

Teachers' Competencies for the Inclusion of Deaf Students: A Critical Review of Literature and Future Directions

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Abstract

The effective inclusion of deaf students within mainstream educational settings requires a comprehensive set of teacher competencies that transcend general pedagogical knowledge. This literature review explores the evolving conceptualizations and empirical findings regarding the professional competencies necessary for educators to support the academic, linguistic, and socio-emotional development of deaf learners. Drawing from interdisciplinary research across education, linguistics, disability studies, and inclusive pedagogy, the paper identifies key areas of competence, including bilingual communication skills in both spoken and signed languages, culturally responsive teaching, proficiency in assistive technologies, and collaborative practices involving families and specialized professionals. The review also highlights the systemic barriers that hinder the development of these competencies, such as inadequate teacher preparation programs, lack of ongoing professional development, and limited institutional recognition of Deaf culture as a pedagogical asset. Evidence-based studies underscore that teacher attitudes, linguistic flexibility, and responsiveness to the diverse needs of deaf students significantly impact learning outcomes and classroom participation. Furthermore, the integration of innovative training approaches, including immersive sign language learning and co-teaching models, is emerging as a critical strategy for equipping educators with the tools necessary for genuine inclusion. The paper concludes with recommendations for rethinking teacher education through the lens of equity, accessibility, and linguistic justice. In doing so, it advocates for a paradigm shift that recognizes the education of deaf students not as a matter of accommodation but as a transformative opportunity to enrich the broader educational landscape.

Key words: Bilingualism, Deaf Education, Inclusion, Sign Language, Cognitive Development, Linguistic Identity.

Introduction

The educational inclusion of deaf students represents a complex and multidimensional challenge that intersects with pedagogical, linguistic, cultural, and legal considerations, requiring educators to possess a robust and dynamic set of professional competencies. In the context of inclusive education, the notion of access must extend beyond mere physical presence in mainstream classrooms to encompass full and meaningful participation in the learning process, social integration, and cognitive development. Internationally, a series of normative frameworks have laid the foundation for the promotion of inclusive practices in education systems, starting with the Universal Declaration of Human Rights (United Nations, 1948), the Convention on the Rights of Persons with Disabilities (United Nations, 2006), and the

Salamanca Statement (UNESCO, 1994), all of which affirm the rights of children with disabilities, including deaf children, to receive quality education in environments that respect and accommodate their individual needs. These frameworks have catalyzed a paradigm shift from segregated models toward inclusive schooling, emphasizing the imperative for educators to be agents of equity and inclusion. Within this evolving landscape, the professional profile of the teacher emerges as a pivotal factor in mediating the success of inclusion processes for deaf students. Teacher competencies encompass a constellation of knowledge, attitudes, and practical skills that enable the creation of inclusive learning environments, differentiated instruction, effective communication strategies, and collaborative relationships with families and specialists (Florian & Black-Hawkins, 2011). For deaf students in particular, these competencies must integrate linguistic sensitivity, cultural awareness, and technological fluency, acknowledging that deafness is not simply a deficit but a unique modality of human experience with its own cultural and communicative dimensions (Lane, 2005). Research has shown that when educators are equipped with the appropriate tools and mindsets, deaf students demonstrate higher levels of academic achievement, self-esteem, and classroom engagement (Antia et al., 2002).

However, many teachers report feeling inadequately prepared to address the specific needs of deaf learners, citing gaps in their pre-service education, limited exposure to sign language and Deaf culture, and insufficient opportunities for professional development (Marschark & Spencer, 2010). This disconnect between policy aspirations and practical implementation underscores the urgency of a systematic review of the literature to map the current state of knowledge regarding teacher competencies for the inclusion of deaf students. Such a review is essential not only for identifying best practices but also for highlighting persistent challenges and informing future research, policy, and training initiatives. The present literature review aims to synthesize existing research on the essential competencies required by teachers to effectively include deaf students in mainstream and specialized educational settings. It explores the epistemological foundations of inclusive pedagogy, examines empirical studies on teacher preparedness and professional development, and reflects on the implications of technological integration, linguistic diversity, and collaborative teaching models. By adopting a critical and interdisciplinary approach, the review seeks to contribute to the advancement of inclusive education by foregrounding the professional development needs of teachers as a strategic priority. It also interrogates the extent to which current educational systems recognize and support the intersectional nature of deaf students' identities, advocating for more culturally responsive and linguistically accessible pedagogical practices. Ultimately, this work aspires to frame teacher competencies not merely as individual attributes but as embedded within broader systemic, institutional, and cultural contexts that shape the opportunities and barriers to inclusive education. In doing so, it responds to the call for more nuanced and transformative perspectives on what it means to teach, learn, and thrive in inclusive school communities where diversity is not only accommodated but celebrated.

1. Theoretical Perspectives on Inclusive Education and Deafness

Theoretical perspectives on inclusive education and deafness encompass a complex and evolving framework that draws upon pedagogical innovations, socio-cultural understandings of disability, and the growing recognition of Deaf identity as a cultural and linguistic phenomenon. Inclusive education, as articulated by international policy frameworks such as the United Nations Convention on the Rights of Persons with Disabilities (2006) and the Salamanca Statement (UNESCO, 1994), emphasizes the right of all learners to participate meaningfully in mainstream educational environments, irrespective of their physical, cognitive, or sensory differences. In the context of deafness, this principle of inclusion demands a fundamental rethinking of educational structures, teacher competencies, and curricular

content, moving away from medical or deficit-based models that pathologize deafness toward social and cultural models that affirm Deaf identity and linguistic rights. The shift from integration to inclusion represents a paradigmatic transition that challenges traditional hierarchies of normalcy and embraces a more pluralistic understanding of learning, communication, and community. The social model of disability, as articulated by scholars such as Oliver (1990), posits that it is not the individual impairment that limits participation but the societal barriers and systemic exclusions that perpetuate disadvantage. This model has been instrumental in reframing deaf education by focusing on access, communication, and identity rather than remediation or normalization. Deafness, within this framework, is not merely an audiological condition but a marker of membership in a distinct cultural and linguistic community, with its own norms, values, and visual language traditions. The concept of Deaf gain (Bauman & Murray, 2014) further subverts traditional deficit narratives by highlighting the cognitive, social, and epistemological contributions that visual learning and Deaf culture bring to the broader educational discourse.

Pedagogically, inclusive approaches for deaf students necessitate a commitment to bilingual education models that recognize both sign language and the dominant spoken and written language as equally valid and essential for cognitive and social development. Bilingual-bicultural (bi-bi) education, rooted in the acknowledgment of Deaf culture and the use of sign language as a first language, provides a framework for teaching that respects the linguistic identity of deaf students while equipping them with the tools to navigate the hearing world (Grosjean, 2001). These models challenge monolingual and assimilationist approaches that have historically marginalized sign language and undervalued Deaf epistemologies. Research in the field of language acquisition among deaf children has demonstrated the importance of early exposure to a fully accessible natural language—namely sign language—as a foundation for later literacy and cognitive skills (Mayberry, 2002). This underscores the need for educators to possess not only linguistic proficiency in the sign language used by their students but also a deep cultural competence that enables them to affirm and integrate Deaf perspectives within the curriculum. Moreover, inclusive pedagogy requires flexibility, responsiveness, and collaboration, integrating universal design for learning (UDL) principles to ensure that content is accessible through multiple modalities and tailored to the diverse needs of learners (Meyer, Rose, & Gordon, 2014). In this sense, the role of the teacher transcends traditional didactic instruction and becomes one of facilitation, mediation, and co-construction of knowledge within a participatory learning environment.

The intersection of Deaf identity and inclusive education also raises critical questions about the politics of recognition and representation within schools. Deaf students, like other marginalized groups, navigate educational spaces that often reflect the dominant norms of the majority culture, which may be unresponsive or even hostile to their linguistic and cultural needs. The affirmation of Deaf identity within inclusive education requires a conscious effort to de-center auditory norms and to validate visual modes of communication and expression. This includes the incorporation of Deaf history, literature, and contributions into the curriculum, as well as the presence of Deaf educators and role models who can provide authentic representation and mentorship. The concept of cultural reciprocity, introduced by Harry, Kalyanpur, and Day (1999), is particularly relevant here, as it calls for educators to engage in reflective practice and to understand the cultural contexts of their students' lives as a basis for building trust and meaningful educational relationships. Furthermore, the critical pedagogy of Freire (1970), with its emphasis on dialogue, empowerment, and conscientization, offers valuable insights into how inclusive education can serve as a transformative space for deaf learners. Rather than being passive recipients of remedial instruction, deaf students should be recognized as agents of their own learning, capable of contributing unique perspectives and shaping the educational process in dialogue with their peers and teachers.

In sum, theoretical perspectives on inclusive education and deafness converge around a shared commitment to equity, diversity, and the affirmation of linguistic and cultural identity. These perspectives challenge deficit-based paradigms, advocate for systemic change, and highlight the importance of teacher competencies that include linguistic proficiency in sign language, cultural competence, and a critical understanding of disability. The integration of social models of disability, bilingual educational frameworks, and inclusive pedagogical strategies offers a holistic vision of education that respects the rights and potentials of deaf learners. As educational systems continue to evolve, the centrality of Deaf identity and the imperative of inclusive practice must guide both policy and pedagogy, ensuring that deaf students are not only included but also empowered to thrive as full participants in their learning communities.

2. Core Competencies for Teachers Working with Deaf Students

Core competencies for teachers working with deaf students encompass a multidimensional set of knowledge, skills, and attitudes that are essential to foster equitable, accessible, and effective educational experiences. Linguistic and communicative competence is foundational, as teachers must navigate the complexity of bilingual environments in which both a national sign language and the spoken and written language of the surrounding hearing culture coexist. Mastery of sign language enables meaningful interaction with deaf learners and supports the development of their linguistic identity, which is central to their cognitive and social growth (Marschark & Hauser, 2012). Teachers must not only possess receptive and expressive fluency in sign language but also understand the linguistic structure and pragmatics of visual-spatial languages to adapt their teaching strategies accordingly (Swanwick & Gregory, 2007). In parallel, didactic competence involves the ability to design and deliver instruction that is visually accessible, linguistically scaffolded, and tailored to the diverse needs of deaf learners. This includes the use of visual aids, captioning, tactile materials, and differentiated instruction to support the development of literacy, numeracy, and higher-order thinking skills. Moreover, teachers must be adept at using formative assessment practices that are culturally and linguistically responsive, avoiding reliance on standardized measures that may disadvantage deaf students (Cawthon, 2009). Technological competence is increasingly indispensable, as digital tools such as interactive whiteboards, captioning software, video relay services, and educational apps designed for visual learning environments enhance engagement and accessibility. Teachers must be trained to integrate these tools effectively and critically, recognizing their potential and limitations while ensuring they do not replace direct human communication, which remains essential for socio-emotional learning and relationship building (Easterbrooks & Stephenson, 2006).

Relational competence is equally critical, as teaching deaf students involves fostering trust, empathy, and cultural sensitivity. Teachers must be able to create safe, inclusive environments that validate deaf identity and promote positive self-concept, which in turn are associated with academic motivation and well-being (Bat-Chava, 2000). This requires knowledge of Deaf culture and history, the ability to engage with families in culturally appropriate ways, and an openness to learn from deaf colleagues and community members. Intercultural competence also plays a pivotal role, especially in increasingly diverse classrooms where deaf students may come from a variety of linguistic, cultural, and socio-economic backgrounds. Teachers must adopt intersectional perspectives that recognize the layered experiences of deaf learners, including those who are immigrants, members of racial or ethnic minorities, or users of multiple sign languages (Golos & Moses, 2011). This competence involves critically reflecting on one's own biases, advocating for inclusive policies, and engaging in continuous professional development. Importantly, the development of these competencies cannot be left to chance or individual initiative. Teacher education programs must systematically integrate content on deaf

education, sign language acquisition, inclusive pedagogy, and assistive technology. Collaboration with Deaf professionals and immersion in Deaf communities are essential components of effective training models, enabling teachers to understand the lived experiences of deaf individuals and to align their practice with the principles of linguistic human rights and educational justice (Skutnabb-Kangas & Phillipson, 1995). Moreover, institutional support, mentorship, and access to ongoing learning opportunities are necessary to sustain and deepen these competencies over time. As research shows, teachers who receive targeted preparation and support are more confident, effective, and committed to working in inclusive settings (Luckner & Muir, 2001). In this context, policy frameworks must ensure that teacher standards reflect the specific needs of deaf education, promoting both accountability and empowerment. The role of teacher competencies extends beyond the classroom, influencing systemic change by shaping inclusive school cultures, informing curriculum development, and advancing advocacy for the rights of deaf learners. Therefore, the articulation of a clear, research-based profile of core competencies is not only a pedagogical imperative but a social and ethical one. Such a profile must be dynamic, culturally grounded, and responsive to the evolving landscape of deaf education, in which technological innovations, cultural affirmation, and collaborative practices intersect. Ultimately, equipping teachers with the necessary competencies to educate deaf students is a cornerstone of inclusive education and a testament to the commitment to educational equity and human dignity.

3. Challenges in Teacher Training and Professional Development

The education of deaf students within inclusive settings remains deeply intertwined with the quality and comprehensiveness of teacher preparation and ongoing professional development. Despite significant progress in inclusive education policy and pedagogical theory, systemic challenges continue to hinder the formation of educators capable of effectively supporting deaf learners. One of the primary issues is the lack of consistent and structured training pathways that adequately prepare teachers for the linguistic, cultural, and cognitive specificities of deaf students. Traditional teacher education programs often adopt a generalized approach to special education, marginalizing the unique competencies required to address deafness, such as proficiency in sign language, understanding of Deaf culture, and the use of accessible educational technologies (Marschark & Spencer, 2010). This deficit is further compounded by territorial disparities in teacher education, particularly evident in rural or underserved areas where access to specialized institutions and qualified trainers is limited. Teachers in such contexts frequently report feelings of inadequacy and isolation when tasked with integrating deaf students into mainstream classrooms without proper preparation or institutional support (Lindsay & McPherson, 2011). Additionally, the lack of continuous professional development initiatives focused on inclusive strategies for deaf learners exacerbates existing inequalities and reinforces pedagogical stagnation. Many educators express the need for ongoing training that addresses contemporary developments in assistive technology, inclusive curriculum design, and culturally responsive teaching (Florian & Black-Hawkins, 2011). However, professional development opportunities are often fragmented, voluntary, or inaccessible due to scheduling, cost, or geographical constraints. Another critical challenge lies in the absence of a shared and coherent framework guiding teacher competencies for deaf education across different national contexts. While some countries have introduced certification programs or professional standards specifically targeting deaf education, these are not universally adopted, leading to inconsistencies in educator preparedness and student support (OECD, 2017).

Moreover, the sociolinguistic dimension of deaf education, especially the promotion of bilingual approaches incorporating sign language and the majority spoken language, remains insufficiently integrated into teacher training programs, despite its proven benefits for cognitive

development and identity formation (Swanwick & Gregory, 2007). Many educators, unfamiliar with bilingual pedagogies or lacking fluency in sign language, default to oralist methods that risk marginalizing deaf students and impeding their access to the curriculum. This reflects a broader tension between medical and cultural models of deafness, which continues to shape institutional attitudes and training practices. The persistence of the medical model within teacher education prioritizes remediation and normalization over empowerment and inclusion, thereby neglecting the rich cultural-linguistic heritage of the Deaf community and the pedagogical potential it offers (Skliar, 1999). In response, inclusive education frameworks must reconceptualize deafness not as a deficit but as a dimension of human diversity that enriches learning environments. This requires a paradigmatic shift in teacher education towards equity-oriented, culturally sustaining, and linguistically inclusive practices. Collaborative partnerships between universities, Deaf organizations, and inclusive schools are essential for developing contextually relevant training modules, mentoring systems, and practicum opportunities that immerse future teachers in authentic inclusive settings. Furthermore, policymakers and educational leaders must ensure that teacher professional development is not a peripheral or discretionary activity but an embedded component of educational quality assurance systems. Investing in the professional capital of teachers by ensuring equitable access to specialized training, incentivizing participation in continuing education, and recognizing competencies in deaf education as core professional standards can significantly enhance the inclusivity and effectiveness of school systems. In conclusion, overcoming the challenges in teacher training and professional development for deaf education is not only a matter of pedagogical efficacy but also a question of social justice, educational equity, and respect for human rights. Addressing these challenges requires systemic commitment, intersectoral collaboration, and sustained policy innovation that centers the experiences and rights of deaf learners within the broader agenda of inclusive education.

Conclusions

Overcoming the challenges related to teacher training and professional development is fundamental to advancing inclusive education for deaf students. The complexity of deaf education demands specialized competencies that encompass linguistic proficiency, cultural awareness, technological literacy, and adaptive pedagogical strategies. Without adequate preparation and continuous learning opportunities, educators risk unintentionally perpetuating exclusion and limiting the academic and social potential of deaf learners. Addressing territorial disparities and integrating culturally responsive, bilingual approaches into teacher education are essential steps to fostering more equitable and effective learning environments. Moreover, systemic commitment from policymakers and educational institutions is crucial to embed professional development as a core pillar of educational quality, ensuring that teachers are not only equipped but also supported throughout their careers. Ultimately, enhancing teacher competencies is not merely an educational imperative but a matter of social justice that upholds the rights and dignity of deaf students, enabling their full participation and success within inclusive school communities.

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