

Imperatives of Bilingual Sign Language in Language Development of Learners with Hearing Impairment in Nigeria

Nwachukwu, K.E., Bassey, M.C., Sampson, G. S., Udoma, E. P., Mbono V. I., Uka E. E., Usuh, N. I., Icha, P. I., & Thompson, D. N

Department Of Early Childhood and Special Education, Faculty of Education, University of Uyo Uyo
Nigeria

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ABSTRACT

Bilingual sign language has emerged as a critical tool for the linguistic, cognitive, and educational development of learners with hearing impairment, offering a pathway to equity and inclusion in diverse societies. This paper examines the imperatives of bilingual sign language in Nigeria, emphasizing its role in promoting language development, literacy outcomes, social integration, and communication competence among deaf learners. Anchored on Cummins' Linguistic Interdependence Hypothesis, the paper highlights how a strong foundation in Nigerian Sign Language (NSL) can transfer to mastery of written English, thereby enabling academic progression and lifelong learning. While significant challenges persist including the lack of formal recognition of NSL, inadequate teacher training, insufficient learning resources, negative societal attitudes, and limited funding emerging opportunities and policy windows provide grounds for optimism. These include global disability rights frameworks, rising advocacy movements, the growth of digital learning tools, reforms in teacher education, and momentum toward inclusive education policies. The paper argues that the institutionalization of bilingual sign language in Nigerian schools is both a linguistic right and a developmental necessity. It concludes that by fostering cognitive growth, literacy advancement, social inclusion, and communicative competence; bilingual sign language can bridge the gap between deaf learners and their hearing peers, positioning them for meaningful participation in national development. The paper recommended amongst others that Non-Governmental Organizations should strengthen partnerships with organizations like the Nigerian National Association of the Deaf (NNAD) to combat stigma and promote societal acceptance of bilingual sign language as a tool for inclusion.

Keywords: Sign language, bilingual sign language, hearing impairment, language development

INTRODUCTION

Nigeria faces a critical challenge: learners with hearing impairment often lack sufficient access to natural language during early development, which significantly impedes their cognitive, emotional, and educational growth (Asonye *et al.*, 2018). In such contexts, bilingual sign language the use of a visual native sign language alongside a written or spoken language emerges not merely as an instructional option but as an existential necessity. Sign languages, with their unique grammars and internal structures, serve as fully-fledged languages that support not only communication but also identity formation and inclusion within Deaf communities (Asonye *et al.*, 2018).

Extensive research into bimodal bilingualism visual and oral language fluency demonstrates notable advantages in cognitive flexibility, syntactic complexity, creative thinking, and academic performance among deaf learners (Fischer *et al.*, 2003; Kushalnagar *et al.*, 2010; Bialystok *et al.*, 2007). For instance, Wilbur (2001) and Chamberlain and Mayberry (2008) highlight how signing proficiency correlates strongly with improved reading achievement, while Kushalnagar *et al.* (2010) show enhanced attention-switching capabilities in bimodal bilinguals. These findings collectively underscore that bilingual sign language instruction is not only affirming linguistically but also academically transformative.

Within the Nigerian educational space, Nigerian Sign Language (NSL) a variant heavily influenced by American Sign Language has become widely adopted in formal settings, while several indigenous sign languages like Hausa Sign Language and Yoruba Sign Language continue to thrive within specific Deaf communities (Asonye *et al.*, 2018; Wikipedia contributors, 2025a; Wikipedia contributors, 2025b). Sadly, official recognition of these languages remains absent, significantly limiting their integration into policy, curriculum, and teacher education (Wikipedia contributors, 2025a).

Moreover, Nigeria has international obligations as articulated in Article 24 of the UN Convention on the Rights of Persons with Disabilities and reinforced by the Sustainable Development Goals to ensure inclusive quality education, including sign language access and the promotion of Deaf linguistic identity (NNAD, 2018). Recognizing this imperative, civil society advocacy groups have urged the government to formally include sign language in national curricula and to elevate its status as an official language to promote equity, accessibility, and meaningful inclusion (NNAD, 2024).

Hearing impairment refers to a reduction in hearing ability, ranging from mild loss to profound deafness, and can be unilateral (one ear) or bilateral (both ears). It may occur as conductive hearing loss (affecting the outer or middle ear), sensorineural loss (affecting the inner ear or auditory nerve), or a combination of both (Wikipedia contributors, 2025). The condition is often classified as either prelingual (before the acquisition of language) or postlingual (after language has been acquired), with prelingual hearing loss posing the greatest risk to language development and literacy outcomes (Effect of Early Intervention, 2015).

Without timely intervention, hearing impairment can severely restrict a child's ability to develop spoken or written language, leading to long-term educational and social disadvantages (Hall *et al.*, 2017). However, scholars emphasize that hearing impairment does not inherently preclude language acquisition; rather, the barrier arises when children lack access to an accessible first language, such as sign language, during the critical period of development (Kushalnagar *et al.*, 2010). Thus, the imperative for Nigeria and similar multilingual contexts is to provide early sign bilingual education that ensures both linguistic competence and broader inclusion.

Bilingual sign language refers to educational and communicative practices where learners acquire proficiency in both a sign language and a spoken or written language. This is commonly conceptualized within the bilingual-bicultural (Bi-Bi) model, in which the natural sign language of the Deaf community serves as the first language (L1), while the dominant spoken/written language of the wider society functions as the second language (L2) (Swanwick and Gregory, 2007). Such a model recognizes the linguistic and cultural identity of Deaf individuals while also equipping them to participate fully in mainstream education and social life. For example, in Nigeria, learners often use Nigerian Sign Language (NSL) alongside English, allowing them to engage academically and socially across Deaf and hearing contexts (Asonye *et al.*, 2018).

Research on bimodal bilingualism shows that sign bilingual learners demonstrate enhanced cognitive and linguistic flexibility compared to their monolingual peers (Emmorey *et al.*, 2002). Sign language not only facilitates access to early communication but also supports literacy development in the written form of the spoken language (Chamberlain and Mayberry, 2008). Therefore, bilingual sign language is not simply an instructional strategy; it is a linguistic and cultural necessity that enables deaf learners to thrive cognitively, academically, and socially.

The paper is anchored on Cummins' Linguistic Interdependence Hypothesis, a key principle within the broader framework of bilingual education. Proposed by Cummins in the 1970s, the hypothesis posits that proficiency in a first language (L1) can transfer positively to the acquisition of a second language (L2), provided that learners are given adequate exposure and motivation in both languages (Cummins, 1979, 1981). The theory emphasizes that underlying cognitive and academic proficiencies are common across languages, such that skills acquired in one language whether in reading, writing, or problem-solving can support development in another. The major tenet, therefore, is that strong competence in the first language does not hinder, but rather facilitates, the acquisition of subsequent languages (Cummins, 2000).

Applied to this study, Cummins' hypothesis underscores the imperative of bilingual sign language for learners

with hearing impairment in Nigeria. Sign language, functioning as L1, provides an accessible linguistic foundation that supports cognitive development, literacy, and communication skills. These proficiencies can then transfer to mastery of written English or other spoken/written languages used in academic settings. In the Nigerian context, where English is the primary language of instruction, the hypothesis validates the use of Nigerian Sign Language (NSL) as a bridge, enabling deaf learners to achieve educational inclusion and academic success. Thus, the Linguistic Interdependence Hypothesis provides a strong theoretical justification for promoting bilingual sign language in language development among hearing-impaired learners (Nwachukwu, & Anyanwu 2023).

Perspectives on Bilingual Sign Language and Education of the Hearing-Impaired

Nigerian Context: Policies and Practices

In Nigeria, the education of learners with hearing impairment has historically been shaped by oralist traditions, with emphasis placed on speech training and lipreading rather than full recognition of sign language. While Nigerian Sign Language (NSL), a variant influenced by American Sign Language (ASL), has become the most widely used in schools, the federal government has yet to formally recognize it as an official language of instruction (Asonye, Umeasiegbu, and Omede, 2018). The National Policy on Education (2013) provides broad provisions for inclusive education and the integration of persons with special needs but falls short of explicitly mandating bilingual sign language approaches. This policy gap has contributed to the limited institutionalization of sign bilingualism in Nigerian schools for the deaf (Adigun, 2020).

Practices in deaf education across Nigeria vary widely. Some specialized schools attempt to combine sign language with written English, while others continue to emphasize oralism, often due to teachers' limited sign language proficiency (Omede and Bakare, 2014). Furthermore, indigenous sign languages such as Hausa Sign Language in the North and Yoruba Sign Language in the Southwest remain largely undocumented and excluded from formal education, despite their cultural significance (Asonye et al., 2018). Teacher training institutions also rarely include sign bilingual pedagogy in their curricula, leaving many educators ill-equipped to implement bilingual education effectively. As a result, deaf learners face inconsistent and inadequate language exposure, which undermines their literacy and academic outcomes (Omede and Bakare, 2014).

Several challenges hinder the adoption of bilingual sign language in Nigeria. Key among them are insufficient government funding, lack of standardized teaching materials, and societal attitudes that continue to frame deafness primarily as a disability rather than as a linguistic minority identity (Adigun, 2020). Moreover, advocacy efforts by organizations such as the Nigerian National Association of the Deaf (NNAD) have not yet translated into strong legislative backing or curricular reforms that would establish sign language as a right rather than a privilege. These systemic obstacles highlight the urgent need for Nigeria to align its educational practices with global best practices that view bilingual sign language not only as an educational tool but as a fundamental right for learners with hearing impairment.

Linguistic and Cognitive Development Benefits

One of the foremost imperatives of bilingual sign language in Nigeria lies in its capacity to foster robust linguistic development among learners with hearing impairment. Sign language provides a natural and fully accessible first language (L1) through which deaf children can acquire grammar, vocabulary, and discourse skills without the barriers associated with oralist approaches (Swanwick and Gregory, 2007). When paired with written English as a second language (L2), learners are able to transfer their linguistic competence across modalities, reinforcing literacy and academic success (Cummins, 2000). In the Nigerian context, where English dominates as the medium of instruction, a bilingual model ensures that deaf learners are not linguistically excluded but are instead equipped to participate meaningfully in both Deaf and hearing communities (Asonye, Umeasiegbu, and Omede, 2018).

Beyond linguistic growth, bilingual sign language promotes cognitive development, enhancing skills such as problem-solving, metalinguistic awareness, and executive functioning. Research shows that bimodal bilinguals those proficient in both sign and written/spoken languages demonstrate greater mental flexibility and attention-

switching capabilities than their monolingual peers (Kushalnagar, Hannay, and Hernandez, 2010). Early access to sign language supports the development of working memory and abstract reasoning, laying the foundation for stronger academic performance (Mayberry, 2007). For Nigerian deaf learners, who often face delayed or limited language exposure, the use of bilingual sign language can mitigate risks of language deprivation and enable more typical developmental trajectories.

Furthermore, the integration of bilingual sign language enhances literacy outcomes, which are often a major challenge in deaf education. Studies indicate that deaf learners who first acquire sign language achieve higher levels of reading comprehension and written expression compared to those educated exclusively through oralist methods (Chamberlain and Mayberry, 2008). This is because sign language provides a linguistic scaffold that allows learners to understand the structural and semantic features of written English. In Nigeria, where literacy is a critical determinant of academic progression and employability, the cognitive and linguistic benefits of bilingual sign language position it as an indispensable tool for advancing both educational equity and social inclusion.

Social Inclusion and Communication Competence

The adoption of bilingual sign language significantly advances social inclusion for learners with hearing impairment. Sign language enables deaf individuals to participate fully in their immediate social and cultural environments, fostering a sense of belonging within the Deaf community while also providing the linguistic bridge to engage with the wider hearing society (Ladd, 2003). In Nigeria, where stigma and misconceptions about deafness often lead to marginalization, the institutionalization of bilingual sign language can shift perceptions by recognizing deaf learners not as disabled, but as members of a linguistic minority with valuable contributions to make (Adigun, 2020). This recognition has the potential to reduce social isolation and strengthen the inclusion of deaf persons in education, employment, and civic participation.

In addition to social integration, bilingual sign language enhances communication competence by equipping learners with multiple linguistic resources for interaction. Proficiency in Nigerian Sign Language (NSL) allows effective communication within the Deaf community, while competence in written English expands access to educational opportunities, employment, and social networks dominated by hearing individuals (Asonye, Umeasiegbu, and Omede, 2018). This dual competence is particularly crucial in Nigeria, where English is the language of instruction and a prerequisite for academic mobility. By enabling learners to navigate both linguistic worlds, bilingual education strengthens self-confidence, promotes self-advocacy, and enhances lifelong learning.

Moreover, bilingual sign language fosters intercultural communication, bridging the divide between Deaf and hearing communities. When teachers, peers, and family members learn sign language, it creates inclusive communicative environments where deaf learners can thrive both academically and socially (Swanwick, 2016). In Nigeria, where few schools actively promote family and community involvement in sign bilingualism, such initiatives could dismantle barriers to communication and improve relationships within families and classrooms. Ultimately, by supporting communicative competence, bilingual sign language not only empowers learners with hearing impairment but also advances Nigeria's broader goals of inclusive education and social equity.

Educational Advancement and Literacy Outcomes

Bilingual sign language is central to the educational advancement of learners with hearing impairment, as it provides the linguistic foundation necessary for academic engagement. Early exposure to sign language enables deaf children to acquire complex concepts in science, mathematics, and the humanities without the barriers imposed by speech-only instruction (Marschark and Hauser, 2012). In Nigeria, where curriculum delivery is heavily reliant on English, sign bilingualism ensures that deaf learners are not left behind but are given the tools to comprehend and participate meaningfully in classroom interactions. This approach shifts the focus from disability to ability, affirming that with the right language support, learners with hearing impairment can perform on par with their hearing peers (Nwachukwu, & Anyanwu, 2021).

Another critical outcome of bilingual sign language is the enhancement of literacy development, which is often cited as a persistent challenge in deaf education. Research has shown that deaf learners who first acquire sign language achieve higher levels of reading comprehension and written expression than those educated through oralist approaches (Chamberlain and Mayberry, 2008). Sign language serves as a cognitive and linguistic scaffold, helping learners make sense of phonological, syntactic, and semantic aspects of written English. In Nigeria, where literacy is tied to academic progression and employability, the integration of Nigerian Sign Language (NSL) with written English offers a pragmatic solution to the low literacy levels often recorded among deaf students (Adigun, 2020).

Furthermore, bilingual sign language contributes to the long-term academic success of deaf learners by promoting critical thinking, metacognition, and higher-order learning skills. Learners with a strong sign language foundation are better positioned to access abstract content, engage in collaborative learning, and achieve at higher levels across the curriculum (Swanwick, 2016). For Nigerian schools, which often face resource limitations and inadequate teacher training, adopting a bilingual approach represents not only a pedagogical imperative but also a policy necessity for achieving inclusive education goals. By embedding bilingual sign language into mainstream and special education systems, Nigeria can ensure that deaf learners are not excluded from the promise of education as a driver of national development.

Challenges to Bilingual Sign Language in Nigeria

- 1. Lack of Official Recognition of Nigerian Sign Language (NSL):** One of the greatest challenges is the absence of formal recognition of NSL as an official language of instruction in Nigerian schools. Although English is the official medium for education, sign language remains marginalized, treated more as a support tool than a legitimate language. This policy gap denies deaf learners the right to learn in their natural language, contrary to global best practices and the UN Convention on the Rights of Persons with Disabilities (CRPD) (United Nations, 2006). Without legal backing, schools are inconsistent in their adoption of bilingual methods, leaving learners vulnerable to linguistic exclusion.
- 2. Inadequate Teacher Training and Competence:** Most teachers in schools for the deaf lack proficiency in NSL and are not trained in bilingual pedagogical strategies (Omede and Bakare, 2014). Teacher education curricula in Nigeria rarely prioritize sign language fluency or bilingual instructional methods, which results in ineffective teaching and learning processes. This inadequacy means that even when bilingual policies are introduced, they cannot be fully implemented due to a lack of qualified manpower. Continuous professional development and inclusion of sign bilingual pedagogy in teacher training programs remain largely absent (Nwachukwu, & Anyanwu, 2021).
- 3. Scarcity of Teaching and Learning Resources:** The implementation of bilingual sign language is hindered by a shortage of standardized teaching materials in NSL. Textbooks, digital resources, and classroom aids tailored for deaf learners are scarce, leaving teachers to improvise. Furthermore, indigenous sign languages (such as Yoruba and Hausa Sign Languages) remain undocumented and excluded from instructional materials (Asonye, Umeasiegbu, and Omede, 2018). This resource gap widens educational inequality and limits the effectiveness of bilingual education in Nigeria.
- 4. Negative Societal Attitudes and Stigma:** Cultural perceptions of deafness as a disability rather than a linguistic difference continue to pose serious challenges. Many families and communities view the use of sign language as reinforcing disability, preferring speech training or lipreading (Adigun, 2020). This stigma leads to late language exposure, which negatively impacts linguistic and cognitive development. The lack of societal acceptance also discourages investment in sign language learning among teachers, peers, and family members, further isolating deaf learners.
- 5. Inadequate Government Funding and Policy Implementation:** Even where inclusive education policies exist, insufficient funding hampers their execution. Specialized schools for the deaf often operate with limited budgets, insufficient teaching staff, and outdated facilities. Government commitment to disability-inclusive education remains weak, with most advocacy efforts led by non-

governmental organizations such as the Nigerian National Association of the Deaf (NNAD). Without adequate funding, policy reforms cannot translate into practical improvements in classrooms, perpetuating poor educational outcomes for deaf learners.

Emerging Opportunities and Policy Windows

- 1. Global Disability Rights Frameworks:** International conventions such as the UN Convention on the Rights of Persons with Disabilities (CRPD) and the Sustainable Development Goal 4 (SDG 4), which promotes inclusive and equitable quality education, provide strong policy leverage for Nigeria to institutionalize bilingual sign language. These global commitments pressure national governments to adopt inclusive practices, creating a window for legal recognition of Nigerian Sign Language (NSL) as a language of instruction (United Nations, 2006).
- 2. Rising Deaf Advocacy Movements:** Organizations such as the Nigerian National Association of the Deaf (NNAD) and youth-led advocacy groups are increasingly vocal about the rights of deaf persons, including access to bilingual education. Their campaigns have amplified awareness at community and national levels, pushing policymakers to recognize the linguistic and cultural rights of the Deaf community (Adigun, 2020). These advocacy efforts create a grassroots-driven opportunity for policy reform and educational inclusion.
- 3. Growth of Digital Learning Platforms:** The expansion of digital technology in Nigeria offers new opportunities to develop sign language resources, from mobile applications to e-learning platforms. Initiatives to create online sign language dictionaries, video tutorials, and bilingual teaching aids can help bridge the resource gap in deaf education (Asonye, Umeasiegbu, and Omede, 2018). With increasing smartphone penetration, technology can democratize access to bilingual education even in rural and underserved communities.
- 4. Inclusion in Teacher Education Reforms:** Nigeria's ongoing reforms in teacher training institutions provide a window to integrate bilingual pedagogy into pre-service and in-service training. Embedding sign language competence in the Nigerian Certificate in Education (NCE) and other teacher preparation programs would create a new generation of teachers equipped to deliver bilingual education effectively (Omede and Bakare, 2014, Nwachukwu, Okoro, & Anyanwu, 2021). This is a practical entry point for embedding bilingual education into mainstream teacher training.
- 5. Policy Momentum toward Inclusive Education:** The Nigerian government's increased attention to inclusive education policies offers a critical policy window. The National Policy on Education (2013), though limited in its explicit recognition of sign language, provides a platform for advocacy to expand its provisions. Furthermore, ongoing national conversations around disability rights, coupled with regional initiatives such as the African Disability Protocol, present opportunities to strengthen legal and curricular frameworks that institutionalize bilingual sign language.

CONCLUSION

The imperatives of bilingual sign language in the language development and education of learners with hearing impairment in Nigeria cannot be overstated, as it represents both a linguistic right and a developmental necessity. By fostering cognitive growth, literacy advancement, social inclusion, and communicative competence, bilingual sign language bridges the gap between deaf learners and their hearing peers, positioning them for meaningful participation in national development. Yet, persistent challenges such as weak policy frameworks, inadequate teacher training, resource scarcity, and societal stigma must be addressed if Nigeria is to meet global standards of inclusive education. Encouragingly, emerging opportunities in international disability rights, advocacy movements, digital learning, and teacher education reforms provide clear policy windows that Nigeria can leverage. What remains is a deliberate commitment from government, academia, and civil society to institutionalize bilingual sign language as a cornerstone of inclusive education, ensuring that no learner is left behind.

RECOMMENDATIONS

This work therefore recommends that:

1. The government should grant NSL formal status as a language of instruction in schools for the deaf, aligning with global disability rights frameworks.
2. The Ministry of Education should integrate bilingual sign language pedagogy into teacher education curricula and provide continuous professional development for educators in schools for the deaf.
3. Curriculum planners should develop and standardize bilingual teaching and learning materials in NSL and English, including digital resources and indigenous sign language documentation.
4. Non-Governmental organizations should strengthen partnerships with organizations like the Nigerian National Association of the Deaf (NNAD) to combat stigma and promote societal acceptance of bilingual sign language as a tool for inclusion.

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