

# INTERPRETATION AS A TECHNIQUE TO FOSTER INCLUSIVE CLASSROOMS AT HIGHER LEARNING INSTITUTIONS IN ZAMBIA: A CASE STUDY OF KITWE COLLEGE OF EDUCATION

## Abstract

*This study aims to explore the implementation of interpretation techniques designed to promote inclusivity in educational settings, particularly those characterized by linguistic diversity and limited resources. The focus is on understanding how various techniques, such as sign language interpretation, simplified language, peer assistance, visual aids, and bilingual instruction, contribute to enhancing the learning experiences of students with disabilities and language barriers. A phenomenological approach was used to gather in-depth insights into participants' experiences. The study involved a sample of 15 participants, including three teacher educators, two interpreters, and ten students. The data was collected through multiple methods, including focus group discussions (FGDs), lesson observations, and individual interviews. These techniques allowed for the exploration of participants' perspectives on the effectiveness of inclusive strategies and the challenges faced in their implementation. Thematic analysis was applied to identify common patterns and challenges, particularly focusing on systemic issues such as resource limitations, the availability of trained interpreters, and cultural attitudes. The analysis further examined how these barriers impacted the success of interpretation techniques in fostering an inclusive learning environment. Additionally, the role of time constraints and linguistic diversity was explored as factors complicating the consistency and accessibility of inclusive practices. The findings highlight the significant impact of inclusive strategies on the learning experiences of students, yet they also point to substantial challenges that hinder the full potential of these practices. The study calls for increased investment in resources, professional development, and the creation of standardized policies to address these barriers. Practical implications suggest that educational institutions must adopt comprehensive and consistent strategies to ensure inclusivity for all students.*

**Keywords:** phenomenology, inclusive education, interpretation techniques, linguistic diversity, sign language, resource constraints, peer assistance, visual aids, bilingual instruction.

## 1. Introduction

Inclusive education is a primary principle of modern educational philosophy, emphasizing the equal participation of all learners, regardless of their diverse needs. It asserts that every student—whether facing physical, cognitive, or language barriers—should be provided the opportunity to

thrive in an environment that caters to their unique needs (UNESCO, 2017). This approach is pivotal in fostering diversity, promoting equity, and ensuring access to high-quality education. In recent years, inclusive education has gained increasing attention, particularly in higher education institutions, where students come from diverse linguistic, cultural, and physical backgrounds (Booth & Ainscow, 2011). Central to this process are interpretation techniques, which serve as critical tools for facilitating communication and ensuring that lessons are accessible to all students, including those with disabilities or language barriers (Marschark & Knoors, 2017). Chishiba and Lunda (2024) further highlight that the interpreter's role is to remove communication barriers, enabling seamless interaction between speakers and promoting understanding.

Interpretation techniques play a crucial role in fostering inclusivity within classrooms, especially in contexts where students encounter challenges such as language differences or physical disabilities. These techniques include methods like sign language, assistive technology, and language translation, all aimed at bridging communication gaps and creating an environment where no student is left behind (Kissau, 2019). By making lessons more accessible, interpretation techniques ensure that students with diverse needs can fully engage in the learning process, thus advancing inclusivity. While the global importance of these techniques is well-established, research on their application within the Zambian context, particularly in higher education institutions, remains limited.

Kitwe College of Education, located in Zambia's Copperbelt Province, plays a significant role in teacher training, particularly for those pursuing the Primary Teachers Program (Diploma). The college is committed to fostering inclusive education, ensuring that students with various needs—including physical disabilities, cognitive challenges, and language barriers—have access to quality education. This aligns with global educational principles that advocate for creating environments where all students, regardless of their challenges, can succeed (UNESCO, 2017). Booth and Ainscow (2011) underscore the growing significance of inclusive education in higher learning institutions, where students hail from diverse linguistic, cultural, and physical backgrounds.

At Kitwe College, English is the medium of instruction, though Bemba—the predominant language in the local community—is frequently used in informal communication among students and faculty. This linguistic diversity introduces complexity to the educational experience, as students often come from various regions in Zambia, each with its own local languages. This diversity emphasizes the importance of employing interpretation techniques to bridge communication gaps and ensure that learning is accessible to all students, regardless of their linguistic backgrounds.

Interpretation techniques are indispensable in inclusive education settings, particularly in classrooms where students face language barriers or physical disabilities that hinder communication. These techniques—such as sign language, assistive technology, and language translation—are essential for enabling students to fully engage with the curriculum, participate in classroom activities, and interact with their peers. Marschark and Knoors (2017) argue that these tools are vital for fostering communication in diverse classrooms, creating an environment where all students can thrive. The relevance of these techniques is particularly acute in the Zambian context, where higher learning institutions, including teacher training colleges, serve a linguistically and culturally diverse population. In classrooms where students' primary languages differ from the language of instruction, interpretation techniques play a pivotal role in facilitating learning. As Chishiba and Lunda (2024) note, interpreters are essential in ensuring smooth communication between students and instructors, eliminating barriers and promoting effective learning.

Despite their global significance, research on the use of interpretation techniques in Zambia's higher education institutions, especially at Kitwe College of Education, remains sparse. The absence of comprehensive studies on how these techniques are implemented and their impact on student learning presents a critical gap in the literature. This study aims to address this gap by exploring the application and efficacy of interpretation techniques in Zambian higher education, specifically within teacher training colleges. Thus, this research is vital as it seeks to understand the application and effectiveness of interpretation techniques in Zambia's higher education context. The challenges posed by language barriers, cultural differences, and physical disabilities in classrooms are prevalent across Zambia. Although inclusive education is recognized as a fundamental principle, these barriers continue to limit students' access to quality education.

This study is both timely and significant, addressing critical gaps in the literature while offering practical recommendations for enhancing inclusive education practices in Zambia. By focusing on Kitwe College of Education, the research provides an opportunity to gain a deeper understanding of the role interpretation techniques play in ensuring equitable access to education, ultimately enabling all students to succeed.

This study aims to address the following research questions to deepen understanding and improve practices related to inclusive education in Zambia:

1. What interpretation techniques are currently employed at Kitwe College of Education to promote inclusive education?
2. How effective are these techniques in addressing the needs of students with disabilities and those facing language barriers?
3. What challenges do educators and administrators encounter in implementing interpretation techniques at Kitwe College?
4. What strategies can enhance the application of interpretation techniques to foster inclusivity in Zambia's higher education institutions?

## **2. Literature Review**

### *2.1 Broad Discussion*

Inclusive education has emerged as a transformative approach in global education reform, emphasizing the need for equitable access to learning opportunities for all students, irrespective of their physical, cognitive, linguistic, or cultural differences. Grounded in the principles of equality and social justice, inclusive education seeks to dismantle barriers that hinder the participation and achievement of learners with diverse needs. UNESCO (2017) defines inclusive education as a process that ensures the inclusion of all learners by accommodating a wide range of learning needs within mainstream education systems. This vision aligns with the Sustainable Development Goal (SDG) 4, which aims to ensure inclusive and equitable quality education for all.

While the concept of inclusive education initially focused on integrating students with disabilities into regular classrooms, its scope has expanded to address broader diversity,

including linguistic and cultural differences. In higher education, the implementation of inclusive practices is particularly vital due to the diverse backgrounds of students and the critical role these institutions play in shaping future leaders and professionals. However, achieving inclusivity in higher education often requires specialized strategies, including interpretation techniques, to bridge communication barriers that might otherwise impede student participation and success.

## *2.2. Existing Studies*

The theoretical and practical foundations of inclusive education have been extensively studied. Ainscow and Booth (2002) contend that inclusive education goes beyond physical integration, emphasizing the importance of adapting teaching strategies and fostering a sense of belonging among all learners. Booth and Ainscow (2011) further highlight the persistent gap between policy and practice in achieving inclusivity, noting structural, financial, and pedagogical barriers as significant challenges, particularly in higher education settings.

Interpretation techniques have been recognized as crucial tools in fostering inclusivity by addressing communication barriers. These techniques encompass a range of methods, including sign language interpretation, real-time captioning, speech-to-text technologies, and visual aids (Kaur et al., 2017). Stout (2018) underscores the importance of interpretation techniques in enhancing the participation of students with hearing impairments, while other scholars highlight the necessity of specialized training for interpreters to ensure accurate and effective communication.

Despite these advances, the practical implementation of interpretation techniques varies widely. Robinson et al. (2019) explore the role of digital technologies in supporting inclusive education, noting that while tools such as screen readers and captioning software have revolutionized accessibility, their integration into higher education remains inconsistent. This challenge is particularly pronounced in developing countries, where resource constraints and limited training opportunities often hinder the effective adoption of these technologies (Mumba & Chirwa, 2021).

In the Zambian context, inclusive education is emphasized in national policies, but its implementation in higher education institutions faces significant challenges. Chirwa and Mumba

(2022) identify inadequate resources, limited access to assistive technologies, and a shortage of trained interpreters as major barriers. Kamwendo (2018) highlights the additional complexity of linguistic diversity, with over 70 languages spoken across Zambia, necessitating interpretation techniques that account for both linguistic and cultural nuances.

### *2.3. Identification of Unexplored Areas*

While existing research provides valuable insights into the role of interpretation techniques in inclusive education, critical gaps remain, particularly in the context of Zambian higher education. Much of the available literature focuses on developed countries, with limited attention to the unique cultural, linguistic, and infrastructural challenges faced by institutions in Zambia. This gap is especially evident in teacher training colleges, such as Kitwe College of Education, which play a pivotal role in preparing future educators to implement inclusive practices. Furthermore, there is a lack of empirical research evaluating the effectiveness of interpretation techniques in fostering inclusivity in resource-constrained environments. Existing studies often overlook the practical realities of implementing these techniques in contexts where financial and infrastructural limitations are prevalent. Additionally, the interplay between cultural and linguistic diversity and the effectiveness of interpretation techniques remains underexplored.

### *2.4. Theoretical Frameworks*

The study of inclusive education and interpretation techniques is underpinned by several theoretical frameworks. The social model of disability provides a critical lens for understanding the barriers that impede access to education for students with disabilities, emphasizing the need for systemic changes to create inclusive environments. This model contrasts with the medical model, which focuses on individual impairments, by advocating for structural and attitudinal changes within educational institutions (Oliver, 1990).

Vygotsky's sociocultural theory also informs the discussion on inclusive education by highlighting the importance of social interaction and cultural context in learning. This theory underscores the role of language and communication in shaping learning experiences, making interpretation techniques a vital component of inclusive education. Additionally, the Universal Design for Learning (UDL) framework provides a practical approach to inclusivity by

advocating for flexible teaching methods and materials that cater to diverse learning needs (Meyer, Rose, & Gordon, 2014).

### *2.5. Research Gaps*

Despite the growing recognition of inclusive education and the importance of interpretation techniques, significant research gaps remain. In Zambia, the limited availability of localized studies hampers the development of context-specific strategies for implementing inclusive practices. The effectiveness of interpretation techniques in addressing the needs of linguistically and culturally diverse students in Zambian higher education institutions remains largely unexplored. Additionally, there is a need for research that examines the practical challenges faced by educators and interpreters in implementing these techniques, particularly in resource-constrained environments. The impact of systemic factors, such as funding, policy support, and institutional capacity, on the adoption and effectiveness of interpretation techniques also warrants further investigation. By addressing these gaps, future research can contribute to the development of evidence-based strategies for fostering inclusivity in higher education institutions like Kitwe College of Education.

## **3. Methodology**

This section outlines the research methodology adopted to investigate the interpretation techniques employed in inclusive classrooms at Kitwe College of Education. The methodology includes the research design, the study population, sampling techniques, data collection methods, and data analysis procedures. The objective was to gain in-depth insights into the lived experiences and perceptions of participants regarding the application, effectiveness, and challenges of interpretation techniques in fostering inclusivity for diverse learners.

### *3.1 Research Design*

The study employed a phenomenological qualitative research design, which is particularly suitable for exploring the lived experiences of individuals in specific contexts. This design enabled the researcher to understand how participants perceive, experience, and make sense of the interpretation techniques used in inclusive classrooms. Phenomenology was chosen because of its focus on capturing the essence of participants' experiences, shedding light on the

complexities of implementing these techniques in practice (Moustakas, 1994). By prioritizing the voices of participants, this design allowed for the collection of detailed and meaningful data. It facilitated the identification of patterns, themes, and nuances in the experiences of educators, interpreters, and students regarding the role of interpretation techniques in promoting inclusivity. This approach ensured that the findings were grounded in the real-world experiences of those directly involved in inclusive education.

### 3.2 Population and Sampling

The study's target population consisted of educators, interpreters, and students from the Primary Teachers Diploma program at Kitwe College of Education who were actively involved in inclusive education practices. Focusing on this group was essential as they are future educators who will apply inclusive education strategies in schools. Purposive sampling was used to select participants with relevant knowledge and experience in interpretation techniques, ensuring the study captured insightful perspectives on the research problem. The sample included three groups. First, three (3) educators were selected based on their active role in inclusive classrooms, offering valuable insights into the integration of interpretation techniques. Second, two (2) interpreters, responsible for assisting students with hearing impairments or language barriers, were included to explore the effectiveness of interpretation methods. Lastly, ten (10) students from the Primary Teachers Diploma program were selected using stratified purposive sampling, ensuring representation of students with diverse needs. Table 1 gives the details of the participants.

*Table 1: Summary of Participants*

<b>Participant Group</b>	<b>Pseudonyms</b>	<b>Role/Description</b>	<b>Number of Participants</b>
Educators	Educator E1, Educator E2, Educator E3	Lecturers actively involved in teaching in inclusive classrooms, working with diverse student populations.	3
Interpreters	Interpreter X, Interpreter Y	Facilitators of communication for students with hearing impairments, language barriers, or other challenges.	2
Students	Student S1 to Student S10	Diverse students with varying needs, including hearing impairments, language barriers, and other disabilities.	10

<b>Participant Group</b>	<b>Pseudonyms</b>	<b>Role/Description</b>	<b>Number of Participants</b>
<b>Total</b>	-		<b>15</b>

### *3.3 Data Collection Methods*

The study used multiple methods of data collection to ensure triangulation and enhance the reliability and validity of the findings. These methods included semi-structured interviews, focus group discussions (FGDs), and classroom observations.

Semi-structured interviews were conducted with the three lecturers and two interpreters to explore their experiences with interpretation techniques in inclusive classrooms. These interviews were designed to be flexible, allowing the interviewer to ask follow-up questions based on the responses of the participants. The interview questions focused on the types of interpretation techniques used, their perceived effectiveness, and the challenges faced in implementing these techniques (Adams, 2015). The semi-structured format allowed participants to express their views freely while still covering essential aspects of the study.

Ten students participated in a focus group discussion. The FGDs provided an opportunity for students to share their experiences with interpretation techniques and discuss how these techniques impacted their learning. The group setting facilitated the sharing of ideas, allowing participants to reflect on and build upon each other's responses (Krueger & Casey, 2015). The discussion aimed to capture the diverse experiences of students with disabilities and those from different linguistic backgrounds in relation to the interpretation services provided in their classrooms.

The researcher conducted direct observations of inclusive classrooms to assess the real-time application of interpretation techniques. An observation checklist was used to record the types of techniques employed during lessons, how frequently they were used, and how they supported students' participation and comprehension. The observations also allowed the researcher to note any challenges faced by interpreters or educators during the use of these techniques

(O'Donoghue, 2007). This method provided valuable contextual data on the practical application of interpretation techniques.

### *3.4 Data Analysis*

The data analysis for this study was conducted using qualitative methods, focusing on identifying patterns, themes, and insights from the participants' experiences and perspectives. A systematic and rigorous approach was adopted to ensure accuracy, depth, and credibility in analyzing the data.

#### *3.4.1 Data Preparation*

The initial step in the analysis involved preparing the collected data for review. Audio recordings from interviews and focus group discussions were transcribed verbatim to capture the exact words of participants, along with their tone and emphasis. These transcripts were carefully reviewed for accuracy and completeness. Additionally, notes taken during classroom observations and the review of institutional documents were organized into categories to complement the transcriptions. To maintain confidentiality, pseudonyms were assigned to all participants, ensuring their identities remained protected.

#### *3.4.2 Thematic Analysis*

The primary method of analysis employed in this study was thematic analysis, which is well-suited for exploring qualitative data. This approach allowed the researcher to systematically identify recurring patterns and themes across the data. Thematic analysis was conducted in several steps.

First, the researchers familiarized themselves with the data by reading and rereading the transcripts and observation notes. This step provided a holistic understanding of the participants' experiences and highlighted preliminary ideas. Next, the data were segmented into smaller units of meaning by assigning codes to specific phrases, sentences, or paragraphs. For instance, codes such as "challenges in interpretation," "Translation strategies," and "barriers to inclusivity" were assigned to relevant data segments.

Following this, the codes were grouped into broader themes that reflected the underlying patterns in the data. Key themes that emerged included "effectiveness of interpretation techniques," "challenges to inclusivity," "role of interpreters," and "recommendations for improvement." These themes were then reviewed and refined to ensure they accurately represented the data. Redundant or overlapping themes were merged, and sub-themes were created for more nuanced insights, such as breaking down "challenges to inclusivity" into "resource constraints," "policy gaps," and "cultural attitudes." Lastly, the themes were defined and named to clearly represent their significance and relevance to the study's research questions. Each theme was accompanied by a detailed description to ensure consistency in interpretation.

#### *3.4.3 Triangulation*

To enhance the validity of the findings, the researcher employed triangulation by cross-verifying data from multiple sources. This included comparing information obtained from interviews, focus group discussions, classroom observations, and document analysis. Triangulation ensured that the themes were well-supported and consistent across the different data sets, thereby strengthening the credibility of the findings.

#### *3.4.4 Narrative Development*

The final step involved synthesizing the identified themes into a coherent narrative that addressed the research questions. This narrative integrated the participants' experiences with insights from observations and document reviews. Direct quotes from participants were used to illustrate key findings and add authenticity to the analysis. Additionally, connections between individual experiences and institutional practices were highlighted, offering a comprehensive understanding of the phenomenon under study.

#### *3.4.5 Reflexivity and Credibility*

Throughout the data analysis process, the researcher maintained a reflexive approach, critically examining personal assumptions and biases to ensure objectivity. Regular consultations with peers and other educators were conducted to validate the coding process and interpretations, further enhancing the credibility of the findings.

### *3.5 Ethical Consideration*

Ethical considerations were a fundamental part of this study, ensuring that the research process was conducted with respect, fairness, and integrity. These considerations addressed the rights and welfare of participants, as well as the ethical principles of research, including informed consent, confidentiality, and minimizing harm.

#### *3.5.1 Confidentiality and Anonymity*

The confidentiality of participants was a top priority. Pseudonyms were used to protect participants' identities in all data collection, analysis, and reporting phases. No identifiable information was linked to the data or included in the study's findings. All electronic data, including interview transcripts and observation notes, were securely stored on password-protected devices, and hard copies were kept in locked storage. Access to the data was limited to the researchers. Furthermore, findings were reported in a way that prevented the identification of specific individuals or institution, ensuring anonymity.

#### *3.5.2 Avoidance of Harm*

The study was designed to minimize any potential harm to participants. Interviews and focus group discussions were conducted in safe and comfortable environments to ensure participants felt secure and at ease while sharing their experiences. Care was taken to frame questions in a sensitive and non-intrusive manner, avoiding any language that could cause discomfort or distress. Additionally, participants were informed that they could decline to answer specific questions or terminate their participation at any point.

#### *3.5.3 Respect for Diversity and Inclusion*

Given the focus on inclusive education, the study emphasized respect for diversity among participants. Efforts were made to ensure that participants from various backgrounds, including those with disabilities, felt valued and respected throughout the research process. Accommodations such as accessible venues, assistive technologies, and the presence of interpreters were provided as needed. This inclusive approach aligned with the study's objectives and the ethical principle of justice, ensuring equitable treatment of all participants.

#### *3.5.4 Transparency and Feedback*

Participants were informed that they would have the opportunity to review and validate the findings related to their contributions, ensuring transparency in the research process. They were also assured that a summary of the study's findings would be shared with them upon completion. This fostered trust and demonstrated respect for their involvement. Thus, ethical considerations were integral to every stage of this research, ensuring the study was conducted responsibly and respectfully. By adhering to principles of informed consent, confidentiality, avoidance of harm, and inclusion, the researcher safeguarded the rights and welfare of participants while maintaining the integrity of the study.

#### **4. Results**

The findings of this study provide a revealed three key themes; namely types of interpretations translation techniques, the effectiveness of the translation techniques, and the challenges encountered in translations. These findings were derived from semi-structured interviews with teacher educators and interpreters, focus group discussions with students, and classroom observations. Several key patterns emerged regarding the interpretation techniques employed, their effectiveness, challenges faced, and recommendations for improving these practices.

##### **4.1 Types of Interpretation Techniques Used**

On this overarching theme, the study identified several interpretation techniques employed by educators and interpreters to ensure inclusivity for all students, particularly those with disabilities or language barriers. These techniques included sign language, simplified language, peer assistance, visual aids, and bilingual instruction.

###### **4.1.1 Sign Language Interpretation**

Sign Language was one of the primary techniques used to support students with hearing impairments. Interpreters worked alongside educators to ensure that these students could participate fully in lectures and academic activities. The role of interpreters was not only to convey the verbal content in sign language but also to interpret the nuances of the classroom, including non-verbal cues, tone, and emotional expressions. As noted by an interpreter,

*My job is to bridge the communication gap for students who cannot hear. I interpret everything the lecturer says into sign language, but sometimes it's overwhelming because there are not enough of us to cover all classes. (Interpreter X, interview 2024).*

This statement highlights a common challenge in sign language interpretation: the lack of sufficient trained interpreters, a situation which can limit the accessibility of education for students with hearing impairments. The need for more interpreters to ensure that all classes are adequately covered was a recurring theme throughout the interviews, pointing to the need for more resources and support in this area.

#### **4.1.2 Simplified Language**

Another widely used technique was the adjustment of language by Teacher Educators, who often simplified their language or broke down complex concepts into more understandable parts. This approach was particularly beneficial for students who struggled with academic language, including those whose first language was not English. As Educator E2 shared,

*I use simple language when teaching. For example, instead of using technical terms, I give examples that relate to everyday experiences. This helps students who struggle with English understand better. (Educator 2, Interview, 2024)*

This method not only benefits students with limited English proficiency but also aids those with cognitive disabilities or learning difficulties, ensuring that all students can access the curriculum. Simplifying language by using familiar examples and avoiding jargon fosters a more inclusive learning atmosphere, where students feel less overwhelmed and more capable of grasping challenging content.

#### **4.1.3 Peer Assistance**

Peer networks played a critical role in informal interpretation and support. These peer networks were especially valuable for students who faced challenges in understanding course material or who encountered language barriers. Students were able to rely on their classmates for clarification and guidance, often in local languages, which further facilitated comprehension. Student S3 remarked,

*When I don't understand something, my friends explain it to me in our local language [Bemba]. It's very helpful because they know how to explain it in a way I can relate to.* (Student 3, FGDs, 2024)

Peer assistance, in this sense, became a key resource for enhancing understanding, as students were able to communicate more comfortably and expressively in their local languages. Additionally, peers who had a stronger grasp of certain concepts could bridge gaps in understanding, creating a collaborative learning environment that empowered students to support one another.

#### **4.1.4 Visual Aids**

Charts, diagrams, and multimedia presentations were frequently employed as complementary tools to reinforce verbal instruction. This approach was especially beneficial for students who faced auditory or linguistic challenges, as it provided an alternative means of accessing information. Visual aids helped to clarify abstract or complex ideas and catered to different learning styles. Educator E3 remarked,

*I find that using visuals like charts and videos captures students' attention and helps them understand abstract concepts.* (Educator 3, Interview 2024)

The use of multimedia presentations, such as videos and animations, was also identified as a helpful technique to make lessons more engaging and accessible. For students who had difficulty processing verbal information alone, visual aids provided a more concrete and engaging way to comprehend content, ensuring that learning remained dynamic and multifaceted.

#### **4.1.5 Bilingual Instruction**

To address language barriers, some educators employed bilingual instruction, using both English and local languages during their lessons (i.e., Bemba, Nyanja, etc.) This dual-language approach allowed students who were less proficient in English to follow lessons more easily and feel included in the learning process. Bilingual instruction also facilitated a deeper understanding of

course material by connecting abstract concepts in English to familiar terms in students' local languages. As Student S7 commented,

*When the lecturer switches to our local language [Bemba], I feel included, and it makes the lesson easier to follow. (Student 7, FGDs 2024)*

The use of local languages in academic settings helped bridge the gap between academic content and students' everyday linguistic experiences, providing a more inclusive environment where all students could participate and engage meaningfully with the material. This technique not only supported students with limited English skills but also acknowledged the importance of cultural and linguistic diversity in the classroom.

Briefly, the techniques outlined above—sign language, simplified language, peer assistance, visual aids, and bilingual instruction—reflect a commitment to inclusivity, with educators and interpreters working to meet the diverse needs of students. These strategies ensure that all students, regardless of their disabilities or language proficiency, can access the curriculum and fully participate in academic activities.

#### **4.2. Effectiveness of Interpretation Techniques**

The interpretation techniques employed in the study were generally effective in enhancing students' learning experiences, as they helped to address various learning barriers and facilitated greater inclusivity in the classroom. However, their overall impact varied significantly depending on several factors, including the availability of resources, the frequency of application, and the individual needs of students. While these techniques provided essential support for many learners, their effectiveness was sometimes hindered by inconsistent implementation and insufficient resources, which often created disparities in how students experienced and benefitted from them.

##### **4.2.1 Sign Language Interpretation**

Students with hearing impairments reported positive experiences when interpreters were available. The presence of an interpreter enabled these students to follow the lectures and participate more fully in classroom activities. As Student S1 shared,

*The interpreter makes it possible for me to follow the lecture, but when they're not around; I feel left out and struggle to catch up. (Student 1, FGDs, 2024)*

This statement illustrates the critical role that interpreters play in ensuring that students with hearing impairments can engage with the content and feel included in the learning process. However, the absence of an interpreter, whether due to resource limitations or scheduling conflicts, left these students feeling isolated and excluded, unable to fully access the material being presented. This highlights the importance of consistently providing interpreters and the need for more resources to ensure that sign language interpretation is available at all times.

#### **4.2.2 Simplified Language**

The use of simplified language was another technique that proved to be particularly effective for bridging language gaps. Educators who made an effort to simplify complex concepts or use relatable examples helped students' better grasp the material, especially those who faced difficulties with academic language. As Student S4 explained,

*I like it when the lecturer uses examples I can relate to. It makes things easier to understand, even if the subject is complicated. (Student 4, FGDs, 2024)*

Simplifying language helped students connect new information to their own experiences, making abstract concepts more tangible and accessible. However, while this approach was generally effective, its success was often dependent on the educator's ability to simplify content without diluting key concepts. Some students found that while simplified language improved understanding, it sometimes compromised the depth of information being conveyed. One student participant shared:

*In our language lessons, for example, when the teacher simplified the content, it really helped me connect the new vocabulary and grammar rules to what I already knew. It made things like sentence structures and tenses much clearer. But sometimes, when things were oversimplified, I felt like the teacher skipped over important details, like the deeper meanings of words or the subtleties in how grammar works. It made me feel like I understood the surface level, but not the full picture. (Participant II, interview)*

This verbatim highlights the dual nature of simplifying language in educational settings, capturing both its effectiveness in enhancing comprehension and its potential limitations in fully conveying complex concepts.

#### **4.2.3 Peer Assistance**

Peer assistance was valued for its immediacy and relatability, with students benefiting from the support of classmates who could provide explanations in a way that was more familiar to them. This method was especially helpful for students who struggled to understand certain topics, as it provided an informal, supportive environment for learning. However, as Student S9 remarked,

*My friends are a great help, but sometimes they also struggle to understand the topic, and that limits how much they can assist (Student 9, FGDs, 2024).*

This statement underscores a limitation of peer assistance—its effectiveness was often contingent upon the knowledge and understanding of the peers involved. When peers themselves struggled with the material, they could not provide the level of support needed, which sometimes led to confusion rather than clarity. Therefore, while peer assistance was valuable, its impact was variable and often dependent on the academic abilities of the students offering help.

#### **4.2.4 Visual Aids**

The use of visual aids, such as charts, diagrams, and videos, was widely appreciated for its effectiveness in improving students' comprehension. Visual aids helped to reinforce verbal explanations, providing students with alternative ways of processing information, particularly for those who faced auditory or linguistic challenges. Student S6 noted,

*Videos and charts make the topics interesting and easier to grasp, especially when the lecturer explains them alongside the visuals. (Student 6, FGDs, 2024)*

This feedback reflects how multimedia tools can enhance engagement and understanding, particularly for visual learners. The combination of verbal and visual cues allowed students to

better conceptualize abstract ideas, making complex topics more accessible. However, the availability and quality of visual aids varied across classes, and in some instances, students noted that the absence of these resources hindered their ability to fully engage with the material.

#### **4.2.5 Bilingual Instruction**

Bilingual instruction was highly effective for students with limited English proficiency, as it helped bridge the language gap and made the material more accessible. The use of both English and local languages in the classroom allowed students to understand key concepts more easily and feel included in the learning process. As Student S7 observed,

*When the lecturer uses both English and our local language [Bemba], I understand much better and feel more confident participating in class. (Student 7, FGDs, 2024).*

This dual-language approach helped students who were less proficient in English to follow the lecture and feel more comfortable expressing themselves. However, the effectiveness of bilingual instruction was contingent upon the educator's proficiency in both languages and their ability to switch between languages fluidly. In some instances, students reported that the use of local languages was inconsistent or limited, which reduced the overall impact of this approach.

Despite the successes of these techniques, inconsistencies in their application and shortages of resources often undermined their effectiveness. For example, the availability of sign language interpreters was sometimes limited due to a lack of qualified professionals, and the use of visual aids depended on the availability of equipment and technological support. Furthermore, the frequency of application of certain techniques, such as bilingual instruction or simplified language, varied across educators, leading to differences in how effectively students were supported. These inconsistencies highlighted the need for more structured and widespread implementation of inclusive teaching practices, as well as the need for greater investment in resources to ensure that all students, regardless of their individual needs, had equal access to the learning experience.

### **4.3. Challenges Encountered**

The study highlighted several challenges that educators and interpreters faced in implementing interpretation techniques, which impeded the full potential of these strategies in creating an inclusive learning environment. These challenges were multi-faceted, ranging from resource limitations to workload pressures, and cultural perceptions that impacted both educators' and students' attitudes toward inclusive education. Each of these challenges posed significant barriers to the effective use of interpretation techniques, which, when addressed, could lead to better outcomes for students with diverse learning needs.

#### **4.3.1 Limited Resources**

A recurring issue throughout the study was the insufficient number of interpreters and the lack of essential assistive technologies to adequately support students. This shortage of resources made it difficult to maintain consistent and effective support for students with hearing impairments and other learning challenges. Participant I2 expressed the urgency of addressing these gaps, stating,

*We urgently need more interpreters and equipment like hearing aids or captioning tools to support students effectively.* (Educator 3, Interview, 2024).

This shortage often led to situations where students with hearing impairments were unable to fully engage with lessons, particularly in larger classes where the demand for interpreters was greater than the available supply. Additionally, the lack of assistive technologies such as hearing aids, captioning tools, or audio amplification devices further compounded the difficulties faced by these students. As a result, educators and interpreters struggled to ensure that all students received equal access to the curriculum, highlighting the need for greater investment in these resources to facilitate inclusion.

#### **4.3.2 Workload and Time Constraints**

Educators also faced significant challenges in balancing their regular workload with the additional effort required to adapt lessons for inclusive classrooms. The need to prepare and deliver lessons that catered to students with diverse needs often placed an extra burden on teachers, leading to stress and burnout. Educator E1 shared,

*Preparing for inclusive classrooms takes a lot of time. You have to plan for visuals, simplify content, and sometimes even learn basic sign language. It's rewarding but exhausting.* (Educator 1, FGD, 2024)

This sentiment reflected the reality for many educators who, despite their dedication to creating an inclusive environment, found the preparation and adaptation of lessons time-consuming and overwhelming. The need to incorporate various teaching methods, such as creating visual aids, simplifying complex language, and learning alternative communication strategies like sign language, added additional layers of complexity to their already demanding responsibilities. The time constraints and workload pressures often resulted in the inconsistent application of inclusive teaching practices, which affected the overall quality of student support.

#### **4.3.3 Lack of Standardization**

Another challenge that emerged was the lack of standardized guidelines for inclusive teaching within the institution. Without a clear, institution-wide framework for inclusive practices, educators were left to develop their own methods for supporting students, leading to inconsistencies across classes and departments. Educator E3 observed,

*Each lecturer does things differently. Some focus on visuals, others on language, but there's no clear standard we all follow.* (Educator 3, Interview, 2023)

This lack of standardization resulted in a fragmented approach to inclusion, where students received different levels of support depending on the individual educator's knowledge, skills, and commitment to inclusivity. The absence of institutional guidelines or a coordinated strategy for inclusive teaching meant that some students benefitted from well-structured support, while others struggled due to the ad hoc nature of the accommodations provided. Establishing a unified set of standards and practices could ensure more equitable and effective support for all students.

#### **4.3.4 Language Barriers**

Managing linguistic diversity in classrooms with students from varied language backgrounds posed another significant challenge. For many educators, balancing multiple languages during a

lesson, especially in classrooms with students who were not fluent in English, was difficult. Participant I1 commented,

*Balancing multiple languages in a single session is tough, especially when there are no additional resources to support us. (Educator 1, Interview, 2024)*

This challenge was particularly prevalent in multilingual environments, where the lack of supplementary resources, such as bilingual materials or translation services, made it difficult for educators to effectively communicate with all students. Students with limited English proficiency often found themselves at a disadvantage, as they struggled to keep up with the lesson content and fell behind in their understanding. The lack of sufficient linguistic support further widened the gap in educational outcomes for students from diverse language backgrounds.

#### **4.3.5 Cultural Attitudes**

Cultural attitudes toward disabilities and inclusive education also posed a barrier to the successful implementation of interpretation techniques. Some students and staff held negative perceptions about disabilities, which created an unwelcoming environment for students with special needs and discouraged the full integration of inclusive practices. Student S5 shared,

*Not everyone understands the challenges we face. Some people think students like me shouldn't even be here. (Student 5, FGDs, 2024)*

These cultural attitudes often led to a lack of empathy or understanding from peers and staff, which contributed to the marginalization of students with disabilities. Negative stereotypes and stigmatization further compounded the challenges faced by these students, making it harder for them to feel accepted and valued within the academic community. Overcoming these cultural barriers requires not only the implementation of inclusive techniques but also a shift in attitudes towards disability and a greater emphasis on fostering a supportive and respectful learning environment for all students.

## **5. Discussion**

The study investigated the implementation of interpretation techniques aimed at enhancing inclusivity in education, particularly within Zambia's linguistically diverse context. The findings

highlight both the effectiveness of these techniques and the challenges encountered, providing valuable insights into the current state of inclusive education practices.

One of the key techniques explored was sign language interpretation, which supported students with hearing impairments in following lectures. However, the effectiveness of this technique was limited by the shortage of trained interpreters, a challenge prevalent in sub-Saharan Africa (Marschark & Knoors, 2012). This shortage, as highlighted by UNESCO (2017), significantly affects the ability of students with hearing disabilities to fully participate in educational activities. Simplified language emerged as another effective strategy, particularly for students with limited English proficiency. This approach reduced cognitive load, making academic content more accessible and comprehensible. These findings align with research by Sweller (2011), which emphasizes the importance of language modification to enhance learning in multilingual and diverse contexts.

Moreover, the study found that peer assistance networks provided immediate support to students with disabilities or language challenges. However, the effectiveness of this approach was inconsistent, as it depended on the skills and preparedness of the peer assistants. This limitation is consistent with Kamens (2019), who argues that peer assistance must be structured and supported with proper training to maximize its impact. Additionally, visual aids such as charts, diagrams, and multimedia presentations were frequently used to complement verbal instructions. These aids were particularly beneficial for students with limited language proficiency and those who are visual learners. The importance of visual aids in improving comprehension has been well-documented in educational research (Mayer, 2009; Sweller, 2011), particularly in reducing cognitive load and enhancing retention. Finally, the study found that bilingual instruction, which involved using local languages alongside English, helped students with limited English proficiency better understand complex academic material. This strategy resonates with Cummins (2000), who highlights the role of bilingual education in improving academic outcomes and fostering inclusivity in multilingual settings.

While the interpretation techniques proved effective to some extent, several challenges emerged that hindered their full implementation. Resource limitations, including the shortage of trained interpreters and assistive technologies, were identified as major barriers. These challenges are

consistent with other studies, such as UNICEF (2017), which underscores the impact of resource constraints on the effectiveness of inclusive education. The study also revealed that time constraints significantly impacted educators' ability to adapt lessons for students with disabilities or language challenges. The additional time required to modify materials and provide individualized support added pressure to an already heavy workload. This finding supports Loreman (2007), who emphasizes the importance of adequate systemic support, including smaller class sizes and teaching assistants, to help alleviate the burden on teachers.

Another significant challenge identified was the lack of standardized guidelines for implementing interpretation techniques. This resulted in inconsistent practices across different departments and educational settings, undermining the overall effectiveness of inclusive education efforts. As noted by Florian (2014), clear and standardized policies are essential for ensuring the consistency and quality of inclusive practices. Furthermore, the study highlighted the linguistic diversity of the student population, which posed challenges for communication and curriculum accessibility. In Zambia, where students speak multiple local languages in addition to English, this diversity complicates the task of providing equal learning opportunities for all students. These challenges reinforce Cummins' (2000) assertion that multilingual education strategies must account for the various languages spoken by students to ensure inclusivity.

Finally, cultural attitudes toward students with disabilities were found to be a significant barrier to the successful implementation of inclusive education. Negative cultural attitudes and stigma surrounding disability often undermined efforts to create an inclusive environment. This finding is in line with Hughes and Mertens (2014), who note that cultural attitudes can profoundly impact the effectiveness of inclusive education practices, making it essential to address these social barriers alongside structural and resource-based challenges.

## **6. Conclusion**

The study demonstrates that interpretation techniques such as sign language interpretation, simplified language, peer assistance, visual aids, and bilingual instruction can significantly enhance the learning experiences of students with disabilities or language challenges. However, the effectiveness of these strategies is often compromised by resource limitations, time

constraints, lack of standardized practices, linguistic diversity, and cultural attitudes. Addressing these challenges requires increased investment in resources, professional development for educators, and the establishment of clear, standardized policies. Future research should focus on exploring solutions to these barriers and developing strategies that promote consistent, equitable, and inclusive learning environments for all students.

## **7. Limitations of the Study**

While the study provides valuable insights, there are several limitations that should be considered when interpreting the findings. To begin with, the study was limited to Kitwe College of Education, restricting its generalizability to other higher education institutions in Zambia or elsewhere. If a larger sample size and a more diverse range of institutions had been included, the findings would have offered a broader perspective on inclusive education practices, enhancing their applicability across different contexts.

Additionally, although the study incorporated classroom observations and included the voices of students alongside educators and administrators, certain biases may still have influenced the findings. Self-reported data, for instance, may reflect what participants believe is expected or socially acceptable. While the inclusion of student perspectives added depth to the findings, future research could further enrich these insights by employing a broader range of data collection methods, such as longitudinal studies or focus group discussions, to capture more nuanced experiences. Furthermore, the study's scope was limited to identifying challenges and effectiveness within the observed context, without a detailed exploration of systemic factors such as institutional policies or broader socioeconomic conditions that might influence inclusive education practices. Expanding the focus to include these systemic factors would provide a more comprehensive understanding of the barriers to and facilitators of inclusive education.

In brief, while the study's integration of classroom observations and diverse participant voices strengthens its contributions, addressing these limitations in future research would enhance the scope, depth, and generalizability of its findings.

## **Disclaimer (Artificial intelligence)**

Author(s) hereby declare that generative AI technologies have been used during the writing or editing of this manuscript. The details of the AI usage, including the name, version, model, and source, as well as the input prompts provided, are as follows:

1. Grammarly AI – Used for grammar refinement, clarity improvement, and language enhancement. No conceptual content was altered or generated by the tool.
2. QuillBot – Utilized for paraphrasing and sentence restructuring while preserving the original meaning and ideas presented by the author.
3. Consensus – Applied for citation verification and summarization of scholarly sources, ensuring factual accuracy in line with the original intent of the author. The use of these tools was limited to linguistic adjustments and citation support. The intellectual contributions, arguments, and core ideas presented in the manuscript are entirely those of the author.

### **Consent**

To ensure that participants voluntarily agreed to take part in the study, an informed consent process was rigorously implemented. Each participant received a detailed information sheet explaining the purpose of the study, the procedures involved, and their rights as participants. This document outlined the voluntary nature of participation, the option to withdraw at any time without penalty, and the confidentiality measures in place. Participants were given the opportunity to ask questions and seek clarification before signing consent forms. For participants with disabilities or language barriers, interpreters were available to explain the information and facilitate understanding, ensuring inclusivity in the consent process.

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