohanty, 2025). Frameworks such as Universal Design for Learning have further positioned technology as a proactive instrument for inclusion rather than a reactive accommodation, encouraging educators to design flexible learning environments from the outset (Mayasari et al., 2025; Taga, 2024b).

Alongside these developments, scholars have increasingly argued that genuine inclusion requires more than access; it demands culturally responsive pedagogy that affirms learners' identities, languages, and ways of knowing (Kumi-Yeboah & Amponsah, 2023; Taga, 2026d). Technology is not culturally neutral, and the platforms, content, and interfaces embedded in digital learning often reflect dominant epistemologies that can marginalize students from minoritized, Indigenous, or linguistically diverse backgrounds (Eppard et al., 2021; Kurdi, 2023). The convergence of technology integration, inclusive education, and culturally responsive teaching therefore represents a vital and rapidly expanding area of inquiry in contemporary higher education, one that holds considerable promise for advancing equity yet remains conceptually and practically complex (Dogomeo, 2024; Taga, 2025).

Despite the growing body of scholarship in these areas, the literature remains fragmented across distinct research traditions that rarely intersect in a sustained or systematic manner. Studies on educational technology often emphasize tools and platforms without adequately addressing how they serve culturally and linguistically diverse

learners (De Alvarez & Dickson-Deane, 2018; Taga, 2024c), while research on culturally responsive teaching frequently overlooks the role of digital environments in either enabling or constraining equitable practice (Kim et al., 2024; Ramsay-Seaner et al., 2022). Much of the existing evidence is descriptive, short term, or context specific, leaving the cumulative picture of how technology integration intersects with inclusive and culturally responsive practices poorly mapped (Del Rosario Navas-Bonilla et al., 2025; Poggianti et al., 2025). A substantial portion of this scholarship also originates from high resource Western contexts, with the experiences of educators and learners in the Global South, including the Philippines, remaining underrepresented and undertheorized (Mabina et al., 2025; Pecson & Morales, 2026).

These gaps make it difficult for institutions, particularly those operating under resource constraints, to translate broad equity commitments into coherent, evidence informed practice (Assefa & Mujtaba, 2025; Leong, 2025). There is consequently a clear need to consolidate and critically examine the existing literature at the intersection of these three domains. To address this need, the present study conducts a scoping review of the literature on technology integration for diverse learners through inclusive and culturally responsive practices in higher education. Guided by Arksey and O'Malley's framework and reported in accordance with the PRISMA Extension for Scoping Reviews, the review systematically maps how technology integration is conceptualized and enacted to support diverse learners across varied institutional and national contexts.

Specifically, this review seeks to identify the characteristics of technology supported inclusive and culturally responsive practices, examine how these practices intersect with faculty competencies and institutional structures, and explore the enablers and barriers that shape their implementation, with particular attention to under resourced and Global South settings. By synthesizing evidence across these dimensions, the review aims to clarify recurring patterns,

expose persistent tensions, and surface critical research gaps. In doing so, it offers a coherent foundation for advancing future research, informing institutional policy, and guiding inclusive instructional practice in alignment with the equity ambitions of Sustainable Development Goal 4 and Sustainable Development Goal 10.

2. Methodology

This study employed a scoping review methodology to systematically examine and synthesize existing studies on technology integration for diverse learners through inclusive and culturally responsive practices in higher education institutions. Guided by Arksey and O'Malley's (2005) seminal framework, the review enabled a comprehensive, structured mapping of the literature relevant to inclusive and culturally responsive technology use in tertiary settings. Scoping review methodology is particularly suited to fields such as inclusive educational technology, where research remains conceptually diverse, methodologically varied, and rapidly expanding across differing national and institutional contexts. Unlike traditional systematic reviews that apply narrowly defined parameters, the scoping review approach is iterative, flexible, and exploratory, allowing continuous refinement of focus as new insights arise from the literature. Adhering to Arksey and O'Malley's five-stage structure ensured methodological rigor, transparency, and coherence in analyzing how technology integration is conceptualized and enacted to support diverse learners, and the review was reported in line with the PRISMA Extension for Scoping Reviews (PRISMA-ScR).

2.1 Formulating the Research Questions

The review began with the formulation of core research questions that served as the foundation for systematically mapping the literature on technology integration for diverse learners in higher education. These questions were crafted to keep the review focused, coherent, and aligned with the equity ambitions of SDG 4 (Quality Education) and SDG 10 (Reduced Inequalities). The first set of questions sought to identify and describe the characteristics of technology-

supported inclusive and culturally responsive practices implemented across diverse higher education settings, including universities, colleges, and teacher education institutions. This facilitated a holistic understanding of how technology integration for diverse learners is conceptualized and operationalized in tertiary contexts.

A second set of questions examined how these technology-mediated practices intersect with institutional structures, faculty competencies, the localization of digital tools, and the lived experiences of diverse and marginalized students. This emphasis was warranted given the persistent gap reported between the provision of technology and its inclusive, culturally responsive use in the classroom. Finally, the research questions explored the conditions, enablers, and barriers that shape the implementation of inclusive and culturally responsive technology integration, including teacher preparedness, institutional support, policy frameworks, access disparities, and systemic constraints, with particular attention to under-resourced and Global South contexts. Together, these guiding questions ensured a comprehensive and purposeful exploration of the literature, enabling the review to address existing gaps and illuminate the role of technology integration in advancing equitable tertiary education.

2.2 Identifying and Retrieving Relevant Literature

A systematic search was conducted across four major academic databases, Google Scholar, ERIC, Scopus, and Web of Science, to ensure comprehensive coverage of relevant literature on technology integration for diverse learners in higher education. These databases were selected because they index a wide range of peer-reviewed studies across disciplines, educational levels, and global contexts, making them suitable for capturing the breadth of research required in a scoping review. The search targeted studies published from 2015 to 2025 to focus on recent developments in educational technology, inclusive policy, and culturally responsive

pedagogical innovation shaping contemporary tertiary education.

To enhance accuracy and relevance, a keyword-driven search strategy was employed using structured Boolean operators. The search combined terms related to technology integration, inclusive and culturally responsive practices, diverse learners, and higher education. Specifically, the following Boolean string was applied:

("technology integration" OR "educational technology" OR "instructional technology") AND ("inclusive education" OR "inclusive practices" OR "culturally responsive teaching" OR "universal design for learning") AND ("diverse learners" OR "students with disabilities" OR "underrepresented students" OR "marginalized learners") AND ("higher education" OR "tertiary education" OR "university")

These keywords were deliberately selected to capture the technological, inclusive, culturally responsive, and tertiary dimensions of the study simultaneously, ensuring the retrieval of literature that examines technology integration alongside the institutional and experiential conditions in which it occurs. The use of Boolean

combinations strengthened the precision of the search while maintaining sufficient breadth to support the exploratory nature of the scoping review. By using broad yet targeted search terms, the strategy successfully captured studies spanning universities, colleges, and teacher education institutions across varied national contexts, strengthening the credibility, transparency, and inclusiveness of the review.

2.3 Selection of Studies

As shown in Figure 1, all retrieved records underwent a rigorous, multi-stage screening process to ensure relevance, methodological quality, and analytical coherence. The initial database search yielded 612 records, of which 168 duplicate entries were identified and removed. The remaining 444 records were screened based on titles and abstracts, resulting in the exclusion of 351 records that did not meet the scope of technology integration for diverse learners in higher education. Subsequently, 93 full-text articles were assessed for eligibility, of which 68 were excluded due to insufficient relevance, weak methodological grounding, or limited conceptual contribution. This process resulted in 25 studies being included in the final synthesis.

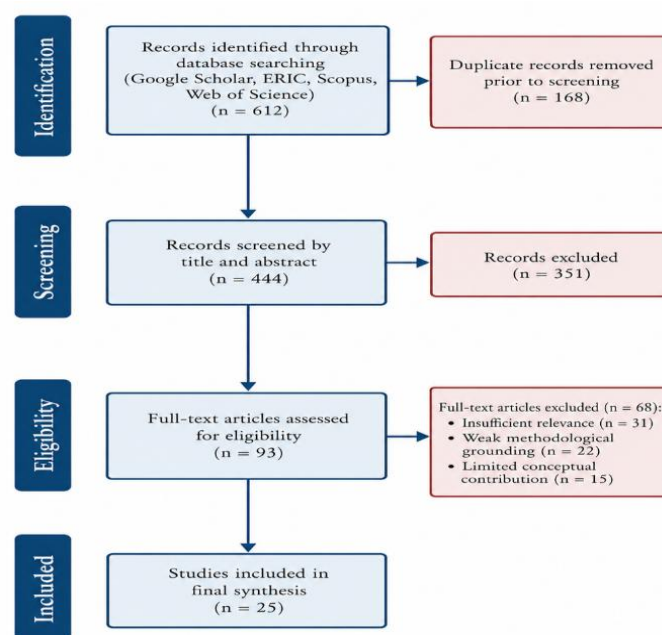


Figure 1. PRISMA-ScR flow chart of the search, selection, and abstracting of articles for the scoping review. Source: Page et al. (2021).

To strengthen the validity and reliability of the selection process, two independent peer reviewers participated in the screening and eligibility assessment. Discrepancies in inclusion decisions were resolved through discussion and consensus, ensuring consistency, transparency, and accuracy throughout the selection procedure. Studies were included if they explicitly examined technology integration, inclusive instructional practices, or culturally responsive teaching approaches for diverse learners within higher education. Only peer-reviewed empirical studies, mixed-method research, and substantive conceptual or theoretical papers published in English were considered. The educational scope was limited to tertiary and post-secondary settings, provided the studies offered meaningful theoretical or empirical contributions.

Conversely, studies were excluded if they consisted primarily of opinion pieces, editorials, or non-empirical commentaries; if they focused on basic or secondary education rather than the tertiary level; if they addressed technology without a clear inclusive or culturally responsive focus; or if the full text was unavailable or not published in English. Non-academic and unrefereed sources were excluded to maintain scholarly rigor. The decision to limit the review to studies published between 2015 and 2025 was intentional and theoretically grounded, capturing the most recent developments in inclusive educational technology shaped by the global mainstreaming of Universal Design for Learning, the rise of culturally responsive digital pedagogy, and heightened policy attention to equity and inclusion. Together, these procedures ensured that the final corpus represented high-quality, current, and contextually relevant evidence aligned with the objectives of this scoping review.

2.4 Data Charting and Organization

A systematic data extraction and charting process was applied to all included studies to ensure consistency, organization, and analytical depth. For each article, detailed information was recorded, including bibliographic data (author, year, country), research purpose, methodological approach, sample characteristics, and

institutional setting. The review also captured the specific technology integration strategies discussed, the inclusive and culturally responsive frameworks guiding each study, the types of learner diversity and digital tools addressed, and any institutional or policy conditions reported. In addition, the major findings, implications, and recommendations of each study were documented.

These data were then organized into analytical matrices, allowing the reviewer to compare studies systematically across multiple dimensions, such as technological approaches, learner diversity focus, institutional context, and reported enablers or barriers. This structured comparison made it possible to identify recurring concepts, points of divergence, and thematic intersections across diverse contexts and methodologies. Ultimately, the charting process served as the foundation for synthesizing the literature, enabling the extraction of meaningful patterns, relationships, and trends that informed the development of the emergent themes.

2.5 Data Synthesis and Interpretation

A thematic synthesis approach was employed to analyze and integrate the extracted data, consistent with the exploratory aims of a scoping review. This method enabled a systematic examination of patterns, concepts, and relationships across the included studies, moving beyond surface-level description toward an interpretive synthesis of the literature. Through careful comparison of how technology integration, faculty preparedness, the localization of digital tools, student experience, and institutional culture were discussed, the analysis captured both shared understandings and contextual variations across diverse higher education settings.

The thematic synthesis followed an iterative process of coding, comparison, and refinement. Initial codes were generated from key concepts and findings reported in the studies, which were then organized into broader analytical categories. Through repeated review and consolidation, four overarching thematic dimensions emerged,

reflecting recurring technological and pedagogical priorities, challenges, and orientations present in the literature. These themes provided a structured lens for understanding how technology integration is conceptualized and enacted to support diverse learners in tertiary education, offering a coherent foundation for advancing future research, informing policy development, and guiding inclusive instructional practice in alignment with SDG 4 and SDG 10.

3. Results

Theme 1: Universal Design for Learning (UDL) as a Framework for Technology-Mediated Inclusion

A recurring theme across the literature is the adoption of Universal Design for Learning as the conceptual backbone for integrating technology in diverse higher education classrooms (Mayasari et al., 2025). UDL's three core principles, namely multiple means of engagement, representation, and action and expression, provide a structured rationale for deploying digital tools that accommodate variability among learners rather than retrofitting accommodations after the fact (Kansara, 2025). Studies consistently report that technologies such as text-to-speech software, captioned multimedia, adjustable digital interfaces, and learning management systems with flexible content delivery operationalize these principles in practice (Ahmad et al., 2024; Yeboah et al., 2024). This proactive design orientation shifts the institutional mindset from disability-as-deficit toward learner variability as the norm, thereby reducing stigma and the administrative burden of individual accommodation requests (Zorec et al., 2022). Researchers emphasize that when UDL is embedded at the course-design stage, technology becomes an inclusive enabler rather than a supplementary aid available only to students with documented needs (Argyriou, 2025; Pandey & Mohanty, 2025). The framework also aligns closely with SDG 4's commitment to inclusive and equitable quality education, situating technology integration within a broader equity agenda (Taga, 2026b).

Despite its conceptual appeal, the literature reveals persistent gaps between UDL's theoretical promise and its consistent implementation across higher education institutions (Del Rosario Navas-Bonilla et al., 2025). Faculty awareness of UDL principles remains uneven, and many instructors adopt digital tools without the pedagogical grounding needed to use them inclusively (De Alvarez & Dickson-Deane, 2018). Several studies note that institutional infrastructure, professional development, and incentive structures lag behind the rhetoric of inclusion, leaving UDL adoption fragmented and dependent on individual champions (Dildora, 2025; Taga, 2024c). There is also limited empirical evidence on long-term learning outcomes attributable specifically to UDL-aligned technology, as much of the research is descriptive or based on short-term pilot interventions (Poggianti et al., 2025). In Global South contexts, including the Philippines, the framework is frequently discussed aspirationally but constrained by resource limitations and connectivity challenges (Mabina et al., 2025). The review highlights a clear need for context-sensitive UDL models that account for varying institutional capacities rather than assuming uniform access to advanced educational technologies (Leong, 2025).

Theme 2: Culturally Responsive Pedagogy and the Localization of Digital Tools

A second prominent theme concerns the integration of culturally responsive teaching with technology to affirm the identities and lived experiences of diverse learners (Cheng et al., 2021; Taga, 2026d). The literature argues that technology is not culturally neutral; the design, language, and content embedded in digital platforms often reflect dominant Western epistemologies that can marginalize students from minoritized, Indigenous, or linguistically diverse backgrounds (Eppard et al., 2021; Kurdi, 2023). Culturally responsive technology integration therefore involves curating digital content that reflects students' cultural knowledge, incorporating local languages into multimedia resources, and designing learning activities that draw on community-based and Indigenous ways

of knowing (Anyichie, 2025; Prihartanto et al., 2025). Studies report that such localization enhances engagement, motivation, and a sense of belonging among learners who are otherwise underrepresented in mainstream curricula (Bi, 2025; Kumi-Yeboah et al., 2020). This approach repositions students as cultural assets rather than as learners who must assimilate into a standardized digital learning environment (Tanjung et al., 2025). Scholars consistently link this practice to equity goals articulated in SDG 10, which targets the reduction of inequalities within and among countries (Eden et al., 2024).

However, the review surfaces tensions between the scalability of digital platforms and the deep contextualization that culturally responsive pedagogy demands (Bitar & Davidovitch, 2024). Many educational technologies are developed for global markets and offer limited capacity for meaningful cultural and linguistic adaptation at the course level (Kurniawan et al., 2024). Faculty in the Global South frequently improvise localized content using freely available tools, but this work is often invisible, unrewarded, and dependent on individual initiative rather than institutional policy (Mabina et al., 2025). The literature also cautions against superficial or tokenistic forms of cultural responsiveness, such as cosmetic translations that fail to engage students' epistemologies authentically (Kim et al., 2024). There is a notable scarcity of research examining how culturally responsive technology integration functions in multilingual, multicultural settings characteristic of Southeast Asia and other Global South regions (Githinji & Nyangoma, 2023; Pecson & Morales, 2026). This gap underscores the need for research that centers local educators' voices and documents sustainable, institutionally supported models of culturally grounded technology use (Ramsay-Seaner et al., 2022).

Theme 3: Faculty Readiness, Professional Development, and Institutional Support

The third theme centers on the pivotal role of faculty competence and institutional infrastructure in determining whether technology integration genuinely advances inclusion (Ardley

et al., 2026; Zhang & Chen, 2025). The literature repeatedly identifies faculty digital literacy and pedagogical readiness as decisive factors, noting that access to technology alone does not produce inclusive outcomes without educators capable of using it equitably (Dildora, 2025; Kumi-Yeboah & Amponsah, 2023). Professional development emerges as a critical enabler, yet studies report that training is often technical and tool-focused rather than oriented toward inclusive and culturally responsive pedagogy (O'Leary et al., 2020). Effective programs are described as sustained, collaborative, and embedded in communities of practice rather than delivered as one-off workshops (O'Leary et al., 2020; Zhang & Chen, 2025). Several studies stress that institutional leadership, clear policy frameworks, and recognition systems are necessary to move inclusive technology integration from isolated innovation to systemic practice (Assefa & Mujtaba, 2025; Davis et al., 2024). Without these structural supports, the burden of inclusion tends to fall disproportionately on individual, intrinsically motivated faculty members (Ardley et al., 2026).

The review further reveals that institutional readiness is unevenly distributed, with significant disparities between well-resourced universities and those operating under fiscal and infrastructural constraints (Mabina et al., 2025). In many Global South higher education systems, including the Philippines, limited bandwidth, inadequate devices, and competing institutional priorities constrain what faculty can realistically implement (Taga, 2024d). Studies note that policy discourse on digital inclusion frequently outpaces the material conditions required to enact it, producing a gap between aspiration and practice (Leong, 2025; Taga, 2024c). Faculty in these contexts often report feeling under-supported and overextended, navigating both technological and pedagogical demands simultaneously (Ardley et al., 2026; Taga, 2024d). The literature also identifies a need for differentiated capacity-building models that respond to varying levels of institutional maturity rather than importing approaches designed for high-resource settings

(Dildora, 2025). Collectively, these findings position faculty development and institutional support as foundational rather than peripheral concerns in any agenda for inclusive technology integration (Zhang & Chen, 2025).

Theme 4: Access, Equity, and the Persistence of the Digital Divide

The final theme addresses the structural inequities that shape access to technology and, consequently, the inclusivity of digital learning in higher education (Pandey & Mohanty, 2025). While technology is frequently framed as a democratizing force, the literature demonstrates that unequal access to devices, reliable connectivity, and digital skills can reproduce and even amplify existing educational disparities (Abimbola et al., 2024; De Alvarez & Dickson-Deane, 2018). Students from low-income, rural, or marginalized backgrounds are disproportionately affected, facing barriers that range from intermittent internet access to the high cost of data and hardware (S. et al., 2025; Taga, 2024d). This dimension of the digital divide extends beyond mere access to encompass the quality and meaningfulness of technology use, sometimes described as a second-level divide (Dogomeo, 2024). The review notes that the COVID-19 pandemic sharpened scholarly and institutional attention to these inequities by exposing how rapidly digital learning can exclude those without adequate resources (Taga, 2024e). These findings reinforce the relevance of SDG 4 and SDG 10 by foregrounding equity as central, rather than incidental, to technology integration (Taga, 2026b).

In response, the literature documents a range of mitigating strategies, including low-bandwidth course design, offline-capable resources, device-lending programs, and partnerships that expand connectivity in underserved communities (Ahmad et al., 2024; Leong, 2025). Yet studies caution that such measures are often reactive and insufficiently institutionalized, leaving equity contingent on episodic interventions rather than durable policy (Davis et al., 2024). In Global South contexts, scholars argue for technology integration models explicitly designed around

constraint, treating limited connectivity as a baseline condition rather than an exception to be remedied later (Mabina et al., 2025). The review also highlights the importance of student voice and participatory approaches in identifying which barriers matter most to learners themselves (Kumi-Yeboah et al., 2020). There remains a striking shortage of longitudinal research tracking how access interventions affect retention, achievement, and equity over time (Poggianti et al., 2025). Taken together, the evidence positions the digital divide not as a peripheral technical issue but as a fundamental equity concern that any inclusive technology agenda must confront directly (Pandey & Mohanty, 2025).

4. Discussion

The synthesis of the four themes reveals that technology integration for diverse learners in higher education cannot be understood as a primarily technical endeavor; rather, it is fundamentally a pedagogical, cultural, and structural one. The prominence of Universal Design for Learning across the literature indicates a maturing consensus that inclusion should be designed proactively into courses rather than retrofitted through individual accommodations. Yet the recurring gap between UDL's theoretical promise and its uneven implementation signals that frameworks alone are insufficient without the faculty capacity and institutional infrastructure to enact them. This connects directly to the findings on faculty readiness, where the literature consistently positions educator competence and pedagogical orientation—not access to tools—as the decisive determinant of inclusive outcomes. Taken together, these themes suggest that the field has moved beyond questions of whether technology can support inclusion toward more demanding questions of how, under what conditions, and for whom it does so equitably.

A second cross-cutting insight is that inclusion and cultural responsiveness are deeply intertwined yet frequently treated as separate concerns in practice. The literature on culturally responsive technology integration challenges the assumption of technological neutrality,

demonstrating that digital platforms embed epistemologies and linguistic norms that can marginalize learners from minoritized and Indigenous backgrounds. When read alongside the UDL theme, this suggests that genuine inclusion requires attending simultaneously to learner variability and cultural identity—a dual demand that few institutions currently meet in a coordinated way. The tension between the global scalability of educational technologies and the deep localization that cultural responsiveness requires emerges as a central unresolved problem, particularly acute in multilingual and multicultural Global South settings. This tension is compounded by the reality that much of the localizing work is performed informally by individual faculty members, rendering it invisible and unsustainable. The convergence of these patterns indicates that culturally responsive technology integration remains aspirational in many contexts, constrained by both platform design and institutional neglect.

The findings on the digital divide cast the preceding themes in a sobering light, revealing that even well-designed, culturally responsive, faculty-led integration can falter where structural inequities in access persist. The literature makes clear that disparities in devices, connectivity, and digital skills do not merely limit participation but can actively reproduce and amplify existing educational inequalities. This is especially consequential in Global South higher education systems, including the Philippines, where policy discourse on digital inclusion frequently outpaces the material conditions necessary to realize it. A notable pattern across all four themes is this persistent gap between aspiration and capacity—UDL adoption, cultural responsiveness, faculty development, and equitable access are each constrained by resource limitations that high-income-context frameworks rarely anticipate. This observation strengthens the case for context-sensitive models that treat constraint as a baseline design condition rather than a deficiency to be corrected later. Situated within the broader agenda of SDG 4 and SDG 10, the discussion underscores that technology integration must be

evaluated not by its presence or sophistication but by its measurable contribution to equity for the most marginalized learners.

Finally, the review exposes a consistent methodological limitation across the evidence base: much of the existing scholarship is descriptive, short-term, or pilot-based, with limited longitudinal evidence linking inclusive technology integration to durable outcomes such as retention, achievement, and reduced inequality. The voices of students themselves, and of local educators in the Global South, remain underrepresented in a literature still shaped largely by high-resource Western contexts. These gaps temper any straightforward optimism about technology's inclusive potential and point clearly toward the need for participatory, context-grounded, and longitudinal research. Addressing them is essential not only for advancing scholarship but for ensuring that the equity commitments embedded in inclusive education are realized in practice rather than asserted in principle.

5. Conclusion

This scoping review mapped the intersecting domains of inclusive education, technology integration, and culturally responsive teaching in higher education, identifying four interrelated themes: Universal Design for Learning as a guiding framework, the localization of digital tools through culturally responsive pedagogy, the centrality of faculty readiness and institutional support, and the persistence of the digital divide. Across these themes, a unifying conclusion emerges: technology advances inclusion only when it is embedded within deliberate pedagogical design, grounded in learners' cultural realities, supported by capable faculty and institutions, and accompanied by equitable access. Where any of these conditions is absent, technology risks deepening rather than narrowing educational inequities, particularly for marginalized learners in resource-constrained settings.

The review's most significant contribution lies in surfacing the recurring gap between aspiration

and capacity that characterizes the field, especially within Global South higher education contexts such as the Philippines. The evidence affirms that inclusive technology integration is inseparable from the equity commitments of SDG 4 and SDG 10, yet it also reveals that these commitments remain unevenly realized due to structural, institutional, and methodological limitations. For practice and policy, the findings call for sustained faculty development oriented toward inclusive and culturally responsive pedagogy, institutional frameworks that recognize and reward such work, and equity-

centered design that treats constraint as a starting point rather than an exception. For future research, the review highlights the urgent need for longitudinal, participatory studies that center the voices of students and local educators and that document sustainable models of inclusive technology integration. Ultimately, realizing the inclusive promise of educational technology in higher education will depend less on the sophistication of the tools available than on the equity, intentionality, and contextual sensitivity with which they are deployed.

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