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Empowering pre-service teachers: Advancing all-inclusive education for students with disabilities in higher learning institutions

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Abstract

This scoping review explores the integration of inclusive education for students with disabilities within higher education, focusing on how pre-service teacher training curricula address this pressing issue. Drawing on literature published between 2000 and 2024, the study examines the institutional barriers that hinder inclusive practices, including resource shortages, policy limitations, inadequate training for educators, and insufficient institutional support structures. Despite global advancements towards inclusive learning environments, findings reveal that many universities fail to prepare teachers to support students with disabilities effectively. These deficiencies often stem from the limited incorporation of inclusive pedagogies within teacher training programmes, a lack of specialised training on adaptive teaching strategies, and weak institutional policies that fail to prioritise accessibility. The review highlights the need for systemic curriculum reform to bridge these gaps, advocating for the explicit integration of inclusive education within pre-service teacher training. Additionally, it calls for greater collaboration between educators and disability support services, alongside more substantial institutional commitments to inclusivity through policy enhancements and targeted resource allocation. Key recommendations include enhancing professional development opportunities for educators, embedding universal design for learning (UDL) principles into curricula, and improving assistive technology access. By addressing these structural and pedagogical challenges, higher education institutions can better equip future teachers to create adaptive, supportive, and genuinely inclusive learning environments, ensuring equitable education for students with disabilities.

Keywords: Inclusive Education; Pre-Service Teachers; Higher Education; Disabilities; Teacher Training

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1. Introduction

Inclusive education is recognised as a cornerstone of equitable learning environments, ensuring that all students, irrespective of physical, intellectual, social, emotional, linguistic, or other conditions, have the opportunity to thrive (Ajani and Ntombela, 2024). Zongozzi and Ngubane (2025) posit that in higher education, inclusion is particularly significant due to the growing diversity of student populations, including those with disabilities. Although global policy frameworks for inclusive education have evolved considerably, many institutions struggle to translate these ideals into effective practices. As Florian and Spratt (2013) note, achieving true inclusion in higher education requires more than policy changes; it demands a fundamental transformation in teaching practices, curricula, and institutional support systems.

Pre-service teacher education plays a critical role in equipping future educators with the attitudes, knowledge, and skills necessary to meet the needs of diverse learners (Ntombela, 2020). However, teacher training programmes often inadequately address strategies for supporting students with disabilities, leaving pre-service teachers feeling underprepared to implement inclusive practices effectively. While many pre-service teachers express positive attitudes towards inclusion, they frequently lack the practical training and confidence needed for successful execution (Sharma, 2018).

Despite increased awareness of inclusive education, the practical realities faced by students with disabilities in higher education often highlight a significant gap between theory and implementation. Many institutions, particularly in low- and middle-income countries, lack the infrastructure, assistive technologies, and resources to fully support students with disabilities (Ashman, 2018; Kim and Aquino, 2017). This persistent discrepancy undermines students' academic success and overall university experience, revealing a need for more significant institutional commitment and resource allocation.

Educators' attitudes towards inclusive education significantly influence teaching practices and classroom dynamics. Research indicates that teacher perceptions of students with disabilities are often shaped by their training, experiences, and the broader institutional culture regarding disability (Ajani and Govender, 2021). Without comprehensive preparation on inclusive teaching practices, pre-service teachers may inadvertently perpetuate exclusionary approaches, even when they intend to foster inclusion.

Adequate preparation of pre-service teachers requires more than theoretical understanding; it demands practical, hands-on training that exposes them to real-world inclusive teaching environments. Forlin et al. (2009) emphasise integrating experiential learning opportunities with students with disabilities into teacher education programmes. These experiences build the confidence and competence of pre-service teachers, enabling them to navigate the complexities of inclusive teaching with greater efficacy.

Inclusive education is an ever-evolving field that requires educators to stay abreast of new pedagogical approaches, policies, and research (Zongozzi & Ngubane, 2025). Continuous professional development is essential for equipping teachers with the tools and strategies needed to effectively address inclusive education's dynamic challenges (Florian, 2017). This ongoing learning ensures that educators can adapt to their students' diverse and changing needs.

The successful implementation of inclusive education depends on a collaborative, whole-institution approach. Ainscow (2020) advocates integrating efforts among educators, disability support staff, and policymakers to create a supportive and inclusive learning environment. Such collaboration ensures that

students with disabilities are accommodated and actively included in all aspects of university life, from academics to extracurricular activities.

Inclusive education is beneficial not only for students with disabilities but also for all learners. By fostering diversity, empathy, and innovative teaching practices, inclusive classrooms enhance the overall educational experience. According to Hehir et al. (2016), inclusive education improves student outcomes by encouraging more flexible and adaptive teaching methods. However, to fully realise these benefits, higher education institutions must commit to prioritising inclusion across all areas of their operations.

This study offers a unique contribution by bridging the gap between policy ideals and practical implementation of inclusive education in higher education, specifically focusing on pre-service teacher training. While existing research has explored inclusive education frameworks and teacher attitudes towards inclusion (Sharma, 2018; Florian, 2017), few studies have systematically examined how institutional barriers—such as inadequate infrastructure, limited assistive technologies, policy constraints, and insufficient teacher training—directly impact the preparedness of pre-service teachers to support students with disabilities (Ashman, 2018; Kim and Aquino, 2017). This study moves beyond general discussions of inclusion by integrating an analysis of policy effectiveness, curriculum gaps, and experiential learning opportunities. It offers targeted recommendations for strengthening institutional support systems and teacher education programmes.

Additionally, it situates the South African context within the global discourse on inclusive education, drawing comparisons with international best practices while highlighting the unique challenges faced in low- and middle-income settings. Through this approach, the study provides evidence-based insights that can inform national and institutional policies, fostering a more practical, sustainable, and impactful model of inclusive education in higher education.

This study addresses these issues by exploring the current state of inclusive education in higher institutions, focusing on the challenges and opportunities for supporting students with disabilities. Specifically, the research seeks to (1) investigate the barriers higher education institutions face in fostering inclusivity, (2) evaluate the effectiveness of pre-service teacher education in preparing future educators for inclusive teaching, and (3) propose actionable recommendations to enhance inclusive practices. This study contributes to the global discourse on inclusive education by tackling these objectives, offering insights to guide policy and practice in diverse higher education contexts.

2. Literature review

The literature review provides the foundation for this study, situating it within existing knowledge while identifying gaps that necessitate further exploration. This research focuses on integrating inclusive education in higher institutions and the challenges faced by students with disabilities. It explores three primary areas: barriers to inclusive education, support mechanisms for students with disabilities, and institutional policies to foster inclusivity. Inclusive education has received growing attention in higher education over the past two decades. UNESCO (2009) defines inclusion as more than merely placing students with disabilities in mainstream settings; it involves transforming educational policies, practices, and cultures to ensure full participation for all students. Despite widespread endorsement, implementation remains inconsistent, with many institutions struggling to adopt inclusive practices due to limited understanding and resources (Florian

and Linklater, 2010). Key barriers include physical inaccessibility, attitudinal biases, and technological limitations.

Physical barriers, such as inaccessible facilities, continue to hinder participation, particularly in older institutions that lack ramps, elevators, or accessible restrooms (Seale, 2013). Retrofitting campuses to meet accessibility standards remains challenging for many universities (Liasidou, 2024). Attitudinal barriers also significantly impact inclusivity. Negative perceptions of disability among faculty and peers often lead to social exclusion and reduced academic support. Tinklin, Riddell, and Wilson (2004) found that stereotyping and unconscious bias position disability as a "problem" to be fixed rather than focusing on adapting environments and teaching methods to meet diverse needs.

Additionally, technological limitations further marginalise students with disabilities. While assistive technologies have the potential to bridge gaps, their integration into learning environments remains inconsistent. Institutions often provide essential tools like screen readers, but more advanced technologies for students with visual or hearing impairments are frequently unavailable, exacerbating exclusion (Fichten et al., 2009; Seale, 2014).

To address these barriers, the literature emphasises the need for robust support mechanisms, including disability support services, peer mentoring, and self-advocacy training. Disability support services provide essential accommodations, such as personalised learning plans and alternative assessments, but are inconsistently applied, with delays often hindering access (Redpath et al., 2013). Peer mentoring has shown promise in improving the academic and social experiences of students with disabilities, fostering a sense of belonging and reducing isolation (Ramos, 2019). However, such programmes rely heavily on institutional culture and the attitudes of the student body (Clayton and Macdonald, 2013). Self-advocacy is another critical component, empowering students to navigate complex institutional processes and secure the accommodations they need. Training in self-advocacy skills is crucial to enabling students to manage their educational experiences effectively (Mngomezulu and Ajani, 2025).

Institutional policies and faculty development are pivotal in advancing inclusive education. Clear, enforceable policies that outline roles and responsibilities for promoting inclusion are essential, yet gaps between policy and practice persist (Slee, 2013). Faculty training is also vital, as teaching methods and attitudes directly impact inclusivity. Inclusive pedagogies, such as Universal Design for Learning (UDL), which offer multiple means of engagement, representation, and expression, are particularly effective (Meyer et al., 2025). However, faculty often lack the training or awareness to implement these strategies effectively (Tobin, 2015). Professional development programmes focusing on disability awareness and inclusive pedagogy can equip educators with the tools to meet diverse needs. However, such training is often voluntary and under-prioritised (Smith, 2024). A whole-institution approach is critical for achieving inclusivity and embedding diversity into all aspects of operations, from admissions to curriculum design and campus facilities (Hockings, 2010). This approach requires a cultural shift, recognising diversity as a strength and ensuring equal access for all students.

The literature underscores several challenges, including physical, attitudinal, and technological barriers and inconsistencies in institutional policies and support services. However, it highlights promising strategies like faculty development, peer mentoring, and inclusive teaching practices. Drawing on these insights, this study aims to contribute to the ongoing efforts to create more inclusive educational environments for students with disabilities. It seeks to identify barriers faced by students with disabilities in higher education, assess the

effectiveness of support mechanisms, and propose strategies to enhance institutional policies for fostering inclusivity. These objectives will guide the research and ensure that the findings inform the broader discourse on inclusive education.

2.1. Universal Design for Learning (UDL) in South African teacher training programmes

Universal Design for Learning (UDL) provides a flexible framework for designing inclusive curricula that accommodate diverse learning needs by offering multiple means of engagement, representation, and expression (Meyer et al., 2025). In South Africa, where historical inequalities and resource constraints continue to shape educational access, UDL presents a promising approach to addressing key challenges in teacher training programmes (Lepheana and Chisango, 2022). By embedding UDL principles into pre-service teacher education, institutions can equip future educators with the skills to design accessible learning environments, thereby reducing reliance on post-hoc accommodations. Dube et al. (2021) highlight that many South African teacher training programmes fail to provide structured exposure to inclusive pedagogies, resulting in ill-prepared graduates to support students with disabilities.

Implementing UDL-based training could bridge this gap by ensuring pre-service teachers develop competencies in adapting instructional materials, incorporating assistive technologies, and fostering inclusive classroom cultures (Hooijer et al., 2021). Moreover, Khoaeane and Naong (2015) argue that attitudinal barriers among educators stem from a lack of practical training on disability inclusion—a gap that UDL-focused teacher education could address by integrating experiential learning opportunities, such as case-based teaching, simulations, and classroom observations in inclusive settings (Kilag et al., 2024).

However, challenges remain, including limited institutional commitment to UDL implementation, insufficient funding for faculty development, and rigid curriculum structures that hinder pedagogical reform (Jaffal, 2022). Overcoming these barriers requires a whole-institution approach in which teacher education programmes prioritise UDL, faculty receive structured training, and policymakers provide clear implementation guidelines (Tzuriel, 2021). By embedding UDL principles into South African teacher training, inclusive education can shift from an aspirational policy to a practical, sustainable reality, ensuring that future educators are fully equipped to meet the diverse needs of their students.

3. Theoretical frameworks

This study is grounded in socio-cultural theory and the social model of disability, two complementary perspectives that provide insight into the structural and interpersonal factors shaping the experiences of students with disabilities in higher education. By integrating these frameworks, the study examines the barriers that limit participation and the strategies needed to foster inclusive learning environments.

Socio-cultural theory, developed by Lev Vygotsky (1978), emphasises that learning is a socially mediated process shaped by interactions with others and the broader institutional and cultural context. In higher education, the experiences of students with disabilities are not solely determined by their abilities. However, the accessibility of learning environments profoundly influences them, the attitudes of peers and educators, and the institutional policies that govern inclusion (Cole, 2006). A central concept in this theory is the zone of proximal development (ZPD), which refers to the range of tasks a learner can accomplish with appropriate

guidance or support. For students with disabilities, this support might include assistive technologies, accessible learning materials, flexible teaching methods, and institutional accommodations (Edwards et al., 2025).

However, when these supports are inadequate, students often experience structural isolation, where exclusion is not merely social but embedded within institutional frameworks. For example, rigid assessment policies, inaccessible lecture halls, and a lack of disability-trained educators can prevent students from fully participating in academic life, reinforcing a sense of marginalisation and exclusion (Munjanja and Hendricks, 2025). Furthermore, socio-cultural theory underscores the importance of language and communication in learning, highlighting how insufficient sign language interpretation, a lack of captioning for online content, or poorly adapted learning materials can further alienate students with disabilities (Ndlovu and Woldegiorgis, 2023).

The social model of disability, in contrast, shifts the focus from individual impairments to the structural, environmental, and attitudinal barriers that create disadvantage (Oliver, 1991). It challenges higher education institutions to reconsider how accessibility and inclusivity are approached, arguing that disability is not an inherent limitation but a consequence of exclusionary practices (Shakespeare, 2013). This model directly addresses why students with disabilities often feel isolated, linking their exclusion to institutional failures such as underfunded disability support services, insufficient academic adjustments, and a lack of educator training in inclusive pedagogies (Woodcock and Anderson, 2025). Unlike the medical model, which views disability as a personal deficit, the social model advocates for systemic change, urging universities to develop inclusive curricula, flexible learning pathways, and accessible physical and digital infrastructures (Meyer et al, 2025).

However, while the social model is a powerful tool for advocating structural change, it has been critiqued for sometimes overlooking the personal realities of impairment (Shakespeare, 2006). To address this, the study incorporates Universal Design for Learning (UDL) principles, which encourage the development of flexible and adaptive teaching strategies that benefit all learners, not just those with disabilities (Burgstahler, 2015). By integrating socio-cultural theory and the social model of disability, this study provides a holistic approach to understanding the challenges faced by students with disabilities and the institutional changes necessary to create inclusive higher education environments. Socio-cultural theory highlights the social and communicative dimensions of learning, while the social model calls attention to the systemic barriers that reinforce isolation and exclusion.

Recent scholarship continues to affirm the relevance of combining socio-cultural theory and the social model of disability to understand and address higher education barriers while highlighting new advancements and critiques. Tzuriel (2021) argues that Vygotsky's socio-cultural theory remains critical in understanding how mediated learning experiences shape cognitive development, particularly for students with disabilities who require structured support. However, Kilag et al. (2024) expand on this framework by demonstrating how online instruction and digital barriers influence learning, underscoring the need for institutions to ensure digital accessibility within virtual learning environments.

From a policy perspective, Hooijer et al. (2021) and Lepheana and Chisango (2022) highlight that while inclusive education policies exist, implementation gaps—such as resource shortages, inadequate teacher training, and limited institutional accountability—continue to hinder progress, reinforcing the need for structural transformation in higher education. Similarly, Jaffal (2022) identifies attitudinal barriers among general education teachers as a significant obstacle to inclusion, aligning with the social model's emphasis on

dismantling exclusionary practices. In Southern Africa, Dube et al. (2021) and Mahlo (2017) emphasise that inclusive education must move beyond policy rhetoric to include practical interventions such as teacher development programmes, interdisciplinary collaboration, and infrastructural adjustments to support students with disabilities.

Despite the strengths of these frameworks, critics such as Khoaeane and Naong (2015) caution that systemic resistance to inclusive education—often due to budget constraints and deeply ingrained exclusionary practices—limits the impact of policy-driven approaches. By incorporating these contemporary perspectives, this study situates its analysis within current debates on disability inclusion in higher education. It reinforces the need for institutional change, targeted educator training, and improved accessibility initiatives to foster genuinely inclusive learning environments.

These frameworks justify the need for institutional transformation, advocating for inclusive policies, educator training, and structural accommodations that move beyond compliance towards genuine equity. This study, therefore, contributes to the ongoing discourse on inclusive education by offering evidence-based recommendations for bridging the gap between policy and practice, ensuring that students with disabilities are fully supported in their academic journeys.

4. Methods

This study employed a scoping review methodology to systematically explore the integration of inclusive education for students with disabilities in higher education, specifically focusing on pre-service teacher training curricula. Scoping reviews are particularly effective for mapping broad research areas, identifying key concepts, gaps, and sources of evidence, and summarising the scope and nature of existing literature (Arksey and O'Malley, 2005; Levac et al., 2010).

The review examined literature published between 2000 and 2024 to capture historical and contemporary developments in inclusive education and pre-service teacher preparation. This timeframe ensured the inclusion of recent insights while recognising the evolution of policies and practices over the past two decades (Ajani and Dlomo, 2025). The literature search was conducted across multiple academic databases, including Scopus and Google Scholar, to collate peer-reviewed articles, reports, and grey literature relevant to the study's objectives (Higgins and Green, 2011).

Inclusion criteria focused on studies discussing inclusive education practices, pre-service teacher training, and institutional support for students with disabilities. Articles outside these parameters or published before 2000 were excluded (Briner and Denyer, 2012). The selection process involved a rigorous screening of abstracts and full texts to ensure the relevance of included studies. Sixty-eight peer-reviewed articles published in English were identified for in-depth analysis.

Data extraction utilised a predefined form to maintain consistency and comprehensiveness in capturing key themes and findings (Gough et al., 2012). Extracted data were grouped into themes, including institutional challenges, the effectiveness of teacher training programmes, and recommendations for enhancing inclusivity. Thematic analysis was employed to synthesise findings, revealing patterns and gaps in the existing research (Braun and Clarke, 2006). Key themes included physical accessibility, attitudinal barriers, technological support, disability services, peer inclusion, and institutional policies.

The quality and relevance of the reviewed studies were evaluated using established criteria to ensure the rigour and validity of the evidence base (Moher et al., 2015). This ensured that conclusions and recommendations were grounded in robust and credible research. Ethical considerations were observed throughout, including proper citation of sources and adherence to transparent reporting practices (Jesson et al., 2011).

This structured scoping review provided a comprehensive examination of the integration of inclusive education in higher education, synthesising literature to map existing evidence and identify gaps. The findings contribute to a deeper understanding of current practices, highlight areas needing improvement, and offer practical recommendations for enhancing pre-service teacher training and institutional support for students with disabilities.

Table 1. Summary of the sources and findings

Theme	Authors	Findings
Inadequate Preparation of Pre-Service Teachers	Zongozzi and Ngubane (2025); Munjanja and Hendricks (2025); Mahlaule et al., (2024); Govender and Ajani (2021); Zongozzi and Ngubane (2025).	Teacher training programmes in South Africa often lack a comprehensive focus on inclusive pedagogies, leaving educators underprepared to meet the needs of students with disabilities. Curriculum reforms incorporating disability awareness and inclusive practices are urgently needed. Practical training and continuous professional development are essential for equipping teachers to address diverse learner needs effectively.
Insufficient Institutional Support Structures	Ndlovu and Woldegiorgis, 2023; Munjanja and Hendricks (2025); Zongozzi and Ngubane (2025); Steyn and Pienaar (2021); Zongozzi and Ngubane (2025).	Many higher education institutions lack visible and accessible disability support services, limiting their utilisation. Insufficient resource allocation undermines the effectiveness of these services. Stronger collaboration between academic staff and support services, alongside improved infrastructure and resources, is essential to support students with disabilities.
Stigma and Attitudinal Barriers	Mahlaule et al. (2024); Munjanja and Hendricks (2025); Zongozzi and Ngubane (2025); Govender and Ajani (2021).	Negative attitudes toward disability create a hostile learning environment. Stigma affects students and staff alike, highlighting the need for awareness campaigns to challenge misconceptions. Promoting

Theme	Authors	Findings
		positive attitudes through proactive measures and fostering cultural shifts toward inclusion is crucial to combating discrimination.
The Role of Professional Development	Zongozzi and Ngubane (2025); Mahlaule et al. (2024); Munjanja and Hendricks (2025); Ajani and Govender (2021); Steyn and Pienaar (2021).	Continuous professional development is vital for educators to stay informed about inclusive practices. Effective training should include practical strategies and foster collaboration across departments. Regularly updated programmes can address emerging trends, and hands-on experiences significantly enhance learning outcomes for educators.
Curriculum Reform and Inclusive Education	Zongozzi and Ngubane (2025); Mahlaule et al. (2024); Ndlovu and Woldegiorgis, 2023; Munjanja and Hendricks (2025); Steyn and Pienaar (2021)	Integrating inclusive education into teacher training curricula is essential. Curricula should emphasise disability awareness and adopt the social model of disability to prepare teachers better. Engaging students with disabilities in curriculum development can offer valuable insights, while reforms should ensure alignment with best practices in inclusive education.
Institutional Commitment to Inclusion	Zongozzi and Ngubane (2025)Munjanja and Hendricks (2025); Mahlaule et al. (2024); Govender and Ajani (2021).	Institutions must embed inclusion in their core values and policies, supported by leadership that prioritises and resources inclusive initiatives. Commitment requires active stakeholder engagement, demonstrated through sustained dialogue, policy development, and resource allocation. Collaborative efforts are vital for sustaining inclusive practices.

Table 1 highlights key barriers to inclusive education in South African higher education, including inadequate teacher preparation, insufficient institutional support structures, and persistent stigma, which collectively hinder the effective inclusion of students with disabilities. Addressing these challenges requires comprehensive curriculum reforms, structured professional development for educators, stronger institutional

commitment, and policy-driven resource allocation, ensuring that inclusion becomes an embedded and sustainable practice across universities.

5. Findings

This section presents the study's findings, highlighting key themes related to the challenges and opportunities in fostering inclusive education for students with disabilities in South African higher education.

5.1. Inadequate preparation of pre-service teachers

The study underscores a critical issue: the insufficient preparation of pre-service teachers to support students with disabilities effectively in South African higher education. Participants highlighted gaps in their training programmes, noting that inclusive pedagogies and strategies for accommodating diverse learners were not adequately addressed. This finding aligns with Zongozzi and Ngubane (2025), who assert that teacher education curricula in South Africa often lack comprehensive modules on inclusive education. Consequently, pre-service teachers frequently feel underprepared to manage the complexities of inclusive classrooms, leading to negative implications for students with disabilities.

The study also revealed a significant lack of confidence among pre-service teachers in implementing inclusive teaching methods. Participants expressed concerns about their ability to adapt instructional materials and methods to meet the needs of students with disabilities. Without proper training, teachers may default to traditional pedagogies that fail to address the diverse needs of learners, as highlighted (Munjanja and Hendricks, 2025). Furthermore, the limited integration of the social model of disability into training programmes exacerbates this issue. By failing to emphasise societal barriers rather than individual impairments, current curricula miss the opportunity to cultivate an inclusive mindset among future educators.

5.2. Insufficient institutional support structures

The findings highlight insufficient institutional support structures as a significant challenge for students with disabilities in South African higher education. Many institutions lack dedicated disability resource centres, leaving students without essential academic and psychosocial support (Munjanja and Hendricks, 2025). For example, a study by Woodcock and Anderson (2025) found that several universities do not have specialised disability offices, forcing students to rely on general student support services not equipped to address their unique needs. This absence of dedicated infrastructure can lead to feelings of isolation, heightened academic stress, and difficulty accessing reasonable accommodations. Even where such centres exist, they are often underfunded, understaffed, or poorly integrated into the broader university system, limiting their effectiveness in supporting students with disabilities (Munjanja and Hendricks, 2025).

Additionally, a lack of awareness and accessibility significantly impacts using existing support services. Ndlovu and Woldegiorgis (2023) found that many students were unaware of the availability of assistive technologies, note-taking services, or exam accommodations due to poor communication and inadequate promotion of these resources. This is compounded by a lack of collaboration between academic staff and disability support offices, leading to inconsistent application of inclusive policies (Munjanja and Hendricks, 2025). For instance, Moyo (2023) highlight cases where lecturers were unaware of institutional policies on

disability accommodations, resulting in students being denied extra time for assessments or alternative formats for learning materials. Strengthening partnerships between educators and disability support services, increasing funding for specialised support programmes, and implementing structured training for academic staff on disability inclusion are critical steps in addressing these institutional gaps and ensuring that students with disabilities receive equitable access to higher education.

5.3. Stigma and attitudinal barriers

The study revealed that stigma and negative attitudes toward disabilities remain pervasive in higher education settings, creating significant barriers for students with disabilities. Participants reported experiences of discrimination and stereotyping, which contribute to a hostile learning environment. These findings align with Zongozzi and Ngubane (2025), who argue that societal attitudes toward disabilities significantly influence the educational experiences of students with disabilities.

Educators also face challenges in addressing these attitudinal barriers. Many participants expressed uncertainty about fostering inclusive classroom environments and combating stigma effectively. As Mahlaule et al. (2024) noted, this hesitation often results in inaction, allowing discriminatory attitudes to persist. The study highlights the need for awareness campaigns and educational initiatives to promote understanding and reduce stigma, as emphasised by Munjanja and Hendricks (2025). By educating the broader university community, institutions can create a more supportive and inclusive culture.

5.4. The role of professional development

The findings underscore the importance of ongoing professional development for educators in fostering inclusive practices. Participants emphasised the need for training opportunities focused on inclusive education strategies, noting a lack of access to such resources. Zongozzi and Ngubane (2025) support this finding, arguing that continuous professional development is essential for equipping educators with up-to-date knowledge and skills.

Professional development initiatives should not only focus on theoretical knowledge but also incorporate practical strategies for classroom implementation. Participants highlighted the value of hands-on experiences in building confidence and competence. Mahlaule et al. (2024) stress that practical training is integral to the success of professional development programmes. Additionally, collaborative training initiatives involving educators, disability support staff, and other stakeholders can foster a more holistic understanding of inclusive education and promote shared responsibility, as Munjanja and Hendricks (2025)suggest.

5.5. Curriculum reform and inclusive education

The study identifies curriculum reform as critical for improving inclusive education within pre-service teacher training programmes. Participants noted that current curricula often fail to adequately address inclusive education principles, leaving future teachers unprepared to support diverse learners. Zongozzi and Ngubane (2025) argue that integrating inclusive pedagogies into teacher training curricula is essential for equipping educators with the skills to create supportive learning environments.

Incorporating disability awareness and inclusive teaching methods into the curriculum is crucial for fostering an inclusive mindset. Participants suggested the inclusion of modules based on the social model of disability to shift the focus toward societal barriers. Engaging students with disabilities in the curriculum development process can also provide valuable insights and enhance the relevance of educational practices. As Munjanja and Hendricks (2025) note, such involvement ensures that policies and practices are informed by the voices of those they aim to support.

5.6. Institutional commitment to inclusion

The study underscores the urgent need for institutional commitment to embed inclusive education as a core value within South African higher education institutions. While some progress has been made, findings reveal that inclusion remains peripheral rather than central to university policies and operations. Zongozzi and Ngubane (2025) argue that achieving genuine inclusion requires a fundamental shift in institutional priorities, ensuring that equity is not merely an aspirational goal but an operational reality. To realise this, institutions must develop enforceable policies that explicitly incorporate Universal Design for Learning (UDL) principles, ensuring that course materials, assessments, and learning environments are accessible to all students (Meyer et al., 2025). This means mandating accessible digital content, integrating flexible learning strategies, and embedding disability considerations into all aspects of curriculum design and delivery (Kilag et al., 2024).

Institutional leadership is pivotal in advancing inclusive initiatives, and resource allocation is crucial for translating policy into practice. Participants stressed the importance of leaders who prioritise inclusivity through concrete actions, such as funding disability resource centres, ensuring assistive technologies are readily available, and hiring disability specialists within academic support units (Munjanja and Hendricks, 2025). Moreover, Jaffal (2022) highlights that institutional commitment should extend to regular faculty training, equipping educators with the skills to create inclusive classrooms rather than burdening adaptation on students with disabilities. Collaboration and dialogue among faculty, students, and disability services must also be strengthened to build a culture of shared responsibility (Mahlaule et al., 2024). Universities should establish formal advisory committees that include students with disabilities in decision-making, ensuring institutional policies reflect lived experiences and practical needs (Lepheana and Chisango, 2022). By embedding these measures into institutional frameworks, South African universities can transform inclusion from an abstract principle into a tangible, measurable reality, ensuring equal access and opportunities for all students.

5.7. Stigma and attitudinal barriers in higher education

The study revealed that stigma and negative attitudes towards disabilities remain pervasive in South African higher education, manifesting through discriminatory practices, social exclusion, and a lack of understanding among educators and peers. Many participants reported experiencing subtle forms of exclusion, such as being ignored in group discussions, having their capabilities questioned by lecturers, or facing reluctance from faculty members to implement necessary accommodations (Hooijer et al., 2021). For instance, Dube et al. (2021) found that students with disabilities in Zimbabwean universities were often perceived as less capable than their peers, leading to lowered academic expectations and reduced participation in collaborative learning activities.

Similarly, in South Africa, Lepheana and Chisango (2022) highlight that some lecturers refuse to adjust their teaching methods, citing a lack of institutional policy enforcement as justification. Moreover, stigma within student communities leads to isolation, with some students with disabilities avoiding public interactions or refraining from seeking academic assistance due to fear of judgment (Jaffal, 2022). These attitudes are often reinforced by institutional failures, such as a lack of disability awareness training for staff and inadequate representation of students with disabilities in decision-making processes (Kilag et al., 2024). Addressing these attitudinal barriers requires structured disability awareness campaigns, professional development for faculty, and policies that mandate inclusive teaching practices, ensuring that universities foster a culture of acceptance and equal opportunity for all students (Tzuriel, 2021).

6. Discussion

The findings of this study illuminate key challenges and opportunities in integrating inclusive education for students with disabilities within South African higher education institutions. A central issue identified is the persistent inadequacy of pre-service teacher training programmes, which often fail to provide sufficient coverage of inclusive pedagogies. As Zongozzi and Ngubane (2025) highlighted, many teacher education curricula lack structured modules on inclusive teaching strategies and the social model of disability, leaving future educators ill-prepared to address the diverse needs of students with disabilities.

The social model of disability posits that barriers to education are not inherent to the individual but instead arise from systemic exclusionary practices (Oliver, 1991). However, the limited integration of this framework into teacher training perpetuates the medicalised view of disability, reinforcing the notion that students with disabilities must adapt to existing educational structures rather than institutions actively restructuring to accommodate them (Hooijer et al., 2021). To bridge this gap, teacher education programmes must embed inclusive pedagogies, Universal Design for Learning (UDL) principles, and experiential learning opportunities, ensuring that pre-service teachers gain theoretical knowledge and practical application experience (Kilag et al., 2024).

The study also highlights the critical role of institutional support structures in facilitating inclusive education, yet findings reveal significant inadequacies in the provision and accessibility of disability-related resources. Dube et al. (2021) and Munjanja and Hendricks (2025) note that many institutions lack dedicated disability resource centres, leaving students without essential academic and psychosocial support. Where these services exist, they are often underfunded, understaffed, and poorly integrated into the university system, leading to low visibility and underutilisation (Lepheana and Chisango, 2022).

From a social model perspective, this reflects a structural failure rather than an individual deficit, as students with disabilities are disproportionately burdened with self-advocacy. At the same time, institutions fail to implement systematic, proactive support mechanisms (Jaffal, 2022). To address these issues, higher education institutions must prioritise the development of cohesive, well-funded, and accessible support systems, ensuring that students with disabilities receive the necessary accommodations without unnecessary bureaucratic hurdles (Tzuriel, 2021).

A lack of collaboration between academic staff and disability support services further exacerbates these institutional shortcomings. Munjanja and Hendricks (2025) argue that fostering strong partnerships between educators, disability specialists, and administrators is key to providing comprehensive and coordinated

support for students with disabilities. However, the findings of this study reveal that many educators lack awareness of institutional disability policies, leading to inconsistent implementation of accommodations and further marginalisation of students. This aligns with the social model of disability, which contends that inaccessible educational systems result from policy gaps and insufficient institutional accountability (Mahlo, 2017). Strengthening collaboration through clear institutional policies, interdisciplinary workshops, and shared responsibility frameworks ensures that inclusive education is consistently and effectively implemented across South African universities (Khoaeane and Naong, 2015).

A key recommendation emerging from this study is the need for structured and ongoing professional development to equip educators with the necessary skills to support students with disabilities. The findings highlight that many lecturers lack formal training in inclusive education, leaving them uncertain about how to implement adaptive teaching methods. Mahlaule et al. (2024) stress the importance of regular professional development initiatives providing educators with practical classroom inclusion tools. By linking professional development to the social model of disability, institutions can shift the responsibility for accessibility away from individual students and onto structural reform efforts (Boitumelo et al., 2020).

UDL-based training, which promotes flexible, student-centred teaching strategies, should be integrated into faculty development programmes, ensuring educators can modify curricula, assessments, and teaching approaches to accommodate diverse learning needs (Kilag et al., 2024). However, participation in such programmes remains voluntary and under-prioritised, requiring institutional commitment to make inclusive teaching training mandatory for faculty members (Tzuriel, 2021).

Another critical challenge identified in this study is the pervasive stigma and attitudinal barriers that contribute to discrimination and exclusion in higher education. Participants reported experiences of stereotyping, exclusion from group activities, and reluctance from lecturers to implement necessary accommodations. Hooijer et al. (2021) argue that negative perceptions of disability within academic spaces reinforce systemic exclusion and undermine the full participation of students with disabilities. The social model of disability provides a framework for understanding stigma as a socially constructed phenomenon, where discriminatory attitudes stem from a lack of awareness and institutional neglect rather than individual limitations (Dube et al., 2021).

Raising awareness through campus-wide disability inclusion campaigns, faculty training, and student engagement initiatives is crucial to dismantling these attitudinal barriers (Jaffal, 2022). Creating inclusive curricula that challenge deficit-based views of disability can foster a culture of acceptance and respect within academic institutions (Lepheana and Chisango, 2022).

Finally, the study underscores the importance of continuously evaluating and adapting inclusive education policies and practices. Institutions must regularly assess the effectiveness of curricular reforms, professional development initiatives, and disability support services to ensure that they meet the evolving needs of students with disabilities. Mahlaule et al. (2024) emphasise that inclusive education is not a static goal but a dynamic process requiring iterative improvements. Higher education institutions should incorporate structured feedback mechanisms, such as student consultations and participatory policy reviews, to ensure that institutional reforms are informed by the lived experiences of students with disabilities (Mahlo, 2017). Embedding a continuous evaluation and responsiveness culture will strengthen institutional accountability and drive meaningful progress towards full inclusion in South African higher education.

Thus, by integrating the social model of disability into this analysis, the study highlights the systemic barriers perpetuating exclusion and underscores the urgent need for structural, pedagogical, and institutional reforms. Through policy reform, faculty development, and strengthened institutional support systems, higher education institutions can transform inclusive education from an aspirational goal into a practical reality, ensuring that all students—regardless of ability—have equal opportunities to succeed.

7. Conclusion

This study underscores the critical gaps in integrating inclusive education into higher education systems, specifically focusing on pre-service teacher training. The findings reveal inadequacies in curricula, insufficient institutional support structures, and the lack of continuous professional development for educators, all of which hinder the adequate support of students with disabilities. The study also highlights the pervasive stigma and attitudinal barriers that persist within higher education environments, further limiting the opportunities for students with disabilities to thrive. These findings underscore the pressing need for comprehensive reforms that address these systemic shortcomings.

Looking ahead, the study emphasises the importance of prioritising inclusive education as a cornerstone of teacher training and institutional policies. Future efforts should focus on revising curricula to embed inclusive pedagogies, strengthening collaboration between academic staff and support services, and fostering a culture of inclusivity across institutions. Additionally, longitudinal studies and evidence-based evaluations are needed to assess the impact of these reforms and ensure their sustainability. By addressing these issues through targeted research and policy interventions, higher education can move closer to creating equitable learning environments that empower all students to achieve their full potential.

8. Implications of the study

The findings of this study hold critical implications for South Africa's higher education sector, particularly in enhancing support for students with disabilities and equipping pre-service teachers with the skills required for inclusive teaching. Despite global advancements in inclusive education, South African institutions face persistent challenges highlighting the need for systemic transformation. Munjanja and Hendricks (2025) noted that the lack of resources and inadequate training for addressing diverse learner needs remain significant barriers, underscoring the urgency of adopting more robust strategies for inclusive education.

One of the key implications is the pressing need for curriculum reform within pre-service teacher education programmes. Current curricula often fail to provide adequate training in inclusive pedagogies, leaving future educators underprepared to address the complexities of diverse classrooms. This concern echoes the findings of Zongozzi and Ngubane (2025), who highlight the disconnect between theoretical knowledge and practical application in teacher training. Educational institutions must bridge this gap by embedding comprehensive modules on inclusive education into their programmes, empowering pre-service teachers to foster inclusive and supportive learning environments effectively.

The study also highlights the necessity of strengthening collaboration between educators and disability support services. Effective inclusion demands a coordinated effort from academic staff, disability service

providers, and administrative bodies. Munjanja and Hendricks (2025) argue that fostering such partnerships is crucial for creating cohesive support structures. Institutions should establish clear policies to facilitate collaboration, ensuring that students with disabilities receive integrated and comprehensive support tailored to their needs.

Another critical implication is the importance of continuous professional development for educators. The findings reveal a lack of ongoing training on inclusive practices, which hampers educators' ability to address the needs of students with disabilities effectively. Regular and targeted professional development, as advocated by Mahlaule et al. (2024), is essential for keeping educators updated on best practices and emerging trends in inclusive education. Institutions must prioritise professional development initiatives to ensure educators have the skills and confidence to create inclusive classrooms.

The study further underscores the need for higher education institutions to revise and strengthen their support structures. Current systems are often fragmented and insufficient, leaving students with disabilities without the resources they require to succeed. Munjanja and Hendricks (2025) emphasis the need for comprehensive and accessible services, such as disability support centres, advanced assistive technologies, and tailored academic accommodations. These enhancements are critical for fostering a supportive and equitable learning environment for all students.

Institutional commitment to fostering an inclusive culture also emerges as a vital implication. While some progress has been made, the findings indicate that inclusivity is not yet embedded in many institutions' core values and operations. Zongozzi and Ngubane (2025) the importance of integrating inclusive education into the mission and policies of higher education institutions. Visible leadership, resource allocation, and policy initiatives must align to ensure inclusivity becomes a sustained priority within institutional frameworks.

Finally, the study calls for proactive advocacy and awareness campaigns to combat stigma and misconceptions surrounding disabilities. Societal attitudes and stereotypes continue to marginalise students with disabilities, creating additional barriers to inclusion. As Ndlovu and Woldegiorgis (2023) suggested, awareness initiatives can foster a more accepting and supportive university culture. Institutions should actively promote disability awareness and inclusion through educational programmes and community engagement, cultivating an environment that values diversity and equity.

In conclusion, this study provides actionable insights for advancing inclusive education within South Africa's higher education institutions. Significant progress can be made by addressing curriculum deficiencies, enhancing collaboration, prioritising professional development, and fostering institutional commitment to inclusivity. These recommendations offer a roadmap for meaningful change, ensuring higher education becomes a more accessible and equitable space for all learners. Future research should explore the long-term impact of these interventions to guide continuous improvement and innovation in inclusive education practices.

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