

# Teacher Preparedness in Special Needs Education and its Influence on the Quality of Education for Learners with Hearing Impairment in Kenya

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## Abstract

*This study looks at teacher preparedness in Special Needs Education (SNE) and how it affects the quality of education for students with hearing impairments in Kenya. The research is based on Special Needs Education principles and Constructivist Learning Theory, with a focus on the role of trained teachers in creating inclusive and learner-centered environments. The study looks into critical aspects of teacher preparedness, such as professional training, pedagogical abilities, fluency in Kenyan Sign Language, access to teaching and learning resources, and attitudes toward students with hearing impairments. A mixed-methods approach was used, integrating quantitative data from structured questionnaires distributed to teachers with qualitative insights from interviews with educators and school officials from several locations in Kenya. The findings show that, while policy frameworks for inclusive education exist, there are major gaps in teacher training, notably in specialized teaching strategies and communication skills for students with hearing impairments. Many instructors receive little exposure to SNE during pre-service training and have limited access to ongoing professional development opportunities..*

**Keywords:** Teacher preparedness, Special Needs Education, Quality of education, Students with hearing impairment, Kenya

**DOI:** 10.7176/JEP/17-6-11

**Publication date:** June 30<sup>th</sup> 2026

## 1. Introduction

Teacher preparedness in Special Needs Education (SNE) is becoming more widely acknowledged as a crucial predictor of the quality and equity of education for Kenyan students with hearing impairments. Globally, inclusive education frameworks highlight that the effectiveness of educating students with disabilities is largely dependent on instructors' competency, attitudes, and pedagogical skills. Teacher preparedness includes pre-service and in-service training, understanding of specialized instructional methodologies, fluency in communication modes such as sign language, and the ability to adjust curriculum to meet the requirements of various learners (Rasugu, Otube, & Murugami, 2022).

In Kenya, legislative measures such as Free Primary Education of 2003 and the constitutional provision for inclusive education (Republic of Kenya, 2010) have considerably boosted access to education for students with disabilities, including those with hearing impairments. However, more access has not always resulted in higher quality education. According to studies, many learners with special needs drop out of school and have poor academic achievements, which is attributed in part to inadequately prepared teachers who lack the abilities to handle varied learning needs in inclusive classrooms (Rasugu et al., 2022). This implies that teacher readiness remains a critical problem in attaining meaningful inclusion.

Empirical evidence from Kenya shows that, while many instructors have broad academic skills, a significant minority lack specific training in special needs education, particularly in dealing with students who have hearing impairments. For example, a study conducted in Mombasa County by Luvanga, Mwangi, and Maneno (2020) indicated that the majority of teachers had not received pre-service or in-service special education training, restricting their effectiveness in inclusive classrooms. Similarly, earlier research by Moustache and Makhoba (2024) found that teachers frequently lacked understanding of inclusive practices and had little exposure to

strategies for aiding students with hearing impairments, which had a negative impact on classroom involvement and learning results.

Notwithstanding continuous regulatory efforts and stakeholder interventions, teacher readiness gaps exist, raising concerns about the delivery of fair and high-quality education to students with hearing impairments. This emphasizes the necessity for comprehensive research on how teacher preparedness effects educational quality in order to guide policy, teacher training programs, and classroom practices. As a result, this study investigates teacher preparedness in special needs education and its impact on the quality of education for students with hearing impairments in Kenya.

## 2. Literature Review

A rising amount of research indicates that teacher readiness in Special Needs Education is a major factor of the quality of education for students with hearing impairments. Recent global research has emphasized the importance of teachers' competencies, attitudes, and instructional practices in inclusive education systems. Rasugu, Otube, and Murugami (2022) argue that teacher professional skills are critical for implementing inclusive education and realizing the potential of students with disabilities. Similarly, worldwide research gathered in studies such as Mucherah et al. (2024) demonstrates that teachers who feel appropriately prepared have more positive views toward inclusion and are more effective in delivering inclusive pedagogy. Globally, the literature consistently shows that teacher preparation including training in communication skills, differentiated instruction, and inclusive classroom management has a direct impact on learner participation, academic success, and social integration.

At the regional level, research reveals similar tendencies, with a significant emphasis on the disconnect between inclusive education policies and classroom practice. Studies in Sub-Saharan Africa show that, while governments have adopted inclusive education frameworks, implementation is frequently hampered by insufficient teacher training and minimal resources. Evidence from Kenyan-based regional analyses suggests that many teachers are not adequately educated with specialized abilities to serve learners with hearing impairment, resulting in inefficient instruction and lower learning results. (Mwangi 2025). The literature also emphasizes how communication hurdles, a lack of assistive technologies, and limited professional development opportunities impede instructors' capacity to provide quality instruction. These problems highlight the importance of ongoing capacity training and institutional support in bridging the gap between policy and practice.

In Kenya, empirical research provide thorough insights on teacher preparedness and its direct impact on educational quality for students with hearing impairments. A research by Luvanga, Mwangi, and Maneno (2020) discovered that, while many teachers have standard teaching qualifications, a large percentage lack specialized training in Special Needs Education, particularly in dealing with students who have hearing impairments. Similarly, Mucherah et al. (2023/2024) reported that instructors in Kenya frequently feel "somewhat prepared," indicating moderate confidence but significant gaps in inclusive teaching competencies. Odhiambo, Ouko, and Onchari (2024) found that effective teaching strategies such as the use of visual aids, classroom accommodations, and learner-centered approaches significantly improve participation and academic achievement among students with hearing impairments. However, due to limited training and budget restrictions, these tactics are not consistently implemented, resulting in a detrimental impact on educational quality.

At the metropolitan level in Kenya, particularly in urban and peri-urban areas, the research indicates both opportunities and recurrent obstacles. Metropolitan areas frequently have greater access to resources, trained personnel, and exposure to inclusive educational practices. However, studies show that even in these areas, teacher readiness is variable. Large class sizes, different learner requirements, and insufficient specialist training continue to impede effective inclusion. Despite official support for inclusion, research in Kenyan urban counties suggests that teachers struggle with tailored education and communication with students with hearing impairments (Luvanga et al., 2020; Odhiambo et al., 2024). This implies that, while urban regions may have structural benefits, the quality of education for students with hearing impairments remains largely dependent on teacher preparedness.

Overall, the examined research, from global to local levels, shows a consistent link between teacher preparedness and the quality of education for students with hearing impairments. Adequate training, positive attitudes, effective instructional methodologies, and access to resources are critical elements in improving educational outcomes. In contrast, deficits in teacher preparedness result in communication obstacles, low learner engagement, and poor academic performance. Stronger teacher education programs, ongoing professional development, and policy implementation are crucial for providing inclusive and high-quality

education to students with hearing impairments.

### 3. Methodology

#### 3.1 Research Design

The research used a descriptive survey design to obtain data from a representative sample of the metropolitan region. It combined quantitative and qualitative techniques to examine how teacher readiness affects education quality for students with hearing impairments. This design was useful because it allowed for the assessment of current situations regarding teacher readiness and its relationship to educational quality without modifying factors. Scholars such as Mahat, Neupane and Shrestha (2024) emphasized the effectiveness of descriptive surveys in educational research where the purpose is to establish patterns, trends, and correlations between variables.

#### 3.2 Study population

The study's target group included teachers of hearing impaired students, school administrators, and students in special and inclusive schools in the metropolitan region. A stratified sample technique is used to assure representation across school categories, such as special schools, integrated unit. To minimize bias, individuals are selected within each stratum using simple random sampling. Furman (2023) believes that stratified sampling was useful in studies with heterogeneous populations because it improves the generalizability of the findings. Metropolitan Region comprising Nairobi City, Kiambu, Machakos and Kajiado Counties, their teachers as well as the administrators and the deputy head teachers. The study targets a total of 20 administrators, 200 teachers and 1000 learners with hearing problem among 20 special schools and units.

**Table 1: Target Population**

Location/C ounty	Total No. schools/Units	Heads of institutions/ Deputies	Teachers	Learners with HI and EBD
Nairobi	7	7	61	365
Kajiado	2	2	9	150
Machakos	5	5	50	275
Kiambu	6	6	80	210
<b>Total</b>	<b>20</b>	<b>20</b>	<b>200</b>	<b>1000</b>

To sample the learners with HI, purposive sampling method was used in selecting learners from different special schools and units in metropolitan Region. Simple random sampling was also used to select the teachers, head teachers and the deputy head teachers. The total sample size comprised of learners with hearing-impairment, teachers and head teachers illustrated as follows:

**Table 2: Sample Size**

Category	Population	%	Sample
Head teachers/ Deputy Head teachers	20	10%	2
Teachers	200	10%	20
Learners with HI	1000	10%	100
<b>Total</b>	<b>1220</b>	<b>10%</b>	<b>122</b>

#### 3.3 Data Collection

Data was collected through semi-structured interview guides and observation checklists. Teachers were interviewed to collect qualitative information on their qualifications, training, experience, and instructional approaches. The school administrators were also interviewed to get qualitative information about difficulties, attitudes, and institutional support systems. Classroom observations were equally conducted to evaluate the

practical application of teaching tactics and the learning environment for students with hearing impairments.

#### 4. Findings

The observation focused on specific teacher and learner behaviours that demonstrate preparation and inclusive practice. These include the teacher's ability to communicate successfully through sign language and other visual strategies; the use of adapted instructional methods such as demonstrations and visual aids; and the degree to which teaching is learner-centered. Furthermore, the observer investigates if the teacher adapts the material and delivery to suit students with hearing impairments.

Other key behaviors include the teacher's utilization of suitable learning tools, encouraging active involvement, and promoting peer connection among students. The classroom environment is also reviewed to see if it is welcoming, supportive, and conducive to learning. Finally, emphasis is placed on how the teacher evaluates students, ensuring that evaluation methods are accessible and appropriate for Learners with hearing impairments.

These observable behaviors give tangible evidence of how teacher preparedness leads to successful teaching and better educational outcomes, complementing the findings of Florian and Black-Hawkins (2011) and UNESCO (2020) on inclusive pedagogy and classroom practice. Teacher training provides educators with the particular information and abilities necessary to meet the unique learning demands of students with hearing impairments. Well-trained teachers are better at employing inclusive teaching practices, customizing curriculum content, and assisting diverse learners. This results in improved academic performance, increased classroom participation, and greater social inclusion. Although some teacher after training they tend to relax and fail to use effectively the pedagogies acquired these hinders the academic performance of the students with HI.

*“However, when one teacher was interviewed added that her program taught fundamental knowledge of inclusive education and introduced me to ways for educating students with hearing impairments. However, I believe that further practical experience, particularly in sign language and classroom adaption, would increase my efficacy. Continuous professional development has helped me close some of these gaps”.*

*“I primarily communicate using basic sign language, gestures, and visual assistance. In certain situations, I rely on peer support and written directions. While these strategies are helpful, I acknowledge the importance of improving my sign language fluency in order to improve clarity and interaction.”*

The observation results show that teacher readiness in Special Needs Education greatly improves inclusive classroom practices for students with hearing impairments. Under the sub-topic of teacher communication, all 20 respondents agreed that sign language was used well during instruction, as well as gestures, facial expressions, and body language to aid comprehension. This is consistent with deaf education research, which holds that successful communication is the foundation of learning for students with hearing impairments. Marschark and Spencer (2016) and Knoors and Marschark (2019) found that multimodal communication, such as sign language and visual clues, improves comprehension, involvement, and overall academic accomplishment. The uniform agreement among teachers indicates a high level of understanding and adoption of entire communication approaches, which are crucial in bridging communication gaps.

*“On the contrary Proficiency in sign language enhances communication between teachers and students with hearing impairment. Effective communication improves understanding of content, minimizes frustration, and boosts student engagement. Teachers who know sign language are better equipped to explain concepts and create an involved learning environment. But the variation in vocabularies, the new concepts emerging in the developing world leaves the teachers in a quagmire making them fumble when teaching failing to deliver the content as it is supposed to be”.*

In terms of instructional tactics, the data show that all teachers use visual aids such as charts, drawings, and diagrams, proving the value of visual pedagogy in educating students with hearing impairments. This is congruent with UNESCO's (2020) findings, which emphasize the usefulness of visual and learner-centered approaches in inclusive classrooms. Furthermore, while all teachers acknowledged the use of learner-centered strategies such as group work and demonstrations, a significant Eight out of twenty respondents acknowledged a need for additional support and guidance. This shows that, while teachers understand the importance of these

tactics, there are gaps in practical implementation abilities. Florian and Black-Hawkins (2011) suggest that inclusive pedagogy necessitates not only knowledge but also ongoing professional development to enable effective practice.

*The main problems include limited teaching resources, insufficient training in specific skills such as sign language, and high-class sizes, which make individualized attention impossible. These difficulties can have an impact on instructional quality and learner participation.*

Under the sub-topic of instructional adaptation and learning resources, the findings indicate that teachers adapt their instruction to learners with hearing impairments and use suitable teaching and learning materials. This demonstrates a strong commitment to inclusive practices and is consistent with research by Sigalla and Kimario (2025), which highlights the importance of teacher adaptability and resource use in boosting learning outcomes. The results indicate that teachers are making deliberate Efforts to adjust content and delivery to meet the different requirements of learners are critical for improving educational accessibility and quality.

*Visual aids, hearing assistive devices, and customized instructional materials are examples of adequate teaching and learning resources that improve comprehension and engagement. When teachers are equipped to properly use these tools, students are more likely to grasp concepts and actively participate in sessions, resulting in better educational outcomes. Very few educators if it easy to go an extra mile to look for these adapted resources claiming that the government is not doing enough to support the schools for the hearing impairment by providing enough resources the marginalized areas being hard hit with the lack of adapted materials.*

In terms of classroom engagement, all respondents agreed that they support the participation of students with hearing impairments as well as peer collaboration and inclusion. These findings are consistent with Lev Vygotsky's (1978) social constructivist perspective, which emphasizes the value of interaction and collaboration in learning. Khanna and Bhola (2023) found that cooperative learning practices boost both academic achievement and social integration for students with impairments. The findings imply that teachers are creating inclusive classroom environments that encourage active participation and peer support.

Finally, the study found that all teachers create supportive and inclusive learning environments and employ suitable evaluation methods such as visual and textual tasks. This demonstrates adherence to inclusive education concepts, in which assessment is tailored to learners' needs. According to Black and Wiliam (2018), formative and adaptive assessment approaches improve student outcomes by providing meaningful feedback and accommodating various skills. The uniformity of replies among all teachers suggests a strong positive trend in implementing inclusive assessment and sustaining favourable learning environments.

The analysis of the observation data shows that teacher preparedness in Special Needs instruction is typically high, but there are several noticeable gaps that may affect the quality of instruction for students with hearing impairments. In the sub-topic of teacher communication, 19 of 20 teachers reported efficiently employing sign language during instruction, while 18 confirmed the use of gestures, facial expressions, and body language. These data indicate that most teachers use total communication approaches, which are widely acknowledged as vital in deaf education. Recent studies by Marschark, Tang, and Knoors (2019) and Hall, Hall, and Caselli (2019) show that mixing sign language with visual and nonverbal clues improves comprehension and learner engagement. However, the tiny proportion of teachers who did not consistently use these tactics suggests a communication skill gap that may impede effective learning.

In terms of instructional tactics, all teachers (20/20) reported employing visual aids such as charts, diagrams, and photographs, proving the critical significance of visual pedagogy in assisting students with hearing impairment. This is consistent with studies from UNESCO (2020), which emphasize visual-based learning as an important component of inclusive education. Furthermore, 19 teachers reported the use of learner-centered strategies such as group work and demonstrations, with one exception, and several (as stated in the comments) expressing the need for additional assistance. This shows that, while there is widespread awareness of inclusive policies, practical skills may still need to be improved. Florian (2019) contends that effective inclusive pedagogy is dependent not just on knowledge but also on teachers' capacity to confidently deploy participatory methodologies in diverse classrooms.

Under instructional adaptation, all teachers (20/20) acknowledged that they modify their education to accommodate students with hearing impairments, demonstrating a strong commitment to inclusive practice. However, just 17 teachers reported consistently using appropriate teaching and learning materials, while three did not. This suggests that, while teachers acknowledge the value of customized resources, access and effective

use may still be limited. According to Sharma and Sokal (2016), the availability and correct application of specialist resources are crucial for boosting learning outcomes in inclusive environments. The disparity implies that, despite teachers' efforts to adapt, resource constraints may have an impact on instruction quality.

*"Inclusive instructional practices, such as visual teaching approaches, peer collaboration, and customized instruction, aid in meeting multiple learning needs. These approaches allow students with hearing impairments to actively participate in the learning process, develop critical thinking skills, and improve academic performance. Although in some instances learners who are merged in one class called a special unit become confusing when different content is delivered for different grades at the same time, but in one class, a state of confusion and lack of concentration arises when teaching different content and which is more advanced and a learner is observing just because the learners with hearing impairment use sight to learn."*

The data on classroom interaction show that all teachers (20/20) support the engagement of students with hearing impairments, which is a positive indicator of inclusive classroom practice. However, just 16 teachers reported promoting peer collaboration and inclusiveness, with four not regularly using this method. This is noteworthy because collaborative learning is critical to both academic and social growth. Kershner (2020) found that peer interaction improves language development, social skills, and confidence among learners with impairments. The discovered gap indicates that certain teachers may require further training in order to effectively facilitate cooperative learning.

*"Positive teacher attitudes promote inclusive practices, stimulate student participation, and foster a supportive classroom atmosphere. Teachers who emphasize inclusion are more likely to use learner-centered approaches and offer equitable chances to all students. Negative attitudes, on the other hand, might result in marginalization, lower expectations, and poor academic performance. Though in some special units of the learners with hearing impairment learners are put in one class in different grade a class can hold six grades or more same learning time some with only two teachers bring out the impression of lack of enough facility and manpower to manage the learners who are supposed to compete with their counter parts in full-fledged special schools".*

Finally, in terms of classroom climate and assessment techniques, 17 teachers reported maintaining a supportive and inclusive learning environment, whereas three did not. This implies that, while most classrooms promote inclusive learning, there is still room for growth in building completely supportive environments. Fortunately, all teachers (20/20) reported using suitable assessment methods such as visual and written assignments, indicating a solid alignment with inclusive assessment procedures. According to Black and Wiliam (2018), tailoring assessments to fit various learner needs is critical for enhancing academic achievements and guaranteeing fair evaluation.

## 5. Conclusion

Teacher preparedness in Special Needs Education (SNE) continues to be an important factor in determining the quality of education for Kenyan students with hearing impairment. According to recent studies, while many teachers have general academic qualifications, a significant proportion lack specialized training in hearing impairment, including skills such as Kenyan Sign Language and inclusive pedagogical strategies, limiting effective curriculum delivery and learner participation. Furthermore, poor professional development, ineffective teaching practices, and restricted resources continue to stymie inclusive education efforts, contributing to ongoing underachievement among students with hearing impairments. These findings highlight that teacher readiness is not only about qualifications but also entails constant capacity building, practical competences, and institutional support, all of which have a direct impact on learning outcomes and societal Integration and overall educational quality for students with hearing impairments in Kenya.

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