

The Contribution of Sign Language Interpreters to Academic Achievement of Deaf Students: A Case Study of Archbishop Mihayo University College of Tabora

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Abstract: *This study investigated the contribution of sign language interpreters to the academic achievement of deaf students, the case of Archbishop Mihayo University College of Tabora (AMUCTA). The study was guided by two main objectives, namely; examine the contribution of sign language interpreters to deaf students in academic achievement and explore the challenges Deaf students faced with regard to sign language interpretation during learning. The study employed mixed methods approach (qualitative and quantitative) and a case study research design. Study sample comprised twenty-eight deaf students, twelve lecturers, six sign language interpreters and twelve hearing students. The data was collected through interview schedules, observations and questionnaires. The study found that enhancement of academic progress, good academic performance; classroom interaction and participation were some of notable benefits derived from sign language interpretation. With regard to challenges, the study found out that interpreters were overworked due to small number of interpreters. Further, lecture rooms infrastructure limited the effectiveness of sign language interpretation. It was recommended to enhance professionalism in sign language interpretation delivery through manpower development and training in order to foster academic achievement of students with hearing impairment in higher learning institutions. Similarly, the size of the class should be manageable in order to make effective for sign language interpretation.*

Keywords: sign language interpreter, deafness, sign language.

1. Introduction

Sign language interpreting is affirmed as an essential support service for many deaf students (Harrington, 2000, et.al.; Lang, 2002). Deaf students enrolled in general educational settings frequently require classroom support services if they are to realize their academic potentials. In this case, sign language interpretation has been noted as a reliable means of enabling them to learn without communication barrier (Karchmer & Mitchell, 2003; Stinson et al, 2003).

Before establishment of formalised interpretation services, parents, brothers, and sisters were doing interpretation services to their relatives though they were not professionals (Kendon, 2004). Most of those family members had insufficient command of sign language to communicate with Deaf, frequently relied on writing. The use of professional sign language interpretation has brought in a revolutionary move towards bridging the communication gap between the Deaf and their hearing counterparts (Kendon, 2004; Johnson & Schembri, 2007). Hence, the role of the interpreter has, therefore, become both essential and important for communication and academic achievement to Deaf.

According to Johnston and Schembri (2007), the recognition of sign languages may be traced back to the work of Plato in Ancient Greece. In his philosophical work, Cratylus (written in 360 BC), Plato wrote that: "if we had no voice or tongue, should we not, like the Deaf and dumb, make signs with the hand and head and the rest of the body?". In the eighteenth

century, the French philosopher René Descartes suggested that the sign languages of Deaf be represented through examples of true three human languages (Rée, 1999). The educator Roch Amboise Bébien even attempted to develop a writing system for sign Language based on his discovery that signs could be analysed into smaller components (Fischer, 1995). Unfortunately, for a number of reasons, however, sign language research went into decline during the early twentieth century, and many of these earlier beliefs were forgotten (Fischer, 1995).

Currently, sign language interpreters have been reliable persons in the life of Deaf all over the world through their role in assisting communication in the society (Isham & Lane, 1993). In this sense, sign language interpreters facilitate communication between one or more people. Broadly, sign language interpreting is a tool to secure the human rights of sign language using deaf people (Hauland, 2016). The United Nations Convention on the Rights of People with Disabilities (CRPD) emphasises the rights for political and social participation of all Persons with Disabilities (PWDs) as a way to ensure dignity and social welfare for all (United Nations, 2009). In this sense, sign language interpretation has enabled to break the barrier for participation of PWDs by using it a means for communication. In this regard, the acceptance, respect and recognition of persons with hearing impairment in the society has been restored (Hauland, 2016).

Tracing the history of sign language interpretation, in East

Africa, Kenya seems to have a strong base of sign language interpretation since 1980's compared to other East African countries (KSLIA, 2018). Although Kenya Sign Language (KSL) has not received legal status in the constitution, Kenya Sign Language Interpreters Association (KSLIA) was established in 2000 to spearhead sign language advocacy and interpretation in the country (KSLIA, 2018). It is only recently in 2021 whereby some steps have been taken by the Republic of Kenya to present a bill; Kenya Sign Language Bill (Article 7(3) include KSL in the constitution (Republic of Kenya, 2021). In realization of the sign language service provision in an acceptable standard, the Sign Language Interpretation Guide for KSL was formulated in 2011 (Wambui, 2011). Since 1980's short course training has been conducted to equip sign language interpreters with basic knowledge and ethics of interpretation (KSLIA, 2018).

In Tanzania, the Tanzania Sign Language (TSL) is the recognized dialect by the Deaf Association of Tanzania, the government also use it in all formal communication with Deaf. The Education and Training Policy of 2014 recognizes TSL among of the languages which are used in schools apart from Kiswahili and English language (URT, 2014). Hence, despite TSL lacking constitutional recognition, TSL is widely used in interpretation in the area of mass communication such as television and huge government official gathering. However, the use of TSL in academic institutions including schools, colleges and universities is challenged by lack of interpreters (Kisanga, 2019). The aforementioned situation leads to the overreliance of oral lectures and difficulties in speech reading among Deaf (Kisanga, 2019).

Recently, Educational interpreters in university level is becoming an essential service to deaf students and it is currently increasing rapidly in the world as it mediates the whole teaching and learning process as it facilitates the communication between teachers and students (Karchmer, et.al., 2003).

The contribution of Sign Language (SL) interpretation is acknowledged for being able to facilitate communication in social and education setting to Deaf (Heyerick, & Vermeerberge, 2012; Berge & Ytterhus, 2015). For example, in Belgium, many deaf students were able to attend secondary schools due to provision of Sign Language (SL) interpretation in inclusive classrooms to almost all subjects. The same assertion is affirmed by students' perceptions in Norway who had high expectations in interpreters' role in mediating language, coordinating their interaction, and facilitated small talk situations between the students (Berge & Ytterbus, 2015). Besides, studies establish that SL interpretation services have demonstrated advantages in the early years of a deaf child's life in facilitating language development milestones (van Staden & Elaine, 2009; Berge & Ytterbus, 2015).

Unlike many interpreters in spoken languages, sign interpreters work collaboratively with deaf people. The growing demand for quality sign language interpreters for the deaf have attracted the attention of researchers (Ressler, 1998; Carney, 2004) who have focused on some aspects of the interpreting process occurring in sign language

interpreters during a staged lecture in spoken languages and its subsequent interpretation into sign language.

Experience from Tanzania shows that interpreter training program has focused at the post- secondary level, and, therefore, these interpreters are breaking new ground (Kisanga, 2019). In particular, Tanzania is dealing with deafness in all aspects (linguistic, cognitive, social, or cultural) especially when managing inclusive learning settings. The increasing demand of sign language interpreters in different university including Archbishop Mihayo University College of Tabora (AMUCTA) has called upon more studies on the influence of sign language interpreters on deaf students' academic performance.

The importance of sign language and sign language interpretation has categorically been acknowledged in Tanzania Government Strategies for Inclusive Education; The National Strategy for Inclusive Education (NSIE) (2009-2017), NSIE 2018-2021 and NSIE 2022 -2026 respectively. For example, the NSIE of 2009-2017 stipulates the need for provision of equitable access to quality education in which the use of sign language is noted to be a tool for communication to persons with hearing impairment (Ministry of Education and Vocational Training-MoEST, 2007). Likewise, the NSIE 2018 -2021 underscores on the provision of education to all groups of people with special needs; children and youth by ensuring access, participation and equity in terms of provides necessary support and services in learning (URT, 2017).

In recent years, Tanzania is witnessing the enrolment of deaf students in tertiary and higher learning institutions (Kisanga, 2019). This situation entails that sign language interpretation has gained a momentum in bridging the communication gap during teaching and learning of deaf students. However, studies in the area of effectiveness of sign language interpretation with regard to deaf students' academic achievement are scarce leading to research paucity. In order to fill in that research gap, this study embarked on the investigation on the Contribution of Sign Language Interpreters to Academic Achievement of Deaf Students, the case of AMUCTA.

2. Literature Review

Educational Sign Language Interpreters

The interpreter's task is very crucial in facilitating communication in a neutral manner, ensuring equal access to information and participation. According to Janet (2009), as more students move to integrated leaning environments, in fact, an estimated 60% of sign language interpreters work with the estimated 60% of deaf students who learn in mainstream settings (Burch, 2005). Interpreting is often assumed to give deaf students equal access to the world of communication and education. Cokely (2005) contends that no matter how skilled the teacher or student is, the interpreter is still the one to process the communication. However, it is argued that the process of taking in material presented in one language and then conveying it into another language makes the result not the same (Cokely, 2005).

The sign language interpreters are required to embrace

quality in their work to ensure the inclusion of deaf students at schools is realised. They have to be part of a multidisciplinary teaching team and engage collaboratively with teachers to guarantee for the deaf students the education access. Hence, interpreters should have a proper understanding of the whole scholar curriculum, including complex disciplines such as science and biotechnology (Smith, 2008).

Mostly all teaching-learning process that involves deaf students depends on the interpreter as no professor knows fluently enough to assure teaching this public. Thus, the interpreters end up having a holistic view of all teaching and learning process of the deaf student and can contribute significantly to it, doing more than only interpreter disciplines (Martins, 2009).

Roles of Sign Language Interpreters

People are communicating everyday with each other assuming that they can both be understood and understand others. In the case of deaf and hard of hearing persons communicating with people that do not know Sign Language (SL) becomes a big challenge. In these situations, a sign language interpreter is needed in order to assure that communication and understanding occurs. Sign language interpreters remove language barriers between people who are deaf and use SL and people who can hear and speak (Martins, 2009).

La Pointe (1997) points out that in order to eliminate misconception SL; one must first separate sign language from the interpreting process. In reality interpreting is not just the act of changing one language to another; or from one mode to another; instead, it must take into account the intelligibility and clarity of the message to be delivered.

A sign language interpreter is typically hired because a deaf student needs access to discourse in the classroom. This is the interpreter's primary role: to interpret, to facilitate communication, to provide access to the auditory features of the school environment (Antia & Kreimeyer, 2001). The role of the interpreter appears to be very straightforward—to effectively facilitate communication between deaf individuals and those who are hearing.

However, the complexities of the task, the varieties or types of visual interpreting, and the enormous range of qualifications brought by the interpreter requires a high level of fluency in two or more languages, keen ability to focus on what is being said, broad-based world knowledge, and professional, ethical conduct. Interpreters cannot interpret what they do not understand. Interpreters serve all parties in the communication exchange. Although we often think of the deaf person as the requestor of interpreter services, the reality is that all parties have an equal and mutual need for the interpreter (Antia & Kreimeyer, 2001).

Contribution of Sign Language and Sign Language Interpretation to Deaf

It is globally acknowledged that sign language interpretation has bolstered communication and learning to deaf persons (Goldin-Meadow & Mayberry, 2001; Mayberry et al., 2011; Humphries, 2013). van Staden, Gerhard and Ridge (2009)

conducted a study to examine the benefits of sign language for deaf learners with learning challenges. The study revealed that sign language interpretation was very important during the critical/period for language acquisition. In this line, sign language interpretation was used as a part of early diagnosis and early intervention. Moreover, research findings indicated that sign language offered in the early years of a deaf child's life contributed to language development milestones of deaf learners when later exposed to school learning. Further, the study by van Staden, Gerhard and Ridge (2009) found that children who were exposed to sign language from birth were better in learning in schools compared to those of late-signers.

A similar study with van Staden et.al. (2009) was conducted by Hrastinski and Wilbur (2016). The study explored the influence of students' American Sign Language (ASL) proficiency on their academic achievement in ASL/English bilingual programs in terms of reading comprehension skills and academic achievement of 85 deaf or hard-of-hearing signing students. The study revealed that students who were highly proficient in ASL performed better than those who were less proficient in ASL.

In the area of sign language interpreters' contribution, McKee, Barnett, and Block (2012) study attempted to establish whether provider language consistency was associated with improved reception of preventive services among deaf respondents. The study employed cross-sectional study which included 89 deaf respondents aged 50–75 years from the Deaf Health Survey (2008). The findings established that Deaf respondents who had consistent sign language provider were more likely to report a greater number of preventive services (OR 3.42; 95% CI:1.31, 8.93; $p=0.0122$) when compared to deaf respondents who had consistent sign language provider who later adjusted in terms of race gender, income, health status, health insurance, and education.

Fajri and Kusumastuti (2019) conducted a study to explore public perception of sign language in Indonesia. The sample of the study comprised of 100 respondents consisting of workers and students. Data were collected through a survey. The study specifically focused on people's understanding of sign language, the use of sign language by the community, the importance of sign language for the community, the needs of sign language learning media and sign language learning media which the community was preferred. The findings revealed that people lacked sign language knowledge. Conversely, those who knew sign language supported communications between hearing people and deaf.

A recent study on the contribution of sign language interpretation was conducted by NgobenI, MaimaneI and RankhumiseI (2020). The study investigated the effects of sign language barriers among Deaf learners in special schools for the Deaf and Blind in the Motheo District in the Free State province of South Africa. The respondents of the study which employed semi structured interviews and focus group discussion included 7 teachers (2 males and 5 females) and 10 Grade 8 learners (6 males and 4 females) who used sign language as their first language. A qualitative approach was used. The results of the study indicated that there was a

lack of in-service training in South Africa Sign Language (ASL) for teachers. Further, it was revealed that learners acquired language at school rather than in the home environment. Further, lack of physical resources contributed to learners' poor performance.

The reviewed empirical literature has provided detailed findings about the contribution of sign language and sign language interpretation to deaf communication and learning. Succinctly, the review has pointed that sign language and sign language interpretation is vital for Deaf language development and learning. Poor exposure to sign language use and sign language interpretation hinder deaf children communication and learning in school.

3. Methodology

3.1 Research Approach and Design

The study employed mixed methods approach; that is, qualitative and quantitative approaches. In mixed methods approach, the researcher collects and analyses data, integrates the findings and draws inferences using both qualitative and quantitative method in a single study (Creswell, 2014). In qualitative approach the researcher used descriptions and explanations on what was observed in the field while in quantitative approach the researcher used numerical data and statistical figures and tables for calculating percentages and other mathematical information. The use of mixed methods approach enabled the researcher to describe and have a summary of what exactly took place in the field. The study employed a case study research design. Essentially, the case study is concerned with in-depth investigations of a single person, group, event or community (Robson, 2007).

Based on the nature of this study, case study employed in order to intensively explore on what was going on in the real life events and their relationships (Cohen, Manion, Morrison, & Bell, 2011). The choice of the design is based on Yin (2009) who emphasises on the use of case study that allows deep explorations and meaningful understanding of the real life events; for example, personal life cycles and small group

behaviour. In the context of this study, the case study design helped the researcher to explore in detail the contribution of sign interpreters to the academic achievement of deaf students at Archbishop Mihayo University College of Tabora (AMUCTA).

3.4 Target Population

Target population refers to all the members of people, events and objects to which the researcher wishes to generalize the result of the study (Cohen, L. *et al*, 2011). Best and Khan, (2012) states that population is any group of individuals that have one or more characteristics in common that are of interest to the researcher, and that it may be all individuals of particular type or more restricted party of that group. The target population of this study included sign language interpreters, deaf and hard of hearing students, hearing students and lecturers from AMUCTA.

Sample and Sampling Procedure

Sampling Procedure

Sampling procedure is a process of selecting or obtaining a representative of the entire population, objects, or items that are taken for study (Cohen, L. *et al*, 2011). In this study the researcher used non-probability sampling techniques. Purposive non-random sampling was used to select hearing students, deaf students and lecturers. The sample in this study is the representative of the population to ensure that the findings can be generalised.

Sample Size

Research sample refers to a group of people, objects, or items that are taken from a larger population for measurement (Kothari, 2014). The sample size according to Glen (1992), depends on the type of research design being used, the desired level of confidence in the result, the amount accuracy wanted and the characteristics of the population of the interest. In this research, the researcher used sample size of 36 respondents; 16 deaf students; 4 special needs lecturers, 8 hearing students, and 8 general courses lecturers through simple random sampling.

Table 3.1: Summary of Participants and Sampling Technique

SN	Study Participants	Size	Technique	Rationale
1	Deaf students	16	Purposive	Soliciting information on sign language interpretation
2	Special needs lecturers	4	Purposive	Providing information about deaf students' academic
3	Hearing students	8	Purposive	Information about deaf students' participation in academic
4	General courses lecturers	8	Purposive	Providing information about challenges faced in assisting deaf and hard of hearing students in academic progress

Sampling procedure

Purposive sampling used to select informants who provided essential information about the study. Expounding more, deaf and hard of hearing students provided information about academic achievement arising from contribution of sign language interpreters. Similarly, hearing students who work with deaf students in group discussion were resourceful on providing information about deaf students' learning challenges. Conversely, lecturers provided data on the progress of deaf students in academic.

Interview

The semi structured interviews were used to collect qualitative data. The interviewer has flexibility in adding and adjusting questions, and asking clarifications where required to. This type of interview is more appropriate to collect complex information with a higher proportion of opinion-based information (Kothari, 2014). Basically, interviews are useful tools for collecting detailed information with greater understanding. A semi-structured interview guide were used in this study to elicit specific information from the interviewees about deaf students participation in academic

activities Kothari, 2014).

Since the interview was conducted through face - to - face interaction, the respondents were free to tell the interviewer a lot of information. It also helped in managing the information provided by the respondents through probing questions. Specifically, interview provided detailed information about the Contribution of Sign Interpreters to the Academic Achievement of Deaf and hard of hearing Students of AMUCTA.

Observation

Observation checklist as an instrument of data collection gathers information through observations of the phenomena as it occurred. Observations focus on human behaviour and human interactions related to the phenomenon (Creswell, 2014). Observations can be structured or unstructured. The main advantage of observation is discreteness. The instrument collects data in the natural setting of occurrence (Gay. et al., 2012; Creswell, 2014). With regard to this study, classroom observation checklist was employed to obtain first-hand information about deaf students’ participation in lectures and discussion group activities.

Questionnaires

Questionnaires as a means of collecting data were in this study due to the fact that questionnaires need low cost, free from bias, respondents who are not easily approached being reached convincingly. Hence the results were more dependable and reliable. These questionnaires were translated into Kiswahili language, aiming to make them concise, clear and well understand to the respondent (Kothari, 2014).

4. Research Findings

This section presents findings of the study which explored the contribution of sign language interpretation to students with hearing impairment at Archbishop Mihayo University College of Tabora (AMUCTA). The presentation of the findings is on two folds; the respondents’ demographic information.

The researcher sought to find out the demographic characteristics of the respondents who participated in the study. The data presented demographic characteristics of the respondents. The aspects were regarded essential in comprehending the respondents in regard to the contribution of Sign Language Interpreters (SLIs) on academic performance of hearing impaired learners at AMUCTA. Percentages and frequency tables were utilized in depicting these demographic data and the results are presented in figures and tables.

Gender of Respondents

Gender was considered important in this study because it could directly or indirectly influence use of sign language at AMUCTA. The lecturers were asked about their gender and the responses are shown in Figure 4.1.

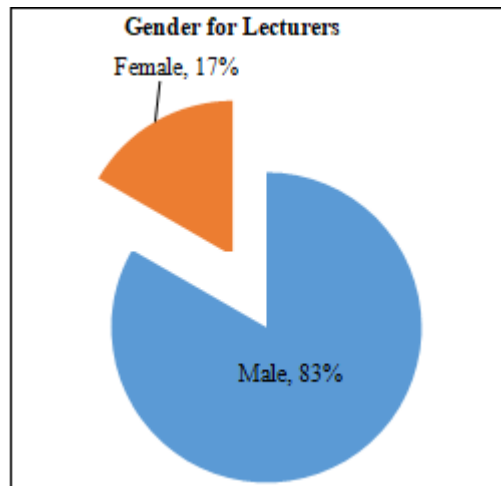


Figure 4.1: Gender of Lecturers

The majority lecturers were male 10(83%) and female were 2(17%). This suggests that more male lecturers likely chose teaching as a career than female. Sign language interpreter were also asked to indicate their gender and their responses are presented on Figure 4.2.

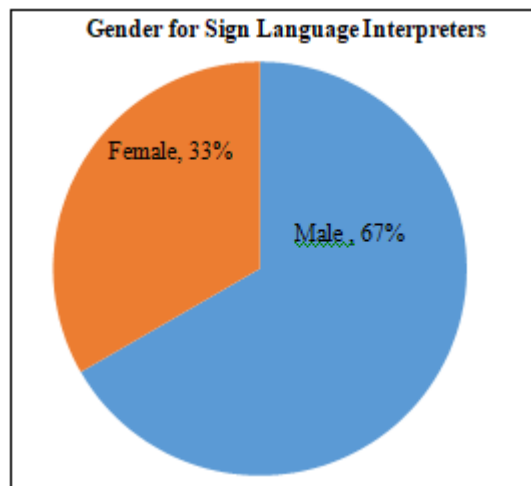


Figure 4.2: Gender of Sign Language Interpreters

The findings in Figure 4.2 indicate that the majority of sign language interpreters were male 6(67%) and female were 2(33%). This suggests that more males likely chose sign language interpretation as a career.

Learners were also asked to indicate their gender and their responses are presented on Table 4.1.

Table 4.1: Gender for Deaf Learners

Gender	Frequency	%
Male	6	37
Female	10	63

The findings show that the respondents for this study were predominantly male learners since they were 10(63%) while the female learners were 6(37%).

Age of the Respondents

The researcher determined the age of the respondents and asked them to indicate their age. The results are displayed in Table 4.2.

Table 4.2: Age of Respondents

Teachers	Frequency	%
Below 30 Years	0	0
30 To 50 Years	9	75
Above 50 Years	3	25
Total	12	100
Learners		
Below 30 Years	7	44
30 To 50 Years	9	56
Above 50 Years	0	0
Total	16	100

The age distribution of participants was considered in an effort to confirm whether the participants are mature enough to give accurate information about the study. Teaching experience is significant in educational performance.

Table 4.2 shows that the learners who were below 30 years were 7(44%), those who were between 30 years and 50 years were 9(56%) while there were no learners who were

above 50. The majority of lecturers who were involved in the study aged between 30 to 50 years were 9(75%) while there were no teachers who were below 30 years and the lecturers who were above 50 years were 3(25%). This suggests that the lecturers were mature enough to respond to the study and that they were in a position to guide and mentor the learners well as parents.

Professional Qualification of Lecturers

The qualification of lecturers was a factor that the study sought to explore. It was necessary to know the qualification of the lecturers so as to understand their relationship with respect to the use of sign language on academic performance by the lecturers at AMUCTA. The broad academic exposure affects the understanding of the importance of using sign language for the betterment of academic performance to deaf learners. The lecturers' academic qualification results are shown in Figure.4.3.

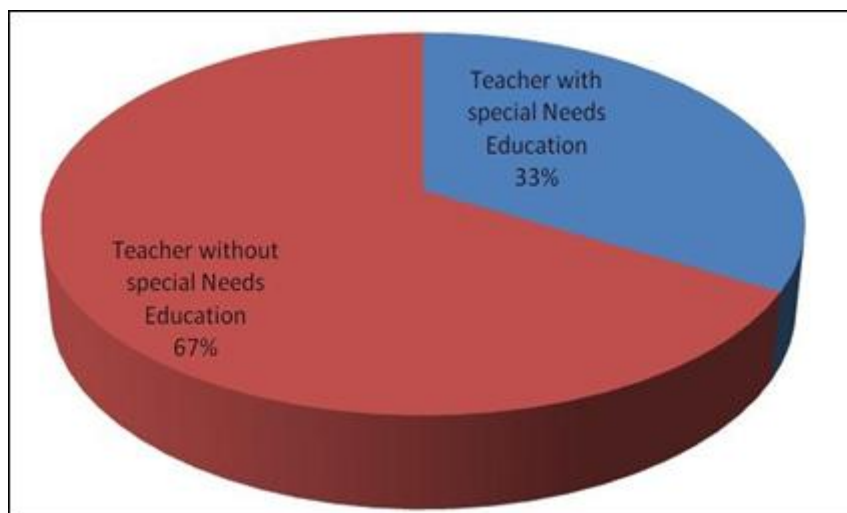
**Figure 4.3:** Professional Training of Lecturers

Figure 4.3 presents that that 33% of lecturers had training in special education while 67% of the them had not received any training on special needs education and were offering assistance in the institutions due to lack of adequate special trained lecturers.

Key Findings

This part presents findings key findings based on research questions. Two research questions guided this study, namely; what is the contribution of Sign Language Interpreters to Deaf Students' Learning? and What are the Challenges Faced by Sign Language Interpreters in Assisting Deaf Students in Academic Achievement?

What is the Contribution of Sign Language Interpreters to Deaf Students in Academic Achievement

The first research question sought to examine contribution of sign language interpreters to deaf students in academic

achievement in inclusive setting. In order to determine the usefulness of Sign Language (SL) interpretation services the study examined the extent to which the SL interpretation facilitated effective learning among hearing peers and deaf learners in inclusive classroom. The assessment of views of respondents indicated that SL interpretation enhanced class inclusiveness and participation of Deaf students in classroom activities as illustrated in 3.4.1.

Lecturers Views on Contribution of SL Interpreting Services in Class

In this aspect, views of lecturers on benefits that could be derived from SL interpretation were assessed. The results show that 6 (75%) of the lecturers agreed that SL interpretation enhanced class inclusiveness and participation of deaf students in classroom activities while two respondents (25%) disagreed. Figure 4.4 illustrated the results of the study.

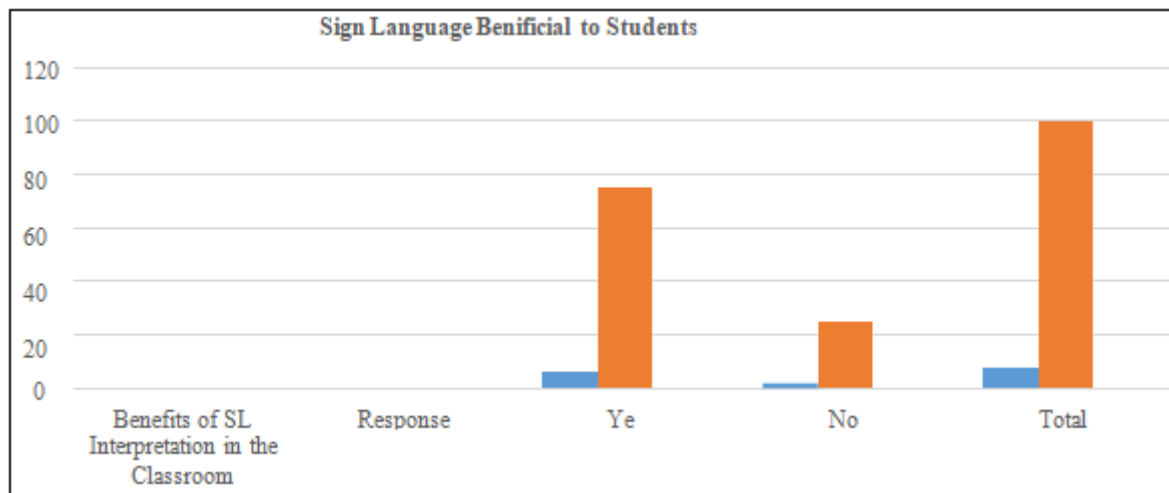


Figure 4.4: Benefits of Sign Language Interpretation in the Classroom

Basing on the data in Figure 4.4, majority of the respondents 7(75%) agreed that the Sign Language Interpreters (SLIs) enabled learners to perform well in their academic performance while 2(25%) disagreed that the use of Sign Language Interpreters does not improve the academic performance of learners. This suggests that benefited almost all deaf learners. Hence, the management need to emphasize on the use of Sign Language Interpreters (SLIs).

In obtaining more views on contribution of Sign Language Interpretation SLI to deaf learners, lecturers were asked to give reasons why they thought SLI provided a lot of benefits to deaf learners. Majority of respondents said that SLI enabled difficulty discussions to be simplified and concepts to be well defined and explained to all students. Majority of respondents, further explained that SLI increased classroom interactions which led to productive and interesting teaching and learning activities in the classroom. The findings therefore imply that SLI benefited inclusive classes by promoting inclusiveness, simplifying of classroom discussions and concepts. Similarly, the findings indicated that SLI enhanced interactions among all students in inclusive classrooms and contributed to productive and interest learning and teaching.

Basing on that assertion, one respondent –SL1 said: *“Discussions are simplified and certain terms are well explained.”*

“Sign Language interpreting service is essential, because without SLI service it is difficult for the deaf to learn certain concepts of the lessons; concepts are better learnt in class”.

SL5 sums it: *“it helps them follow the discussions.”*

SL7 explained:

“Deaf students depend on sign language interpreters; it is part of their culture. The service helps deaf to learn at the same level like hearing classmates. They are able to follow the lessons and ask questions where they have not understood.”

The general views expressed by six (75%) lecturers were that SLI increased classroom interactions led to productive,

interesting teaching and learning activities be effective.

Deaf Respondents Views on Benefits of Sign Language Interpretation Services

In order to have a clear picture on the benefits that could be derived from SLI, it was necessary to get the views of deaf respondents. They expressed their views are as shown: - DS3 32 years old, second year male pursuing Special Education said, *“When interpreters are present topics are easy to follow, when they don’t come I don’t even attend or I go out of the class”*

DS1 34 years old, third year male pursuing Special Education said, *“When my interpreter is around, I participate fully during tutorials, asking question and contributing effectively. That makes me happy and gives me hope that I am equal with the other hearing students”.*

The above comments indicate that respondents were aware of some of the benefits that deaf students could derive from the interpreting facility.

Interviews with head of department revealed that lecturers preferred to use Total Communication in teaching with emphasis on speaking. Reasons provided was that Total Communication in teaching was teacher centered hence favoured the teacher because of limitations in sign language interpreters and hence easy to explain concepts. This is asserted: *“Many lecturers do not know Tanzania Sign Language, however, they illustrate their lectures through power point projection, pictures and written note”- DS1*

Correspondingly, teachers did not know the modality of SLI and were comfortable with the use of spoken English. Total communication helped the post-lingual deaf students especially by lip reading and use of residual hearing and all textbooks were written in English hence the use of Sign Exact English to enable students to read.

The researcher observed several behaviours which assisted in answering the research questions through the observation schedule. Such behaviours included learners’ participation in the lesson, learners’ attentiveness in class, learners’ understanding of the concepts and teacher’s mastery of the lesson, teacher’s use of the teaching learning materials,

teacher's mastery of SL and the teacher's mastery of the teaching skills.

What are the Challenges Faced by Sign Language Interpreters in Assisting Deaf Students in Academic Achievement

The second research question sought to examine the challenges faced by sign language interpreters in assisting deaf students in academic. This objective analyses the challenges that SLIs encountered when they offered the service in inclusive classroom.

Questions were asked through interviews for interpreters to explain any challenges they encountered due to staying out of the institution and the distance from home to AMUCTA in relation to SLI. The following were their comments on their welfare when asked what working conditions was a challenge in their work.

SLI4 interpreter stated: *"Interpreting is very tough work, we don't have enough time to rest, on top of that late payment of salaries does not encouraging to us"*.

SLI5 responded: *"Sometimes we interpret continuously a long time, there is no break between lectures, oh that is tiresome."*

The assessment of views revealed that SLIs suffered from fatigue due to lack of breaks during interpreting process and lack of prior knowledge of the subject prior to interpreting. The findings therefore showed that a poor working condition of service was a challenge to SLI effectiveness.

Other challenges reported by SLIs included poor collaboration between SLIs and lecturers in terms of accessing notes before lecture session. SL1 explained, *"We are not given notes by lecturers before the class time so that you prepare yourself adequately, not knowing the subject matter erodes the confidence and display fear on your face and that is not a good feeling at all"*.

Another area which was mentioned as a challenges was overcrowdings of students in institutional lecture courses. One SLI remarked that: *"Have you been to Hall 3? NELT? Imagine Hall 3 New Education Lecture Theatre (NELT) accommodates more than 400 students, deaf students are not reserved a place in front of class where they can sit near SLI providers, even the interpreter sometimes doesn't know where the deaf students are seated"*.

The above response indicates that in some lecture halls such as Hall 3, space was a challenge during sign language interpretation.

4. Discussion of Research Findings

Introduction

This study embarked to investigate the contribution of Sign Language Interpreters to Deaf Students' Learning and explore the Challenges Faced by Sign Language Interpreters in Assisting Deaf Students in Academic Achievement. In this regard, the study was guided by the two research questions, namely; what is the contribution of Sign Language Interpreters to Deaf Students' Learning? and What are the

Challenges Faced by Sign Language Interpreters in Assisting Deaf Students in Academic Achievement?

Discussion

With regard to the contribution of sign language interpreters to deaf students in academic achievement the findings revealed that majority of participants agreed that there were some benefits that derived from Sign Language Interpretation (SLI). The benefits according to data were simplification of difficult lectures and facilitation of comprehension of hard concepts. This finding was in agreement with Fernandez-Viader and Fuentes (2004) who argued that to many Deaf and Hard-of-Hearing (D/HH) the provision of an interpreted education is a requirement in order to support classroom communication. Interpreting is one aspect of providing access to all teachers and peers communication in a school in order to enable deaf students to learn in the same manner as their hearing peers in inclusive classes. Therefore, SLI enabled deaf students to have access to general classroom curriculum like their typical peers. Majority of respondents, further explained that SLI increased classroom interactions which led to productive and interesting teaching and learning activities in the classroom.

The findings therefore imply that SLI benefited inclusive classes by promoting inclusiveness, simplifying of classroom discussions and concepts. Similarly, the findings indicated that SLI enhanced interactions among all students in inclusive classrooms and contributed to productive and interest learning and teaching. The role of sign language interpretation in enhancing active interaction in learning is capitalised by previous studies conducted by Marschark, Convertino, Macias, et. al. (2006) and Marschark, Sapere, et al., (2004).

With regard to challenges, the study revealed a number of factors that imposed a limitation to SLIs accessibility. The findings found that the level of training of SLIs was inadequate to educational assignments in higher institutions of learning. Although majority of interpreters felt that their present level of training was adequate to interpret at any level of tertiary education, observations made revealed that their level of training was inadequate. This observation was supported by the views expressed by all other respondents who stated that the level of SLI provision training was inadequate. Majority of lecturers attributed the challenges to inadequate training, lack of skills, manpower shortage in the field of SLI. This finding of inadequate training to interpreters is supported by recent study conducted by Semunyu and Rushahu (2023) who asserted that many SLIs in learning institutions had inadequate preparation for interpretation, the difficulty interpreting content of students' courses of specialisation, and varying signs.

Majority of lecturers noted that SLIs lacked adequate skills to interpret during practical lessons and that there were few interpreters. This finding is consistent with the previous findings noted the lack of sign language interpretation and shortage of qualified interpreters (Baily & Straub, 1992; Jones, Clark, & Stoltz, 1997) was a big challenge in the field of interpreting. The same assertion concurs with current study conducted by Eugenia (2021) which revealed that sign language interpreters required assistance during sessions so

that they get time to break.

Besides, the study revealed that working conditions were poor for SL interpreters, the assignment of interpretation had no breaks. These findings are in agreement with previous studies (Hyde et al., 2009; Knox, 2006; Komesaroff, 2005; Russell & Demko, 2006). For example, the study by Komesaroff (2005) noted that interpreters were usually paid on an hourly basis as casual or permanent part-time employees and it is quite rare for interpreters to be employed full-time. These findings are eye opener to the poor working conditions and terms of service SLIs who provide service in inclusive institutions.

The findings further revealed that there was variation of signing to students with hearing impairment. The study revealed that most deaf students came from different regions which suggests the reason for sign language variation. This finding relate with the study conducted by Corson (2010) in Ghana on sign language variations that found that learners faced a lot of challenges when teachers dictate work to them due to SL variations. Illustrating more, the study by Corson (2010) noted that that those sign variations among students led them to write wrong words or sentences during dictation. Consequently, the variations posed a challenge to delivery of SLS in inclusive classroom. The study conducted by Omugur, (2007) variation of geographical and education backgrounds hindered communication amongst hearing impairment students.

5. Conclusions and Recommendations

5.1 Conclusions

The study findings revealed SLI facilitated meaningful learning and teaching activities to enhance competitiveness, classroom interaction, communication and participation among all students including deaf students. With respect of challenges, the study noted that lecturers lacked adequate competence in sign language communication especially when it comes to technical terms in a specific discipline. In terms of interpretation services offered, it was found that there was lack of adequate manpower, poor classroom management, lack of motivation and professional training for SLIs.

5.2 Recommendations

Based on the findings of the study, the following recommendations are made.

It is recommended that teachers be provided training on SLIs through in- service or workshops or seminars so that they gain more skills on appropriate teaching methodologies through sign language interpretation.

The use of Tanzania Sign Language in school need to be encouraged since it enables learners to perform well in their academics. lecturers need to learn the format of SL so as to be able to teach or talk with the students well. Teachers need to be encouraged and be motivated to teach Tanzania Sign language.

Similarly, it is recommended that the institutions which admit students with hearing impairment provide adequate teaching and learning materials for teaching of SL so as to enable lecturers perform their teaching functions adequately. There is need for free interaction between the lecturers and the learners who will in turn share their problems regarding their academic performance. Parents need to be encouraged to often come and check on the progress of their children because it will enhance their academic performance.

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