

**THE EFFECTIVENESS OF SIGN LANGUAGE IN
TEACHING LEARNERS WITH HEARING
IMPAIRMENT IN SPECIAL SCHOOLS
AND UNITS IN KWALE
DISTRICT-KENYA**

BY

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DECLARATION

I, Joseph M. Mwangela, Registration No. BED/14828/DF, hereby declare that, this special study paper is my own original work and not a duplication of similarly published work of any scholar for academic purpose as partial requirement of any college or otherwise. It has therefore never been submitted to any other institution of higher learning for the award of a Certificate, Diploma or Degree in special needs education.

I further declare that, all materials cited in this paper which are not my own, have been duly acknowledged.

SIGNATURE:



Joseph M. Mwangela

DATE:



APPROVAL

This is to certify that this study has been submitted with my approval as to be understood by the supervisor.

Signature

A handwritten signature in black ink, appearing to be 'Ssekajugo Derrick', written over a large, hand-drawn oval shape.

Ssekajugo Derrick

Date

12/12/2008

DEDICATION

This special paper is dedicated to my wife EUNICE and my three children, MWONGELA, MUSEMBI and MUOKI for their tolerance and encouragement and more so their patience during my absence in Kampala, Uganda during the school holidays. I also dedicate this paper to my mother Annah Mwangela who continuously encourages me to continue with my studies despite her long time illness. Lastly to my father Mzee Philip Mwangela who always left his home at Lukore to come and stay with my family in Mombasa during my days out at Kampala, Uganda.

May God bless them all.

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TABLE OF CONTENTS	PAGE
PRELIMINARY	
Title page	i
Declaration	ii
Dedication	iii
Acknowledgement	iv
Table of Contents	v
List of tables	viii
Abstract	ix

CHAPTER ONE: INTRODUCTION

1.1	Background information	1
1.2	Statement of the Problem	3
1.3	Purpose of the study	4
1.4	Objectives of the study	4
1.5	Research questions	4
1.6	Scope of the study	5
1.7	Significance of the study	5
1.8	Limitations	6
1.9	Delimitations	6
1.10	Operational definition of terms	7

CHAPTER TWO: REVIEW OF RELATED LITERATURE

2.1	Introduction	8
2.2	Hearing Impairment	8
2.3	Causes of hearing impairment	9
2.4	Categories of hearing loss	11
2.5	Effects of hearing impairment on learning	13
2.6	Teachers attitude towards learners with hearing Impairment	15
2.7	Communication	16
2.8	Communication approaches used in education of the deaf	16
2.9	Development of Deaf education in Kenya	17
2.10	Development of sign language	18
2.11	Sign language as a medium of instruction and its limitations	20
2.12	Challenges faced by teachers in use of sign language	24

CHAPTER THREE: METHODOLOGY

3.1	Introduction	25
3.2	Research approach	25
3.3	Research design	25
3.4	The population	26
3.5	The sample population	26
3.6	The sampling procedure	26
3.7	Instruments/tools	27
3.8	Procedure of the study	27

CHAPTER FOUR: PRESENTATION AND ANALYSIS OF DATA

4.1	Introduction	28
4.2	Questionnaire for teachers	29

CHAPTER FIVE: SUMMARY, DISCUSSIONS, CONCLUSION AND RECOMMENDATIONS

5.1	Introduction	42
5.2	Training in SNE	43
5.3	Knowledge of hearing impairment	43
5.4	Modes of communication	44
5.5	Use of sign language and its effectiveness	45
5.6	KCPE examination performance	45
5.7	Views on how to improve the teaching of learners with hearing Impairment using sign language	46
5.8	Conclusion	47
5.9	Recommendations	47
REFERENCE LIST		49

APPENDICES

A.	Questionnaire for teachers.....	50-53
B.	Introduction letter	

LIST OF TABLES

Table 1:	General information
Table 2:	Age range
Table 3:	Level of education
Table 4:	Training in SNE
Table 5:	Level of training in SNE
Table 6:	Teaching experience
Table 7:	Causes of hearing impairment
Table 8:	Community's traditional beliefs
Table 9:	Effects of hearing impairment on learning
Table 10:	Factors which affect learning of learners with hearing impairment
Table 11:	Difficult subjects to teach in the curriculum
Table 12:	The main mode of instruction
Table 13:	Sign Language courses
Table 14:	Effectiveness of sign language
Table 15:	Views on the general performance of KCPE examination
Table 16:	KCPE examination performance for the past 6 years

ABSTRACT

This study was set to investigate the effectiveness of sign language in teaching learners with hearing impairment in special schools and units in Kwale District.

The researcher discussed in his report, hearing impairment, causes and categories of hearing impairment, development of deaf education in Kenya and the development of Sign language. Also discussed is sign language as the medium of instruction and the challenges faced by teachers.

The researcher used survey method to collect information from the sample population of ten teachers teaching learners with hearing impairment. Stratified random sampling was used to get the sample.

The researcher used questionnaires to collect data, from the respondents. These were dispatched by hand to the two institutions in the district namely Kwale School for the Deaf and Kichaka Mkwaju Unit for the Hearing Impaired.

Analysis of the data collected was done using both quantitative and qualitative approaches where various aspects were presented in tables and descriptive form.

The major research findings were that almost all the respondents had undergone training in SNE. This showed that they have the skills and knowledge of handling learners with hearing impairment. Other findings showed that hearing impairment affect learning

because the learners performed poorly in all subjects. In conclusion the researcher felt that though most of the teachers use sign language as the medium of instruction still it was not effective.

The researcher therefore recommends that, teachers should undergo intensive training in sign language and should use a lot of visual aids in teaching. Sign language should be used together with other related supporting signs like natural signs, gestures, body language and others hence the use of total communication. Certain subjects like Kiswahili should be dropped from the curriculum and introduce sign language as a subject. Sign language interpreters should be employed by the government as permanent members of staff in all schools of the hearing impairment.

CHAPTER ONE:

INTRODUCTION

1.1 Background Information

Since time immemorial man has had ways of communicating with other human beings and be able to be understood and understand others through the use of language.

Development of this language starts immediately a baby is born with the first cry.

It cries due to the change of environment it has just experienced.

Some weeks later the infant learns to alter the cry sound to communicate different needs at different times. After a month or so, the baby starts to play with its vocal cords and starts babbling vowel sounds such as aaa.....eee.....(Johns, 1983).

Gradually the child learns to listen to different sounds in the environment. It starts to imitate the sounds especially from the mother and other people around hence acquire language. By three years of age, the child is able to express himself using few words. The child acquires more receptive and expressive skills through the use of speech, finger pointing, reading and writing to enable him to access education in the regular school setting effectively.

Learners with hearing impairment may find this mode of communication extremely difficult especially when the learner experiences severe to profound hearing loss. The communication approaches used to teach learners with hearing impairment include:

Oral approach

It was the main approach used by teachers of the hearing impaired after the millan conference of 1880. It involves the use of spoken language (speech) and lip reading. The learners are supposed to follow what the teacher says by reading the lips and looking at the facial expression.

Oral-aural approach

This emphasizes on the use of speech, lip reading and hearing aids. In this case the learner with hearing impairment is supposed to follow what the teacher says by making maximum use of his residual hearing. Hearing aids may also be used by the learner to amplify the sound into the auditory channel.

Bilingualism

It is an approach where the teacher uses two languages simultaneously across the curriculum. In this case the teacher may use Kenya Sign Language (KSL) to explain a concept and use written English for chalkboard summary and lesson notes.

The Philosophy of Total communication

This is philosophy where the teacher uses any or all kinds of communication modes suitable to the given learner in a given situation. The teacher may use speech, finger spelling, cued speech, bliss symbols and others depending on the need. (Bakari, Ogutu and Okwaro, 2002).

The best communication approach to use to teach learners with hearing impairment is Sign Language. The introduction of sign language in schools in 1988 made other approaches like the oral and oral-aural to be phased out. This is because they had been proved to be ineffective after evaluation.

Further researches in sign language have been conducted by Kenya National Association of the Deaf (KNAD) and Nairobi University (Department of linguistic) to develop and establish the signs to be used. This has led to the publication of the first Kenya Sign Language (KSL) dictionary in

1988. Kenya Institute of Education (KIE) has also come up with sign language drafts which are already in use in schools, the latest being the fourth draft.

Following its introduction in schools and units for the hearing impaired in Kwale District and Kenya as a whole, the learners are now being registered for the Kenya Certificate of Primary Education (K.C.P.E.) examinations. Education of the hearing impaired is not doing well in the district. To date the performance of learners is dismally low. How can we explain these poor results.

1.2 Statement of a problem

Learners with hearing impairment experience great difficulties in accessing education in Kenya schools. Throughout the 1970's and 1980's children were being taught using, the oral-aural approach. Towards the beginning of 1990 and beyond, Sign Language became a permanent feature in many schools of the deaf.

However, through out the years, the performance of learners with hearing impairment has not been encouraging. It has been poor and poor through out and even more worse for those learners with severe to profound hearing loss. The researcher is therefore disturbed by this poor performance. How can we explain these poor results year in year out?

Most of the learners lack the receptive and expressive skills necessary for tackling the examination effectively.

The researcher is therefore intending to investigate the effectiveness of sign language as a mode of instruction. The researcher will discuss in this report, hearing impairment – causes and categories, development of deaf education, development of sign language, use of sign language in teaching learners with hearing impairment and the challenges faced by teachers in the use of sign language.

1.3 Purpose of the study

The purpose of the study was to investigate the effectiveness of sign language in teaching learners with hearing impairment in special schools and units in Kwale District.

1.4 Objectives of the study

This study was aimed at trying to:

1. Find out the effectiveness of sign language in teaching learners with hearing impairment in special schools and units.
2. Establish the teachers' competence level in teaching learners with hearing impairment using sign language.
3. Establish the effects of hearing impairment on learning.
4. Find out the attitudes of teachers towards the use of sign language.
5. Investigate the teachers' view on how to improve the teaching of learners using sign language.

1.5 Research questions

In this study the researcher hoped to answer the following questions.

1. How effective is sign language in imparting knowledge and skills to learners with hearing impairment?

2. What are the teachers competence level in teaching learners with hearing impairment using sign languages?
3. What are the effects of hearing impairment on learning?
4. What are the attitudes of teachers towards the use of sign language?
5. What are the teachers views on how to improve the teaching of learners using sign language?

1.6 Scope of the study

Kwale district is the area of the study. It is on the southern side of the Coast Province of Kenya. It lies between $38^{\circ} - 40^{\circ}$ East of Greenwich Meridian and between $0^{\circ} - 5^{\circ}$ south of Equator. Kwale district is a rich agricultural region dominated by fruit farming. It borders the Indian Ocean and hence it is blessed with rich fishing grounds. Teachers from Kwale school for the deaf and Kichakamkwata unit for the deaf will provide the information necessary for the success of this study.

1.7 Significance of the Study

The study was carried out to try and improve the performance level of learners with hearing impairment.

It was meant to help both learners and teachers in schools for the hearing impaired to make learning easier and interesting.

This study was also meant to create awareness of the problems that learners with hearing impairment face as they tackle the national examinations.

The researcher also intended to provide strategies to teachers and other stakeholders in education on how to remedy the situation.

The study was also to serve as a challenge for more research in deaf education and how to reduce the gap between the hearing learners and those with hearing impairment academically.

The research also intended to provide an insight to curriculum developers to embark on more research on appropriate language policy for learners with hearing impairment.

1.8 Limitations

A number of limitations were likely to hinder the researcher from carrying out a comprehensive research. These included:

- Poor infrastructure and bad weather hindered the researcher from accessing the unit for the hearing impaired on time.
- The researcher had some financial problems for buying stationery. More funds were needed for transport in order to reach the respondents. Printing of questionnaire and the research paper was very expensive.
- Getting enough reference materials posed a big challenge to the researcher as most of the relevant materials can only be found in Nairobi which is a long distance from the researcher's home.

1.9 Delimitations

- The researcher found it easier to carry out the study since the researcher was familiar to the area under study.
- Most of the respondents were known to the researcher and were willing to assist.
- There was no communication barrier since the researcher used teachers as respondents.

1.10 Operational definition of terms or key concepts

Sign Language

In this report the term sign language is defined as any visual-gestural language with its own independent structure and grammar, which is constructed using hand shapes, body language, finger pointing and facial expressions.

Deaf person

This is a person whose hearing is so severe to an extent that precludes the understanding of speech through the ear alone with or without the use of a hearing aid.

Finger spelling

It is the signing system in which each letter of the alphabet is given its own sign using hand-shapes.

Pre-lingual deafness

It is the type of deafness present at birth or which occurs before the child develops speech or language.

Post-lingual deafness

It is the type of deafness, which occurs after the child has developed speech or language mainly after the age of three years.

Language

In this report language is defined as a complex system of words or other symbols that are organized according to a set of rules putting them together to form a method of communication among people.

CHAPTER TWO

REVIEW OF RELATED LITERATURE.

2.1 Introduction

Those main purposes of this study were to find out the effectiveness of sign language in teaching learners with hearing impairment in special institutions in Kwale District-Kenya.

In this chapter the researcher presented findings of relevant related literature under the following topics:-

- Hearing impairment
- Causes of hearing impairment
- Categories of hearing loss
- Effects of hearing impairment on learning
- Teachers attitude towards learners with hearing impairment
- Communication
- Communication approaches used in the education of the deaf
- Development of deaf education in Kenya
- Development of sign language
- Sign language as a medium of instruction and its limitations
- Challenges faced by teachers in the use of sign language.

2.2 Hearing impairment

Definition

In this paper, hearing impairment refers to a situation whereby an individual manifests hearing disability which may range from mild to profound.

2.3 Causes of hearing impairment

According to Mwaura and Wanyera (2002), hearing impairment may occur at three main stages in life.

These are:

- Pre-natal stage
- Peri-natal stage
- Post-natal stage

Pre-natal stage

This is the period before birth. A child having hearing impairment at this stage is said to have congenital hearing impairment. Some of the factors that may cause hearing impairment at this stage are:

- **Diseases**

These include the diseases which affect the mother during pregnancy. These may cause degeneration of important nerve cells that result in hearing impairment. Some of the diseases and infections are German measles (Rubella), influenza, syphilis, gonorrhoea among others.

- **Drugs**

Misuse of narcotic drugs, cigarettes and alcohol by the mother during pregnancy.

- **Rh Incompatibility**

It occurs when the mother has Rh negative blood and the foetus Rh positive. When blood leaks from the foetus into the mothers blood stream, antibodies are produced that destroy Rh positive cells. This can cause abortion, still birth, kernicterus and deafness.

- **Atresia**

This refers to some congenital malformation of the ear and the ear canal. These abnormalities may prevent some sound waves from being carried to the mechanism of the ear.

Other factors include x-rays, poor nutrition, HIV/AIDS, heredity and accidents affecting the mother during pregnancy.

Peri-natal stage

It refers to the period just before birth, during or just after birth. Some of the common factors that may cause hearing impairment at this stage are:

- **Prolonged labour**

This may result to oxygen deficiency to the baby's brain and head injuries.

- **Pre-mature birth**

This refers to a situation whereby the child is born well before the expected time. The child usually have low birth weight and may not have developed fully and consequently more at risk of having hearing impairment.

Other factors may include accidents affecting the baby during birth, venereal diseases in the mother such as syphilis, misuse of delivery instruments such as forceps delivery, neo-natal jaundice among others.

Post-natal stage

It refers to the period any time after birth. Some of the factors, which may cause hearing impairment any time after birth may include:

- **Diseases**

Infectious childhood diseases such as scarlet fever, mumps, diphtheria, whooping cough and others such as meningitis, malaria, otitis media and other severe recurring ear infections account for a great deal of hearing loss.

- **Poisonous agents**

Exposure to poisonous agents and chemicals such as pesticides, food and medicine poisoning may also contribute to hearing loss.

Other factors may include exposure to excessive noise, blockage of external auditory canal, accidents such as head injuries and brain damage, trauma, brain tumour, old age (presbycusis) among others.

2.3 Categories of hearing loss

The malfunctioning of the part of the ear or the mechanisms determines the type of hearing loss. Audiologists and physicians classify the ear into conductive and sensorineural regions.

The conductive part comprises the outer ear and the middle ear while the sensorineural part comprises the inner ear and the region beyond which includes the auditory nerve. Hearing loss can affect one ear (unilateral) or both ears (bilateral). (Martin, 1975).

- **Conductive hearing loss**

According to Ndurumo, (1993) conductive hearing loss occurs when there is interference in the outer ear and the middle ear regions. If sound waves are unable to travel through the normal

system from outer ear, middle ear to the inner, an infection or blockage is perceived to exist in the outer or middle ear regions. The blockage can be attributed by the presence of wax or cerumen or even foreign objects such as insects or beans.

According to Nolan, (1981), it is a type of deafness that is caused by a blockage or abnormal hindrance to vibration and hence affect the transmission of sound into the outer and middle ear. This results in partial rather than severe degree of hearing of loss. Nolan concurs with Mwaura, (2002) who says that the damage or infection is either in the outer or middle parts of the ear. This result in moderate hearing loss. Those with this type of hearing have residual hearing and can hear and understand spoken language.

- **Sensorineural hearing loss**

Ndurumo, (1993) states that sensorineural hearing loss occurs when the inner ear is affected. This means that conduction of sound by air conduction is affected as well as bone conduction even through the outer and middle ear regions are intact.

According to Martin, (1975) as cited by Ndurumo (1993), the loss caused by air conduction is as great as the loss caused by bone conduction.

Therefore in sensorineural hearing loss, it can be said that there exist:

- Intact outer and middle ear regions
- An impaired inner ear cavity
- An impaired mode of transmission by air condition
- An impaired mode of transmission by bone conduction

Sensorineural hearing loss is caused by damage in the cochlea or the auditory nerve leading to the brain. It varies in degree from mild to profound hearing loss.

- **Mixed hearing loss**

According to Martin, (1975) as cited in Ndurumo (1993) mixed hearing loss occurs when both the middle ear and inner ear are affected simultaneously. This means both conductive and sensorineural hearing loss is present at the same time.

Sound waves attempting to travel by air conduction are affected by the malfunctioning middle ear, while sound waves attempting to travel by bone conduction, bypassing the medium ear region are likewise affected by the malfunctioning inner ear.

2.5 Effects of hearing impairment on learning

There are several effects of hearing loss to a child and some are very disastrous on the child's learning and general development as a whole.

The negative effects depend on the age of onset. According to Williams and Sussman, (1971) as cited in Ndurumo, (1993 states that the chronology of onset of deafness is of great importance. This can be grouped into two depending on the age at which one acquired the deafness namely pre-lingual deafness and post-lingual deafness.

Pre-lingual deaf children experiences difficulties in learning and understanding written and spoken language. They also encounter problems related to the hearing world which requires the child to express himself in a language which he has not mastered.

Post-lingually deaf children may have not a very big problem in communication because they became deaf after acquiring language. These are able to learn a bit faster compared to the pre-lingually deafened children.

According to Martin (1975), lack of communication and interaction with the world which is so important today may lead to withdrawal of self from many things hence one may decide to live in a very lonely life. Oftenly hearing impaired learners make efforts of looking for other deaf learners to share experiences.

The researcher feels that withdrawal and lack of interaction may negatively affect learning. This is because learning involves a lot of interaction, discussion and exchange of ideas. Though hearing impaired learners socialize among themselves, this may not be enough because their socialization may be limited due to lack of exposure to the outside world as a result of communication breakdown.

Myklebust, (1964) argued that severe hearing loss causes people to think and behave differently from the hearing people in making sense of the world. Generally, they don't perform well academically and are often mistaken to be impulsive and socially immature. Most of them are temperamental and have short attention span hence cannot concentrate on a task for too long.

Delay in learning first language (Sign Language) may also affect the learning of second language (English). This will affect learning as most of the subjects in the school curriculum are taught in English.

2.6 Teachers attitudes towards learners with hearing impairment

Knowledge and skills alone cannot make a good teacher for the hearing impairment learners. A good teacher needs to have a positive attitude towards the learners who are deaf.

This is imperative because most of them have other disabilities. These include language development disabilities, difficulties in learning academic skills among others.

Special Needs Education (SNE) teachers must have patience, hope and technical skill to present academic tasks to learners in order for them to understand and respond positively.

Hearing impaired learners may exhibit serious behavior problems and teachers should be ready to deal with them positively.

To overcome these problems requires creativity-like thinking and trying out a wide variety of possibilities to solve them.

A teacher of the learners who are deaf must encourage the learners and make them believe that they can make it in education.

The teacher must prepare the lesson well by looking for appropriate signs to use and prepare teaching aids in advance which should be relevant to the learner.

A teacher with positive attitude will create trust among the learners and learning will take place effectively. A good teacher of the deaf must understand the learners well, respect their culture

including the language of the deaf community. He/she must involve the learners fully in the lesson by letting them contribute to the lesson through discussion, practical sessions and positive criticisms. (Hallalan, 1991). Researcher made by Strain (1978), Hone (1979) and Scott (1980) reports relatively in favorable teachers' attitudes towards working with the handicapped child and uncertain willingness to accept the children with severe handicaps into their classes. Meadow (1980), states that the ideas held by some teachers and general community may be quite at odds with reality so the first meeting with a severe to profound deaf person may come as a surprise.

According to Waruguru, Otiato and Ogutu (2002), some teachers have low expectations for learners with hearing impairment due to the believe that they cannot learn effectively even if they are provided with the necessary facilities and even the best teachers.

2.7 Communication

- **Definition:**

According to Ogutu, (2002) communication is generally the process of exchanging information and experiences between two or more people. In this report, the researcher uses the above definition.

2.8 Communication approaches used in education of the deaf.

- **The oral approach**

It involves the use of spoken language (speech) and lip reading. The child expresses self through speech, hence the term "oral approach". The child is supposed to understand what the teacher and other learners are saying by reading their lips and facial expression. However, the child is also expected to acquire and use a written language.

- **The Oral/Aural approach**

It involves the use of speech, lip reading and hearing aids. The deaf child is supposed to understand others by making maximum use of his residual hearing using a hearing aid. He is also supposed to use speech reading to enhance understanding. In order to express self the child should use speech. The acquisition of written language is also encouraged.

- **The manual approach (Sign Language)**

It involves the use of sign and body language. Under this option, the focus is on acquisition and use of sign language for communication and education. The development of written language is however encouraged.

- **Bilingualism**

It involves the use of two languages simultaneously for communication across the curriculum. In this case; the teacher uses KSL to explain concepts to the child during the lesson, while chalkboard summary and lesson notes are given in written English. In this approach the child is supposed to use English even though he is not proficient in English as a compulsory medium of instruction.

- **Total communication**

This is not a mode of communication but a philosophy. It advocates for the use of any modes of communication suitable to the individual child in a given situation. (Okwaro et. el 2002)

2.9 Development of Deaf Education in Kenya

The development of Deaf education traces its way back to the establishment of Kenya society for the Deaf Children (K.S.D.C.) in 1958 by Dr. Clifford. After its registration a lot of public

awareness was created and later some service organizations became interested in the education of the deaf. These were County Councils, Church Organizations, Round Tables, Rotary and Lions Clubs and the Aga Khan Education Board.

The Aga Khan units in Nairobi and Mombasa were among the first units to be started in 1958. the period between 1961 and 1980 saw rapid expansion of schools for the deaf. In 1980, Machakos school for the Deaf was established. The Ministry of Education designated it the first school to instruct children in systematic Sign Language, following the signed English medium. (Mwangiri, 1988).

According to Ndurumo, (1993), by 1990 there were 27 primary schools, 2 secondary schools, 4 vocational/technical schools and several units for the deaf. Training of teachers of the deaf in Kenya started in 1964 at Central Teachers College, Nairobi. Before then, a few teachers were sent abroad for training. Since that time the venue for training teachers of deaf changed several times.

In May 1986, the course was transferred to the current Kenya Institute of Special Education (K.I.S.E.). K.I.S.E. was built with financial assistance from the Danish International Development Agency (DANIDA). To date K.I.S.E trains teachers for learners who are hearing impaired for two years with emphasis on sign language as the medium of instruction.

2.10 Development of Sign Language

The origin of Sign Language could be as old as the history of mankind. This could be traced way back to the time when the deaf people might have come together for the first time.

Okwaro et. al., (2002) traces the origin of today's Sign Language from a Frenchman called Abbe – Charles del Epee who is credited with the invention of French Sign Language. He observed signs used by the deaf people in France, refined and adopted them to become the modern sign language.

Abbe strongly advocated for the use of sign language by the deaf persons for both social and educational purposes. He went further and opened the world's first school for the deaf in Paris, France in 1755. (Moore, 1987).

Later, an American by the name Thomas Hopkins Gallaudet's desire to help the deaf persons made him to go to France where he studied sign language in Abbe's school.

From France, accompanied by Laurent Clerk, a deaf teacher, Gallaudet went further and established the first school for the deaf children at Hartford, U.S.A. in 1817.

Abbe faced a lot of resistance from scholars like Alexander Graham Bell who believed sign language hindered the mastery of English causing deaf persons to associate with each other and marry one another thus propagating physical defects. (Moore, 1987).

According to Kyle and Woll, (1985) little progress was seen in Britain until 1770 when Thomas Braidwood began to teach deaf children in Scotland. He established a school for the deaf individuals in Edinburg and he is acknowledged to be the most influential early British educator for the deaf. He later incorporated the two – handed manual alphabets, gestures, natural signs, reading and writing.

Due to the controversy between the users and advocates of sign language and those of speech the Millan Conference of 1890 declared that the deaf should be taught using speech and speech reading. This caused the retardation of the development of sign language.

Though sign language continued to be used in some parts of the world including America, it was introduced in Kenya by Dr. Michael Ndurumo who had graduated with a Ph.D from America in 1985. In 1988, the Ministry of Education introduced sign language in all schools and units for the deaf in Kenya through the use of Kenya Sign Language dictionary edited by the Kenya Institute of Education (K.I.E.). To date, K.I.E. has produced and revised several drafts on sign language to be used in schools for the deaf the current being the fourth draft.

2.11 Sign Language as the medium of instruction and its limitations

Sign language is expressed through the use of signs, including body movements, facial expressions in a specific grammatical manner. It excludes speech and hearing aids.

Signs have much same functions in sign language as words have in a spoken language. In order to offer the best sign language one must put into consideration the four units which together make each sign different from the other. These units include:

1. Hand shape

This refers to how the shape of the hand will look like when making the sign. This may include the fist, open palm, clenched or stretched fingers.

2. Location

This refers to the position of the hand in relation to the body. It may be at the throat, on the side of the head or on the chest.

3. Movement

It refers to the direction and speed of the movement of the hands such as slowly from the forehead to the chin, fast from side to side, in front of the chest etc.

4. Orientation

It refers to how the hand shape is oriented, for example inwards towards the body of the signer, outwards towards the listener or receiver. It is imperative to note that if one of these four units is changed, the meaning of the sign also changes.

After all these have been taken into considerations, the individual signs are put together into sentences by applying the visual/spatial grammatical rules of sign language. (Rothenberg and Yego, 1988).

- **Language and speech**

It may be a problem to teach language to learners with hearing impairment because they are generally deficient in the language used by most people in the hearing society which they live in. The acquisition of language and speech production requires one to have auditory perception in order to be effective.

According to Heward and Orlansky, (1984), learners with hearing impairment are taught using sign language, even those with superior intelligence and abilities are at a great disadvantage in acquiring language skills.

The gap in development of language and speech can be attributed to many things but on top in the list is communication technique used. Learners with mild or moderate hearing loss learn language easier compared to those with severe or profound hearing loss because they benefit from both speech and signs.

- **Academic achievement**

Kyle and Allsop (1982) examined how recent research tends to confirm the usual findings of poor performance in schools by deaf children. This is due to the communication technique used.

Although learners with hearing loss feel at home when talked to in sign language still it cannot take the place of spoken language as it does to learners with speech.

Kyle and Allisop (1982) further argue that learners with hearing loss exhibit deficits in writing and others. In most cases they show errors of omissions and additions of unnecessary words. This can be attributed to the fact that the hearing impairment come with other associated problems such as impaired memory and other learning difficulties.

- **Reading**

Reading is poorly done by learners with hearing impairment. This is because they lack speech intelligibility which results in poor pronunciation. Teaching reading in sign language may be difficult as the learners may only depend on finger spelling and signs which may lack rhythm and

intonation. Due to extensive borrowing from other sign languages most learners would either remain silent rather than indulge in an area which they are unsure of. (Kyle, 1987).

- **Writing**

The writing of sentences and compositions by learners with hearing impairment is always shorter and less complex. Thus one might conclude that sign language does not enrich these learners adequately with enough vocabulary to express themselves fully. This may be due to the fact that hearing impairment comes with other associated problems such as impaired memory. (Hallahan and Kauffman, 1980).

- **Limitations of Sign Language**

Sign language as a communication technique has a number of limitations.

- Light is a major factor when communicating using sign language. Therefore it becomes useless to use sign language when it is dark.
- The teacher or the instructor should have both hands intact in order to be fluent in sign language.
- The distance between the receiver and the signer should not exceed three meters. This is important to enable the receiver read the signs and facial expressions with ease.
- The vocabulary taught in sign language is limited. The speaking world is used to a system of sentences, words and phases which do not conform to what sign language dictates.
- The teacher or the instructor should have his or her face fully visible to the learners.

2.12 Challenges faced by teachers in the use of sign language

- In Kenya schools, most learners come from different tribes, with different signs as their mother tongue. This force deaf learners to be taught signs of English words and not their native signs.
- Sometimes the learners report to school already advanced in age, thus already having learnt some signs from home which are not relevant to the school curriculum.
- Some learners are spoken to using speech hence leads to underdevelopment of sign language
- Sometimes the teachers are forced to teach classes with a mixture of hard of hearing mild, severe and profound.
- There are so many variations of Sign Language such as Kenyan Sign Language, American Sign Language and others hence these confuse both the teachers and the learners.

CHAPTER THREE

METHODOLOGY

1.1 Introduction

In this chapter the researcher wishes to bring to the attention of the reader the methods he used to carryout the research. This chapter contains an outline of the procedures and methods used by the researcher to collect data.

The chapter gives details about.

- Research approach
- Research design
- The population
- The sample population
- The sampling procedure
- The study instrument/tools used
- The procedure of the study

3.2 Research approach

The researcher used quantitative approach in collecting data. This approach was favorable because of time limit. It dealt with numerical measurements of some quantities were questionnaire were sent to the respondents.

3.3 Research design

The research uses the design of survey to collect information. He decided to use this type of design because he only chose a sample of population to give questionnaires. This was easy to manage as a sample population is a small number which can give a good feedback.

3.4. The Population

The populations involved in this study were teachers teaching learners with hearing impairment in Kwale District in Coast Province.

3.5. The Sample Population

The researcher used stratified random sampling to get the sample population of 10 teachers. This procedure ensured that there was gender balance in the sample population. The researcher picked seven teachers including the head teacher and three teachers including the head teacher from Kwale School for the Deaf and Kichaka Mkwaju unit for the hearing impaired respectively.

3.6 The Sampling Procedure

The researcher grouped the teachers into two wider groups namely:

- Lower primary teachers-nursery, infant, class1, class 2 and class 3.
- Upper primary teachers-class4, class 5, class 6, class 7 and class 8.

He then picked one male and one female teacher from lower primary. He further picked two male and one female teacher from upper primary. The researcher further picked one male and one female from the unit. Finally he picked the two head teachers, one from the school and the other one from the unit.

3.7 Instruments/tools

The researcher used questionnaire to collect data. This was because, it was the most appropriate and had more advantages compared to other instruments such as interviews and observation. Questionnaires enabled the respondents to give their own views. Many respondents were reached at the same time hence this saved time. The researcher used both open – ended and closed-ended type of questions.

3.8 Procedure of the study

The researcher organized his work by writing a proposal. This served as a guide to help the researcher achieve his goal. He later read the available related literature. These included books, journals and bulletins. The researcher later developed tools for collecting data from the respondents. The tools were drawn from the research objectives and research questions.

The researcher was served with an introductory letter from the institute. This assisted him to access information and talk to the respondents. The researcher later traveled to Kwale School for the Deaf in Matuga Division and Kichaka Mkwaju unit for the hearing impaired in Msambweni Division to take questionnaires. He later collected the data, analyzed it and then presented it in tabular form.

The researcher finally wrote the research report.

CHAPTER FOUR:

PRESENTATION AND ANALYSIS OF DATA

4.1 Introduction

In this chapter the researcher has presented and analyzed the data using professional methods. The researcher based his presentation on the following themes:

- General information
- Education and training
- Teaching experience
- Hearing impairment
- Modes of communication
- Use of sign language and its effectiveness
- KCPE examination performance
- Views on how to improve the teaching of learners with hearing impairment using sign language.

The researcher then organized the data in form of frequency. The data was then presented in tabular form for easy understanding and interpretation. The researcher used questionnaires, which were dispatched by hand to the two institutions for learners with hearing impairment in Kwale District. A total of ten questionnaires were dispatched and all of them were returned.

The following were the findings:

4.2 Questionnaire for teachers

Table 1: General information

RESPONSE	FREQUENCY	PERCENTAGE
Male	6	60
Female	4	40
TOTAL	10	100

This question was intended to find out the number of male and female teachers in the schools for hearing impaired.

Observation

According to the responses shown above, of the 10 teachers, 6 were male and 4 were female. This shows a slight gap between the male: female ratio in the two schools.

Analysis

There being a slight difference between the number of male and female teachers is fairly good as both boys and girls will have role models, though more female teachers should have interest in teaching the hearing impaired.

Table 2: age range

RESPONSE	FREQUENCY	PERCENTAGE
30-40 years	6	60
Over 40 years	3	30
Below 30 years	1	10
TOTAL	10	100

This question was intended to find out the age range of teachers handling learners with hearing impairment.

Observation

According to the responses 6 out of 10 teachers or 60% were aged between 30-40 years, 3 out of 10 or 30% were aged over 40 years and 1 teacher out of 10 was aged below 30 years.

Analysis

From these results it's evident that most of the respondents were middle aged. This means they seem to have taught for over ten years.

Table 3: level of education

RESPONSE	FREQUENCY	PERCENTAGE
O-level	6	60
A-level	-	-
Other(s)	4	40
TOTAL	10	100

The question was intended to find out the highest level of education of teachers teaching learners with hearing impairment.

Observation

The table above shows that 6 out of 10 teachers or 60% have gone up to O-levels and 4 out of 10 teachers or 40% indicated their highest level of education as Diploma or Degree.

Analysis

From these results it seems that all the teachers had attained enough education to handle learners with hearing impairment.

Table 4: training in SNE

RESPONSE	FREQUENCY	PERCENTAGE
Yes	9	90
No	1	10
TOTAL	10	100

This question was intended to find out the number of teachers trained in SNE.

Observation

The table above shows that 9 out of 10 teachers or 90% were trained in NSE. Only 1 teacher out of 10 or 10% was not trained.

Analysis

From these results it seems that majority of the teachers in the study have had some training and therefore are likely to have knowledge and skills of teaching learners with hearing impairment.

Table 5: level of training in SNE

RESPONSE	FREQUENCY	PERCENTAGE
Diploma	6	60
In-service	2	20
Degree	1	10
No response	1	10
TOTAL	10	100

This question was intended to find out the highest level of training of the respondents.

Observation

The table above shows that 6 out of 10 or 60% of the respondents have undergone training up to diploma level, 2 out of 10 or 20% of the respondents have undergone 3 months in-service course and 1 teacher has trained to University level. One teacher did not respond to the question.

Analysis

From these results it seems that almost all the respondents have had some form of training in SNE and are therefore aware of the education of hearing impaired.

Table 6: Teaching experience

RESPONSE	FREQUENCY	PERCENTAGE
6 – 10 years	4	40
Below 5 years	3	30
Over 16 years	2	20
11 – 15 years	1	10
Total	10	100

This question was indented to find out the teaching experience of the respondents in handling learners with hearing impairment.

Observation

According to the above table, 4 out of 10 or 40% of the respondents have taught for a period of 6–10 years, 3 out of 10 or 30% of the respondents have taught for less than 5 years, 2 out of 10 or 20% have taught for over 16 years and only 1 out of the 10 respondents have taught for a period of between 11 – 15 years.

Analysis

From these results it seems that most of the teachers handling the learners with hearing impairment have a lot of experience of over 5 years. This shows that they are aware of what education of hearing impaired is all about.

Table 7: Causes of hearing impairment

RESPONSE	FREQUENCY	PERCENTAGE
Heredity	7	70
Accidents	1	10
Measles	1	10
Cerebral malaria	1	10
TOTAL	10	100

This question was intended to find out the MAIN cause of hearing impairment.

Observation

According to the table above, 7 out of 10 or 70% of the respondents wrote hereditary as the main cause, 1 out of 10 or 10% of the respondents wrote accidents, another 10% wrote measles and the last 10% of the respondents wrote cerebral malaria.

Analysis

From these results it is evident that the respondents are aware of the causes of hearing impairment. According to the responses above it seems that heredity is the main cause of hearing impairment in the area under study.

Table 8: Community's traditional beliefs

RESPONSE	FREQUENCY	PERCENTAGE
Curse from God	5	50
Witchcraft	3	30
No response	2	20
TOTAL	10	100

This question was intended to find out the communities traditional beliefs about learners with hearing impairment.

Observation

According to the table above 5 out of 10 or 50% of the respondents suggested that learners with hearing impairment and are likely to sensitize the community on the causes of hearing impairment.

Analysis

From these results it seems that most of the respondents are aware of the community's beliefs of learners with hearing impairment and are likely to sensitize the community on the causes of hearing impairment.

Table 9: Effects of hearing impairment on learning

RESPONSE	FREQUENCY	PERCENTAGE
Yes	8	80
No	2	20
TOTAL	10	100

This question was intended to find out the effects of hearing impairment on learning.

Observation

According to the table above 8 out of 10 or 80% of the respondents agreed that hearing impairment affects learning while 2 out of 10 or 20% of the respondents disagreed.

Analysis

From these results it is evident that hearing impairment does affect learning.

Table 10: Factors which affect learners with hearing impairment

RESPONSE	FREQUENCY	PERCENTAGE
Communication	8	80
No response	2	20
TOTAL	10	100

This question was intended to find out the factors which affect learning of learners with hearing impairment.

Observation

The table above shows that 8 out of 10 of the respondents which is 80% think that communication affects learning of the hearing impaired. 2 out of 10 respondents did not respond to the question.

Analysis

From these results it seems that communication breakdown is the major problem which affects the learning of hearing impaired.

Table 11: Difficult subjects to teach in the curriculum

RESPONSE	FREQUENCY	PERCENTAGE
Kiswahili & S/studies	7	70
Kiswahili & English	3	30
TOTAL	10	100

The question was intended to find the TWO most difficult subjects to teach in the curriculum.

Observation

The above table shows that 7 out of 10 or 70% of the respondents indicated that Kiswahili and social studies are the most difficult subjects to teach. Only 3 out of 10 or 30% said that Kiswahili and English are the most difficult subjects to teach.

Analysis

From these results it is evident that most of the respondents have difficulties in teaching Kiswahili and social studies. Only a few have problems in English.

Table 12: Main mode of instruction

RESPONSE	FREQUENCY	PERCENTAGE
Sign Language	6	60
Total communication	4	40
TOTAL	10	100

This question was intended to find out the main mode used to teach learners with hearing impairment.

Observation

The table above represents a majority of respondents who Sign Language was the main mode at 60%. Only 4 out of 10 or 40% of the respondents picked Total communication as the main mode of instruction for teaching learners with hearing impairment.

Table 13: Sign Language courses

RESPONSE	FREQUENCY	PERCENTAGE
Yes	9	90
No	1	10
TOTAL	10	100

The question was intended to find out the number of teachers who have attended courses in sign language.

Observation.

According to the table above 9 out 10 or 90% of the respondents have attended courses in sign language in addition to the main professional course. Only 1 out of 10 respondents has not attended any course in Sign Language.

Analysis

From these results it is evident that most of the respondents are fluent in sign language and can handle learners with hearing impairment effectively.

Table 14: Effectiveness of Sign Language

RESPONSE	FREQUENCY	PERCENTAGE
Yes	6	60
No	4	40
TOTAL	10	100

This question was intended to find out the views on the effectiveness of sign language

Observation

The above table shows that 6 out of 10 of the respondents thought sign language is an effective mode of instruction while 4 out of 10 thought that its not effective.

Analysis

From these results it seems that most of the respond use sign language and that is why they say its effective.

Table 15: Views on the general performance of KCPE examination

RESPONSE	FREQUENCY	PERCENTAGE
Fair	6	60
Poor	4	40
TOTAL	10	100

The question was intended to find out the views of the respondents on the general performance of KCPE examination.

Observation

According to the table above 60% of the respondents indicated that the performance is fair while 40% said it is poor.

Analysis

From these findings the researcher feels that all the respondents are not happy with performance of KCPE examination.

Table 16: KCPE performance for the past 5 years

	ENG	KISW	MATH	SCIEN	SSR	MEAN
2002	18.0	15.3	31.2	25.3	12.7	102.5
2003	28.2	10.7	31.8	30.0	13.8	115.3
2004	25.8	30.0	32.2	34.2	17.4	139.6
2005	29.8	20.6	31.0	25.2	28.2	134.8
2006	12.6	17.8	27.8	27.0	13.9	98.4
2007	12.8	28.0	31.5	20.0	14.27	106.6

Observation

The table above shows the mean score of learners who sat for their KCPE examination at Kwale School for the Deaf. The learners performed poorly in all the subjects.

Analysis

The researcher feels that learners with hearing impairment perform poorly due to lack of effective medium of instruction.

Question C – 7

In this question the researcher sought the views of the respondents on how to improve the teaching of learners with hearing impairment using sign language

Below were their views:

- More teachers should be trained in sign language
- Teachers to be trained as sign language interpreters.
- More seminars/workshops on sign language to be conducted regularly
- Learners with hearing impairment should have their own syllabus
- A lot of visual aids should be used in teaching learners with hearing impairment.

CHAPTER FIVE

SUMMARY, DISCUSSIONS, CONCLUSION AND RECOMMENDATIONS.

5.1 Introduction.

The purpose of the study was to investigate the effectiveness of sign language in teaching learners with hearing impairment in special schools and units in Kwale District in the Coast Province of Kenya. The study was guided by the following main themes which were derived from the objectives:

- Training in special needs education
- Knowledge of hearing impairment
- Modes of communication
- Use of sign language and its effectiveness
- Views on how to improve the teaching of learners with hearing impairment using sign language.

The data was collected from the only special school in the district and a special unit for learners with hearing impairment using questionnaire. The questionnaire consisted of both closed and open ended type of questions.

In this chapter, a summary of the findings based on the findings on the above mentioned themes is presented. Discussions of each theme will follow the summary. At the end of the chapter, conclusions and a summary of possible recommendations are presented.

5.2 Training in Special Needs Education:

Summary

During this study it was found that 9 out of 10 or 90% of the respondents were trained in NSE up to various levels ranging from three months in-service course to degree levels. This is clearly shown in table 4 and 5.

Discussion

According to the above summary, it was evident that most of the respondents were competent enough to handle learners with hearing impairment.

Hallahan, (1991) suggested that knowledge and skills alone cannot make a good teacher of hearing impaired unless one has positive attitudes towards the learners. The researcher concurs with the above author because though the teachers are highly qualified, the learners continue to perform poorly.

5.3 Knowledge of hearing Impairment.

Summary

During this study it was found that 7 out of 10 or 70% of the respondents thought heredity was the MAIN cause of hearing impairment. 10% of each thought accidents, measles and cerebral malaria are the leading causes of hearing impairment respectively. This is clearly shown in table7.

It was also found that 8 out of 10 or 80% of the respondents suggested the hearing impairment affect learning as shown in table 9.

Discussion

According to the summary above, most of the respondents suggested that hearing impairment affect learning. According to Myklebust, (1994), hearing impairment causes people to think and behave differently as it may come with other disabilities such as an impaired memory and mental retardation.

The researcher concurs with the above findings because learners with hearing impairment tend to have short attention span, temper tantrums and always withdrawn socially. Their sentence patterns are short and do not follow the English grammatical structure.

5.4 Modes of communication

Summary

Although the deaf can be taught using various modes of instruction such as oral approach, oral/aural and others, it was found that 60% of the respondents use sign language while the remaining 40% use total communication. This is clearly shown in table 12. the respondents further agreed that they had difficulties in communicating effectively with their learners as indicated in table 10.

Discussion

According to the information above it was evident that the common mode of instruction was sign language. This showed that majority of the respondents had positive attitudes towards the use of sign language.

According to Waruguru et. el. (2002), teachers handling learners with hearing impairment have low expectations about their learners hence this demonstrates negative attitude towards them. The researcher feels that most of the respondents pretend to have positive attitudes towards the use of sign language, yet they believe that those learners cannot perform at the same level with the hearing.

5.5 Use of sign language and its effectiveness.

Summary:

During the study it was found that sign language is an effective mode of instruction as suggested by respondents in table 14

Discussion

The researcher disagrees with the respondents but agrees with other authors like Heward and Orlansky, (1984), who stated that learners with hearing impairment who are taught using sign language are at a great disadvantage because it cannot play the role of speech in teaching. The researcher is disturbed by the respondents who said Sign language is effective and yet the learners perform poorly.

5.6 K.C.P.E examination performance

Summary

During this study it was found that all the subjects in the school curriculum were poorly done as evident in table 16 where KCPE examination results has been analyzed.

Discussion

The respondents agreed that the poor results were as a result of lack of effective communication mode while others thought that the results were the best they could perform.

According to Myklebust, (1964) learners with hearing impairment perform low academically compared to their hearing counterparts.

The researcher feels that if the teachers handling these learners are fluent enough in sign language, the results may be improved. This is because most of them said that they had problems in communication.

5.7 Views on how to improve the teaching of learners with hearing impairment using sign language

Summary

During this study the respondents suggested that it was possible to improve the teaching of learners with hearing impairment using sign language.

Discussion

Most of the respondents suggested that if provided with sign language interpreters, have regular seminars and workshops may improve the teaching. They also suggested that training more teachers with emphasis on sign language and reviewing the curriculum for learners with hearing impairment may help to a great extent.

The researcher agrees with the respondents and suggest that Kenya sign language be taught as an independent subject to boost the sing language skills.

5.8 Conclusion

In this section the researcher wishes to reiterate that although majority of the teachers are highly qualified, workshops and seminars should be conducted regularly to update their signing skills.

The researcher feels that although hearing impairment affect learning these results can be slightly improved. The researcher would like to conclude that although sign language is used all over Kenya, it is NOT an effective mode of instruction for learners with hearing impairment in Kwale District.

5.9 Recommendations

In this final part of the report, the researcher would like to make the following recommendations:

- Training of teachers should be geared towards sign language. Teacher trainees should be intensively trained to make them equipped with the relevant skills, knowledge and fluency.
- More research should be done on the effectiveness of sign language so as to have uniform and permanent signs.
- Some subjects such as Kiswahili should be dropped from the curriculum and introduce Kenya Sign Language as a subject.
- Sign language interpreters should be employed by Government as permanent members of staff in all schools for the hearing impaired.
- Sign language should be used together with speech, and other supporting signs such as gestures, natural signs, body language and others.

- A lot of visual aids should be used when teaching learners with hearing impairment to reinforce the signs.
- The curriculum and the national exams should be modified to suit the learners taught using sign language.
- Timing of the national examinations for learners with hearing impaired should be increased and the papers marked by teachers handling the children.
- The school management boards should organize seminars and workshops to address the problems the teachers face while teaching and also to update their signing skills.

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QUESTIONNAIRE FOR TEACHERS IN SPECIAL SCHOOL/UNIT.

INSTRUCTIONS

1. Kindly answer ALL questions.
2. Your responses will be treated as confidential reports and used for the purpose of the research only.
3. Please tick (✓) the correct response and give explanation where necessary.
4. Do not write your name.

QUESTIONS

(A) General Information

1. Gender

Male

Female

2. What is your age bracket?

Below 30 years

30-40 years

Over 40 years

3. What is yours level of education?

O Level

A Level

Others (specify).....

4. (a) Are you trained in SNE?

Yes

No

(b) If yes, to what level?

Inservice

Diploma

Degree

Others (specify).....

5. Which class bracket are you teaching currently?

Lower

Upper

6. For how long have you been teaching learners with hearing impairment?

Below 5 years

6 – 10 years

11 –15 years

Over 16 years

(B) Hearing Impairment

1. Give one of the main causes of hearing impairment?

.....
.....

2. What is your community's traditional beliefs about persons with hearing impairment?

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

3. (a) Does hearing impairment affect learning?

Yes

No

(b) If yes, please briefly explain.

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

4. In the current curriculum, which subjects do you think are difficult for the learners with hearing impairment to learn? (please name only two).

.....
.....

(C) Communication

1. In your institution, what is the main mode of instruction?

Speech

Total communication

Sign language

Others (specify)

2. Have you attended any course in sign language in addition to the main professional course?

Yes

No

3. In your views, is sign language an effective mode of instruction?

Yes

No

4. What are the main problems encountered by learners with hearing impairment in school.

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

5. What is the general performance of KCPE examination for the past 5 years in this school?

Excellent	<input type="checkbox"/>
Good	<input type="checkbox"/>
Fair	<input type="checkbox"/>
Poor	<input type="checkbox"/>

6. What do you think has contributed to the result in (5) above?

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

7. In your views, what factors could be considered to improve the teaching and learning of learners with hearing impairment?

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

- END -

- (i) *Thank you very much for taking your time to complete this questionnaire.*
- (ii) *The information received will be kept confidential and only used for this study only.*



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Office of the Director

24th April 2008

TO WHOM IT MAY CONCERN:

Dear Sir/Madam,

RE: INTRODUCTION LETTER FOR MS/MRS/MR. Joseph M. Mwangi

REG. #..... BEJ/14828/62/DF

The above named is our student in the Institute of Open and Distance Learning (IODL), pursuing a Diploma/Bachelors degree in Education.

He/she wishes to carry out a research in your Organization on:

THE EFFECTIVENESS OF SIGN LANGUAGE
IN TEACHING LEARNERS WITH
HEARING IMPAIRMENT IN SPECIAL
SCHOOLS AND UNITS IN KWALE DISTRICT-KENYA.

The research is a requirement for the Award of a Diploma/Bachelors degree in Education.

Any assistance accorded to him/her regarding research will be highly appreciated.

Yours Faithfully,

MUHWEZI JOSEPH
HEAD, IN-SERVICE