

**INFLUENCE OF COMMUNICATION METHODS ON THE ACADEMIC  
PERFORMANCE OF LEARNERS WITH HEARING IMPAIRMENT  
IN INCLUSIVE SETTING IN MIGORI COUNTY**

**HARRISION ABWAJO NYAMBERE**

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UNIVERSITY**

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**DECLARATION**

I declare that this document and the research it describes are my original work and that they have not been presented in any other university for academic work.

**Signature:**.....**Date:**.....

**HARRISON ABWAJO NYAMBERE**

**15M04CMED060**

This research was conducted under our supervision and is submitted with our approval as University supervisors

**Signature:**.....**Date:**.....

**DR. WASHINGTON WACHIANGA PhD**

**Signature**.....

**Date**.....

**DR. ENG. BONIFACE NJUGUNA MWANGI**

**AFRICA NAZARENE UNIVERSITY**

**NAIROBI, KENYA**

**DEDICATION**

I humbly dedicate this work to my dear wives Hulda Atieno and Lynet Achieng; and children Verah Adhiambo, Oliver Akeyo, Arnold Onyango and Ashley Anshlem for their continuous support and encouragement during my studies. May God bless you all.

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## **ABSTRACT**

This study sought to establish the influence of communication in teaching children with hearing impairment in Migori County. The objectives of the study were: to examine the influence of verbal communication on academic performance of learners with hearing impairment (HI) in inclusive settings in Migori County, to establish the influence of manual communication on academic performance of learners with HI in inclusive settings in Migori County, to determine the influence of total communication (TC) on academic performance of learners with HI in inclusive settings in Migori County, and to determine the challenges faced by learners with HI on academic performance in inclusive classroom settings in Migori County. The study was anchored on the Total Communication Theory by Holcomb of (1967). Descriptive survey design was employed in this study. The targeted population consisted of 10 head-teachers, 80 teachers and 90 learners in primary schools in inclusive settings in Migori County. The study sampled 10 head-teachers, 66 teachers and 73 learners who were selected using proportionate simple random sampling procedure. The data was collected using semi structured teachers and learners questionnaires head teachers interview guide and learners observation checklist. A reliability coefficient of 0.8 was ascertained using the split half method indicating that learners' and teachers' questionnaires were reliable. Content validity of the three data collection instruments were ascertained by presenting them to various research experts in the content area whose advice was in-cooperated. Both descriptive and inferential statistics were used to analyze the data. Qualitative data was arranged thematically in line with research objectives. The study found that all the sampled schools were in dire need of various communication modes. Most teachers were found to be poor in sign language which was leading to poor academic performance. Majority of hearing impaired learners in class five scored lower marks than their class mean score. The study's three formulated hypotheses were tested at 95% confident level using multi regression analysis. The result showed that 73.3% of the variations in academic performance of hearing impaired learners was attributed to independent variables. The study also revealed that TC was mostly used as the instructional mode. Regression and correlation analysis indicated a strong positive correlation (coefficient of correlation = .856, significant = .000) between the use of TC and academic performance of learners with HI. Further results showed that the availability of Kenyan Sign Language made the most significant contribution in the performance of learners with HI. The study recommended a joint effort between the government, educational stakeholders and agencies working with persons with disabilities to support inclusive schools with the necessary facilities.

**LIST OF ABBREVIATIONS AND ACRONYMS**

<b>HI</b>	Hearing impairment
<b>KICD</b>	Kenya Institute for Curriculum Development
<b>KNEC</b>	Kenya National Examination Council
<b>KISE</b>	Kenya Institute of Special Education
<b>MOEST</b>	Ministry of Education Science and Technology
<b>NACOSTI</b>	National Council for Science, Technology and Innovation
<b>SLG</b>	Sign language
<b>SPSS</b>	Statistical Package of Social Science
<b>SSA</b>	Sub-Saharan Africa
<b>SD</b>	Standard Deviation
<b>TC</b>	Total Communication

## OPERATIONAL DEFINITION OF TERMS

**Academic performance:** This is the extent to which learners with HI have achieved their short and/or long term goals as measured based on examination.

**Hearing impairment:** It is a partial or total inability to hear.

**Total communication:** It is a philosophy of educating children with hearing loss that incorporate all means of communication such as sign language, gestures, body language, writing etc.

**Communication method:** It is the use of manual communication and body language to convey meaning.

**Oral method:** A method of instructing the learners with hearing impairment by which they are taught to speak and to understand the speech of others by lip reading.

**Manual method:** A method of teaching the hearing impaired that mainly employs finger spelling and the manual alphabet.

## CHAPTER ONE

### INTRODUCTION AND BACKGROUND OF THE STUDY

#### 1.1 Introduction

This chapter introduces and provides the background of the study. The chapter contains the following sub-sections: background of the study, statement of the problem, purpose of the study, objectives of the study, hypotheses of the study, significance of the study, scope of the study, delimitation, and limitations of the study, assumptions, theoretical framework, and the conceptual framework.

#### 1.2 Background of the Study

Close to 250 million persons in the world suffer or are affected in one way or another by hearing impairment and more than 75% of this number are found in the Sub-Saharan Africa (SSA) (Mapolisa, 2013). World educators have developed two main instructional methods (oral and manual methods) of educating learners with hearing impairment whose applications vary globally depending on the nature and functions of the individual institutions. These instructional methods aim at ensuring that such learners are accorded the opportunity that enables them to compete favorably with the average learners (Mitchell, 2014).

The degree of hearing loss in children vary from a slight loss to severe cases according to Beastley (2016), cases of severe hearing loss are referred to as hearing impairment while those with slight hearing problems are called hard of hearing. Loss of hearing in most cases are associated with hearing problems which begins at childhood stages and if not taken care of may affect their writing and reading resulting in poor academic development (Cole&Flexer, 2011). A study conducted by Cole and Flexer (2011) in USA on 1,218 children with mild hearing loss indicated that 37 percent had failed a grade. The study

further showed that children with unilateral hearing loss are ten times more likely than normally hearing children to fail a grade. The larger majority of children with hearing loss are hard of hearing rather than hearing impaired. For these children, their speech may be audible but not intelligible enough to allow them to hear one word as distinct from another.

In the United States alone, there are over 50,000 school-age hearing impaired children and close to 5 million children are who in schools suffering from hard of hearing cases (Wolffe & Jerry, 2010). According to Bat-Chava and Yael (2012), hearing impairment cases in Australia vary with age and sex. The most notable cases are found among boys than girls aged 0-14 years. They further indicated that about three quarter of boys and almost half of the girls aged 5-14 years have had hearing cases. Among the children with hearing impairment, 15% - 30% have been reported to have communication difficulties (Varshney, 2016).

Learners with HI experience communication difficulties and the use of various communication modes in inclusion schools is desirable. The use of various communication modes including verbal, manual and Total Communication (TC) have been praised among HI (Heinrichs-Graham & Lewis, 2012). According to Varshhney (2016), hearing impairment has led to learning difficulties in most schools in India since 15% - 30% of children with hearing impairment had been reported to experience communication difficulties. Such difficulties call for professional interventions in planning and provision of safe and supportive environment that helps in developing communication skills. Professionals in this case are the teachers who are regrettably not well trained in sign language.

Marschark et al., (2002) in Thailand too saw the need for systematic process in total communication and made a policy in total communication in 2009 by the Thailand Office of the Basic Education Commission. The main objective of the policy was to promote Positive attitude and decrease truancy problems in schools. This was to promote the learner academic and social being in the inclusive classroom. However, this did not focus on learners with hearing impairment.

Lack of resources has slowed down awareness on hearing impairment problem in Nigeria, Egypt and other African Countries but Ekwama (2003) study indicated that such cases are believed to be high among the African population. Children with special needs are usually neglected and often than not lack basic necessity they require such as hearing aids, leaving the school administrations' to shoulder the whole burden in case they are taken to schools. In a study in Egypt by Gad-Allah (2015) found out that there exists communication breakdown among learners who suffer from hearing impairment, than their normal counterparts and most teachers in regular schools. This is mainly due to lack of necessary skills in sign languages to enable effective communication (Marques, 2015; Olusanya, 2014).

More changes in educational system are continuously witnessed in Kenya with focus on education of the hearing impaired and hard-of-hearing. Several organizations in Kenya are championing the rights of hearing impaired and promoting the progress in hearing impaired education (Adoyo, 2007). The development of Kenyan sign language has in the past influenced sign languages in other parts of the world; for instance that of Somalia was founded based on the Kenyan sign language. The Kenyan sign language vary with the rest of the world but this variation is not very big with that of Tanzania and Uganda (Wamae, Getrude & Kamau 2004).



### **1.3 Statement of the Problem**

In a study in Migori County, by Raga (2014), found that educational outcome for learners with hearing impairments is still low with illiteracy and ignorance rate for people with hearing impairment being much higher than that of the general population. According to the KNEC (2017) report, learners with hearing impairment averagely register a mean mark ranging between 160-180 marks while their hearing counterpart register well above 300 marks out of the possible 500 marks. This poor academic performance of learners with hearing impairment in primary education brings to question the quality of education they receive which ultimately limits their ability of being equipped with necessary skills and knowledge needed to join certain courses at the high levels of learning. Various studies have been done on the influence of appropriate communication methods on delivery of the curriculum content at different stages of educations. These studies have varied results on this matter with the learners with hearing impairment registering poor academic performance compared to those who have hearing ability (Adoyo, 2004; Borefoot, 2011; Muiruri, 2015).

The government through the Kenya Institute Curriculum Development (KICD) and MOEST (2004) realized that one of the contributing factors in poor academic performance of learners with hearing impairment is communication breakdown developed among other initiatives sign language dictionaries making sign language an examinable subject at primary and secondary level (MOEST, 2004). Lack of proper resources that facilitate communication access and stigmatization are some of the causes of communication breakdown resulting in poor school attendance and poor academic performance among learners who suffer from hearing impairment (Muiruri, 2015). In view of this background, this study was designated to assess the influence of communication methods on academic

performance of learners with hearing impairments in inclusive primary schools setting in Migori County, Kenya.

#### **1.4 Purpose of the Study**

The purpose of this study was to establish the influence of communication methods on academic performance of primary school learners with hearing impairment in inclusive settings in Migori County, Kenya.

#### **1.5 Objectives of the Study**

This study was based on the following research objectives

- (i) To examine the influence of verbal communication on academic performance of learners with hearing impairment in inclusive settings in Migori County.
- (ii) To establish the influence of manual communication on academic performance of learners with hearing impairment in inclusive settings in Migori County.
- (iii) To determine the influence of total communication on academic performance of learners with hearing impairment in inclusive settings in Migori County
- (iv) To determine the challenges faced by learners with hearing impairment on academic performance in inclusive classroom settings in Migori County.

#### **1.6 Hypotheses**

To achieve the objectives of this study, the following null hypotheses were tested:

**HO<sub>1</sub>:** Verbal communication has no statistical significant influence on academic performance of Learners with hearing impairment in inclusive primary setting.

**HO<sub>2</sub>:** Manual communication has no statistical significant influence on academic performance of Learners with Hearing Impairment in inclusive primary setting.

**HO<sub>3</sub>:** Total communication has no statistical significant influence on academic performance of Learners with hearing impairment in inclusive primary setting.

### **1.7 Significance of the Study**

Orodho (2003) asserts that significance of the study highlights the value of a given study. Information on the relationship between communication methods and academic performance of children with hearing impairment may help in strengthening policies on promotion of sign language in Kenya education structure. The results of this study may also be important in revealing communication challenges faced by learners with hearing impairment in inclusive settings. This would help educational planners, teachers and other stakeholders on possible communication strategies to help improve communication among such learners within such settings. The findings would also provide empirical data, which policy makers may use as a basis in formulating policies concerning education of children with hearing impairment and identifying how they can reduce the prevailing communication breakdown with children with hearing impairment in institutions with inclusive settings. This would be of great value in assisting those with hearing impairment interact with the learning environment.

### **1.8 Scope of the Study**

Scope of the study includes the parameters under which the given study rotates (Orodho, 2012). The study looked at the influence of communication methods on the academic performance of learners with hearing impairment in selected inclusive primary schools in Migori County – Kenya. The study adopted total communication theory by Holcomb (1967). The researcher employed a descriptive survey design in which the target population was drawn from learners, teachers and head teachers within the County. Both proportionate and purposive sampling techniques were used in selecting a total of 149 study samples.

The study focused on verbal communication, manual communication, total communication and the challenges faced by learners with hearing impairment in inclusive setting in primary schools. The study was based on total communication theory.

### **1.9 Delimitation of the Study**

Delimitations define the parameters of an investigation. It describe what a particular study does not cover or the characteristics that limit the scope or boundaries of the study (Best & Khan, 2006). There are many factors that may influence effectiveness of communication methods in inclusive setting. However, this study was delimited to Verbal Communication, Manual communication, Total Communication of Learners with hearing impairment as the basis to ascertain effectiveness of communication methods and the challenges Learners with Hearing Impairment face in inclusive primary school setting in Migori County.

### **1.10 Limitations of the Study**

Limitations refer to potential weaknesses in the study that are not within control of the researcher (Kombo & Tromp, 2008). Most of the respondents were reluctant in providing information that were related to the study as they needed incentives in form of money. The researcher overcame this by explaining to them the nature and purpose of the study. This helped in gaining the confidence of the respondents, and only those who were willing took part in the study

In some instances, those with HI were not willing to disclose their identity neither did they want to be associated with disability and were not willing to freely give the required information. The researcher overcame this by assuring the respondents of the confidentiality of the information they gave and that the study was to be purely for academic purposes.

### **1.11 Assumptions of the Study**

This is an idea assumed to be true by the researcher but its real proof has not been validated (Mugenda & Mugenda, 2003). The study was based on the following assumptions: that the respondents responded honestly to the questionnaires, the school management kept proper, detailed and accurate performance records of the learners with hearing impairment in school and that teachers in sampled schools had knowledge on the various communication methods used in communicating with learners with hearing impairment.

### **1.12 Theoretical Framework**

This study was based on total communication (TC) theory as pronounced Holcomb (1967). This theory advocates for the use of more than one way of communication depending on the need of a given learner. The instructor has several ways of communication at his disposal to choose from such as manual, written, oral or even auditory. Depending on the need of a particular learner, there are cases in which the instructor may choose to use oral but other situations may call for the use of signing in communication or both. The use of total communication allows for flexibility in communication due to the availability of several methods of communication with the hearing impaired. According to Lepot-Fromentand Clerebaut (1996), total communication can be used as a powerful tool to improve the academic performance among Learners with hearing impairment. For learning to occur, there must be an effective communication between the learner and the instructor (Mapolisa & Tshabalala, 2013).

The choice of communication method is very vital for the passage of information and the use of Total Communication is valuable in communicating with Learners with hearing impairment as it allows for adjustment of the choice of communication method depending

on a particular situation. Total Communication favors those with hearing impairment in all aspects of life be it psychological, language development or even on their academic achievement as cited by Serban (2013). The need for effective communication and understanding between learners with hearing impairment, their hearing counterparts and teachers is needed for holistic development and academic achievement. Total Communication provides learners and teachers with several communication methods that are employed in the selection of a given form of communication. Combination in Total Communication is purely based on the particular needs of a given child. Holcomb (1970) encourages teachers who find Total Communication suitable at any given situation to use the communication methods which appeals and relevant to a given child at a given stage of development. The use of a given communication method as usual present a distinct challenge depending on a particular learner and situation as cited by (Wambui, 2012).

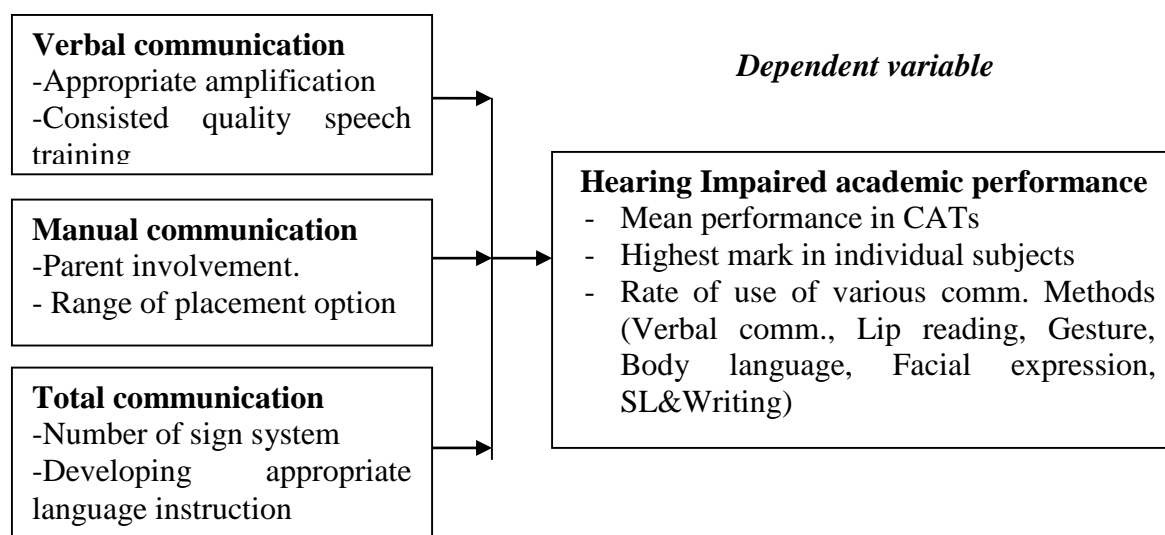
Many researchers agree that learning in any society takes place when people mingle, and this occurs to a greater extent when people can communicate and understand each other effectively. Child's academic performance has a direct link with the effective understanding of what is taught in class. This heavily depends on the effectiveness of learning communication. The selection of a communication method which enables communication process to be smooth without breakages is thus very important to all children irrespective of where they are found or their nature of specialties. The choice of communication mode that will be most effective is very important. The theory asserts that in Total Communication all forms of communication for learners with hearing impairment may be incorporated and when well used will make these learners to be at par with average learners. In a learning environment, this theory is found to be relevant because Total

Communication embraces the use of various forms of communication simultaneously using both manual and spoken words (Ekwama, 2003).

### 1.13 Conceptual Framework

Conceptual framework covers the researcher's conceptualization of how the various concepts under study are related and how each and every variable are applicable in the study (Best & Khan, 2008). The conceptual framework presents a discussion of various factors on the influence of communication methods on the academic performance of learners with hearing impairment in inclusive settings. These factors include verbal communication, manual communication and total communication as independent variables upon academic performance of learners with hearing impairment as dependent variable. Figure 1.1 shows factors influencing communication methods on the academic performance of learners with hearing impairment in inclusive settings

#### *Independent Variables*



**Figure 1.1: Conceptual Framework showing Variables that Influence Effective Communication on Learners with Hearing Impairments**

Figure 1.1 shows that the conceptualized interplay between the independent variable (verbal communication, manual communication and total communication) and dependent variable (academic performance). The researcher conceptualized that the effective use of various communication modes would result in learners' behavior change and academic performance. Appropriate amplification while considering the quality of sound produced during verbal communication process especially in classroom setup is required. Total communication takes care of a range of learners with different hearing ability since it involves the use of more than one communication modes which can appeal different categories of learners.



## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter contains a review of related literature on influence of communication on academic performance of learners with hearing impairment in inclusive setting. The chapter specifically focuses on verbal communication used by teachers when teaching learners with hearing impairment, manual communication, Total communication and challenges faced by learners with hearing impairment and teachers in inclusive setting in Migori County Kenya.

#### **2.2 Verbal Communication and Academic Performance of Learners with HI**

Verbal communication is an oral method that comprise of listening, speaking and speech reading (lip-reading ability and lip-reading is one of the oldest methods of communications in history.) According to Marschark et al. (2002), hearing impaired learners through this method are instructed in reading and use of residual hearing though pure oral method does not involve the use of signing and speech. In lip-reading according to Valente, Plevinsky, Franco, Heinrichs-Graham and Lewis (2012), the teacher and/or instructor should understand the degree of hearing losses in learners since some may have permanent hearing loss yet in other it may be temporary resulting from weather conditions or ear infections (Martin, Sobel, Griest, Howarth & Yongbing, 2006). It was necessary to establish how verbal communication influence academic performance of learners with hearing impairment in inclusive settings.

Auditory verbal communication may also be used but it all depends on the remaining hearing ability of the learner. In this case intense teaching is used by the teacher until the learner understand the content under study without the use of the visual aspects such as lip-

reading or even the application of facial expression. Hearing aids are extensively used in this method of communication and their effectiveness closely monitored.

Findings by Davis & Silverman (2008) in a research titled hearing and deafness carried out in New York showed that oral language was used to teach learners with hearing impairments because it was universally agreed among educators of learners with hearing impairments that every child should be given an opportunity to communicate by speech. Thus when learners with hearing impairments were taught oral language, they were given chance of using their residual hearing and this enabled them to understand speech and use it in their communication. In investigating Academic Status and Progress of Deaf and Hard-of-Hearing Students in General Education Classrooms in America (Antia, Jones, Reed & Kreimeyer, 2009) also found that learners' participation during learning activities have a good language development especially those in inclusive learning set-ups.

According to Okeke (2003) in his study in Ghana, the use of oral communication is widely accepted in teaching and training learners with hearing impairment since it is a universally accepted mode of communication among educators. Ekwama (2003) further emphasized that oral communication allows for teacher-learner interaction during the learning process compared to other mode of communication. The authors focused on interaction yet the current study, intended to establish the influence of communication method on academic performance of learners with hearing impairment in inclusive setting.

Mba (2015) in a study carried out in Nigeria reported that much of learning and information transmission were done orally. Ademokoya (2016) in a study titled Speech communication: Development and Disorders carried out in Nigeria found that even when speaking and signing simultaneously as was often the practice while engaging total communication

(speech and signs) to teach learners with hearing impairments, more things were said than signed.

A report carried out by Ademokoya (2016) in Nigeria on speech communication, development and disorders, found that the very communication mode most debated on was speech. speech was the most conventional and most used form of communication in any human settlement. Another study carried out in Nigeria by Ayodele (2008) found that learning was best conducted via spoken language. Similarly, Bakare (2008) in Kenya also found that this was because speech was the most conventional medium of communication for all humans. It was imperative to determine the effect of spoken language on academic performance of learners with hearing impairment in inclusive settings.

Children with minimal or mild bilateral hearing loss and unilateral hearing loss are at higher risk for academic, speech-language, and social-emotional difficulties than their normal hearing peers. The choice to fit infants with moderate or greater degrees of bilateral hearing loss has been standard practice for most clinicians, but for those with minimal or mild bilateral hearing loss or unilateral hearing loss, the fitting of hearing technology must be based on limited data.

The degree of hearing loss has been found to predict use of Hearing Amplification (Clarke & Horvath, 1979; Kochkin, 2009; Solheim, 2011). According to two older studies, children with profound or mild hearing loss make less use of Hearing Amplification than children who have moderate or severe hearing loss (Clarke & Horvath, 1979; Vesterager & Parving, 1995). Vesterager and Parving's study included children with profound hearing loss who were using hearing aids. A newer study by Kochkin (2009) drew a similar conclusion; based on a sample of 5000 DHH adults and children, moderate or severe hearing loss was

a common characteristic of the hearing aids users. It could be necessary to find out how hearing Aids influence academic performance of learners with hearing impairment

Consistent quality speech training can be achieved through auditory training which involves training hearing impaired to listen and discriminate between different sounds (Moore, 2006). This kind of instruction is given to the hard-of-hearing child by an itinerant hearing specialist in school in accordance with the needs of the child. One of the goals of the hearing specialist is also to instruct the parents and obtain their cooperation. This affects the quality of sound produced which is important among the learners with hearing related problems.

### **2.3 Manual Communication and Academic Performance of Learners with HI**

Manual communication involves the use of signs and finger spelling but not limited to total communication, writing, sign exact English and sign language. Sign language is used in teaching learners with hearing impairment. Despite the importance of this method, a study conducted by Picou, Ricketts, and Hornsby (2011) in Netherlands, indicates that it is a very unpopular language especially among those who have hearing abilities. This may imply that learners with hearing impairment find it difficult to communicate with hearing learners. It can negatively affect their academic performance. It can affect language practice especially English. Hard of hearing people have varied degrees of hearing but their major mode of communication remains listening, gestures, speech, mime and the use of facial expression (Edwama, 2003). Edwama further states that other methods that are employed in study may include the use of auditory memory though it is most effective with those with hearing ability. Those that are hard of hearing can be taught normally so long as they have hearing aids. They can perform better if instructed orally.

Finger spelling involves the use of writing in the air through making of hand shapes of the 26 English alphabetical letters thus helping in spelling words manually. This method of communication is an important interface of the written language and the hearing impaired individuals in the society. This sign method is strongly advocated for due to its ability to sign all English words but becomes limited when it comes to mother tongue (Heward, 2006). However, the use in numeracy is not stressed, it is important that studies that focus on academic performance be done in inclusive settings.

The manual alphabet which is one-to-one cipher mostly uses one in many countries including Kenya but in Britain, two hands are used. This method of communication uses 26 finger positioning with various numbers of hand shapes representing the 26 letters of English alphabets thus freely spells the English words. This is one of the most slow form of communication in terms of time and most used in combination with other methods of communication to cater for time wastages (Heward, 2006). It can be used in teaching however it is slow on covering the syllabus for learners with hearing impairment in inclusive settings. The current study intended to establish the influence of communication methods on academic performance of learners with hearing impairment in inclusive setting in Migori County.

Lip-reading is a bit difficult to learn among most learners but its mastery is automatic with the hearing impaired learners and the learners can only understand a small portion of what is taught through lip-reading. In a study conducted in Boston by Moores (2006) reported that learners who dependent much on lip-reading were slow in curriculum mastery, had poor vocabulary and were also not good in grammar development, often perform poorly in class. This study was conducted in America, it is imperative to conduct the current study to ascertain the empirical evidence in Kenyan setup including academic performance of

learners with hearing impairment in inclusive setting. In the study entitled “Communication methods among hearing impaired in Nairobi, Kenya” Karanja (2012) averred that lip-reading is very popular among learners with hearing impairment though most learners were very comfortable with signing communication. It was necessary to conduct a study that focus on academic performance in inclusive setting where mode of delivery includes Lip- reading.

The conditions in the home, the language in the home, deafness in the family, size of the family, relationships with siblings, guidance given to the family, ability of parents to follow the guidance, and mode of communication in the home are some of the most important factors which affect the schooling of hearing-impaired children (Reed, 2014). Several surveys have consistently shown that the deaf child with deaf parents is considered to have better chance of academic success than a deaf child with normally hearing parents particularly if the deaf parents are highly educated. However, more than 90 percent of hearing-impaired children are born to hearing parents. This means that the child has difficulties of various degrees to learn the spoken language used by his/her parents. Deaf children with deaf parents learn signed language as fast as hearing children learn spoken language. The earlier a deaf child learns to sign, the quicker the child learns. The child is likely to learn to read and write more easily too (Heward & Orlansky, 1992).

#### **2.4 Total Communication and Academic Performance of Learners with HI**

Total communication was first put forward by Holcomb in 1960s in training the deaf California and was later adopted and universally accepted as an educational philosophy among Learners with Hearing Impairment. Total Communication involves the inclusion of all forms of senses in communication making communication possible with the deaf and includes the use of finger spelling, formal sign language, lip-reading, speech, spelling,

writing, reading, amplification and any other means of communication (Reed, 2009; Riekeholf, 1993). The choice of a given mode of communication in Total Communication solely depends on a particular situation and a particular need of the child. The learner has a variety of communication options while communicating with others and the use of hearing aids may be exploited under this method of communication. According to Ugwuanyi (2009) the use of total communication approach allows the learner to choose the method which best work according to his/her need. English sign language is used in total communication due to its grammatical nature. It is important to conduct a study that focus on academic performance of learners with hearing impairment in primary schools as they learn with those with hearing

Total communication includes the use of oral and manual communication methods such as gestures and signing skills, thus increasing the learners' ability to develop speech capability (Walz, 1999). The use of total communication aims at assisting the hearing impaired in communicating with his teachers and the hearing counter parts. Total communication bridges the language barrier gap among people with different language cognition since in total communication one is free to use the possible communication method within his/her disposal. Total Communication advocates for the use of more than one mode of communication at any given time in the learning processes. The use of total communication according to Ugwuanyi (2009) and Karanja (2012) is very vital in attaining high level academic achievement among learners. Total communication also improves social, psychological and educational achievement of learners with hearing impairment. This study was conducted in West Africa, yet the current study was done in Kenya. A study should be conducted in Migori County to reveal if possible similar result. A study conducted by Obianuju (2013) on effect of total communication on academic achievement

of pupils with hearing impairment in Enugu State, in Nigeria, found that learners registered high academic performance when total communication was used in class. There was need to conduct a similar study in Kenya with the focus on academic achievement.

## **2.5 Challenges Faced by Learners with HI in Inclusive Settings**

The term 'hearing impaired' is used in this study to include people who have difficulty in hearing or speaking clearly (Hyde,Punch &Komesaroff, 2011). Learners with hearing impairment experience various challenges in their daily life especially those that go to school. The challenges include but not limited to the instruction method used in class, inadequate sign language interpreters, inadequate resources and infrastructure, and social barriers.

According to Wamae, Getrude and Kamau (2004), most of the learning institutions do not take care of the needs of the learners enrolled in such schools, more so those schools with inclusive settings. For instance, a teacher may speak very fast as he/she passes through a given material without taking notice of the HI. Childhood hearing condition of individual learners need to be screened early enough to help check on the hearing and learning process since when precautions are not taken early enough, the child hearing ability may hinder his/her learning (Foster & Elliott, 1986).This interferes with effective communication hence academic performance . In cases where a teacher uses signing or lip reading, learning aids such as computers and projectors may be of good help. However, these must be accompanied by effective interaction between learners with hearing impairment, teachers and hearing peers without which optimal academic performance cannot be achieved (Moses, Ingubu & Kyalo 2011). The intended study was destined to unearth how those challenges relate to academic performance of learners with hearing impairment.



There are various instruction methods that may be used in handling learners with hearing impairment cases. Spencer and Marschark (2010) in their study indicated that a good number of instruction methods that are most appropriate to hearing impaired in inclusive settings are not used by the teachers. Therefore those learners cannot achieve optimally, hence low performance in their academic performance. A similar study was needed to establish the above findings in Kenya especially in Migori County

Just as has been indicated by Linton (1998), hearing impairment is regarded as a disability among many members of a given community and such members who suffer from hearing impairment cases face stigmatization and may even be rejected. This may interfere with group discussion of learners when together with peers who are hearing in class as such affecting their academic performance. Chirawu, Hanass, Hancock and Aderemi (2004), in their study in Uganda, emphasized the need to address individual needs of learners especially those in inclusive settings. In their development, all learners at various stages of study need to be fully integrated in the school community in order to take part in social activities in school such as sports and to fully develop strong emotional and social ties (Stinson &Antia, 1999).

A study conducted by Wamae, Getrude, and Kamau (2004), indicated that learners with hearing impairment experiences many challenges including inadequate resources and infrastructure in Zambia. The challenges mentioned may affect academic performance of learners with hearing impairment. In most schools in which learners with hearing impairment are enrolled, in many cases they do not cater for their special needs. In this condition the learner cannot perform better. Some of their challenges are not identified until too late, as a result, the hearing loss in these pupils become a hindrance to their learning process. Even though there is a registered progress in the implementation of

inclusive policies, Wamae et al. (2004) and Chanta, Kimuli and Ogot (2006), emphasized the need of increased professional development opportunities for staff concerned with special education at all levels. In most cases learners with hearing impairment may need a cooustic classroom which may not be obvious in inclusive settings. Teaching in general classroom will deny them silence that they require hence impact negatively in their academic performance.

## **2.6 Summary of Literature Review**

The reviewed literature on the influence of verbal communication on academic performance of learners with HI showed that there are various forms of verbal communication employed in communication including lip-reading, facial expression, . Verbal communication enhances learners'- teachers' interaction in the learning process as opposed to other modes of communication. According to these studies, the use of verbal communication greatly influence the academic performance of learners with HI (Ademokoya, 2016; Antia, 2009; Ayodele, 2008; Bakare, 2008; Ekwama, 2003; Marschark et al., 2002; Martin et al., 2006; Mba, 2015; Okeke, 2003; Valente et al., 2012).

The reviewed literature on manual communication revealed that manual communication involves the use of signs, finger spelling, and writing. Several studies further showed that signing is not commonly used in teaching learners with HI. The widely used mode of communication among learners with HI includes listening, gestures, speech mime and the use of facial expression. Finger spelling is advocated for by several authors since hand shapes can be used in writing all the English alphabet letters thus making learning more comfortable to learners with HI. Still some studies have reported the use of lip-reading to be the most common mode of communication among learner with HI (Edwama, 2003; Heward, 2006; Moores , 2006; Picou et al., 2011).

The reviewed literature on Total Communication showed that TC includes the use of more than one communication method. These comprise of the use of finger spelling, formal sign language, lip-reading, speech, spelling, writing, reading, amplification and any other means of communication, whose choice of use is determined by the prevailing situation. The use of TC assists in developing speech ability among learners, and increases the communication among learners with different language capabilities. Total Communication is important in realizing good academic performance among learners (Karanja, 2012; Obianuju, 2013; Reed, 2009; Riekeholf, 1993, Ugwuanyi, 2009).

Finally, the literature review on the challenges faced by learners with HI in inclusive settings indicated that such learners experience various challenges. The challenges revealed in the literature included instruction method used in class, inadequate sign language interpreters, inadequate resources and infrastructure, and social barriers(Chanta et al., 2006; Chirawu et al., 2004; Moses et al., 2011; Stinson &Antia, 1999; Spencer & Marschark, 2010; Wamae et al., 2004)

## **2.7 Knowledge Gaps**

The study was to examine the communication methods, academic achievement and behaviors of learners with hearing impairment. The study further identified teachers and learner's knowledge on sign language. Evidence has come up showing the need to use appropriate sign language accompanied by relevant teaching learning resources. None of the studies reviewed addressed the influences of communication on academic performance of learners with hearing impairment in inclusive setting in Kenya. This, gap motivated the researcher to carry out a study which investigated the influence of communication modes on academic performance of learners with hearing impairment.

## **CHAPTER THREE**

### **RESEARCH DESIGN AND METHODOLOGY**

#### **3.1 Introduction**

This chapter focuses on the description of the procedures and strategies that were used in the study. It describes the research design, the research site, the target population, sample and sampling procedures, the development of research instruments, piloting, validity and reliability of research instruments, data analysis techniques and legal and ethical considerations.

#### **3.2 Research Design**

According to Kothari (2011), research design is a plan that a researcher uses to answer questions posted by the research problem. Thus forming the skeleton (conceptual structure) within which the research is to be carried out, detailing the data collection process and analysis. The researcher adopted descriptive survey design to explore the influence of communication on determining the academic performance of Learners with hearing impairment. Descriptive survey design refers to a systematic investigation on a phenomenon in which the researcher does not have the right of manipulating the data on the variables under investigation (Orodho & Okombo, 2002). This design allowed the researcher to collect the information on people's attitudes, opinions, and habits or on social issue through interviews and questionnaires by use of a sample population (Kerlinger, 1973). This design appealed for the researcher based on its simplicity and it also enabled the researcher to carry out the study without manipulating the data.

#### **3.3 Research Site**

The study on the influence of communication on the academic performance of learners with hearing impairment was conducted in Migori County which is one of the 47 counties

in Kenya according to the New Constitution of (2010). Migori County is bordered by Kisii South Sub-County to the North East, Gucha South Sub-County to the South and Nyatike Sub-County to the South West. It is located along Kisii –Migori Highway approximately 58 kilometers from Kisii Town with its Headquarter at Migori Town. The economic activities in the county include agriculture and small scale mining of gold. Migori County has 7 sub-counties and 24 administrative wards, 43 locations and 68 sub-locations. It has a population of 1,324,488 people and 5.2% of this number, according to 2009 population census suffers from disability including hearing impairment. The researcher chose Migori County because it has the largest population of learners with hearing impairment in inclusive settings.

### **3.4 Target Population**

Population is defined as an entire group of individuals or objects having common observable characteristics (Fraenkal & Wallen, 2006). The researcher targets a study population of 10 inclusive functional units in the county which comprises of 10 head teachers in the targeted school, 80 teachers and 90 pupils in class five of which learners with hearing impairment are included. (Migori Education Assessment and Resource Centre report, 2017). A total of 80 teachers were targeted because they are directly involved in teaching and are the key agents in curriculum content delivery. Class five pupils formed part of the targeted population since at this level learners are assumed to have acquired enough knowledge and skills in the use of various communication methods and have information regarding their performance as cited by Obianuju (2013) while head teachers were targeted because of their role and positions in school management.

### 3.5 Sample Size and Sampling Techniques

Sampling is the process of selecting a number of individual, places and items to study (Kombo and Tromp, 2006). Mugenda and Mugenda (2003) propose that for a good representation of the population under study should not be too large or too small but should maximally representative of the population. The study was made up of 149 respondents out of the targeted 170 respondents. This consisted of 10 head-teachers, 66 teachers and 73 learners.

**Table 3.1: Sample Size Determination Using Krejcie and Morgan Table**

<b>Sample</b>	<b>Target population (N)</b>	<b>Sample size</b>	<b>Percentage</b>	<b>Sampling Technique</b>
<b>Teachers</b>	80	66	82.5%	Proportionate
<b>Head Teachers</b>	10	10	100%	Purposive
<b>Class five pupils</b>	90	73	81.1%	Proportionate
<b>Total</b>	<b>170</b>	<b>149</b>	<b>87.6%</b>	

#### 3.5.1 Sampling Procedure

The Probability and non-probability sampling procedures were used to select the sample size. According to Fraenkel, (2006), probability sampling procedure involves the use of randomization while non-probability sampling is where random selection is not used in selecting study sample.

Proportionate sampling technique formed the basis of selecting the sample schools based on the number of inclusive schools per sub-county in Migori County. Purposive sampling procedure was then used to select head-teachers of all pre-selected schools. Proportionate sampling technique was again used to select the number of teachers and class five pupils

to be included in the study based on the number of teachers and class five pupils present in the selected schools. Apart from imparting subject content, teachers were expected to implement the use of communication devices, Kenyan sign language and also to ensure that learners with hearing impairment are well prepared academically and psychologically for any future examination.

### **3.6 Data Collection Measures**

Data collection instruments refers to tools used for collecting information and how those tools were developed (Oso & Onen, 2009). The study employed three instruments namely Learner's and teacher's Questionnaires, Head teacher's interview schedules and an observation checklist for Learners with Hearing Impairment and teachers.

#### **3.6.1 Questionnaires for Learners with Hearing Impairment**

The questionnaires were commonly used to obtain important information about the population (Creswell, 2013). The questionnaires were appropriate to this study since the target population learners and teachers were literate. The questionnaires can also be answered easily and quickly (Ary, Jackobs & Sorencen, 2006). It is easier to analyze data from questionnaires as compared to other data collection instrument like interview schedule. Closed and open ended questionnaires were administered to teachers and learners. Close ended questionnaires are questions which are accompanied by a list of alternatives from which respondent select the answer that best describe their situation (Creswell, 2010).

The researcher used a questionnaire as the main data collection tool. The learner's questionnaires were divided into five sections. Section A comprised Demographic information where questions were asked on age, gender and administrative body. Section

B focused on Verbal communication use in inclusive setting. Section C focused on Manual communication. Section D focused on Total Communication while Section E focused on challenges faced by learners when communicating to improve academic performance in inclusive setting. This instrument was chosen because it enabled the researcher to reach a large number of respondents within a short period of time. This also gave the respondents enough and convenient time to respond to the questions asked.

### **3.6.2 Teacher's Questionnaire**

The teacher's questionnaires had five sections. Section A was on Demographic information where questions concerning age, gender and academic qualification were asked. Section B included close ended questions related to verbal communication. Section C was on Manual communication. Section D was on Total communication while the last Section E focused on challenges teachers and hearing peers face when communicating with learners with hearing impairment in inclusive setting. Open ended questions were used to allow the teachers express their views on the nature of communication used to improve academic performance in inclusive setting.

### **3.6.3 Head teachers' Interview Schedule**

Avoke (2005) asserted that interviews are important aspects of qualitative study and they are ways of verbally interacting with respondents in research work. An interview schedule (Appendix III) was developed for the head teachers which sought information on the involvement of the head teachers in handling the hearing impaired learners being that head-teachers are the school managers. The interview was based on three major questions in line with the study objectives and one-on-one interview method was used. A semi-structured interview questions were used in the study as proposed by Creswell (2010).



### **3.6.4 Observation Checklist**

Observation checklist was used in the study to check the presence of various resources and infrastructure that aids and supports the learning process of the learners with hearing impairment in the sampled schools. Participatory observation was used to assess how teachers and learners with hearing impairment interact with various resources that aid and support the learning process. The rate of use of various resources and infrastructure was also observed. The researcher also observed the challenges encountered by learners with hearing impairment during their interaction with various resources and infrastructures.

### **3.7 Pilot Testing of Research Instruments**

Before the actual data collection, the researcher conducted a pilot study in two selected inclusive primary schools in Migori County. The two inclusive primary schools were not included in the actual study since they had similar characteristics as those that took part in the actual study. The main aim of the pilot study was to enhance validity and reliability of the research instruments (Creswell, 2012). To ensure the effectiveness of questionnaire, a pre-test was carried out. The questionnaires were tested in two selected schools in Migori to refine it so that respondents would not encounter any difficulty in answering the questions. The schools used in piloting were separate population from the population under study but had similar characteristics with the study population. A test-retest method was used in determining the suitability of the research instruments as provided by Pearson Product Moment Correlation Coefficient. A correlation coefficient of above 0.70 was considered reliable (Cohen, Manion & Morrison, 2007). It was important to carry out the pilot study to enable the researcher to improve the research instrument.

### **3.7.1 Instrument Validity**

Validity is described as the ability of the instruments being used to help the researcher draw meaningful and justifiable conclusions about a sample or population from the data collected (Bryman, 2006; Creswell, 2012; Gay, Mills & Airasian, 2009). Specifically, this study established the content validity since the main aim of the study was to establish the situation as it exists. To establish the content validity of research instruments, expert views were sought as proposed by Gay et al. (2009). The instruments contents were scrutinized by two university supervisors attached to the researcher. Their views, comments and suggestions were taken into consideration and the instruments revised. Additionally, content validity was enhanced through piloting of instruments.

### **3.7.2 Reliability of Research Instruments**

To establish the reliability of the research instruments, the researcher carried out a pilot test of the instruments using another similar group with the same characteristics as the one targeted in the study. The reliability of the questionnaires was computed using split half method with the help of SPSS. The reliability of the questionnaires was achieved at 0.8 and more (George & Mallery, 2003).

## **3.8 Data Collection Procedures**

Data collection procedures entail the processes of gathering information that regards the variables of the study with the aim of answering the objectives of the study (Orotho & Okombo, 2002). The researcher initially sought approval from African Nazarene University, and a letter of authorization to conduct the research was issued to the researcher by the university. The letter was then used to obtain a research permit and a letter of authorization for data collection in inclusive primary schools in Migori County from the National Commission for Science, Technology and Innovation (NACOSTI). These

documents from NACOSTI (research permit and research authorization letter) were presented by the researcher to the relevant authorities such as Migori County Director of Education during the research period for further permission to use schools for the study. Then to the Migori county commissioner for further research authorization.

To collect the data, the researcher was assisted by two research assistants. The research assistants were initially trained on the use of the research instruments, research procedures, and on the research ethics. The researcher first explained the purpose of the research to the respondents before administering the questionnaires to them. The questionnaires were then filled by the respondents and collected. Data was collected within two weeks. Observations on the various performance indicators was also done during this period and recorded. The targeted head teachers were visited by the researcher and interviewed using the interview guide.

### **3.9 Data Processing and Analysis**

Vrakas and Anagnostou (2015) define data processing and analysis as the process of bringing order and meaning to raw data. Data was processed with the aid of micro soft Excel. Data processing involves editing the data collected and elimination of the errors made by the respondents to the completeness and checking whether all questionnaires were answered accurately and if the respondents interpreted instruction and questions uniformly. The researcher employed the use of both descriptive and inferential statistics in the data analysis. Descriptive statistics entailed the use of frequencies, percentages, means and standard deviation (SD) to give the overall description of the opinions of the respondents. This was achieved through the use of both qualitative and quantitative techniques. Qualitative data was analyzed using content analysis and the findings presented in prose form. The data was analyzed using Ms Excel and Statistical Package for Social Science

(SPSS) version 21. The research hypotheses were analyzed using correlation and regression analysis. A multiple regression equation model was used in this form:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where;

Y = Dependent variable (academic performance)

$\beta_0$  = Constant

$\beta_1, \beta_2, \beta_3$  = Coefficients to be estimated

$X_1, X_2$  and  $X_3$  = Independent variables (Verbal communication mode, Manual communication mode and Total communication mode).

$\varepsilon$  = residual or error

### **3.10 Legal and Ethical Considerations**

Ethical consideration is part of the research work and cannot be avoided. Creswell (2012) emphasized that ethical guidelines and rules should be observed in any research activity. In this research, the guiding principles of Research ethics were observed. Confidentiality and privacy of the respondents were guaranteed throughout the study and no information was revealed without their consent. The researcher also sought the consent of the respondent before their participation in the study. The researcher created a good rapport with the respondents during familiarization tours. The researcher sought a letter from the Board of Post Graduate of Africa Nazarene University after successful defense and approval of the research proposal. This letter enabled the researcher to obtain a research permit from the National Commission for Science, Technology and Innovation (NACOSTI) to carry out the research. The NACOSTI research permit was presented by the researcher to the relevant authorities during the research period. It was also ethical to allow the participant to access the report of the study once it was completed (Kombo &

Tromp, 2006) the report of the study was availed to the office of county director of education and the office of the National Council for the Science Technology and Innovation (NACOSTI). A copy of the report was availed to the library of African Nazarene University. The researcher ensured that there was no personalization of the respondents' view during presentation, analysis and data interpretation. All materials used in the study were acknowledged accordingly.

## CHAPTER FOUR

### RESULTS AND ANALYSIS

#### 4.1 Introduction

This Chapter presents result and analysis of the data gathered. It focuses on the influence of verbal communication on academic performance of learners with HI, influence of manual communication on academic performance of learners with HI, influence of Total Communication on academic performance of learners with HI and challenges faced by learners with HI in inclusive setting.

#### 4.2 Response Rate

This section provides the level in which learners and teachers returned the questionnaires administered to them during data collection. A total of 73 learners' and 66 teachers' questionnaires were given out and 68 (93.2%) and 61 (92.4%) respectively were duly filled and returned back.

**Table 4.1: Response Rate**

<b>Categories</b>	<b>Targeted sample size</b>	<b>Response</b>	<b>Percentage response (%)</b>	<b>None Response</b>	<b>% None Response</b>
<b>Learners</b>	73	68	93.2	5	6.8
<b>Teachers</b>	66	61	92.4	5	7.6
<b>Total</b>	<b>139</b>	<b>129</b>	<b>92.8</b>	<b>10</b>	<b>7.2</b>

The composite questionnaire return rate from Table 4.1 was response rate (92.8%) in this study and was considered excellent and adequate for making a conclusive judgment (Mugenda & Mugenda, 2003).

Head teachers interview exercise also recorded 100% response rate as presented in Table 4.2.

**Table 4.2: Interview Response Rate**

<b>Categories</b>	<b>Targeted sample size</b>	<b>Response</b>	<b>Percentage response (%)</b>	<b>None Response</b>	<b>% None Response</b>
<b>Head-teachers</b>	10	10	100	0	0

This response rate was achieved since there was a proper arrangement between the researcher and the head teachers of the respective schools and appointment was given in time for the interview.

### **4.3 Demographic Characteristics of the Respondents**

This section presents the information of the respondents. It focuses on gender, age, teachers' and head-teachers' educational levels, work experience, training in special education and the number of in-service courses attended in the past two years.

#### **4.3.1 Gender of the Respondents**

The researcher sought to investigate the distribution of the respondents by gender. This aimed at ensuring that there was equity in response. The results are as shown in Table 4.3.

**Table 4.3: Distribution of Respondents by Gender**

<b>Gender</b>	<b>Learners</b>	<b>Learners (%)</b>	<b>Teachers</b>	<b>Teachers (%)</b>	<b>Head-teachers</b>	<b>Head-teachers (%)</b>
Male	33	48.5	36	59.0	6	60.0
Female	35	51.5	25	41.0	4	40.0
<b>Total</b>	<b>68</b>	<b>100</b>	<b>61</b>	<b>100</b>	<b>10</b>	<b>100</b>

The results indicate that there was fair involvement of learners in the study by gender with the female learners being 51.5% while the male 48.5%. Both male and female teachers and head-teachers took part in this study. The male teachers were 59.0% and the female teachers were 41.0% while the male head-teachers were 60.0% and their female counterparts were 40.0%. Thus the study was inclusive of both the male and female gender.

#### **4.3.2 Age Bracket of the Respondents**

The researcher sought to know the age of the respondents. Age is a factor which determines the level of maturity and the ability to understand new ideas since education is a revolutionary system. The result indicates that 23.5% of the learners were between 5-10 years, 63.2% were between 11-15 years and only 13.2% were above 15 years of age. This indicates that the majority of the learners had attained an age in which they could comprehend various issues around their environment hence could adequately respond to the questions in the questionnaires.



**Table 4.5: Age Bracket of the Teachers and Head-teachers**

Age bracket	Teachers	Teachers (%)	Head-teachers	Head-teachers (%)
20-29 years	20	32.8	2	20.0
30-39 years	20	32.8	3	30.0
40-49 years	12	19.7	3	30.0
≥ 50 years	9	14.7	2	20.0
	<b>61</b>	<b>100</b>	<b>10</b>	<b>100</b>

The finding shows that most teachers (65.6%) were below 40 years; this is a vibrant age and was very important in timely and adequate response to the questionnaires and only 34.4% of the teachers were above 40 years. Ages of the head-teachers were fairly distributed across all the age brackets.

### **4.3.3 Education Level**

The study sought to know the highest educational level of the teachers and head-teachers. This helped the researcher in understand the intellectual ability of the teachers and head-teachers in responding to various research questions. The results are as shown in table 4.6.

**Table 4.6: Education Level of the Teachers and head-teachers**

<b>Educational level</b>	<b>Teachers</b>	<b>Teachers (%)</b>	<b>Head-teachers</b>	<b>Head-teachers (%)</b>
Masters	1	1.6	2	20.0
Degree	4	6.6	1	10.0
Diploma	11	18.0	2	20.0
Certificate	45	73.8	5	50.0
	<b>61</b>	<b>100</b>	<b>10</b>	<b>100</b>

Adequate education is necessary for one to adequately comprehend and respond to questionnaire. The finding shows that all the respondents (teachers and head-teachers) had gone through training and were in good position to take part in the study.

#### **4.3.4 Working Experience**

The study sought information on the respondents' work experience. The results are as indicated in Table 4.7.

**Table 4.7: Work Experience**

<b>Experience</b>	<b>Teachers</b>	<b>Teachers (%)</b>	<b>Head-teachers</b>	<b>Head-teachers (%)</b>
< 5	17	27.9	2	0.0
5-10	1	1.6	4	0.0
11-20	29	47.5	2	60.0
≥ 20 years	14	23.0	2	40.0
	<b>61</b>	<b>100</b>	<b>10</b>	<b>100</b>

The results indicate that 27.9% of the teachers had worked for less than 5 years, 1.6% 5-10 years, 47.5% 11-20 years while 23.0% had worked for more than 20 years. Majority of the head-teachers (60%) had worked for 11-20 years and 40% had been in-service for more than 20 years.

#### **4.3.5 Training in Special Education**

Qualification and knowledge concerning a given subject is very important in curriculum delivery. The study sought information on the respondents training in special education.

The results are as shown in Table 4.8.

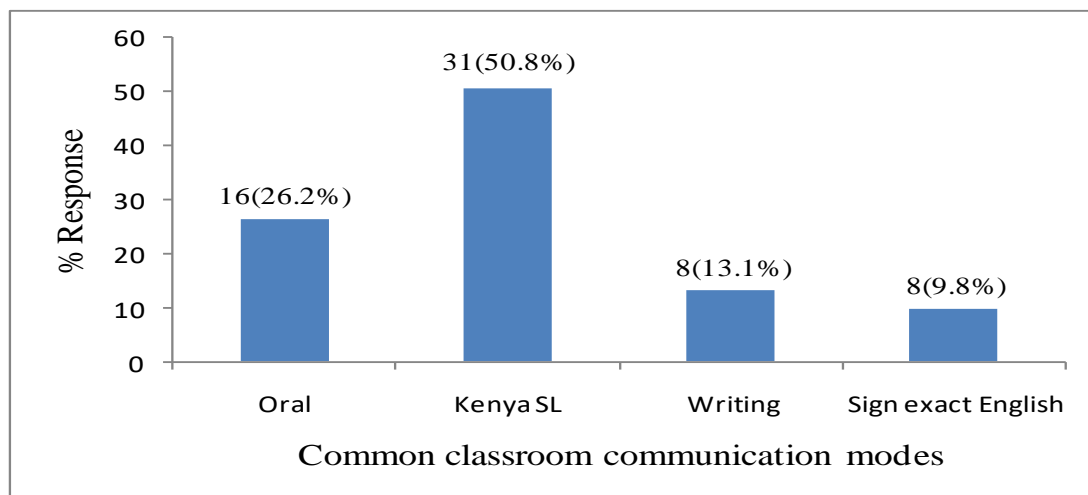
**Table 4.8: Training in Special Education**

Training in SE	Teachers	Teachers (%)	Head-teachers	Head-teachers (%)
Yes	33	54.1	3	30.0
No	28	45.9	7	70.0
	<b>61</b>	<b>100</b>	<b>10</b>	<b>100</b>

The result indicates that majority of the teachers (54.1%) had some training in special education. 30% of the head-teachers also had training in special education hence they were in good position to adequately respond to questions on hearing impaired learners.

#### 4.3.6 Common Classroom Communication Modes

Teachers were requested to indicated the commonly used communication modes used by teachers while teaching in class. The results were as indicated in Figure 4.1.

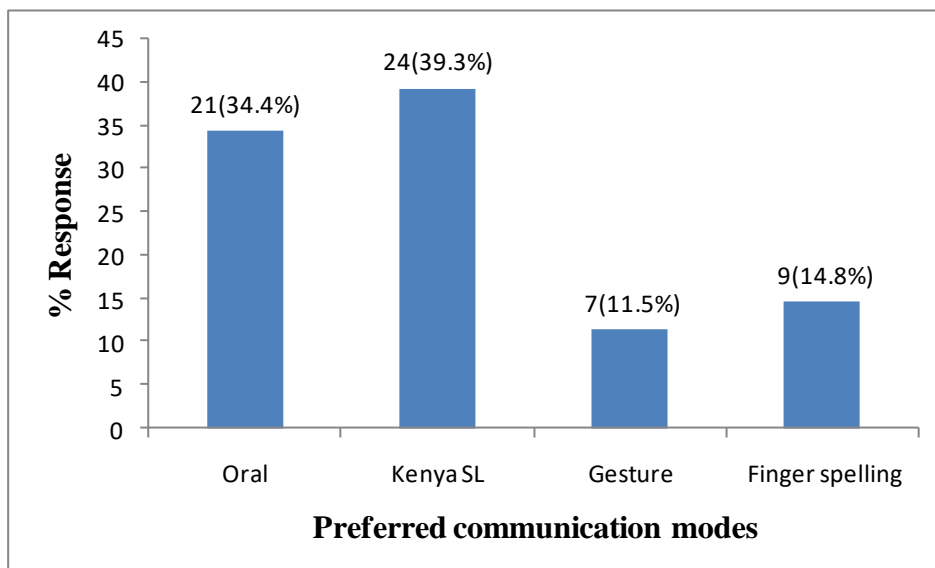
**Figure 4.1: Common Communication Modes Used by Teachers**

The results shown in Figure 4.1 showed that there were a number of communication modes used by teachers in communicating with learners with HI. The findings indicated that

teachers preferred the use of Kenyan Sign Language most (50.8%), followed by oral (26.2%), while writing and Sign Exact English were 13.1% and 9.8% respectively. It was however observed by the researcher that teachers mostly used Sign Exact English during learning lessons while TC was mostly used during discussion time. The findings showed that there was use of more than one form of classroom communication mode.

#### 4.3.7 Communication Mode Preferred by Teachers

The study further assessed classroom communication mode preferred by teachers. The findings stated are as presented in Figure 4.2.



**Figure 4.2: Preferred Communication Modes by Teachers**

The results showed that 39.3% of the teachers preferred the use of Kenya Sign Language, 34.4% were comfortable with Oral, and finger spelling was preferred by 14.8% of the teachers while gesture communication mode was preferred by 11.5%. From the researchers' observation checklist, teachers commonly used Total Communication while in school thus making Total Communication the most preferred communication mode.

#### **4.4 Verbal Communication and Academic Performance of Learners with HI**

The first objective of the study was to determine the influence of verbal communication on academic performance of learners with HI. To realize this, the researcher asked learners and teachers to give their opinion regarding this in relation to the use of verbal communication, and the extent of use of verbal communication in critical areas in school. The data was analyzed in frequencies, percentages, means and standard deviations (S.D). Tables, pie-charts and graphs were used in presenting the results. To maintain the anonymity of the head teachers as part of ethical considerations in qualitative data analysis from the head teachers interviews, the 10 head teachers interviewed were identified in this study as head-teacher<sub>1</sub>, head-teacher<sub>2</sub>, head-teachers<sub>3</sub>, .....head-teacher<sub>10</sub>.

The researchers requested the respondents (learners and teachers) with the help of likert scale to indicate the extent to which they agreed or disagreed with statements in line with the use of the various verbal communication methods. Likert scale were provided to the respondents in which the questionnaire responses were coded with Strongly agree rated 5, Agree-4, Undecided-3, Disagree – 2 and Strongly disagree-1. The findings are shown in Table 4.9.

**Table 4.9: Use of Various Verbal Communication Methods**

Statement		SA	A	U	D	SD	Mean	S.D
Teachers use lip-reading as a mode verbal communication in our school	F %	50 38.7	45 34.9	20 15.5	8 6.2	6 4.7	3.97	0.10
Application of facial expression by teachers enhances academic performance of pupils in our school	F %	8 6.2	64 49.6	41 31.8	0 0.0	16 12.4	3.50	0.07
Verbal communication allows for teacher-learner interaction in our school	F %	38 29.5	60 46.5	24 18.6	7 5.4	0 0.0	4.00	0.07
Verbal communication has enabled pupils to understand speech and use it in their communication in our school	F %	43 33.3	40 31.0	33 25.6	8 6.2	5 3.9	3.84	0.10
<b>Overall aggregated mean</b>							<b>3.83</b>	

From Table 4.9, 38.7% (50) of the respondents who participated in this study strongly agreed and 34.9% (45) of the respondents agreed that there is evidence of the use of lip-reading as a mode of communication in their respective schools. 15.5% (20 in total) of the respondents were undecided, 6.2% (8) disagreed while 4.7% (6) strongly disagreed with the statement that teachers use lip-reading as a form of verbal communication in school. This study generally revealed that 73.6% (95) of the respondents agreed that teachers use lip-reading as a mode of verbal communication (mean = 3.97; SD = 0.10), only 15.5% (20) could not ascertain (undecided) the use of lip-reading while partly 4.7% (6) disagreed on the statement.

Qualitative data obtained from head teacher affirmed the use of lip-reading as a form of verbal communication as indicated by two of the head teachers that:

We emphasize the use of lip-reading in our school..... This is especially encouraged in classes which have learners with HI. (Head-teacher<sub>1</sub>).

My school has some learners who have nearly lost their hearing ability, but the use of lip-reading has been instrumental in keeping such learners in school. Such learners can lip-read well and I encourage my teachers to assist them to further develop their lip-reading..... (Head-teacher<sub>2</sub>).

Similarly, 6.2% (8) of the respondents strongly agreed and 49.6% (64) agreed with the statement that: “ Application of facial expression by teachers enhances academic performance of pupils in our school”. 31.8% (41) were undecided and only 12.4% (16) strongly disagreed with the statement. The study generally revealed an overwhelming agreement (mean = 3.50, SD = 0.07).29.5% (38) of the respondents further strongly agreed and 46.5% (60) agreed with the statement that ‘Verbal communication allows for teacher – learner interaction...’ 18.6% (24) of the respondent were undecided while 5.4% (7) disagreed with the statement.

The importance of verbal communication in teacher-learner interaction got majority endorsement with a mean of 4.00 and SD of 0.07. This result indicated that due to the use of verbal communication, learners with HI enjoyed a good relationship (interaction) with their teachers which was necessary for them in realizing good academic performance. Finally, the statement that ‘Verbal communication has enabled pupils to understand speech and use it in their communication in our school’ drew 33.3% (43) of the respondents strongly agreeing and 31.0% (40) agreeing as opposed to 25.6% (33) of the respondents who undecided while 6.2% (8) disagreeing and 3.9% (5) strongly disagreeing with the statement. Evidently, majority of the respondents as shown by those who agreed (83 in total forming 64.3%, a mean of 3.84 and SD of 0.10) affirmed the importance of verbal communication in speech development among learners in school.

Qualitative data from the head teachers agreed with this finding. It was asserted by three different head teachers that:



The use of verbal communication within the school has enabled good speech development among learners in school irrespective of the learner's background or even hearing ability..... Head-teacher<sub>3,4&5</sub>).

This excerpt acknowledges that both the teachers and learners in the schools had adopted the use of verbal communication and they generally make use of it in their daily interactions within the school.

The findings of this study was in agreement with that of Ademokoya (1996) who asserted that the most popular communication mode among teachers in an inclusive setting is lip-reading and facial expression. Ademokoya further adds that verbal communication generally is a widely adopted communication mode used for instruction purposes and learning mostly occur through the spoken language. Eventhough the use of speech is the most popular mode of communication (Muiti, 2010), the study revealed that learners with HI were not comfortable with the use of verbal communication.

The study further sought to asses the extent to which verbal communication was needed by learners in various critical areas in schools. The results as indicated by learners are presented in Table 4.10.

**Table 4.10: Extent of Need of Verbal Communication in Critical Areas in School**

Statement		Very highly needed	Highly needed	Moderately needed	Not needed
Academic issues	F	29	33	0	6
	%	42.6	48.5	0.0	8.8
Social interaction issues	F	19	22	27	0
	%	27.9	32.4	39.7	0.0
Vocational issues	F	14	26	19	9
	%	20.6	38.2	27.9	13.2
Discipline issues	F	29	7	22	10
	%	42.6	10.3	32.4	14.7
Adhering to school rules	F	7	44	17	0
	%	10.3	64.7	25.0	0.0
Career choice issues	F	16	6	34	12
	%	23.5	8.8	50.0	17.6
Sports and games issues	F	22	26	15	5
	%	32.4	38.2	22.1	7.4

Table 4.10 shows that majority (91.1%) of learners were of the opinion that verbal communication was highly needed in areas related to academics. Similarly, 58.8% indicated that they highly needed verbal communication in vocational issues. In discipline related issues, 52.9% of the learners indicated that they highly needed verbal communication. More than 70.0% of the respondents indicated that they highly needed verbal communication when it came to adherence to school rules. Majority of the respondents were either not sure (50.0%) or felt that verbal communication was not needed

(17.6%) in issues concerning career choice. More than 60.0% felt that verbal communication was highly needed in areas related to sports and games.

Overall, response indicated that verbal communication had a lot of bearing on various critical areas in school (academic issues, social interaction issues, vocational issues, discipline issues, adherence to school rules, career choice and in sports and games). This could be the reason for poor academic performance among learners with HI since the respondents acknowledged the need of verbal communication on issues related to academics (Table 4.10).

Qualitative data from the head teachers affirmed these findings. One of the head teachers acknowledged that:

Verbal communication is generally an easy mode of communication. We generally employ the use of verbal communication mode in almost all areas in school; be it academics, socializing..... (Head-teacher<sub>6</sub>).

The excerpt above reveals the importance of verbal communication in academic performance of learners with hearing impairment. It is regrettable that such an important communication mode (verbal communication) is not popular among the learners with HI.

#### **4.5 Manual Communication and Academic Performance of Learners with HI**

The second objective of this study was to establish the influence of manual communication on academic performance of learner with hearing impairment in inclusive settings in Migori County. The researcher achieved this objective by asking the respondents (learners and teachers) to give their opinion regarding this in relation to the use of manual communication in critical areas in school, and the extent of participation of school stakeholders in manual communication mode. The data was analyzed using frequencies,

percentages, means and standard deviations (SD). Tables, pie-charts and graphs were used in presenting the results.

Teachers and learners were asked to indicate their opinion concerning the use of manual communication in their schools. The findings were indicated in Table 4.11.

**Table 4.11: Use of Manual Communication**

Statement		SA	A	U	D	DS	Mean	S.D
Pupils with hearing impairment find it difficult to communicate with hearing learners as a result of being taught with manual communication	F	24	56	27	15	7	3.58	0.10
	%	18.6	43.4	20.9	11.6	5.4		
Pupils can spell words manually as a result of being taught writing in the air through making of hand shapes in our school.	F	32	67	14	0	16	3.77	0.11
	%	24.8	51.9	10.9	6.2	6.2		
Manual communication is a slow form of communication in terms of time and does not enhance academic performance	F	22	67	13	15	12	3.56	0.10
	%	17.1	51.9	10.1	11.6	9.3		
Pupils can only understand small portion of what is taught through Manual Communication hence undermining academic performance.	F	37	48	8	23	13	3.57	0.12
	%	28.7	37.2	6.2	17.8	10.1		
<b>Aggregated overall mean</b>							<b>3.62</b>	

**Key: SA-Strongly agree, A-Agree, Un-Undecided, D-Disagree, DS-Strongly disagree**

The results in Table 4.11 indicate that over three fifth (80 forming 62.0%) of the respondents (18.6% strongly agreed, and 43.4% agreed) that ‘Pupils with HI find it difficult to communicate with hearing learners as a result of being taught with manual communication’. The mean of this item was 3.58 and SD was 0.10 showing that the

majority of respondents were in agreement that learners with HI were experiencing difficulties in communicating with their hearing counterparts. 20.9% of the respondents were undecided on this matter while only 11.6% and 5.4% of the respondents disagreed and strongly disagreed with the statement respectively.

In relation that 'Pupils can spell words manually as a result of being taught writing in the air through making of hand shapes in our school', majority (99 forming 76.7%) of the respondents were in agreement with the statement. This constituted of 32 (24.8%) strongly agreeing and 67 (51.9%) agreeing. This affirmed that the use of manual communication was very important in promoting word spellings among learner (mean = 3.77, SD = 0.11). 14 (10.9%) were undecided on this matter and 12.4% strongly disagreed. In regard of the statement that 'Manual communication is a slow form of communication in terms of time and does not enhance academic performance', the respondents (learners and teachers) indicated that they were generally in agreement with the statement (mean = 3.56, SD = 0.10). Specifically, 17.1% and 51.9% strongly agreed and agreed with the statement respectively. 10.1% of the respondents were undecided while 11.6% and 9.3% disagreed and strongly disagreed respectively with the statement. This implied that learners who totally depends on manual communication required a lot of time to grasp concepts and ideas taught in class.

The statement that 'Pupils can only understand small portion of what is taught through Manual Communication hence undermining academic performance' was supported by 65.9% (mean = 3.57, SD = 0.12) of the respondents. Strongly disagreeing attracted 28.7% while agreeing attracted 37.2% of the respondents. Only 6.2% were undecided on the statement while 17.8% and 10.1% of the respondents disagreed and strongly disagreed respectively with the statement.

Qualitative data from the head teachers indicated that sign language programme received little attention in budget allocation in school. Twice, it was reported by the head teachers that:

Eventhough the government fund school programmes and projects, the allocation for our school is hadly enough..... The budget is usually constrained such that none is left for sign language programmes in our school.(Head-teacher<sub>7&8</sub>).

Learners were asked to provide information regarding the use of manual communication in various critical areas in school by sign language teachers. The results were as indicated in Table 4.12.

**Table 4.12: Use of Manual Communication in Various Critical Areas**

<b>Critical areas</b>		<b>Ex</b>	<b>Go</b>	<b>Ave</b>	<b>BA</b>	<b>P</b>	<b>Mean</b>	<b>S.D</b>
Academic issues	F	21	37	6	4	0	4.10	0.10
	%	30.9	54.4	8.8	5.9	0.0		
Social interaction issues	F	16	39	10	0	3	4.00	0.09
	%	23.5	57.4	14.7	0.0	4.4		
Parent interaction	F	24	29	13	2		4.10	0.10
	%	35.3	42.6	19.1	2.9	0.0		
Hearing/HI relationship	F	15	48	4	1	0	4.13	0.07
	%	22.1	70.6	5.9	1.5	0.0		
Adhering to school rules	F	31	28	6	0	3	4.28	0.10
	%	45.6	41.2	8.8	0.0	4.4		
Career choice issues	F	25	21	14	8		3.93	0.12
	%	36.8	30.9	20.6	11.8	0.0		
Sports and games issues	F	8	41	17	0	2	3.81	0.08
	%	11.8	60.3	25.0	0.0	2.9		

**Key: Ex-Excellent, Go-Good, Ave-Average, BA-Below average, P-Poor**

From Table 4.12 learners overwhelmingly agreed that sign language teacher use manual communication in all critical areas in school. 30.9% (21) and 54.4% (37) of the learners were of the opinion that the use of manual communication by sign language teachers in areas related to academics was excellent and good respectively. This was contrary to the

8.8% who felt that its use was average and the 5.9% who were of the opinion that manual communication used by sign language teachers was below average. A mean of 4.10 and a SD of 0.10 showed that manual communication was highly used in academic issues. Similarly, 23.5% and 57.4% of the learners indicated that the use of manual communication in social interaction by sign language teachers was excellent and good respectively.

According to 14.7% of the learners, it was average and only 4.4% felt manual communication was poor in areas related to social interactions. This result implied that majority of the learners (mean = 4.00, SD = 0.09) understood the role of manual communication in social interaction. This could be true since in most cases, the only way to associate with learners with HI in an inclusive setting is only through manual communication. From the analysis, it was further established that majority of the learners (mean = 4.10, SD = 0.10) agreed that the use of manual communication by sign language teachers was important when it comes to interacting with parents. Of the learners surveyed, 35.3% (24) and 42.6% (29) were of the opinion that the use manual communication by sign language teachers was excellent and good respectively in interacting with parents. This was contrary to the 19.1% (4) and only 2.9% (2) who felt the use of manual communication by sign language teacher was average and below average respectively in parental interaction. 22.1% and 70.6% of the learners indicated that use of manual communication by sign language teachers was excellent and good respectively in promoting the relationship between learners with HI and their hearing counterparts. 5.9% still felt that it was average and only 1.5% of the learners thought that the use of manual communication was below average in enhancing this relationship. This overwhelming support (mean = 4.13, SD = 0.07) could be attributed to the fact that interaction between learners with HI and their peers

with hearing ability could be achieved through manual communication mode. Manual communication is the primary communication mode of those with HI.

In adhering to school rules, majority of learners 86.8% were of the opinion that the use of manual communication was excellent (45.6%) and good (41.2%). Contrary to the 8.8% and 4.4% of the learners who felt that it was average and poor respectively. 36.8% and 30.9% of the learners felt that the use of manual communication by sign language teachers was excellent and good respectively in promoting career choice among learners. Though, 20.6% and 11.8% of the learners were of the opinion that the use of manual communication by sign language teachers was average and below average when it came to career choice. Use of manual communication was highly praised when it came to games and sports (mean = 3.81, SD = 0.08). More than 70.0% of the respondents indicated that they highly needed manual communication when it came to adherence to school rules. Majority of the respondents were either not sure (50.0%) or felt that manual communication was not needed (17.6%) in issues concerning career choice. More than 60.0% felt that verbal communication was highly needed in areas related to sports and games.

Teachers were asked to indicate the extent to which other stakeholders participated in the use of manual communication. Likert scale was provided to the respondents in which the questionnaire responses were coded with Very large extent rated 5, Large extent-4, Moderately-3, Small extent-2 and Not extent – 1. The results were as indicated in Table 4.13.



**Table 4.13: Extent of Participation of other Stakeholders in Manual Communication**

Stake holder		VLE	LE	M	SE	NE	Mean	S.D																																																																																																																																													
Head teacher	F	55	0	4	2	0	4.77	0.09																																																																																																																																													
	%	90.2	0.0	6.6	3.3	0.0			Class teachers	F	29	32	0	0	0	4.48	0.06	%	47.5	52.5	0.0	0.0	0.0	Teacher on duty	F	25	36	0	0	0	4.41	0.06	%	41.0	59.0	0.0	0.0	0.0	School Prefects	F	8	26	9	11	7	3.28	0.16	%	13.1	42.6	1.8	18.0	11.5	Peer Counselors	F	13	40	0	8	0	3.95	0.11	%	21.3	65.6	0.0	13.1	0.0	Invited Parents	F	20	5	21	7	8	3.36	0.18	%	32.8	8.2	34.4	11.5	13.1	Invited Guest speakers	F	22	0	20	5	14	3.18	0.20	%	36.1	0.0	32.8	8.2	23.0	MOEST Officials e.g. QASO	F	6	0	8	34	13	2.21	0.14		9.8	0	13.1	55.7	21.3	School Board Members	F	14	0	0	36	11	2.51	0.18	%	23.0	0.0	0.0	59.0	18.0	Religious institutions	F	6	0	31	14	10	2.64	0.14	%	9.8	0.0	50.8	23.0	16.4	<b>Aggregated mean</b>	<b>overall</b>				
Class teachers	F	29	32	0	0	0	4.48	0.06																																																																																																																																													
	%	47.5	52.5	0.0	0.0	0.0			Teacher on duty	F	25	36	0	0	0	4.41	0.06	%	41.0	59.0	0.0	0.0	0.0	School Prefects	F	8	26	9	11	7	3.28	0.16	%	13.1	42.6	1.8	18.0	11.5	Peer Counselors	F	13	40	0	8	0	3.95	0.11	%	21.3	65.6	0.0	13.1	0.0	Invited Parents	F	20	5	21	7	8	3.36	0.18	%	32.8	8.2	34.4	11.5	13.1	Invited Guest speakers	F	22	0	20	5	14	3.18	0.20	%	36.1	0.0	32.8	8.2	23.0	MOEST Officials e.g. QASO	F	6	0	8	34	13	2.21	0.14		9.8	0	13.1	55.7	21.3	School Board Members	F	14	0	0	36	11	2.51	0.18	%	23.0	0.0	0.0	59.0	18.0	Religious institutions	F	6	0	31	14	10	2.64	0.14	%	9.8	0.0	50.8	23.0	16.4	<b>Aggregated mean</b>	<b>overall</b>						<b>3.48</b>													
Teacher on duty	F	25	36	0	0	0	4.41	0.06																																																																																																																																													
	%	41.0	59.0	0.0	0.0	0.0			School Prefects	F	8	26	9	11	7	3.28	0.16	%	13.1	42.6	1.8	18.0	11.5	Peer Counselors	F	13	40	0	8	0	3.95	0.11	%	21.3	65.6	0.0	13.1	0.0	Invited Parents	F	20	5	21	7	8	3.36	0.18	%	32.8	8.2	34.4	11.5	13.1	Invited Guest speakers	F	22	0	20	5	14	3.18	0.20	%	36.1	0.0	32.8	8.2	23.0	MOEST Officials e.g. QASO	F	6	0	8	34	13	2.21	0.14		9.8	0	13.1	55.7	21.3	School Board Members	F	14	0	0	36	11	2.51	0.18	%	23.0	0.0	0.0	59.0	18.0	Religious institutions	F	6	0	31	14	10	2.64	0.14	%	9.8	0.0	50.8	23.0	16.4	<b>Aggregated mean</b>	<b>overall</b>						<b>3.48</b>																												
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	%	32.8	8.2	34.4	11.5	13.1			Invited Guest speakers	F	22	0	20	5	14	3.18	0.20	%	36.1	0.0	32.8	8.2	23.0	MOEST Officials e.g. QASO	F	6	0	8	34	13	2.21	0.14		9.8	0	13.1	55.7	21.3	School Board Members	F	14	0	0	36	11	2.51	0.18	%	23.0	0.0	0.0	59.0	18.0	Religious institutions	F	6	0	31	14	10	2.64	0.14	%	9.8	0.0	50.8	23.0	16.4	<b>Aggregated mean</b>	<b>overall</b>						<b>3.48</b>																																																																									
Invited Guest speakers	F	22	0	20	5	14	3.18	0.20																																																																																																																																													
	%	36.1	0.0	32.8	8.2	23.0			MOEST Officials e.g. QASO	F	6	0	8	34	13	2.21	0.14		9.8	0	13.1	55.7	21.3	School Board Members	F	14	0	0	36	11	2.51	0.18	%	23.0	0.0	0.0	59.0	18.0	Religious institutions	F	6	0	31	14	10	2.64	0.14	%	9.8	0.0	50.8	23.0	16.4	<b>Aggregated mean</b>	<b>overall</b>						<b>3.48</b>																																																																																								
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<b>Aggregated mean</b>	<b>overall</b>						<b>3.48</b>																																																																																																																																														

**Key: VLE-Very large extent, LE-Large extent, M-Moderately, SE-Small extent, NE-No extent**

The findings in Table 4.13 indicates that majority of the respondents confirmed that the participation of stakeholders in use of manual communication varied greatly. Most of them indicated that: Head-teachers mostly participated in manual communication (mean = 4.77; SD = 0.09). Specifically, 90.2% (55) of the teachers affirmed that head teachers used manual communication to a very large extent. While 6.6% and 3.3% were of the opinion that the use of manual communication by head teachers was moderate and to small extent respectively. Similarly, class teachers mostly use manual communication (mean 4.48; SD = 0.06). 47.5% and 52.5% of the teachers felt that class teacher used manual communication to a very large extent and large extent respectively. This provided a good

gesture in handling learners with HI since class teachers are the ones who are in constant contact with the learners and are better equipped with the needs of various learners in class.

An overwhelming majority (mean = 4.41, SD = 0.06) of the teachers who took part in the study generally agreed that teachers on duty used manual communication to a very large extent (41.0%) and large extent (59.0%). Peers counselors also employed the use of manual communication (mean = 3.95, SD = 0.11) according to this study. 21.3% and 65.6% of the respondents felt that the use of manual communication was to a very large extent and large extent respectively by peer counselors. This could have been attributed to the fact that learners with different cases including those with HI approached peer counselors for counseling and the mode of communication in cases could require the use of manual communication mode. The use of manual communication was not very popular among the invited parents (mean = 2.51, 0.18) as majority of the teachers (59.0%) and 18.0%) were of the opinion that the invited guest used manual communication to a small extent and no extent respectively. This could be true since manual communication is not a common communication mode and can only be used among families whose membership includes those with HI.

Majority of invited speakers (mean =3.18, SD =0.2) used manual communication according to the teachers surveyed. This could be attributed to the fact that the school administration usually take into consideration the respective needs of the learners including those learners with HI and hence invite speakers that can comfortably use manual communication. Manual communication was not very popular among the MOEST officials (mean =2.21, SD =0.14), school board members (mean = 2.51, SD =0.18) and religious institution (mean = 0.64, SD =0.14).

Qualitative data from the head teachers confirmed that there was variations in the use of manual communication among school stakeholders. As was noted in two occasions, the head teachers reported that:

Manual communication is not easy.....many of the stakeholders in our school are not conversant with it.....(Head-teacher<sub>9</sub>).

To identify those who are fluent in manual communication around the school environment has not been easy tous. In most cases we usually invite SL experts to communicate to our pupils.( Head-teaher<sub>10</sub>).

#### 4.6 Total Communication and Academic Performance of Learners with HI

The third objective of this study was to determine the influence of total communication on academic performance of learner with hearing impairment in inclusive settings in Migori County. To realize this, the researcher sought to know the common communication mode used by learners with HI in communicating with their hearing counterparts and support of TC in key areas. The data was analyzed in frequencies, percentages, means and standard deviations (S.D). Tables, pie-charts and graphs were used in presenting the results.

Learners were asked to indicate the most common communication mode used in communicating with learners with HI. The results are presented in Table 4.14.

**Table 4.14: Common Communication Modes Used in Communicating with HI**

<b>Comm. Mode</b>	<b>Frequency</b>	<b>Percentage response (%)</b>	<b>Cumulative Percentage (%)</b>
Oral	15	22.1	22.1
Gesture	5	7.4	29.4
Kenyan SL	34	50.0	79.4
TC	14	20.6	100.0
<b>Total</b>	<b>68</b>	<b>100.0</b>	

Table 4.12 shows that most (50.0%) of learners preferred the use of Kenya sign language, 22.1% communicated orally with their hearing counterparts, TC was commonly used by 20.6% of the respondents while only 7.4% preferred the use of gestures.

The researcher requested the teachers to indicate the extent to which they supported key areas that determine the use of TC. The results are presented in Table 4.15.

**Table 4.15: Support of TC in Key Areas and Academic Performance**

Key areas		Maximum support	Moderate support	Minimum support	No support
Sign language resource acquisition	f	32	19	10	0
	%	52.5	31.1	16.4	0.0
Influencing other stakeholders to use TC in interactions thus improving academic performance of learners with HI	f	20	28	11	2
	%	32.8	45.9	18.0	3.3
Influencing learners to make use of total communication to resolve their issues	f	10	33	12	6
	%	16.4	54.1	19.7	9.8
Entrenching total communication time in school programme	f	11	33	15	2
	%	18.0	54.1	24.6	3.3
The use of TC during the teaching process has enhanced academic performance of learners with HI	f	32	19	10	0
	%	52.5	31.1	16.4	0.0

The results presented in Table 4.15 show that teachers provided support in the use of TC in various areas. In particular in 'Sign language resource acquisition' had a 100% support

though in varied degree. In particular, 52.5% of the teachers were of the opinion that teachers provided maximum support for the acquisition of sign language material, while 31.1% and 16.4% felt that the support was moderate and minimum respectively. The statement that ‘Influencing other stakeholders to strengthen the use of TC in interaction and academic performance’ received 32.8% for maximum support, 45.9% moderate support, 18.0% for minimum support and 3.3% for no support. Teacher were further asked to give their opinion on ‘Influencing learners to make use of total communication to resolve their issues’ in which 16.4% and 54.1% of the teachers felt that they gave maximum and moderate supports respectively. While 19.7% felt that the support provided by teachers in this area was minimum and 9.8% were of the opinion that teachers were giving no support in this area. In ‘Entrenching total communication time in school programme’ 18.0% and 54.1% of the teachers were of the opinion that teachers gave maximum support and moderate support respectively. 24.6% support was minimum with 3.3% feeling that there was no support teachers gave in this area.

‘The use of TC during the teaching process and its influence in academic performance of learners with HI’ was particular highly recognized in inclusive schools in Migori County. 100% of the respondents supported this statement though in varied degrees. In particular, 52.5% of the teachers were of the opinion that teachers provided maximum support for use of TC in the teaching process which has had a positive impact on the academic performance of learners with HI, while 31.1% and 16.4% felt that the support and the influence of TC in academic performance of the learners was moderate and minimum respectively.

Qualitative data from the head teachers confirmed that teachers were very instrumental in promoting the use of TC in schools with inclusive settings. One of the head teachers aserated that:

...Our teachers play key role in influencing sign language resources acquisition and in allocating time for SL programmes in the school timetable. (Head-teacher<sub>3</sub>).

#### 4.7 Challenges Faced by Learners with HI in Inclusive Settings

The forth and final objective of this study was to determine the challenges faced by learners with hearing impairment on academic performance in inclusive classroom settings in Migori County. To realize this, the reasercher requested the respondents (learners and teachers) to indicate the various challenges faced by learners with HI in their respective schools. The results were as presented in Table 4.16

**Table 4.16: Challenges Faced by Learners with HI in Inclusive Settings**

<b>Statements</b>	<b>Yes</b>	<b>No</b>	<b>Not Sure</b>
Most instruction methods used by hearing impaired in inclusive settings are not used by the teachers	54.1%	9.8%	13.1%
Teachers do not use instruction methods properly hence hindering academic performance	18.0%	59.0%	23.0%
Many teachers do not understand some manual communication hence leading to poor performance	41.0%	45.9%	13.1%
Hearing impairment is regarded as a disability among many members in the community hence leading to poor performance	32.8%	55.7%	11.5%
There are no adequate learning infrastructure for hearing impaired pupils leading to poor performance	52.5%	26.2%	21.3%
Negative attitude of teachers towards inclusion of HI	55.0%	18.0%	27.0%

From Table 4.16, the notable challenges were ‘Most instruction methods used by hearing impaired in inclusive settings are not used by the teachers’ in which (54.1%) of the respondents affirmed. Only 18.0% of the respondents agreed that ‘Teachers do not use instruction methods properly hence hindering academic performance’ hence this was not much of the challenge according to 82.0% of the respondents who said “NO” or were ‘Not Sure’. A further 67.2% of the respondents were not of the opinion that ‘Hearing impairment is regarded as a disability among many members in the community hence leading to poor performance’. This could have been attributed to the fact that HI had been accepted within the community hence those who are faced with such problems are not stigmatized. Inadequate learning infrastructure for learners with HI (52.5%) and negative attitude towards inclusion of HI in regular setting (55.0%) were among the challenges cited by the respondents.

Qualitative data from the head teachers further affirmed the glaring challenges faced by learners with HI. The following excerpts were noted from head teachers:

Irrespective of the number of learners with HI, most of inclusive schools in Migori County including our school only have one teacher who is trained in SL. The existing teachers have to work extra hours to help such learners at no extra pay. (Head-teacher<sub>4</sub>).

There is a general shortage of learning materials for learners with HI due to the low material allocation from the government. In most cases, teachers in charge of SL improvise the locally available materials in teaching. (Head-teacher<sub>6</sub>).

The teaching curriculum we have in inclusive setting schools are meant for learners with hearing ability. This makes it difficult to incorporate learners with HI at every stages of the learning process. At times learners with HI feel that teachers do not take notice of them in class. (Head-teacher<sub>8</sub>).

## 4.8 Hypotheses Testing

Multiple linear regression analysis was used to ascertain the relationship between the dependent variable (academic performance of learners with HI) and the independent variables (verbal communication, manual communication and total communication)

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \varepsilon$$

In which;

Y = dependent variable (academic performance)

$\beta_0$  = Constant

$\beta_1, \beta_2, \beta_3$  = Coefficients to be estimated

$X_1$  = Verbal communication mode

$X_2$  = Manual communication mode

$X_3$  = Total communication mode

SPSS software was used in fitting the model and a summary statistics output was obtained.

### 4.8.1 Model Summary

Table 4.17 presents a model summary.

**Table 4.17: Model Summary of Regression Analysis Output**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.863 <sup>a</sup>	.744	.735	.42123

From Table 4.17, the value of R-squared adjusted (correlation coefficient); which is the actual measure of the extent to which the independent variable (s) estimates the dependent variable is 0.733. This indicates that there exists a strong correlation between the academic performance of learners with HI and the various communication modes. From the values, 73.3% variation in the academic performance (dependent variable) is actually influenced by



the variations in use of verbal, manual and total communication modes (independent variables). The coefficients of regression equation is as presented in Table 4.18.

**Table 4.18: Coefficients of Regression Equation**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	$\beta$	Std. Error	$\beta$		
1 (Constant)	.797	.284		2.806	.007
Verbal	.841	.064	.862	13.051	.000
Manual	-.030	.053	-.041	-.574	.568
TC	.856	.070	.877	12.288	.000

Fitting in the coefficients into the model and assuming the error ( $\varepsilon$ ) to be zero, the model equation becomes:

$$Y = 0.797 + 0.841X_1 - 0.030X_2 + 0.856X_3$$

Where,

$X_1$ = Use of verbal communication,  $X_2$ = use of manual communication and  $X_3$  = use of TC. The study found a strong positive correlation (0.841) between academic performance of the learners with HI and the use of verbal communication. It was also found that there was a strong negative correlation (-0.03) between the learners academic performance and the use of manual communication while a strong positive correlation (0.856) was also noted between the learners academic performance and use of TC. Table 4.18 also indicated that all the p- values were less than .05 (significant) except for the use of manual communication, hence we reject all the initial hypothesis except for that of manual communication. These values indicate that an increment in the use of verbal and manual communication would produce a positive deviation on the academic performance of the learners with HI while an increase in the use of manual communication would subsequently lead to a negative deviation on the academic performance of such learners.

## CHAPTER FIVE

### DISCUSSION, SUMMARY, CONCLUSION AND RECOMMENDATIONS

#### 5.1 Introduction

This Chapter presents the discussion of the research findings, summary of the findings, and conclusions. Recommendations with regard to each objective and suggestions for further research are also contained in this Chapter.

#### 5.2 Discussion

This section presents the discussions of the research findings as per the research objectives.

##### 5.2.1 Verbal Communication and Academic Performance of Learners with HI

The first objective of the study was to determine the influence of verbal communication on academic performance of learners with HI. The use of lip-reading and facial expression were very popular among the respondents. This concurs with study conducted by Ademokoya (1996) who asserted that lip-reading and facial expression were widely used communication modes in an inclusive setting. These findings further concur with those of Wanyuma, (2016) and Rappolt, (2002) who reported that the use of more than one mode of classroom communication is very instrumental in instruction of learners with different hearing ability.

The study revealed that teachers in Migori County preferred the use of Kenyan Sign Language (39.3%). This was especially true among most teachers who have training in special needs education who were more comfortable and are fluent in using Kenya Sign Language as a mode of communication and in teaching. This finding is in agreement with study findings by Mweri (2014) who asserted that teachers who have knowledge of Kenyan Sign Language often make it as a primary language of communication and teaching of learners with hearing impairments. This finding was further in line with that of Muti

(2010) who asserted that even though the use of speech is the most popular mode of communication universally, learners with HI are not comfortable with the use of verbal (oral) communication and tend to resort to the use of other mode of communication including sign language.

Whereas this study found out that Kenyan Sign language was the most preferred mode of communication in teaching learners with hearing impairment, the results did not concur with the findings of Davis and Silverman (2018) who posit that oral language was used to teach learners with hearing impairment since it was universally agreed among educators and learners with hearing impairment that every child be given an opportunity to communicate by speech. Ademokoya (1996) further added that verbal communication generally is widely adopted communication mode used for instruction purposes and learning mostly occur through the spoken language. This finding further differed with the earlier studies carried out by Adoyo (2004), Mwanyuma (2016) and Wambui (2015) who reported that most teachers in Kenya do not have proper mastery and use of Kenyan sign language making it unpopular in handling learners with hearing impairment. These researchers attributed this to lack of interest in Kenyan Sign Language by most teacher; which is not true.

The study also indicated that lip-reading as a mode of verbal communication was highly adopted by teachers in schools in Migori County (73.6%). This finding was also affirmed through the interview with the head-teachers. This finding concurs with those of Valente *et al.*, (2012) and Martin *et al.*, (2006) that teachers and/or instructors should understand the degree of hearing loss in learners since some of the hearing impaired individuals have permanent loss yet in others, it may be temporary resulting from weather conditions or ear infections.

The study findings indicated that the application of facial expression by teachers enhances academic performance of learners with HI. This was indicated in Table 4.9 where 55.8% (72) teachers agreed that application of facial expression enhances academic performance of learners with HI. This finding did not concur with Okeke (2003) who avered that the use of oral communication is widely accepted in teaching and training of learners with HI because of its universal acceptance by educators. Researchers such as Ekwama (2003) emphasized that oral communication allows for teacher-learner interaction during the learning process compared to other modes of communication. It should be noted that it would be impractical to use purely oral communication without the use of facial expression to facilitate communication during the learning process in classroom.

The study findings further agreed that verbal communication allows for teacher-learner interaction this was indicated by 76.0% (Table 4.9) of the respondents. This finding concurs with Marschark *et al.* (2002) who asserted that through verbal communication, learners are instructed in reading and use of residual hearing though the use of pure oral method does not involve the use of signing. Interview with head-teachers also confirmed that the use of verbal communication has promoted speech development among learners in school.

Respondents severally affirmed that verbal communication was widely used within the schools in Migori County. The aggregated mean response for this was 3.83. Regression and correlation analysis indicated a strong positive relationship (coefficient of correlation = .841, significant = .000) between the use of verbal communication and academic performance of learners with HI. This could be the reason for poor academic performance among learners with HI in the study area. As reported by Maina (2017) that only a fraction of learners with HI can fully comprehend what is taught in class by use of verbal

communication and many of such learners register poor academic performance in reading and writing skills. This was in agreement with a study done by Blackhurt and Berdine (1981) who also found out that the performance of learners with HI in use of vocabulary is very poor compared to learners with hearing ability.

### **5.2.2 Manual Communication and Academic Performance of Learners with HI**

The second objective of this study was to establish the influence of manual communication on academic performance of learner with hearing impairment in inclusive settings in Migori County. Most teachers and learners were in agreement that the use of manual communication affected the interaction with the learners with HI (62.0% (mean = 3.58, SD = 0.10). This could mean that interaction among learners with HI and their hearing counterparts and even teachers who may not have had the knowledge of manual communication is not very productive. This finding was in line with that of Picou et al. (2011) who posit that the use of manual communication was very unpopular language among individuals with hearing abilities making it difficult for learners with HI to communicate with hearing learners.

It was also found that through manual communication mode (finger spelling) learners with HI could improve greatly their spelling ability. This was indicated by 76.7% (99) respondents as shown in Table 4.11. This finding confirms the study by Heward (2006) that finger spelling is strongly advocated for due to its ability to sign all English words. This was however contrary to the findings of Mba (2015) who reported that much of learning and word mastery were best done orally.

Manual communication mode was also noted as slow form of communication (mean = 3.56, SD = 0.10). This meant that learners who fully rely on the use of manual communication as the communication method, take a lot of time to understand the

curriculum content and this explains why their academic performance is low. These findings were similar to those found by Moores (2006) who reported that lip-reading is a bit difficult to learn and require more time to be mastered. This results in low academic performance of learners who entirely depend on this mode of communication especially those with HI who commonly use this method (Karanja, 2012). Such learners can only understand a portion of what is taught in class through lip reading and the choice of the appropriate communication was necessary for effective communication in class as asserted by Curzon (1991).

Regression and correlation analysis indicated a strong negative correlation (coefficient of correlation =  $-.030$ , significant =  $.568$ ) between the use of manual communication and academic performance of learners with HI. The use of manual communication had a negative impact on the academic performance of learners with HI based on the factors considered in this study. This was true according to Mwanyuma (2016) who found that the current Kenya educational curriculum is not based on learners with HI whose mode of communication is mainly manual communication.

### **5.2.3 Total Communication and Academic Performance of Learners with HI**

The third objective of this study was to establish the influence of Total Communication on academic performance of learners with HI in inclusive settings in Migori County. The research findings indicated that learners with hearing impairment use several communication modes in class. These were: oral, gesture, Kenyan SL and total communication. Kenyan SL was highly used (50.0%) followed by oral (22.1%), total communication (20.6%) and finally use of gesture (7.4%). This finding was in line with that of Ugwuanyi (2009) who posits that the choice of a communication method is dependent on the prevailing situation and more than one communication method may be

needed to effectively communicate with learners who possess different hearing abilities. TC is seen to bridge the language barrier gap among people with different language cognition. The use of purely TC was however not very popular in Migori County since the study was not done in schools which were exclusively for the HI but had inclusive setting. This finding agrees with the views of Holcomb (1960) who indicated that TC is universally accepted among learners with HI and in cases where there exist individuals with different hearing capabilities more than one communication may be used.

The use of Total Communication mode was generally being promoted by both teachers and head teachers in Migori County. The respondents supported the use of TC in the following key areas: Sign Language resource acquisition, influencing other stakeholders to strengthen the use of TC, influencing learners to make use of TC to solve their issues, and in entrenching TC time in school programme. Regression and correlation analysis indicated a strong positive correlation (coefficient of correlation = .856, significant = .000) between the use of Total Communication and academic performance of learners with HI. The use of Total Communication was practically preferred as observed by the researcher through the checklist.

The findings of this study corroborates earlier findings by Obianuju (2013) on the use of Total Communication and learners academic achievement in Nigeria who found that no matter the age of the learner, Total Communication mode produced a positive deviation on the learner's academic performance compared to the results produced by use of other communication modes. On similar study, Wambui (2015) also found that the commonly used communication mode in a class set-up was Total Communication which was also preferred by many learners with HI. Wambui further added that the use of Total Communication had a great impact on the academic output on learners with HI.

#### **5.2.4 Challenges Faced by Learners with HI in Inclusive Settings**

The final objective of this study was to determine the challenges faced by learners with HI on academic performance in inclusive classroom settings in Migori County. Learners with HI are faced with several challenges in their efforts to realize academic achievement in inclusive classroom settings in Migori County (Table 4.16).

The result indicated that most instruction methods used by hearing impaired in inclusive settings are not used by the teachers (54.1%). This could be attributed to lack of proper training with regard to special education among teachers and sensitization of HI. The findings affirm those of earlier researchers like Mapolisa (2013) who found that lack of proper training and the necessary experience among teachers in handling learners with HI are some of the major challenges affecting learners with HI. This finding also concurs with the findings by Wamae *et al.* (2004) who posit that most of the learning institutions do not take care of the needs of the HI learners enrolled in such schools, more so those in schools with inclusive settings and in some instances, teachers speak faster during the learning process without taking notice of such learners.

Only 18.0% of the respondents indicated that improper use of instruction methods affected the academic performance of learners with HI. This implied that the academic performance of learners with HI in Migori County was not dependent on the choice and use of a given instruction method. This result did not concur with those of Spencer and Marschark (2010) who asserted that a good number of instruction methods that are most appropriate to HI in inclusive settings are not used by the teachers hence such learners cannot achieve optimally.



The study also showed that majority (55.7%) of the respondents were of the opinion that HI is not regarded as a disability among many members in the community hence do not lead to poor academic performance. This result indicated that learners with HI in schools with inclusive settings were well integrated into the system. This finding did not agree with the research of Linton (1998) who asserted that HI is regarded as a disability with a community and such learners face stigmatization, and this may affect their involvement in group discussion with their peers which eventually affect their academic performance.

This study also indicated that most (52.5%) of the respondents felt that there are no adequate infrastructure for HI learners leading to poor academic performance. This implies that the infrastructure found in schools with inclusive settings in Migori County do not take care of the needs of learners with HI. This finding confirms a study by Wamae *et al.* (2004) who posit that learners with HI experiences many challenges including inadequate resources and infrastructure which may affect their academic performance. Salamanca World Conference of 1994 had also earlier on indicated that poor infrastructural development contributes heavily on the poor academic performance registered by most learners who experience HI.

### **5.3 Summary of Major Findings**

This section presents the summary of the research findings with respect to the objectives of the study.

The study found that verbal communication mode was widely used in teaching learners with HI. Lip-reading and facial expression was widely adopted in the area. The wide acceptance of verbal communication was based on its importance in enabling teacher-learner interaction and in speech development. Verbal communication got its application on academics, vocational issues, and enhancing discipline, adherence to school rules,

sports and games. In career choice, verbal communication was not very popular. Verbal communication was found to have a strong positive correlation (coefficient of correlation = .841, significant = .000) with academic performance of learners with HI.

Manual communication was very popular in most schools in Migori County. Manual communication was found to hinder communication between learners with HI and hearing learners. It was also found that the use of manual communication consumes a lot of time and only a fraction of the curriculum content delivered by use of manual communication could be understood by learners with HI. Manual communication was found to have a strong negative correlation (coefficient of correlation = -.030, significant = .568) with academic performance of learners with HI

It was found that most schools in Migori County used oral, gesture, Kenyan Sign Language and Total Communication modes. Total communication mode was very popular in classroom settings. The use of Total Communication had a lot of support from both the teachers and head-teachers. Further analysis showed that the use of Total Communication mode had a strong positive correlation (coefficient of correlation = .856, significant = .000) with academic performance of learners with HI.

Learners with HI are faced with a number of challenges in inclusive settings that eventually affect their academic performance. The study found that the challenges faced by learners with HI are: use of incompatible instruction methods by teachers, teachers do not understand manual communication used by learners with HI, HI is regarded as a disability, inadequate infrastructure and negative attitude of teachers regarding inclusion.

#### **5.4 Conclusion**

The following conclusions were made based on the research findings:

Inclusive schools in Migori County employ the use of verbal communication in classroom and it is key in speech development among learners. Learners with HI in these schools rely in the use of lip-reading and facial expression. The use of verbal communication is highly praised in areas related to: academics, social interaction, discipline, and sports and games. The use of verbal communication has a positive influence on the academic performance of learners with hearing impairment

Manual communication is also used in most inclusive primary schools in Migori County. Manual communication negatively affects class interaction especially when it involves the learners with HI and those with the hearing ability. Manual is critical in academics, social interaction, parent interaction, learners with HI, hearing learners' relationships, adherence to school rules, career choice, sports and games activities. The use of manual communication has a negative impact on the academic performance of learners with HI in inclusive primary school settings in Migori County.

Primary schools with inclusive settings in Migori County widely use oral, gesture, Kenyan Sign Language and Total Communication modes. The use of these communications varies greatly with Total Communication modes highly adopted as a classroom communication mode. To popularize the use of Total Communication in primary schools with inclusive settings, teachers and head-teachers provides support to Total Communication mode. Teachers and head-teachers provide support in Sign Language resource acquisition, influencing learners to use Total Communication and entrenching Total Communication time in school programmes.

Learners with HI in inclusive primary settings in Migori County are faced with several challenges that ultimately affect their academic performance. These challenges

include:teachers use instruction methods that do not favour learners with HI, teachers do not understand manual communication used by learners with HI, HI is regarded as a disability, inadequate infrastructure and negative attitude of teachers regarding inclusion of learners with HI.

### **5.5 Recommendations**

Based on the finding the following recommendations were made:

The government of Kenya through its educational programmes should provide a common course to all teacher trainees that intend to deal with ‘handling learners with HI’ especially in the use of various communication modes.

The study found out that most teachers were not comfortable with the use of manual communication mode and whenever it was used, it had a negative impact on the academic performance of learners with HI due to communication breakdown. The study therefore recommends that the government of Kenya through the ministry of education should organize and conduct in-service trainings for all teachers in primary schools with inclusive settings in the use of manual communication mode.

The study recommends that the government of Kenya should allocate more funds to primary schools with inclusive settings. This will assist the school managers and teachers in charge of SL in implementing fully the use of Total Communication modes in these settings.

The study also recommends that the ministry of education should have more intervention in place to bring on board more teachers in developing positive attitude with regard to inclusion.

Relevant stakeholders in the education sector (government of Kenya, County governments, teachers and school community) and those dealing with persons with disabilities (National

Council for Persons with Disabilities in Kenya, United Disabled Persons of Kenya) should work together and ensure that learner with HI are provided with learning aids and hearing aids in primary schools with inclusive settings as provided in the Kenya Persons with Disability Act No. 14 of 2003.

### **5.6 Suggestion for Further Research**

This study looked at the influence of communication methods on the academic performance of learners with HI, it therefore suggests that there is need to conduct further research on other factors (school based factors, social factors etc) that might also have influence on the academic performance of learners with HI in primary schools with inclusive settings.

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**APPENDICES****APPENDIX I: LETTER OF INTRODUCTION**

HARRISON ABWAJO NYAMBERE

AFRICA NAZARENEUNIVERSITY

P.O. BOX 5307-00200

NAIROBI

Dear respondents,

RE: INFLUENCE OF COMMUNICATION METHOD ON ACADEMIC PERFORMANCE OF LEARNERS WITH HEARING IMPAIRMENT IN INCLUSIVE SETTING IN MIGORI COUNTY.

I am a postgraduate student pursuing a master of education degree at Africa Nazarene University. I am doing a research on influence of communication method on academic performance of learners with hearing impairment in inclusive setting in Migori County.

Your school has been selected to participate in this research. I hereby request you to respond to the questionnaire items as honest as possible and to the best of your knowledge. The questionnaire is meant for this research only and your identity will be treated with at most confidentiality. The information given shall be used only for the purpose of research.

Thank you for your co-operation in this exercise

Yours Faithfully

HARRISON ABWAJO NYAMBERE



- a. President
- b. Deputy president
- c. Speaker
- d. Deputy speaker
- e. Governor
- f. Senator
- g. Others

**Section B: Influence of Verbal Communication on Learners with Hearing Impairment**

7. By use of a tick, indicate whether you agree with the following statements regarding the influence of verbal communication on academic performance of learners with hearing impairment in inclusive settings in your school. *Key: SA: Strongly Agree; A: Agree; UD: Undecided; D: Disagree, SD Strongly Disagree*)

	<b>Statements</b>	<b>SA</b>	<b>A</b>	<b>UD</b>	<b>D</b>	<b>SD</b>
a)	Teachers use lip-reading as a mode of verbal communication in our school					
b)	Application of facial expression by teachers enhances academic performance of pupils in our school					
c)	Verbal communication allows teacher-learner interaction in our school					
d)	Verbal communication has enabled pupils to understand speech and use it in their communication in our school					

8. To what extent is Verbal Communication needed in your school in the following areas?  
Tick as appropriate

<b>Verbal Communication</b>	Very Highly needed	Highly needed	Moderately needed	Not needed
Academic issues				
Social interaction issues				
Vocational issues				
Discipline issues				
Adhering to school rules				
Career choice issues				
Sports and games issues				

9. By use of a tick, indicate whether you agree with the following statements regarding the influence of verbal communication on academic performance of learners with hearing impairment in inclusive settings in your school. **Key:** SA: *Strongly Agree*; A: *Agree*; UD: *Undecided*; D: *Disagree*, SD *Strongly Disagree*)

	<b>Statements</b>	<b>SA</b>	<b>A</b>	<b>UD</b>	<b>D</b>	<b>SD</b>
a)	Teachers use lip-reading as a mode of verbal communication in our school					
b)	Application of facial expression by teachers enhances academic performance of pupils in our school					
c)	Verbal communication allows teacher-learner interaction in our school					
d)	Verbal communication has enabled pupils to understand speech and use it in their communication in our school					

### Section C: Influence of Manual Communication on Learners with Hearing Impairment

10. By use of a tick, indicate whether you agree with the following statements regarding the influence of manual communication on academic performance of learner with hearing impairment in inclusive settings in your school. **Key:** SA: Strongly Agree; A: Agree; UD: Undecided; D: Disagree, SD Strongly Disagree)

	Statements	SA	A	UD	D	SD
a)	Pupils with hearing impairment find it difficult to communicate with hearing learners as a result of being taught with manual communication in our school.					
b)	Pupils can spell words manually as a result of being taught writing in the air through making of hand shapes in our school.					
c)	Manual communication is a slow form of communication in terms of time and does not enhance academic performance in our school.					
d)	Pupils can only understand small portion of what is taught through Manual Communication hence undermining academic performance.					

11. Sign language teachers provide manual communication programmes to several critical areas. Please rate your level of preparedness and competence in each of these areas.



<b>Manual communication/Level of preparedness</b>	Excellent (5)	Good (4)	Average (3)	Below Average (2)	Poor (1)
Academic					
Social interaction					
Parents interaction					
Hearing /hearing impaired relationship					
Adhering to school rules					
Career choice					
Sports and games					

#### **Section D: Influence of Total Communication on Learners with Hearing Impairment**

12. Which classroom communication modes do you commonly use while teaching in class

- Oral  Kenyan Sign Language
- Writing  Total Communication
- Gestures  Finger Spelling
- Sign Exact English  Others Specify

13. Which classroom communication modes are you most comfortable with?

- Oral  Kenyan Sign Language
- Writing  Total Communication
- Gestures  Finger Spelling
- Signing Exact English  Others Specify

**14.** Other than the teacher in charge, rate the extent to which other stake holders participate in students' manual communication in your school

<b>Stake holder Category</b>	<b>Very Large Extent</b>	<b>Large Extent</b>	<b>Not Sure</b>	<b>Small Extent</b>	<b>No Extent</b>
Head teacher					
Class teachers					
Teacher on duty					
School Prefects					
Peer Counsellors					
Invited Parents					
Invited Guest speakers					
MOEST Officials e.g. QASOs					
School Board Members					
Religious institutions					

### **Section E: Challenges faced by Learners with Hearing Impairment in Inclusive Setting**

**15.** Challenges faced by Learners with Hearing Impairment as a result of communication methods used by teachers on the academic performance in inclusive school?

	<b>Statements</b>	<b>Yes</b>	<b>No</b>	<b>Not Sure</b>
a)	Most instruction methods used by hearing impaired in inclusive settings are not used by the teachers			
b)	Teachers in our school do not use instruction methods properly hence hindering academic performance in our school			
c)	Many teachers in our school do not understand some manual communication hence leading to poor performance in our school			
d)	Hearing impairment is regarded as a disability among many members in the community hence leading to poor performance in our school			
e)	There are no adequate learning infrastructure for hearing impaired pupils in our school, leading to poor performance			

16. We find it difficult to be understood by our classmate.

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17. Please list other challenges if any that learners with hearing impairment encounter in the class to participate in academic performance.

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18. Learners with Hearing Impairment find it difficult to be understood by their teachers.

Yes  No

19. Which classroom communication modes do you commonly use in class

Oral  Kenyan Sign Language

Writing  Total Communication

Gestures	<input type="checkbox"/>	Finger Spelling	<input type="checkbox"/>
Sign Exact English	<input type="checkbox"/>	Others Specify	<input type="checkbox"/>

20. Which classroom communication modes are you most comfortable with?

Oral	<input type="checkbox"/>	Kenyan Sign Language	<input type="checkbox"/>
Writing	<input type="checkbox"/>	Total Communication	<input type="checkbox"/>
Gestures	<input type="checkbox"/>	Finger Spelling	<input type="checkbox"/>
Signing Exact English	<input type="checkbox"/>	Others Specify	<input type="checkbox"/>

21. Which Classroom Communication modes does your teacher commonly use?

Oral	<input type="checkbox"/>	Kenyan Sign Language	<input type="checkbox"/>
Writing	<input type="checkbox"/>	Total Communication	<input type="checkbox"/>
Gestures	<input type="checkbox"/>	Finger Spelling	<input type="checkbox"/>
Signing Exact English	<input type="checkbox"/>	Others Specify	<input type="checkbox"/>

### APPENDIX III: QUESTIONNAIRE FOR TEACHERS

Dear Respondent,

I am a student of African Nazarene University. I am conducting a study on the influence of communication methods on the academic performance of learners with hearing impairment in Inclusive settings: a case of Migori County. You have been selected to take part in this study. I would be grateful if you would assist me by responding to all items in this questionnaire. Your name does not need to appear anywhere in the questionnaire. The information will be kept confidential and will be used for academic research purpose only. Your co-operation will be greatly appreciated.

Thanks you in advance.

Yours sincerely,

Harrison Abwajo Nyambere

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#### Section A: Demographic Information

##### 1. Gender

- c) Male    
 d) Female

##### 2 Highest academic level attained

Masters  Degree  Diploma  Certificate

##### 3 Working experience as a teacher?

Below 5 years  5 years  11-20 years  over 20 years

##### 4 Do you have any training in special needs education?

Yes.  No.

##### 5 If yes, up to which level?

Masters [ ] Degree [ ] Diploma [ ] certificate [ ]

6 How many in- service courses have you attended for the past two years?

**Section B: Influence of Verbal Communication on Learners with Hearing Impairment**

7. Which classroom communication modes do you commonly use while teaching in class?

Oral	<input type="checkbox"/>	Kenyan Sign Language	<input type="checkbox"/>
Writing	<input type="checkbox"/>	Total Communication	<input type="checkbox"/>
Gestures	<input type="checkbox"/>	Finger Spelling	<input type="checkbox"/>
Sign Exact English	<input type="checkbox"/>	Others Specify	<input type="checkbox"/>

8. Which classroom communication modes are you most comfortable with?

Oral	<input type="checkbox"/>	Kenyan Sign Language	<input type="checkbox"/>
Writing	<input type="checkbox"/>	Total Communication	<input type="checkbox"/>
Gestures	<input type="checkbox"/>	Finger Spelling	<input type="checkbox"/>
Signing Exact English	<input type="checkbox"/>	Others Specify	<input type="checkbox"/>

9. Which Classroom Communication modes do you commonly use in communicating with learners with HI?

Oral	<input type="checkbox"/>	Kenyan Sign Language	<input type="checkbox"/>
Writing	<input type="checkbox"/>	Total Communication	<input type="checkbox"/>
Gestures	<input type="checkbox"/>	Finger Spelling	<input type="checkbox"/>
Signing Exact English	<input type="checkbox"/>	Others Specify	<input type="checkbox"/>

10. By use of a tick, indicate whether you agree with the following statements regarding the influence of verbal communication on academic performance of learners with hearing impairment in inclusive settings in your school. **Key:** SA: *Strongly Agree*; A: *Agree*; UD: *Undecided*; D: *Disagree*, SD *Strongly Disagree*)

	<b>Statements</b>	<b>SA</b>	<b>A</b>	<b>UD</b>	<b>D</b>	<b>SD</b>
a)	Teachers use lip-reading as a mode verbal communication in our school					
b)	Application of facial expression by teachers enhances academic performance of pupils in our school					
c)	Verbal communication allows teacher-learner interaction in our school					
d)	Verbal communication has enabled pupils to understand speech and use it in their communication in our school					

### **Section C: Influence of Manual Communication on Academic Performance of Learners with Hearing Impairment**

11. By use of a tick, indicate whether you agree with the following statements regarding the influence of manual communication on academic performance of learner with hearing impairment in inclusive settings in your school. **Key:** SA: *Strongly Agree*; A: *Agree*; UD: *Undecided*; D: *Disagree*, SD *Strongly Disagree*)

	<b>Statements</b>	<b>SA</b>	<b>A</b>	<b>UD</b>	<b>D</b>	<b>SD</b>
a)	Pupils with hearing impairment find it difficult to communicate with hearing learners as a result of being taught with manual communication in our school.					

b)	Pupils can spell words manually as a result of being taught writing in the air through making of hand shapes in our school.					
c)	Manual communication is a slow form of communication in terms of time and does not enhance academic performance in our school.					
d)	Pupils can only understand small portion of what is taught through Manual Communication hence undermining academic performance.					

**12.** Other than the teacher in charge, rate the extent to which other stakeholders participate in students' manual communication in your school

<b>Stakeholder Category</b>	<b>Very Large Extent</b>	<b>Large Extent</b>	<b>Not Sure</b>	<b>Small Extent</b>	<b>No Extent</b>
Head teacher					
Class teachers					
Teacher on duty					
School Prefects					
Peer Counsellors					
Invited Parents					
Invited Guest speakers					
MOEST Officials e.g. QASOs					
School Board Members					
Religious institutions					



**Section D: Influence of Total Communication on Academic Performance of Learners with Hearing Impairment**

13. Do you think that total communication used by teachers in your school enhances academic performance?

Yes [  ] No [  ]

14. Rate the teachers support to the key areas that determine the overall status of a school total communication programme. Tick (✓) appropriately

	<b>Maximum Support</b>	<b>Moderate Support</b>	<b>Minimum Support</b>	<b>No Support</b>
Sign language resource acquisition				
Influencing other stakeholders to use TC in interactions thus improving academic performance of learners with HI				
Influencing learners to make use of total communication to resolve their issues				
Entrenching total communication time in school programme				
Creating sign language teacher role identity				
The use of TC during the teaching process has enhanced academic performance of learners with HI				

**Section E: Challenges Faced by Learners with Hearing Impairment in inclusive setting**

15. Challenges faced by Learners with Hearing Impairment as a result of communication methods used by teachers on the academic performance in inclusive school?

	<b>Statements</b>	<b>Yes</b>	<b>No</b>	<b>Not Sure</b>
a)	Most instruction methods used by hearing impaired in inclusive settings are not used by the teachers			
b)	Teachers in our school do not use instruction methods properly hence hindering academic performance in our school			
c)	Many teachers in our school do not understand some manual communication hence leading to poor performance in our school			
d)	Hearing impairment is regarded as a disability among many members in the community hence leading to poor performance in our school			
e)	There are no adequate learning infrastructure for hearing impaired pupils in our school, leading to poor performance			

16. We find it difficult to be understood by our classmate.

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18. Please list other challenges if any that learners with hearing impairment encounter in the class to participate in academic performance.

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19. Kindly explain how these challenges influence academic performance of learners with hearing impairment

.....  
.....

20. We find it difficult to understand what teachers are teaching in class.

.....  
.....  
.....

#### **APPENDIX IV: INTERVIEW GUIDE FOR HEAD TEACHERS**

I am a student of African Nazarene University. I am conducting a study on the influence of communication methods on the academic performance of learners with hearing impairment in Inclusive settings: a case of Migori County. You have been selected to take part in this study. I would be grateful if you would assist me by responding to all items in this questionnaire. Your name does not need to appear anywhere in the questionnaire. The information will be kept confidential and will be used for academic research purpose only. Your co-operation will be greatly appreciated.

Thanks you in advance.

Yours sincerely,

**Harrison Abwajo Nyambere**

1. How old are you? .....
2. For how long have you worked in the inclusive school?  
.....
3. What is your highest academic level?  
.....
4. For how long have you worked in your current position (head-tecaher)?  
.....
5. Do you have any training in Special Needs Education? ..... If 'Yes' up to what level?  
.....
6. Comment on the following statements regarding the use of verbal communication and academic performance of learners with HI.
  - a. Teachers use lip-reading as a mode verbal communication in my school.  
.....

b. Application of facial expression by teachers enhances academic performance of pupils in our school.

.....

c. Verbal communication allows for teacher-learner interaction in our school

.....

d. Verbal communication has enabled pupils to understand speech and use it in their communication in our school.

.....

7. Do you allocate funds for sign language programmes in your school budget?

Comment briefly.....

8. In your own opinion, what can you say about the use of manual communication in the various key areas in school? Elaborate briefly mentioning each area.

.....

.....

9. What is your experience with communication to learners with hearing impairment in yourschool?

.....

10. What is your opinion on the influence of specific communication modes used to enhance academic participation of learners with hearing impairment?

.....

11. What is your comment on teachers towards their communication with learners with hearing impairment in their class?

.....

11. In your opinion, has classroom communication influence the academic performance of learners with Hearing Impaired

.....

13. In your view which challenges do you think are faced by learners in your classroom while communicating to teachers and peers in the class?

.....

**Thank you for taking part in the study**

## APPENDIX V: OBSERVATIONAL CHECKLIST

1. Rate the use of various resources and infrastructures by learners with hearing impairment: Good, Average, Below Average, Poor

<b>Resources and infrastructures</b>	Good	Average	Below Average	Poor	Comment
Caustic Rooms					
Audiometer					
Speech Kit					
Hearing Aids					
Computer for processing and storing information					
Shackers					
Communication Board					
Others (specify)					

### Key

Good: When all the resources and infrastructures are functioning well.

Average: When  $\frac{3}{4}$  of pupils are able to perform the named communication strategies.

Below Average: When  $\frac{1}{4}$  of pupils are able to perform the named communication Strategies.

Poor: When  $\frac{1}{2}$  of pupils are able to perform the named communication strategies.

Very Poor: When less than  $\frac{1}{4}$  of pupils are able to perform the named communication strategies.

2. Academic performance of learners with HI compared to the class mean score as observed from the examination mark sheet: Excellent (80 - 100%) Good (60-79%), Average (50 – 59%), Below Average (40-49%), Poor (39% and bellow).

<b>Subject</b>	<b>Good</b>	<b>Average</b>	<b>Below Average</b>	<b>Poor</b>	<b>Comment</b>
Maths					
English					
Kiswahili					
Social studies					
Science					
<b>Mean score</b>					



**APPENDIX VI: LETTER FROM INSTITUTION**

**AFRICA NAZARENE**  
UNIVERSITY

12<sup>th</sup> June, 2018

**RE: TO WHOM IT MAY CONCERN**

Harrison Abwajo Nyambere 15M04CMED060 is a bonafide student at Africa Nazarene University. He/She has finished his/her course work and has defended his/her thesis proposal entitled *"Influence of Communication on the Academic Performance of Learners with Hearing Impairment in Inclusive Settings: A Case of Migori County, Kenya"*

Any assistance accorded to him/her to facilitate data collection and finish his/her thesis is highly welcomed.

**Prof. Rodney Reed**  
Deputy Vice Chancellor, Academic Affairs

## APPENDIX VII: RESEARCH PERMIT FROM NACOSTI

**THIS IS TO CERTIFY THAT:** **Permit No : NACOSTI/P/18/93059/23506**  
**MR. ABWAJO NYAMBERE HARRISON** **Date Of Issue : 11th July,2018**  
**of AFRICA NAZARENE UNIVERSITY,** **Fee Recieved :Ksh 1000**  
**156-40404 RONGO,has been permitted**  
**to conduct research in Migori County**  
**on the topic: INFLUENCE OF**  
**COMMUNICATION ON THE ACADEMIC**  
**PERFORMANCE OF LEARNERS WITH**  
**HEARING IMPAIRMENT IN INCLUSIVE**  
**SETTING. A CASE OF MIGORI**  
**COUNTY.KENYA**  
**for the period ending:**  
**10th July,2019**  
 .....  
**Applicant's** **Signature** **Director General**  
**National Commission for Science,**  
**Technology & Innovation**



## APPENDIX VIII: RESEARCH SITE MAP



SOURCE: Google map: A map showing Migori County