FACTORS AFFECTING KCPE PERFORMANCE OF LEARNERS WITH HEARING IMPAIRMENTS IN SPECIAL SCHOOLS IN SELECTED COUNTIES, KENYA

BY

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E55/12998/05

A THESIS SUBMITTED IN PARTIAL FULFILLMENT FOR THE DEGREE OF MASTERS OF EDUCATION IN SPECIAL NEEDS EDUCATION IN THE SCHOOL OF EDUCATION OF KENYATTA UNIVERSITY.

NOVEMBER 2012.
DECLARATION

This thesis is my original work and has not been presented for a degree in any other university or any other award.

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This work is dedicated to God Almighty for giving me sufficient grace and strength, to my mum, family and friends who encouraged me to complete the hard work inspite of life’s huddles.
ACKNOWLEDGEMENT

As this study come to its end, it is worth remembering those who stood by my side in achieving this magnificent success. I wish to thank my two supervisors Dr. Simon Rukangu and Dr. Nelly Otube. I received continual intellectual guidance and encouragement from both of them.

Other people worth mentioning are Professor Alade and Dr. Latimore for material and professional support especially during the initial stages of this work. I also thank all my colleagues and the entire staff of special education of Kenyatta University for their moral support and encouragement. Thanks to Dr. Mugo who never gave up listening to my grievances and assisted me through out, as supervisors were changed for the five times due to unavoidable circumstances.

I can not forget the principals, teachers, parents and pupils with hearing impairments from the Nyangweso, Kuja, Maseno and St. Mary’s Nyamgoma schools. They co-operated and participated in this study very well.

Lastly, I appreciate the work of Mrs. Lucy Kirogo who tirelessly typed and helped me to edit this work from the proposal stage to this thesis level.

May God bless all of you in abundance.
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<th>Description</th>
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<tr>
<td>ASL</td>
<td>American Sign of Language</td>
</tr>
<tr>
<td>CATS</td>
<td>Continuous Assessment Test</td>
</tr>
<tr>
<td>CRE</td>
<td>Christian Religious Education</td>
</tr>
<tr>
<td>dB</td>
<td>Decibels or units of loudness</td>
</tr>
<tr>
<td>DEO</td>
<td>District Education Officer</td>
</tr>
<tr>
<td>DQAS-</td>
<td>Director of quality Assurance and Standards</td>
</tr>
<tr>
<td>EARCs-</td>
<td>Educational Assessment and Resource Centers</td>
</tr>
<tr>
<td>H.I</td>
<td>Hearing Impaired</td>
</tr>
<tr>
<td>I.E.P</td>
<td>Individualized Education Programme</td>
</tr>
<tr>
<td>KCPE</td>
<td>Kenya Certificate of Primary Education</td>
</tr>
<tr>
<td>KCSE</td>
<td>Kenya Certificate of Secondary Education</td>
</tr>
<tr>
<td>KNAD</td>
<td>Kenya National Association of Deaf</td>
</tr>
<tr>
<td>KNEC</td>
<td>Kenya National Examination Council</td>
</tr>
<tr>
<td>KSL</td>
<td>Kenya Sign Language</td>
</tr>
<tr>
<td>KU</td>
<td>Kenyatta University</td>
</tr>
<tr>
<td>MoEST</td>
<td>Ministry of Education, Science and Technology</td>
</tr>
<tr>
<td>KAACR</td>
<td>Kenya Alliance for Advancement of Children’s Rights</td>
</tr>
<tr>
<td>PS</td>
<td>Permanent Secretary</td>
</tr>
<tr>
<td>SE</td>
<td>Signed English</td>
</tr>
<tr>
<td>SNE</td>
<td>Special Needs Education</td>
</tr>
<tr>
<td>SEE</td>
<td>Signed Exact English</td>
</tr>
<tr>
<td>SES</td>
<td>Social-Economic Status</td>
</tr>
<tr>
<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
</tr>
<tr>
<td>TIQET</td>
<td>Totally Integrated Quality Education and Training</td>
</tr>
<tr>
<td>TTW</td>
<td>Tele Type Writer</td>
</tr>
<tr>
<td>Acronym</td>
<td>Abbreviation</td>
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<tr>
<td>-----------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>USA</td>
<td>United State of America</td>
</tr>
<tr>
<td>UNESCO</td>
<td>United Nation Education Scientific and Cultural Organization</td>
</tr>
<tr>
<td>WCEFA</td>
<td>World Conference on Education for All</td>
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<tr>
<td>WHO</td>
<td>World Health Organization</td>
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ABSTRACT

Education for All (EFA) remains a major concern to all stakeholders in the field of education worldwide and Kenya in particular. This requires that the learning needs of all pupils be met. However, academic performance in national examination like KCPE continues to negatively affect the quality of education for learners with hearing impairments. Inspite of scholarly attempts to address the cause of this problem having been carried out, the possibility of good KCPE performance of learners with hearing impairments have not received much emphasis. The reason could be due to teacher-related factors, learning environment and pupil-related factors affecting the academic performance. The purpose of this study was therefore to establish factors affecting KCPE performance of learners with hearing impairments. The study was conducted in four selected countries. These were Kuja-Migori, Nyangweso-Homabay, Nyangoma-Siaya and Maseno-Kisumu. The study employed ex-post facto research design and focused on special school teachers, headmaster and classes 7-8 pupils. Purposive sampling was used to select the four special schools, teachers’ and pupils. Data was collected using three main instruments: headteachers’ questionnaires, teacher’s interviews and questionnaires, and interview for class seven-eight pupils. Data from field was coded numerically and analyzed both qualitatively and quantitatively. Qualitative analysis involved making inferences from the teachers’ and headteachers responses from the open-ended question, interviews and lesson observation scheduled using thematic approach. Quantitative analysis made use of Statistical Package for Social Science (SPSS) to give descriptive statistics such as percentages, frequencies and tabulations. One way Analysis of Variance (ANOVA) was used to determine significant factor affecting KCPE performance of learners with hearing impairments. The study revealed that some teachers did not have knowledge and skill of the fundamental communication approaches, thus it affected their teaching. It was reported in all the four schools that the teachers did not cover the curriculum content before the learners sat for KCPE. A few teachers used appropriate format of teaching and instructional materials. This contributed to lack of learner’s participation in teaching and learning process that could affect their KCPE performance. It was therefore commended that KIE should review the curriculum and instructional materials. The ministry of education should conduct in-serve training on use of instructional materials, the format of teaching and communication approaches. The headteachers could as well organize sign language workshops and lesson presentations at school levels.
CHAPTER ONE

1.0 INTRODUCTION

This chapter discusses the background to the study, the statement of the problem, the purpose, objectives and significance of the study. It also highlights the delimitations and limitations, conceptual framework of the study as well as defining some terms that were used in the study.

1.1 Background to the Study

Global emphasis on education can be traced back to 1948 when the United National (UN) declared education a basic right for all. It is for this reason that Kenya is party to the Salamanca Statement and Framework for Action of 1994 that put emphasis on schools to accommodate all children regardless of their physical, intellectual, social, emotional, linguistics or other conditions, thus committed towards inclusive education (UNESCO), 1994). Similarly, recent policy initiatives in Kenya have focused on the attainment of Education for All (EFA) by 2015. This is in line with the government’s commitment to international declarations, protocols and conventions as resolved in world conferences on quality Education for All (EFA) held in Thailand, 1990 & Dakar, 2000.

The provision of education especially to children has been given much emphasis. For the child of primary school age, this right is provided for in the Kenyan Children Act (2001), which asserts that appropriate educational services should be provided to all children. In Kenyan laws, this is evident in Sessional Paper no. 10 of 1965, which re-affirmed the government’s commitment towards Universal Primary Education (UPE). Also, the Kenyan government is fully committed to an education system that guarantees the right of every learner to quality and relevant education that contributes and enhances equity, economic growth and expansion of employment opportunities as stipulated in Sessional Paper No.1 of 2005. This entails reaching out to children with special needs by ensuring that appropriate educational interventions are put in place.

Such accommodation would require to deal with the pupils, teachers and learning environment factors such as modes of communication and the curriculum. The problem that plagues every teacher of learners with hearing impairments is how to give quality education that these learners require. This would enable them graduate from primary to high school and even college. Hence,
there was need to determine prevailing factors affecting KCPE performance of such pupils in public primary schools in selected counties.

Deaf education in Kenya started in 1958 when Aga Khan units for the Deaf were established in Nairobi and Mombasa. Nyang’oma School for the Deaf was established in 1960 and the Mumias Primary School for the Deaf was established in 1961. Many deaf schools followed the “oral” approach for many years, focusing on speech, speech reading, and hearing aids to try to make deaf people function like “normal” hearing people. Later in the 1980’s total communication was introduced. Many of these original deaf schools still exist and the number of deaf schools-despite a movement toward mainstreaming and inclusive education continues to grow. In the mid 1970’s, Kenya joined a global trend in attempting to shift toward “integrated education.” A number of deaf students were put into hearing schools with some efforts to accommodate their needs. Schools, however, were poorly prepared. Few resources were available to the schools, staff had not received appropriate training, and deaf students, for a number of reasons, had difficulty following the same curriculum as their hearing peers.

In 2003, the Government of Kenya implemented free primary education. Education was recognized as a basic right for all children; including children with special needs, of whom, the learners with hearing impairments are included. Parents, who were financially unable to send their children to primary school, are now required to do so. This policy has increased the number of all students admitted into government schools across Kenya. Therefore, Deaf schools have also seen an increase in enrolment. Under free primary education, the government does not build new classrooms or guarantee that the number of teachers allocated to schools would match the increased intake of students. Both deaf schools and units have lacked the necessary resources, training and equipment to accommodate the new number of students. Many teachers assigned to the schools and units have poor fluency in Kenyan sign language. The Government of Kenya now follows a policy that “a learner with special needs in education should be given the necessary support whether he/she is attending a regular or special school.” Learners with hearing impairments therefore should be given the support they require for them to get quality education that would enable them perform well in examinations such as Kenya Certificate of Primary Education (K.C.P.E.).
A 2003 Task Force Report found that nearly 90% of deaf children in Kenya attend special schools and about 10% attend units; and most of these schools are in the rural set up. With the creation of awareness through organizations such as KSDC and KNAD, more special schools have been opened. Majiwa (1999) maintains that the teacher training in special education has led to improved teaching skills, approaches of communication and a modified curriculum that has increased the number of learners with hearing impairments in school. Therefore, the need for the learners to be catered for in order to perform well in examinations like K.C.P.E. has arisen.

According to the government’s official position, the overall goal of education is to achieve education for all by 2015 in line with the national and global commitment. The government’s vision is quality education and training for development. Quality relates in terms of performance in national examinations such as K.C.P.E. to enable the learners move from primary level to secondary or vocational training. Towards this end, the MOE has been mandated to work with other education stakeholders to provide, promote and co-ordinate quality life-long education, training and research for Kenya’s sustainable development and responsible citizenry for ALL.

The task force on appraisal of SNE (2003) observed that curriculum used in ordinary schools is rigid and overloaded. As a result, it does not take care of the individual needs of learners with special needs in education. The government has posted a specialist to the Kenya Institute of Education to guide SNE curriculum development. Furthermore, KIE has an SNE division where curriculum in special needs education is developed. The curriculum has not been flexible in terms of time, teaching and learning resources, methodology, and mode of access, presentation and content. Many subject areas of the curriculum need adaptation or have some areas prepared to suit learners with hearing impairments. The Ministry of Education through Kenya National Examinations Council trains invigilators and supervisors to enable them to provide support to candidates, and ensures that subjects such as Kenyan sign language are examined in all national examinations to compensate for Kiswahili. In addition, KNEC ensures that the KCPE English language paper is simplified and there is extra time allocated to these learners’ examination papers. Inspite of all these efforts the K.C.P.E. performance of learners with hearing impairments is still below average. Only 1 or 2 out of 100 students score above 250 marks out of 500.
1.2 Statement of the Problem

Education for ALL has been an area of concern to all the stakeholders in the field of education worldwide and Kenya in particular. This requires that the learning needs of all pupils be met in either special schools, units or an inclusive setting. In line with the government’s overall goal for education, the SNE sub-sector’s vision is: “A society in which ALL persons regardless of their disabilities and special needs achieve education to realize their full potential”, and its mission is to create a conducive environment for learners with Special Needs and disabilities to have access to quality and relevant education and training. However, repetition and performance in examinations such as Kenya Certificate of primary education in Kenyan public primary schools for learners with hearing impairments continues to negatively affect them. This is a challenge to the quality of education learners with hearing impairments receive at primary school level. Studies carried out attribute this to factors such as cultural, social related, rigid curriculum among others (Saitoti, G. 2005, Republic of Kenya 2005, July, Onyango 2004). In response to these problems, the Government of Kenya introduced Free Primary Education and additional grants to support pupils with special needs. In addition, the Government in collaboration with development partners, civil society and the private sector development for the period 2005-2010 have tried to address the issue. Kenya National Examinations Council has addressed issues that were a challenge to learners with HI such as simplifying the KCPE English language paper, sign language being an examinable subject, extra time given to the candidates with hearing impairments among others.

Despite these efforts, KCPE performance of learners with hearing impairments in special schools remain constrained such that few of these pupils graduate to high school and within the expected time period (UNESCO, 2005). This means that there are other crucial factors relating to academic performance of these pupils that deter their performance in special schools, which needed to be investigated in the Kenyan context. This study contended that such factors could be linked to use of instructional materials, communication approaches, coverage of curriculum content and the format of teaching. The possibilities of such factors have not been established through systematic research as possible causes to the K.C.P.E. performance in special schools for learners with hearing impairments in Kenya.
1.2.1. **Purpose of the Study**

The purpose of this study was to determine the factors affecting K.C.P.E. performance of learners with hearing impairments in special schools. This revealed the likely relationship between these factors used by teachers and the pupils’ academic attainments in special schools in Kenya.

1.3 **Objectives of the Study**

1. To find out whether instructional materials used by teachers influence the learners’ academic performance.

2. To establish the teachers’ knowledge and skills level in the use of communication approaches in teaching learners with HI.

3. To find out coverage of curriculum content for learners with HI.

4. To identify the formats of teaching used by teachers for various learning activities.

1.4 **Research Questions**

1. How do teachers’ use instructional materials in teaching learners with hearing impairments in special primary schools?

2. To what extent does the teachers’ knowledge and skills level of communication approaches affect the academic performance of learners with HI?

3. How does the coverage of curriculum content offered to learners who are HI affect their performance?

4. How do the formats of teaching used by the teachers for various learning activities affect the learner’s performance?
1.5 **Significance of the Study**

The findings of this study could be significant to the following:-

1.5.1 **Teachers**

The findings of this study may help them to evaluate their teaching strategies. They may gain insight into the needs of pupils with HI. In addition they may realize the importance of being sensitive to their needs and hence identify ways of assisting them to enhance their KCPE performance.

1.5.2 **Teacher-trainers / College Tutors**

They may use the findings of this study while preparing their primary school teachers so that they can modify their training. This may include equipping teacher trainees with required intellectual grounding to enable them be accomplished instructors of pupils with Hearing Impairments.

1.5.3 **Policy Makers**

The findings of this study are likely to be important to the Teachers’ Service Commission (TSC) and Quality Assurance and Standards (QAS) division in the Ministry of Education (MOE) as well as the Kenya Institute of Education (KIE). The MOE via TSC may realize the need to train more teachers in Special Needs Education (SNE) as well as employ more teachers to teach in the schools for the Deaf. The QAS division may use the findings of this study to formulate relevant in-service programmes for teachers. The KIE may be enlightened on the need to revise the curriculum and instructional materials of learners with hearing impairments geared towards their academic performance. The KNEC may also be enlightened to revise the setting, marking and grading of KCPE examinations for learners with hearing impairments to enable them fit into the nation’s workforce.
1.6 Delimitations and Limitations

1.6.1 Delimitation

The study was restricted to four public special schools for the Deaf in four selected counties. These were Kuja-Migori County, Nyangweso-Homabay County, Nyangoma-Siaya County and Maseno-Kisumu County.

The class eight and seven pupils, teachers who taught them and head teachers were the only ones involved in the study. The study was restricted to only four aspects that could affect K.C.P.E. performance; use of instructional materials, teachers knowledge and skill level of using communication approaches, coverage of curriculum content and the format of teaching.

1.6.2 Limitations

The study was only interested in factors that affected K.C.P.E. performance. Much attention was not paid to intervention strategies pertaining to specific areas such as use of an IEP. There are many factors affecting K.C.P.E. performance of learners with HI; however, the study was only limited to a few factors due to limited time available. The study was also limited to some selected special schools in selected counties.

1.7 Conceptual Framework

One of the goals of primary education in Kenya is preparing learners to fit into and contribute towards the well being of society and the world of work. On this note, it should be realized the importance of imparting life skills to learners is well articulated in Education for All (EFA) goals. Ysseldyke (1993) noted that within the classroom, some learners already have developed the skills being taught, while others need help developing those skills and still others need to be taught pre-requisite skills before they can learn the contents others are learning. It is thus of paramount importance that instruction in the classrooms are adjusted to accommodate those individual differences so that all the learners reach the expected educational outcomes (Brown, 1976). This notwithstanding, certain factors are likely to affect teachers use of instructional materials, knowledge and skill level of communication approaches, coverage of curriculum content and format of teaching to assist pupils with hearing impairments. This in-turn determines the K.C.P.E. performance of such learners. Pupils with HI have a hearing loss that
may be mild, moderate, severe or profound; thus they have different hearing levels but learn in the same setting. They are taught by teachers mostly who have undergone the special needs education training and have acknowledge of sign language. These learners need a lot of teaching and learning materials and an appropriate format of teaching, since their most active sense is that of sight. The learner’s mains means of communication is sign language which is a component of total communication. Inspite of the challenges they have, they sit for National examinations like K.C.P.E. and are rated just like their hearing ‘normal’ counterparts. Academic performance is considered to be an achievement in relation to how one is successful in reading and studying than in technical work. The KNEC test all the primary school learners at the end of class eight levels through K.C.P.E. Certificates are awarded to those learners who score 250 marks and above. The sum total of the marks is 500. They are tested in five different areas, Mathematics, English, Sign language/Kiswahili, Science and Social Studies + CRE/IRE. Most learners with HI rarely score above 250 marks, and their pass mark to join secondary schools of their own is usually lowered to 130 marks or below. Learners with hearing impairments could be helped to perform well academically as the ordinary learners through various ways. These could be measures such as more teachers trained in SNE, availability, adequacy, utilization of learning resources, completion of stipulated curriculum content among others. Subsequently, there could be improved K.C.P.E. performance of learners with hearing impairments. The relationship is summarized in figure 1.1.
Figure 1.1. Relationship between prevailing factors and K.C.P.E. performance

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Instructional materials used</th>
<th>Dependent Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Learners with HI</strong></td>
<td>- Have mild, moderate, severe hearing loss.</td>
<td>- Improved K.C.P.E.</td>
</tr>
<tr>
<td>- All senses active except hearing.</td>
<td>- curriculum content</td>
<td>- Performance in:</td>
</tr>
<tr>
<td>- Teachable</td>
<td>- Teaching format</td>
<td>- Mathematics</td>
</tr>
<tr>
<td>- Capable of learning.</td>
<td>- Extraneous variables</td>
<td>- English</td>
</tr>
<tr>
<td>- Complete the syllabus</td>
<td>- suitable class size</td>
<td>- Sign Language/ Kiswahili</td>
</tr>
<tr>
<td>- Understand concepts taught</td>
<td>- professional qualification</td>
<td>- Science</td>
</tr>
</tbody>
</table>

**Key:** ←→ means one context is related to the other.


1.8 Operational of Definition Terms

- **Bilingualism** - An approach in education of the deaf where two languages are simultaneously used for communication across the curriculum.
- **Deaf** - Someone whose hearing disability is so severed that is preludes successful processing of linguistic information through audition, with or without a hearing aid.
- **Hearing Impairment** - A generic term that is preferred when one has a hearing loss that may be mild, moderate, severe or profound. It is especially used in educational setting.
- **KCPE** - Performance: An ability to do Kenya Certificate of Primary Education well or badly.
- **Manual method** - A system of communication that uses manual alphabet (finger spelling), body movement, facial expression and signs. It is used as a form of communication with the hearing impaired individuals as well as means of instruction in the classroom.
• **Oral-aural methods** refers to the use of speech and speech reading. It stresses auditory training (learning to listen), oral training (learning to speak and speech reading learning to read the lips and facial expression). In this method, emphasis is also placed on the use of hearing aid for amplification.

• **Oral method** - The use of spoken language (speech) and lip reading.

• **Sign-language** - A non oral method of communication. It is purely visual, gestural language which has been developed and is used by people who are hearing impaired.

• **Signed English** - A mode of communication in English language where signs are superimposed on words in English sentences but affixes such as ‘s’ and ‘ing’ indicated by finger spelling.

• **Special Education Needs** - Varied needs of learners that require special educational attention; for example special educational needs of pupils with hearing impairments.

• **Learning Environment** - Physical conditions in the classroom that includes resources, facilities, and class size that to some extent influence the teaching-learning process.

• **Factors** - Prevailing conditions in school that influence teaching and learning of pupils.

• **Signed exact English** - signs are superimposed on words in an English sentence and affixes such as ‘s’ and ‘ing’ are indicated by finger spelling.

• **Special Education** - A mode of communication in English language where specialized or adapted curriculum, intervention procedures, teaching methods, and special facilities are provided to assist handicapped children to perform to a level similar to that of non-handicapped children.

• **Special Schools** - Schools that have individually planned and systematically monitored arrangements of physical settings, special equipment and materials, teaching procedures and other interventions designed to help exceptional children achieve the greatest possible self-sufficiency and academic success.

• **Total Communication** - A philosophy of communication that incorporates more than one mode of communication.

• **Examination** - It is measuring the knowledge acquired and depends on achievement tests only, judging only one quality or one aspect of the individual.
• **Evaluation**-It appraises the changes brought in the behavior pattern of the child through
the totality of experiences provided in the school, and uses many tools of measurement
like personality tests, attitude tests, Rating Scales, Questionnaires, etc.
CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter is devoted to reviewing literature relevant to the problem. It also looks at the work that has been done by other people related to the area of this study. The reviewed literature was discussed under the sub-sections outlined below.

2.1 Instructional Materials

Large scale school effectiveness studies have highlighted the importance of textbooks and other learning materials on student performance. For example, Fuller and Clarke (1994) reviewed school effectiveness studies in less developed countries that adjusted students’ achievements for their family background and found “rather consistent school effects” in relation to availability of textbooks and supplementary reading materials. Around 50% of the various studies have showed significant positive associations between academic achievements and school inputs. The World Bank Operations Evaluation Department’s review on the “determinants of education quality in developing countries” (Boissere, 2004) confirmed text books and writing materials as key contributors to school effectiveness at the primary level in developing countries. Studies carried out by Michaleowa (2001) found that, the availability of textbooks had strongly significant and positive impact on learning outcomes. Much literature in developing countries does seem to suggest that resources do matter and the single most important cost effective input to the textbook and other pedagogical and learning materials Fullen and Clarke, (1994). (Hanushek, 1995:232) has consistently argued that “there are no clear systematic relationships between key inputs and student performance. The central theme of his argument is that the traditional approach to providing quality education by simply providing more inputs is frequently ineffective. The abundance or lack of school resources may play a less important role than the efficiency in the use of such resources. The outcome in performance would depend on the quality of inputs, their suitability to curriculum or the school environment. Not only do materials need to be selected or developed to support desirable pedagogical practice but conversely the availability of materials has ‘implications for pedagogical practice.’
Instructional materials such as diagrams, pictures, graphs and flow charts are very essential in the teaching and learning process and more so to a learner with hearing impairments as they reduce language and reading demands. This is because visual methods of teaching and learning create a more lasting experience and relate most readily to other sensory experiences (Sumner, 1985). Instructional materials accomplish 83% of what is learnt through sight activating students in the learning process. They make the learning become very interesting even to dull and hyperactive students. A further clarification is made by a Chinese saying, “If I hear I forget, if I see I remember, if I do I know” (Harrison, 1983). By seeing over and over again, the brain may be able to recall what has been learnt. Some of the concepts become more visible and self explanatory from the diagrams. It reduces the language demands especially for learners with hearing impairments. Recalling back of what has been learnt is much easier from diagrams or pictures. According to the researchers’ observation, when the pictures or charts are displayed in the classrooms, then even in the absence of the teacher, the learners can look at the charts and review their own work. They can also connect ideas and remember other related facts. For example, when a class six student looks at a diagram showing parts of a flower, he or she can recall their functions and whether it is wind, insect or self-pollinated. The teacher should also be familiar with the child’s condition from the Individualized Education Plan (IEP). The IEP is a written statement for every learner with a disability that includes statement of present level of performance, annual goals, short-term instructional objectives special educational services needed and relevant date and evaluation procedures. Once developed, an IEP is signed by parents as well as educational and other personnel present or involved in its development.

Other strategies used for these learners include: universal design of instructions. The universal design of instructions is defined as the design of products and environment to be used by all people to the greatest extent possible, without the need for adaption or specialized design, (Terri, 2007).

According to Hallahan and Kauffman (1997) other areas of instructional materials are the technological explosion in the area of hearing impairment. These are hearing aids, television, telephones, computer assisted instruction and the “information super highway.” All these devices assist persons with hearing impairments to communicate with and or have access to information.
The two main types of hearing aids are those that fit in the ear and those that are body worn. The behind the ear hearing aid is the one mainly used by children since it can be used with FM systems available in most classrooms (Hawkins, 1990). Although hearing aids are an integral part of educational programming for students with hearing impairments, some children who are deaf cannot benefit from them because of the severity and/or kind of hearing impairment. Generally hearing aids make sounds louder and not clearer. Teachers, parents and students should be familiar with the operation and maintenance of the hearing aid for effectiveness usage.

In Western countries, television captioning is now available. Over 400 hours of television programs are now captioned for use by people with hearing impairment. Many video tapes available from rental stores are captioned and there are taped television programs as well. These can be used in teaching, reading and writing to learners who are HI. Kenya could as well borrow such an idea that learners can benefit from academically. Telephone adaptations are the development of the Tele Type Writer (TTV) that allows people with hearing impairment access to the telephone. Moseley & Moseley (1994) observe that a person can use a TTV connected to a telephone to type a message to anyone else the push buttons on his or her phone to “type” messages to someone with a TTV. There is also a relay service used by people with TTVs. This allows a person with a TTV communicate with anyone through an operator who conveys the message to a person who does not have a TTV. The TTVs have been incorporated into classroom activities as a way of fostering friendships while providing practice in reading and writing that are really challenges to learners with hearing impairments.

The explosion of micro-computer and related technology like video discs is expanding learning capabilities for people who are deaf. For instance, visual displays of speech patterns on a computer screen can help someone with hearing impairment to learn speech. Video disc programs showing people sign are also available for use in learning Kenyan sign language which if used by teachers they can improve their sign language skill that could be a challenge to them. The “information”, super highway” is an opening to a variety of communication possibilities for people who are deaf. For example electronic mails allow people who are deaf to communicate with one another as well as with hearing individuals. It can be used by teachers to help students who are deaf to practice reading and writing skills. However, a report by the Ministry of
Education, during the international conference on education in Geneva (2001), show that the education sector in Kenya has not fared very well. It reveals that the quality of education at all levels has been deteriorating over time due to limited learning materials and examination drive, as well as the teaching-learning approaches, especially in the Mathematics and Science oriented subjects. Based on the inherited education system, the report maintains that the government and other partners have not come up with a clear vision of education that would enhance the provision of education for all. The researcher sought to find out whether instructional materials used by teachers influence the learners academic performance.

2.2 Communication Approaches

Developing an effective communication system is often the greatest challenge a child with hearing impairments faces, and it is also the most important area for support team to work on. Communication is the key to all learning and access for the child. Its importance cannot be understated. There is a process of communication development that most children with hearing impairments can be taught. It takes time to teach a child who has limited access to information but it can be done. A child with hearing impairments learns by doing, by being actively involved signing and watching, not by listening since it is not a reliable modality for him or her. The unfolding nature of communication process requires that there be teachers familiar with the communication approaches in the field of learners with hearing impairments and who can assess the learners changing needs overtime. This is in relation to the subjects, topics and the learner’s degree of hearing loss. It can be the best way to ensure the child is presented with the best communication approach that is appropriate for their understanding during the teaching and learning process, and could enable the learner perform well academically to progress to the next level. Both receptive and expressive forms of communication are important. Receptive communication is the process of receiving and understanding a message or information. It is often difficult to determine how a child with hearing impairments receives and conceptualizes a message. Think about living in a world where you cannot hear what is going on around you but only see. If we pay close attention to the way we send our message, we increase their chances of being received. It is upto the teachers to find a way or ways in which learners with hearing impairments can understand what they are teaching in all subject areas. Teachers should put all their learners on a communication map to assist them in determining the ways their learners
receives messages. The need of simultaneous use of multiple communication modes enhancing the learners ability to receive additional information such as through sound and facial expressions arises.

These methods of communication are used by teachers in the education of children with HI that enables them understand what is being taught. KSDC (2000) maintains that oral, aural/oral, manual, bilingual, total communication, sign language and signed English are all communication approaches that may enhance academic performance among pupils with HI. However, teachers who deliver the content matter and always choose what is suitable to them and their learners. Thus it depends on the teachers knowledge and skill level of the communication approaches. This choice of freedom sometimes leads to either good or poor performance in examinations like KCPE. Crume et al, (1999), argue that many teachers of learners with hearing impairments are unable to teach properly because they cannot communicate with them. Furthermore, they point out that most of these teachers sign very poorly. This has been found to create obstacles in the teachers endeavour to provide instruction to learners with hearing impairments. The researcher discusses each of the communication approaches used by teachers in the schools. Since 1958 to date.

2.2.1 Oralism

It involves use of speech and lip reading. The pupils should understand what others say by reading the lips and facial expression. They also use residual hearing with the help of appropriate aids and are able to participate in group discussions, (Flexer, 1994).

2.2.2 The Oral/Aural Approach

It emphasizes the use of speech, lip reading and hearing aids. The child with hearing impairment is supposed to understand others by making maximum use of his residual hearing and using a hearing aid. He or she is also supposed to use speech reading to enhance understanding. To express self, the child is supposed to speak. KISE (2002) shows that oral/aural approach basically catered for the hard of hearing and not the profound and was used in Kenya from 1958 until 1988 when total communication was introduced. Under this approach, most of the learners performed poorly in the examinations such as KCPE and mainly joined vocational training or
dropped out of school. This could have been because it never considered the degree of hearing loss.

2.2.3 The Manual Approach

The manual approach emphasized use of signs and body language in communicating with children who are deaf to the exclusion of speech and hearing aids. The focus is on the acquisition and use of sign language for communication and education. The development of written language is encouraged. It has two components: Finger-spelling in which words are spelt out by letters using a manual alphabet and signs, which are symbolic representations of words made with hands. However, the disadvantage here is that, there are many words which do not have signs. It also catered mainly for the profound but not the hard of hearing; as such, it may have an effect on the KCPE performance.

2.2.4 Bilingualism

This is an approach in the education of learners with hearing impairments where two languages are simultaneously used for communication across the curriculum. The teacher uses Kenyan sign language to explain concepts to the child during the lesson, while chalkboard summary and lesson notes are given in written English. The emphasis here is on understanding of content through the use of sign language such as English. This approach has been used outside Kenya and mainly in USA. It is a good method for teachers who are conversant with sign language. It also caters for learners with any degree of hearing loss and can affect the academic performance.

2.2.5 Sign Language

This is a visual language that uses manual signs that has structure and meaning like the ordinary language. In our case the primary or first language of deaf children is Kenyan sign language which is used for instruction, and communication both in educational and in general settings. It has always been used along side the other communication approaches. It is the backbone of communication of learners with HI in any setting.
2.2.6 Signed English – Written English Approach

This is whereby signed English (SE), Signed Exact English (SEE) and written English across the curriculum; written English is used to write chalkboard summary and to carry out some learners and teachers’ activities during the lesson. Under this approach, sign language may be used to explain difficult concepts during lessons. Since communication is very crucial to students with hearing impairments, the researcher sought to find out if the teachers’ knowledge and communication skill level of communication approaches affect KCPE performance of learners with HI.

2.2.7 The Philosophy of Total Communication

It is a philosophy that advocates for use of any modes of communication suited to the individual child in a given situation. It is suitable even in an inclusive setting because it gives the teacher a free hand to determine and use the modes of communication suited to an individual child. Due to its suitability, it may affect the academic performance of these learners. Therefore, the researcher intended to establish the teachers’ knowledge and skills level in the use of communication approaches in teaching learners with HI.

2.3 The Curriculum

This is all the organized experiences that schools provide to help children learn and develop. It includes the subject taught, the content, the school environment and other activities that take place outside the classroom. It provides guidelines on the content sequence of activities, teaching methods/ format, time schedules, educational resources and evaluation procedures. Its framework aims at reaching the average learners (Savolainen, 2000). It is vital to have an appropriate curriculum for education to be meaningful for all learners with needs. There are different types of curriculum. A differentiated curriculum is an approach that one can use to identify the subjects in the curriculum that a learner should cover and plan for each learner according to his/her needs and ability. In this case, some learners with HI require a differential curriculum while others require the adapted one. Koech’s Report (1999) however states that the Kenyan curriculum is inappropriate in that there is lack of clear policy guidelines and legal status
on special needs education provisions, inadequate educational facilities, equipment and services for learners that are challenged and inadequate trained teachers.

The task force on appraisal of SNE (2003) observed that curriculum used in ordinary schools is rigid and overloaded. Thus, the curriculum content is too packed with a lot of material that may not be covered by a learner with special needs as it is stipulated. It does not care for the individual needs of learners with special in education. The task force noted that the curriculum has to be differentiated in terms of time, mode of access and learning resources.

In the examinations, the competition that is enhanced and the selection of learners for promotion to higher levels of mean score does not consider learners with special needs; (GOK, 2006 Draft policy on learners with disabilities). The task force (2005) committee that visited schools for learners with SEN noted that these learners with SEN required a barrier free environment to maximize their functional potential as they covered the curriculum content. It was noted that the physical structures in institutions for learners with SEN were so in-conducive to the learners that most of them were not able to cope with the learning. The in-conducive structures in the schools for learners with HI included; the horse shoe sitting arrangement, group and individual hearing aids, sound-proof classrooms, library that is well equipped with reading and writing materials among others. These are structures that would likely enhance the coverage of curriculum content.

It was established by the task force (2003) that the present curriculum does not cater for all learners with SEN in terms of coverage of curriculum content. This is because there are some learners who are gifted and talented who can complete the curriculum in less than the specified time, and others like the mentally challenged and those with hearing impairments may not be able to cover the curriculum content within the stipulated time. The Task Force (2003) noted that many subject content areas of the curriculum had neither been adapted nor a specialist curriculum prepared for the areas where they are required. Many issues emerged in the area of examination for learners with SEN. The issues were on grading, time allocation and mode of presentation of examination papers. For instance, it was found out that the Kenya National Examinations Council (KNEC) allows candidates with SEN thirty extra minutes to complete writing their examinations. The Task Force (2003) however noted that the extra thirty minutes does not work well with the learners with Special Educational Needs and in all subjects. The
Task Force (2003) recommended that taped exams be given to those who required them. Time allocation for learners with SEN should be determined by the length of the examination paper and the nature and severity of the disability. For learners with hearing impairment, English language is usually different in that it is said to be simplified but tests the same concepts. Despite all these, learners with hearing impairments do not perform well. Their English composition papers should be moderated because of their grammatical error of object, subject and verb order instead of the usual subject, verb and object.

Due to delayed language development which is a result of hearing loss, the curriculum for pupils with hearing impairments calls for four types of curriculum. These are: adopted, adapted, specialized as well as specialist curriculums. The last one employs skills such as the philosophy of total communication which entails speech reading, cued speech reading, writing, sign language and gestures among others.

Kathenny (2002) explains that adopted curriculum involves taking the whole regular curricula the way it is rather than modifying it. The adapted curricula refer to modified and improved curricula to meet the needs of the child with special needs. The specialized curriculum is essential for children with severe handicaps, multi handicaps and the mentally challenged. It emphasizes the rationale for modification, mode of presentation of materials and the use of an Individualized Educational Programme (IEP).

Students with hearing impairments have to learn the same subject matter in school as their hearing peers in order to compete with the job market, but there is some evidence that they do not. Moores (2001) believes that the emphasis on teaching communication skills and other specialized subjects in most class sessions for students with hearing impairments has resulted in neglect of the traditional academic areas such as mathematics, science and social studies. This is what is likely to have happened between 1958 and 1980s when most learners who were HU used not to sit for KCPE. The casual factors could be due to the teachers’ attitudes, lack of teachers’ commitment, knowledge of sign language and some topics among others. As such, the teachers may feel incompetent to teach students with hearing impairments making them unable to perform well in KCPE. Although Moores (2001) suggests that educators must pay more attention to the teaching of traditional content areas in order to prevent their students with hearing loss from experiencing a major “knowledge gap.” The teachers who implement the
curriculum sometimes do not hit the balance by catering for all the subjects and topics as laid down in the syllabus. Furthermore, Moores and Meadow Orleans (1990) report that children HI spend less time on academic subjects. This suggests that it is important to give equal time in all learning activities. The more time the students spend on academic subjects, the higher level of achievement is expected. This study sought to find out the effect of the coverage of curriculum content on the academic performance of learners with hearing impairments.

2.4 The Format of Teaching

In teaching, teachers use various formats to explain concepts to their students. Some of these formats are easier for students to understand what is being taught while others are difficult for pupils to follow. Those that are difficult for some learners may include lectures, explanations and whole class discussions. These ones may be more difficult to those students with hearing impairments because there are many words and ideas which are abstract and do not have signs, like the concept of the “Holy Spirit, Heaven” in religious studies. It also takes more time for pupils to understand the abstract ideas being explained and learners may not follow the notes later. Formats that tend to promote understanding include exhibits, demonstrations, experiments and simulations. They provide hands-on experiences as they are easier to follow than lectures, explanations and whole class discussions. Writing directly in short simple sentences and using pictures to illustrate the procedure, supplements the oral explanations given during demonstrations (Waldron, Diebold & Rose, 1985).

Rose et al (1991) argues that use of lectures and discussion formats promote understanding in various ways. This is by providing lecture notes or outlines, and using non-verbal cues such as facial expressions, body, movements and gestures. In addition, checking student comprehension of instruction often educators also emphasize the importance of adapting written materials because the ‘best’ instructional format with deaf students….. is predominantly pictorial with some….. verbal information, Waldron et al (1985) p.40. Adapting materials by using visual displays, such as diagrams, pictures, graphs and flow charts reduces language and reading demands.

Regardless of the format of teaching the teacher has to use, one should follow a preview teach and review cycle. Several preview strategies available include:- word maps that are graphic
representations that encourage students to integrate their background knowledge as they learn vocabulary and concepts of special instruction, categorizing ideas by asking students to brainstorm a list of works as they associate with the concept, or topic understudy is another way of previewing. In addition, Directed Reading Thinking Activity (DRTA) guides students to activate their prior knowledge predict outcomes and establish a purpose for reading before they actually read.

There are some teachers who use learner-centred formats that have been strongly criticized for breaking down structure within the lesson. Critics arguing that structure is essential to pedagogical effectiveness have taken their evidence base from studies of school and teacher effectiveness (Scheerens and Bosker, 1997) teacher or classroom effectiveness Walberg and Paik, (2000) and recently, also cognitive psychologists define learning as changing the long-term memory. Kirschner et al (2006) argue that the use of minimal guidance formats that use problem solving in information-rich settings diverts our limited working memory resources from learning. Abadzi (2006) has recently attempted to extend the findings emerging cognitive neuroscience and learning to the majority world. Learners like with hearing impairments have been found to be differentially disadvantaged by open instructional techniques. One explanation posited for this is that children with hearing impairments may not have the same opportunities as better-off children “normal” to acquire the skills that are useful at school. Consequently, they “lack the cognitive networks and prior knowledge to which they can attach school-related information.” Abadzi, (2006:15) she concludes that children with such disadvantages are likely to be less ready for complex educational tasks and need more time in school to practice component tasks.

Between authoritarian teacher-led ‘chalk and talk’ and unstructured discovery learning lies a continuum of possibilities (as argued by Nyakabug and Sieborger, 2001; and ‘learner –centred’ is often used in a relative sense. Many initiatives in SEN contexts that claim to be ‘learner-centered’ share characteristics of structured pedagogy in that they promote careful planning of lessons, with a clear introduction that links to the previous lesson and sets out learning objectives as well as use of formative assessment. They often encourage teachers to make use of a range of formats of teaching including talking to the whole class from the front, question and answer with the whole class, individual exercises or reading, group discussion and practical activities. The polarize the learner-centred and teacher-centered formats of teaching is to oversimplify the
variety of strategies that teachers can and should employ depending on their context, learners’ needs and subject matter Brophy, (1999:6).

However, there is a fundamental difference between a behaviourist view of learners as passive that leads to a focus on knowledge and how it is taught and a constructivist view that requires teachers “view curriculum and pedagogy from the perspective of the learner and to build bridges to meet that view half way” little, 2006:340: the findings of cognitive neuroscience maybe able to inform the design of formats of teaching to improve cognitive learning outcomes, most especially in literacy and numeracy. This shows that when teaching learners with hearing impairments, their teachers must go an extra mile and use more time to explain concepts to the learners. They have to use the best format of teaching which can enable learners perform well academically. The challenge the learners have is the auditory deficit leading to limited vocabulary. The format of teaching depends on the subject, topic, vocabulary, degree of hearing loss and the teacher. The formats of teaching can affect learning negatively, therefore, the study sought to identify the formats of teaching used by teachers for various learning activities to enhance academic performance.

Summary

This chapter has reviewed the related literature to the problem of the study. There are several crucial issues that have been seen to affect the KCPE performance of learners with hearing impairments. These were instructional materials, communication approaches, curriculum and format of teaching that fall under pupil and teacher, related factors.
CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter highlights methodological details appropriate to the study, research design, variables, location of the study, target population, sampling techniques and sample size, construction of research instruments, pilot study, validity, reliability, data collection techniques, logistical and ethical considerations.

3.1 Research Design

The study employed the ex-post facto research design in which the role of the teachers, pupils and headteachers in the outcome of the KCPE performance was investigated. An ex-post facto research design is defined as a systematic empirical inquiry in which the scientist does not have direct control of independent variables because their manifestation have already occurred or they are inherently not manipulable Kerlinger (1973:379). Hence, inferences about relations among variables are made and without direct intervention from concomitant variation of independent and dependent variables. For this reasons, variables like curriculum content, instructional materials, modes of communication and teaching format that affected KCPE performance could not be manipulated. This enabled the study to get the teachers’, head teachers’ and pupils opinions, perceptions, experiences and context in which they act and respond to the learners’ performance in relation to KCPE.

3.2 Research Variables

The independent variables were the instructional materials, knowledge and skill level of use of communication approaches, curriculum content coverage and teaching format. The independent variable was performance in KCPE.

3.3 Target Population

According to Orodho (2005), target population is a large population from which a sample population is selected. A sample population is a representative case from the large population. The study population was the group of participants in a study. In this study, the target population
was made up of 62 teachers, 4 headteachers and 654 learners. The study population was 125 comprising of 21 teachers, 4 headteachers and 100 students (Classes 7-8 pupils). Teachers were chosen for this study because they are in direct contact with students and it is their responsibility to effectively cover the curriculum content, use instructional materials appropriately and the most suitable modes of communication as they would take into account the needs of each and every student. Headteachers were important in this study as they supervised the work of teachers and provide needed resources and materials. Student’s opinions were valuable because they are the ones who were directly affected by the examinations. These study samples served a great deal in enabling collection of data on the factors affecting KCPE performance of learners with hearing impairment in Kuja, Maseno, Nyangweso and Nyangoma primary schools for the Deaf in selected counties.

Table 3.1 Study Sample Frame for the target population

<table>
<thead>
<tr>
<th>School</th>
<th>Total Number of Learners per school</th>
<th>Teachers</th>
<th>Headteachers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Total</td>
</tr>
<tr>
<td>Maseno</td>
<td>70</td>
<td>94</td>
<td>164</td>
</tr>
<tr>
<td>Nyangweso</td>
<td>82</td>
<td>65</td>
<td>147</td>
</tr>
<tr>
<td>Kuja</td>
<td>80</td>
<td>85</td>
<td>165</td>
</tr>
<tr>
<td>Nyangoma</td>
<td>85</td>
<td>93</td>
<td>178</td>
</tr>
<tr>
<td>Total</td>
<td>317</td>
<td>337</td>
<td>654</td>
</tr>
</tbody>
</table>

Table 3.1.1 Target population

<table>
<thead>
<tr>
<th>Target Population</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>62 teachers</td>
<td>21 teachers</td>
</tr>
<tr>
<td>4 head teachers</td>
<td>4 head teachers</td>
</tr>
<tr>
<td>654 learners</td>
<td>100 learners (All of class 7-8)</td>
</tr>
<tr>
<td>Total 720</td>
<td>125</td>
</tr>
</tbody>
</table>
3.4 Sampling Techniques and Sample Size

3.4.1 Sampling Techniques

Purposive sampling was used to select teachers, head teachers and learners. Purposive sampling is handpicking the cases to be included in the sample on the basis of one’s judgement of their typicality (Orodho, 2005). In purposive sampling, the goal is to select cases that are likely to be “information rich” with the respect to purposes of the study. The intent is to achieve an in-depth understanding of selected individuals (Gall et al, 1996). Twenty one teachers were purposively selected on the basis of previous experience in teaching learners with hearing impairments and specifically classes seven and eight. The teachers who were picked are mainly those who were teaching either class seven or eight at the moment of the study. Teachers were purposively be picked as follows: Maseno 5, Nyangoma 5, Kuja 6 and Nyangweso 5. Learners were also purposively picked from all the four schools as follows: Maseno 27, Kuja 29 and Nyangweso 23. These included all the learners, in classes 7 and 8 that were present during the study. Since each school had only one headteacher selection was not there. Headteachers implement the Government policies and curriculum in their schools. They were able to discuss the factors that affect KCPE performance among learners with hearing impairments in their schools. Out of the 21 teachers to be selected, 6 had special training at the University or any other special training institute, 10 of the teachers had three months in-service course experience after teaching in the schools for over five to ten years and the remaining five had no SEN training. The headteachers had special education degree from the universities. The 100 learners from classes 7-8 were purposively picked and none was left out. The population and sample size was determined in advance.

3.4.2 Sample Size

Sample size was 125 comprising of 100 learners, 21 teachers and 4 headteachers.
Table 3.2 The Participants in the study per school

<table>
<thead>
<tr>
<th>School</th>
<th>Headteachers</th>
<th>Teachers</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Class 8</td>
<td>Class 7</td>
<td>Class 7</td>
</tr>
<tr>
<td>Maseno</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Nyangoma</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Kuja</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Nyangweso</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>11</td>
<td>10</td>
</tr>
</tbody>
</table>

A total of 125 respondents

3.5 Construction of Research Instruments

The researcher used interview guides, questionnaires and observation guide. The observation guide was used to confirm some of the information given in the questionnaires and interviews. The researcher administered questionnaires to 5 teachers by taking them personally.

3.6 Data Collection Instruments

Data was collected using questionnaires, interviews and observation checklist. The researcher administered questionnaires to 5 teachers by taking them personally to the respondents. Each respondent filled the questionnaire which was collected on the same day. Interviews were administered by the researcher with the help of research assistants. Each head teacher, 4 teachers from every school and all class 7 – 8 pupils were interviewed to supplement the questionnaires for relevant information. An observation guide was also used. The research assistants were trained before the actual work by the researcher. The instruments helped the survey to establish instructional materials, coverage of the curriculum content, teaching methods and communication approaches effect to the KCPE performance of learners with hearing impairments in special primary schools in the selected counties.

3.6.1 Questionnaires

Questionnaires were administered to two teachers except three for Kuja. 3 teachers in each school were given interviews for objectivity purposes. There were both closed and open-ended
items. The open items were used to capture a variety of feelings from the respondents to given point scales. The questionnaires were useful in obtaining objective data without participants being manipulated by the researcher. Kathuri (1993) states that questionnaires are elicit information on the respondents’ perception and give respondents more freedom to express their opinions and also make suggestions. Thus, the participants in this study had freedom to express their opinions and make suggestions.

3.6.2 Interview

An interview guide was used when the interviewer interviewed his or her respondents; this made it possible to obtain the data required to meet the specific objectives of the study (Orodho, 2005). Semi-structured interviews were used to collect data a total of 17 from respondents in this study. Gall et al (1996) assert that semi-structured interviews involve asking a series of questions and then probing more deeply using open form questions to obtain additional information that is quite vital in any study.

Cohen, Manion and Morrison (2001), argue that an interview can produce in-depth data not possible with a questionnaire and the reason for particular responses can be determined. According to Kerlinger (1973), people are more willing to communicate orally than in writing and this provided data more readily in this study, interviews were used on the head teachers, teachers and learners. The main issues to be gathered were on the factors influencing KCPE performance among learners with hearing impairments in Maseno, Kuja, Nyangweso and Nyangoma Primary Schools situated in selected counties.

The researcher herself interviewed the head teachers and teachers during their lapse between lessons and at break time. The learners were interviewed by both the researcher and two research assistants. The interviews for learners were done during creative arts, after lunch for 30 minutes and from 3.10 – 4.30 p.m. after afternoon classes. In establishing the teachers and head teachers’ knowledge and skill level of sign language, the researcher worked with the research assistants as it is required in psychometric testing, judgement could only be reached at with one, more than one individual.
3.6.3 Observation Checklist

According to Peril (1995), an observation guide helps in gathering data concerning the status of the school facilities, equipment and in examining the general situation of the environment. An observation checklist was constructed by the researcher. This helped her establish the teachers’ knowledge and skill level in the use of modes of communication, and instructional materials in the primary school. This tool had items which helped supplement the above two instruments for adequate data collection. Much can be learned by observing what people actually do and how they do it. This provided a range of reliable data as the researcher was able to see what people did under various circumstances, heard their comments and asked for explanations. To complete the observation checklist properly, the researcher stayed in every sampled institution for a period of one week. This length of time enabled the researcher to get a more accurate data as per the objectives.

3.7 Pilot

A small sub-sample was picked for piloting to establish the reliability and validity of the questionnaires, interviews and observation. The researcher picked one head teacher, two teachers, and four students for interviewing purposes. Three teachers and four students were again picked to fill the questionnaires. The researcher also pre-tested the observation checklist. This was carried out at Kambui Primary School for students with hearing impairments a month before the actual collection of data for the study and this school was not among those to take part in the study. The researcher picked on Kambui because it is similar to the four selected schools in many ways. It is situated in a rural setting, has almost all the facilities such as group hearing aids and horse shoe sitting arrangements it is also well staffed and has a big student population from all over Kenya being near Nairobi. The purpose of piloting the questionnaire and interview schedules was to ensure their clarity and the suitability of the language used. Adjustments were made on those items which may be found to present ambiguity and mechanical difficulties in such matters as tabulation. These adjustments was to ensure that the items in the questionnaire, interview schedules were to discover any weaknesses in the instruments, check for clarity of the questions or items and also elicit comments from respondents that would assist in the improvement and modification of the instruments: According to Wiersma (1985), piloting the instruments helps eliminate ambiguity, misunderstanding and inadequate items. Piloting also
enabled the researcher to detect any flaws in the administration of the research instruments. The instruments were refined to check for the reliability and validity during fieldwork. Bell (1993) observes that piloting is one way of checking reliability of instruments, so it was necessary for the researcher to carry out piloting of the research instruments to the study.

3.8 Validity
Validity is the degree to which a test measures what it purports to measure (Borg and Gall, 1989). Content and construct validity of the instruments was enhanced at the design stage since some of the items were adapted from earlier studies by Gathara (2003); Machila (2005); Odero (2004). The pilot study was carried out to check the appropriateness of the language used in the questionnaire as well as determining the difficulty of the items in the instruments. Thus, necessary modifications of the tools were made, hence improving the level of instruments’ validity.

3.9 Reliability
Reliability coefficient of all the instruments was determined after the piloting stage. In this case, the instruments were administered to the subjects involved in the pilot study at different times in close succession using the test-retest method. This was done in two consecutive days after which correlation between the two sets of data was determined using Pearson Product Moment Correlation Formulae. A reliability coefficient of 0.75 was obtained which was considered appropriate for the study.

For lesson observation schedule, Scott’s (1959) method of determining Correlation Coefficient was used. In this case two concurrent observations were made by both the researcher and the researcher assistants independently. The degree of agreement between them was checked. The items being observed were thus reviewed and redefined and observation procedure repeated until high agreement inter-rater was reached.

3.10 Data Collection Procedures
The researcher used questionnaires, an interview guide and an observation guide to collect data from the respondents. Interviews were conducted with the respondents during lunch break and games time. The interviews for teachers were conducted during the long break and free time for
the teachers. The head teachers were also interviewed after school. Care was taken not to interfere with the normal teaching schedules. Data was collected from the sampled schools by giving them the questionnaires, interviews, and using the observation checklists. The researcher administered the questionnaires by taking them personally to the institutions explaining to the would-be respondents who were already sampled to the test requirements. Each participant was required to fill the information in the questionnaire and they were collected after completion. It was explained to them that confidentiality of their responses was granted. When interviews were used, it was explained to the respondents until their understanding of the participation was assured before the interview could begin. Interviews for the students were conducted by the researcher and research assistant while employing total communication, whereby all modes of communication was used such as finger spelling, sign language and writing. This enabled children who are hearing impaired to overcome their communication problems due to auditory deficiency. This was quite tedious, expensive and time consuming. The observations were made at Kuja, Maseno, Nyangweso and Nyangoma Primary Schools for the deaf on the following areas: curriculum, instructional materials, and format of teaching and modes of communication. The purpose of the study and other details were explained to the head teachers and permission to use his or her teachers and students sought. Respondents were briefed about the study and its significance. The researcher was in each institution for at least one week to carry out her observation as it is easier to study a phenomenon when one is in a particular setting.

3.11 Logistical and Ethical Considerations

The researcher obtained a research permit from the Permanent Secretary (PS), Ministry of Education (MOE) through the Dean, Graduate school Kenyatta University before administering the research instruments in the field. The researcher made preliminary visits to Kuja, Nyangweso, Nyangoma and Maseno Primary Schools for the Deaf where the research was conducted in order to establish rapport with the head teachers of the institutions and also discussed the relevance of the study. Other considerations included, getting informed consent from the respondents before interviewing them, using information only for disclosed purpose, respecting their right to withdraw at any time and treating the respondents with dignity.
CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND DISCUSSION

4.0 Introduction

In this chapter, data analysis, presentation and discussions are presented. For systematic presentation, the chapter is subdivided into the following five sections. Data analysis; instructional materials; modes of communication; curriculum content and format of teaching. Each analysis is followed by an interpretation and then discussion.

4.1 Data Analysis

Questionnaires filled and returned were counted and checked for completeness. It was noted that some questionnaires were incomplete and one was almost blank. These unanswered questions were indicated as gaps in the data sheet. Data from lesson observation schedules on the format of teaching, communication approaches plus questionnaires were carefully organized, coded numerically and analysed both qualitatively and quantitatively. Items were arranged according to individual research questions and analysed data presented in tabular form where possible.

In particular, quantitative analysis involved data collected from the teachers and learners’ interviews which were entered into the computer and processed using the Statistical Package for Social Sciences (SPSS). One way Anova (Analysis of Variance) was also used to determine the difference of knowledge and skill of communication approaches, formats of teaching and use of instructional materials by the teachers in the different schools involved in this study. This helped to ascertain whether the difference was statistically significant or not. To facilitate presentation and analysis of data, tabular layouts were used. For comparison, results were given inform of mean, frequencies and percentages to answer questions 1, 2, 3 and 4.

Qualitative analysis involved making inferences from the teachers’ and headteachers’ responses from the open-ended questions using thematic approach. Further qualitative analysis was done on the views given by teachers and headteachers on challenges they faced in relation to teaching learners with hearing impairments. General information from observation of lessons proceedings, availability of instructional materials and use of communication approaches was
analysed qualitatively too. This information was used to explain further the results from both qualitative and quantitative data collected and analysed to answer research question 1, 2, 3 and 4.

4.2 Instructional Materials

Instructional materials are important for effective teaching of pupils with hearing impairments. This is because they motivate these pupils to learn and also increase their retention capacity, reducing the language barrier. However, resources must not only be available but also adequate suitable and well utilized to be effective in assisting pupils with hearing impairments in their academic performance. Teachers were asked to state whether instructional materials influenced the learners performance. Their responses are presented in table 4.1.

<table>
<thead>
<tr>
<th>Teachers’ response n = 20</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Ways instructional materials influenced learners</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Availability</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>Yes</td>
<td>18</td>
<td>90.8</td>
<td>24.8</td>
</tr>
<tr>
<td>No</td>
<td>2</td>
<td>9.2</td>
<td>N/A</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.1 shows that majority of the teachers (90.8) agreed that instructional materials affected KCPE performance of the learners. In case of ways instructional materials influenced learners in the teaching and learning process, they gave varied responses in which 24.8% pointed out availability, 32% mentioned adequacy and 29.6% suitability. Only 13/6% attributed this to utilization. The teachers’ responses indicate that adequacy of the instructional materials is the key factor, followed by suitability. Although some instructional materials could be found in a few classrooms, learners with hearing impairments require special help in the teaching and learning process to enable them unleash their full potential.
Teachers gave their views on the use of instructional materials as the researcher also observed the lessons for confirmation purposes, and the results are presented in table 4.2.

**Table 4.2 instructional materials used in observed lessons**

<table>
<thead>
<tr>
<th>Instructional Materials Total observations = 16</th>
<th>In Class</th>
<th>How used</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes (%)</td>
<td>No (%)</td>
</tr>
<tr>
<td>Text books</td>
<td>97.00</td>
<td>3.00</td>
</tr>
<tr>
<td>Charts</td>
<td>51.00</td>
<td>49.00</td>
</tr>
<tr>
<td>Models</td>
<td>28.00</td>
<td>72.00</td>
</tr>
<tr>
<td>Teacher made resources</td>
<td>0.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Table 4.2 indicates that the textbooks were available in almost all the lessons except three. However, it was noted that some text books were not enough in all lessons observed (97%). It was also noted that some text books were not enough in most of the lessons observed and hence not effectively used 12.5%. This implies that pupils had to share the few text books available. This has an implication on the teaching and learning of pupils with hearing impairments. Such pupils are unable to keep pace with the children who hear in their academic performance. Therefore, for them to succeed, they require special attention by the teacher, personalized assistance, more practice and being given work suited to their potential. This cannot be achieved if resources commonly used by teachers such as text books are not enough. It was also noted that even though there were charts in some lessons observed (51%), they were hardly utilized by teachers in the teaching and learning process. In particular, majority of the lessons (90%), charts in class were ineffectively utilized and only 10% utilized the charts. As shown in table 4.2, it
was observed that models and teacher made resources were either used of not there at all. Use or such instructional materials creates pupils’ interest and motivation. This is particularly important for pupils with hearing impairments who require motivational techniques in order to sustain their attention as well as promote concentration (Brown, 1976). Additional teaching also helps in repetition and hence reinforces retention of knowledge and skills learnt. Therefore, teachers ought to improvise instructional materials where necessary so as to create a satisfactory learning environment that would enhance KCPE performance among learners with HI. A one-way ANOVA was used to test if the instructional materials influence on academic performance differed in the selected schools.

Table 4.3 Mean test scores for equality of variances for the instructional materials used in the schools

<table>
<thead>
<tr>
<th>Instructional materials</th>
<th>No.</th>
<th>Mean</th>
<th>SD</th>
<th>Source</th>
<th>Df</th>
<th>Sum of squares</th>
<th>Mean squares</th>
<th>T-Value</th>
<th>f.prob sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text books</td>
<td>97</td>
<td>3.0813</td>
<td>3.0567</td>
<td>Instructional materials between schools</td>
<td>2</td>
<td>.331</td>
<td>.166</td>
<td>1.157</td>
<td>.317</td>
</tr>
<tr>
<td>Charts</td>
<td>51</td>
<td>3.1878</td>
<td>3.1878</td>
<td>Within schools</td>
<td>173</td>
<td>24.776</td>
<td>.143</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Significance at .05 confidence level

The f-value was found to be significant at ≥ 0.05, F=1.157

P = .317 > 0.05

Based on the results therefore, there was no significant difference in the use of instructional materials and academic performance in the selected schools.

Teachers were asked to write 1 -5 things with regard to effects of instructional materials while teaching learners with HI. Teachers’ responses are presented in table 4.4.
Table 4.4: Teachers’ response on the effects of instructional materials while teaching

<table>
<thead>
<tr>
<th>Effects of instructional materials</th>
<th>Frequency</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learners use their remaining senses</td>
<td>17</td>
<td>1</td>
</tr>
<tr>
<td>Makes it easy to connect ideas</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>Enables teachers’ to cover syllabus</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>Elaborates concept under study</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>Learners memory improved</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>60</strong></td>
<td><strong>6</strong></td>
</tr>
</tbody>
</table>

As can be observed from table 4.4, illustrating teachers’ responses to open-ended questions, use of the remaining senses was more frequently given as an effect of the teachers’ to use of instructional materials: this was followed by enabling the learners to connect ideas. Learners’ memory being improved was the lowest ranked effect. At least teachers gave 60% of their responses on the effect of instructional materials to the learners. While there were a 40% of no response. This concedes with the Chinese saying, if I hear, I forget, If I see I remember, if I do I know: Harrison (1983).

Learners were asked if teachers taught using instructional materials and the response was as shown in table 4.5.
Table 4.5 Learners’ responses on availability of instructional materials and their effectiveness

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials available for the students</td>
<td>25</td>
<td>25%</td>
</tr>
<tr>
<td>Some subjects do not have enough materials</td>
<td>15</td>
<td>15%</td>
</tr>
<tr>
<td>Some classes have functional group hearing aids</td>
<td>10</td>
<td>10%</td>
</tr>
<tr>
<td>Teachers at times do not use instructional materials</td>
<td>17</td>
<td>17%</td>
</tr>
<tr>
<td>The library is small and is not well equipped</td>
<td>13</td>
<td>13%</td>
</tr>
<tr>
<td><strong>Total Responses</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

As shown in table 4.5, 25% of HI learners cited the availability of instructional materials. This shows that although the headteachers supplied the materials to the teachers, some teachers were not preparing them for usage. Responses also showed 15% whereby some subjects did not have enough materials; thus lack of enough materials could be a set back on the learners performance in KCPE. This is a cause for concern because the Universal Declaration of Human Rights (1948) records all children regardless of their disability to equal opportunities in medical education, recreation among other necessities.

Some of the specialized equipment (Ndurumo, 1993) talks about is both the group and individual hearing aids. If they are put in proper use can amplify the sound for learners who are HI and it would enhance their learning capability, only 20% of the learners had individual hearing aids and
10% of the classes had functional group hearing aids. The teachers argued that parents found hearing aids to be very expensive for their children. On the other hand most group hearing aids in the four schools were not functional. The head teachers said that it was expensive to repair them and even the spare parts were not available.

Although instructional materials are important to learners who are HI, 17% of the learners were cited to say that teachers at times do not use instructional materials. This was a challenge to the teachers because, inspite of the availability and importance of using the instructional materials the teachers could not use them and this hindered grasping of concepts taught. This could be a reason for the lagging behind in KCPE performance.

The library is a place where learners go to learn and reading independently and even making their own notes. However, 13% response argued that the library it was small and not well equipped. The library ought to be spacious enough to accommodate a certain number of pupils and be well equipped with story books, papers, reference materials and other materials, but this was not the case.

4.3 Communication Approaches

For any communication to be complete there must be a receiver and a recipient. Whenever there is a barrier, then communication process is incomplete. Teachers and headteachers were asked the modes of communication they used when teaching learners with hearing impairments. Their responses were as indicated in table 4.6.
Table 4.6: Teachers’ and headteachers’ response on communication approaches they used and their influence to the learners' performance

<table>
<thead>
<tr>
<th>Modes of communication</th>
<th>Headteachers and teachers who used them</th>
<th>Influence on learners</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N = 125</td>
<td>Rank</td>
</tr>
<tr>
<td>Total communication</td>
<td>23</td>
<td>1</td>
</tr>
<tr>
<td>Sign language</td>
<td>20</td>
<td>2</td>
</tr>
<tr>
<td>Bilingualism</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td>Aural/oral</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>Oralism</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>75</td>
<td></td>
</tr>
</tbody>
</table>

As can be observed from table 4.6, illustration both the teachers’ and headteachers’ responses total communication was the most frequently mode of communication used in teaching learners with HI, this was followed by sign language. Oralism was the lowest ranked mode of communication used. There was the same implication on their influence to the learners’ academic performance. Learners were also asked the modes of communication which they preferred their teachers’ to use. The learners’ responses were as illustrated in table 4.7

Table 4.7 Communication Approaches Preferred by Learners

<table>
<thead>
<tr>
<th>Learners’ View</th>
<th>Responses n =100</th>
<th>Percentage %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sign language</td>
<td>43</td>
<td>43</td>
</tr>
<tr>
<td>Total communication</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>Bilingualism</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Speech/ lip reading</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
The results show that learners preferred teachers to use mainly sign language when teaching, followed by total communication that entails all forms of communication. The least preferred mode of communication was speech and lip reading.

A mean test scores for the most favourable mode of communication was carried out and the results were as indicated in table 4.8.

**Table 4.8 Mean scores and t-tests for mode of communication**

<table>
<thead>
<tr>
<th>Modes of communication</th>
<th>No.</th>
<th>Mean</th>
<th>SD</th>
<th>Source</th>
<th>df</th>
<th>Sum of squares</th>
<th>Mean squares</th>
<th>f</th>
<th>f. value</th>
<th>f. prob. Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sign language</td>
<td>32</td>
<td>3.0806</td>
<td>.5047</td>
<td>Modes of communication between groups</td>
<td>3</td>
<td>6.08</td>
<td>3.044</td>
<td>.83</td>
<td>185</td>
<td>.3799</td>
</tr>
<tr>
<td>Total communication</td>
<td>.63</td>
<td>3.1065</td>
<td>.3799</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bilingualism</td>
<td>55</td>
<td>.4307</td>
<td>.4307</td>
<td>Within groups</td>
<td>247</td>
<td>40.69</td>
<td>.165</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Significant at .05 confidence level.

The f – value was found to be insignificant at > = 0.05;

\[ F = .831 > 0.05 \]. Based on the results, there was no significant difference in the preferred modes of communication and those of the teachers in the selected schools for learners with hearing impairments.

Teachers’ and headteachers were asked if they had knowledge and the skill of communication approaches which they used in teaching. The responses were as indicated in table 4.9.
From Table 4.9 majority of the teachers 62% were not knowledgeable with all the communication approaches being more than a half, and 40% agreed to have the knowledge while 8% neither agreed nor disagreed. This meant that teaching learners with hearing impairments was a challenge as there was a barrier of 60%. This could have been a contributing factor to the academic performance of the learners.

The researcher went further to test both the expressive and receptive knowledge and skill level of sign language of the headteachers’ and teachers. She was assisted by the research assistants. It had part I and part II. In psychometric testing judgement of more than one person is required. Each examiner was required to take 10-15 minutes and was done within a day.

**Part I Compulsory**

1. The research and research assistants in the examination room shall ask you some questions. Give your answers in Kenyan Sign Language. (20 marks)

**Part II Choose any one question in this part**

2. Either
   (a) You have visited a national park with your pupils. Describe your experience. (20 marks)

   Or
   (b) Look at the pictures overleaf and describe the scenes. (20 marks)
The marking scheme which the researcher used is as shown in table 4.10.

<table>
<thead>
<tr>
<th>Class</th>
<th>Vocabulary Knowledge</th>
<th>Production</th>
<th>Fluency</th>
<th>Comprehension</th>
<th>Creativity</th>
<th>Total Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class A</td>
<td>Very broad/native like Well used in context Mastery of skills variations</td>
<td>Very clear / native like interesting excellent use of signing space</td>
<td>Normal/ native like spontaneous, shifts comfortable from sign to sign coherently</td>
<td>Excellent for the level confidently portrays the mood, atmosphere of the topic</td>
<td>Excellent use of correct sing-word in order to discuss elaborately. Interestingly sustains humor originality</td>
<td>4</td>
</tr>
<tr>
<td>Class B</td>
<td>Fairly broad and used in context Very little finger spelling</td>
<td>Clear with few/ occasional poor productions</td>
<td>Moderate with few interruptions</td>
<td>Moderate and near native like, good for the level with few self correcting incidences</td>
<td>Fairly good/moderate ability to discuss topic. Good attempt to be humorous</td>
<td>3</td>
</tr>
<tr>
<td>Class C</td>
<td>Basic and sometimes used wrongly</td>
<td>Unclear with frequent mix ups in placement, indexing and finger-spelling</td>
<td>Slow with many interruptions/ pauses that affect flow. Often rephrases with clear concern for emphasizing correct sign word order.</td>
<td>Fair but impeded with frequent requests or pardon. Frequently misses the point and mixes concepts.</td>
<td>Plainly states facts on the topic. Little creativity if any. Lacks ability to elaborate on issues he/she raises.</td>
<td>2</td>
</tr>
<tr>
<td>Class D</td>
<td>Uses very basic vocabulary. Often finger spells on the vocabulary. Uses speech due to lack of vocabulary</td>
<td>Poor often unclear with many floppy and ill shaped, ill-placed signs no respect for signing space.</td>
<td>Very slow and full of irrelevant and disruptive pauses</td>
<td>Exhibits complete disconnect from the topic. Often mimics the examiner with undesired head nods.</td>
<td>Inability to construct correct sentences. Presents short disjointed phrases. Unsure of the signs to use.</td>
<td>1</td>
</tr>
</tbody>
</table>
The results were computed from the four schools were as shown in table 4.11.

**Table 4.11 : Knowledge and skill level of sign language**

<table>
<thead>
<tr>
<th>Knowledge and skill level of sign language</th>
<th>Count n = 25</th>
<th>Distribution per school</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Able to sign part I and II fluently scoring 35-45 marks out of 50</td>
<td>7</td>
<td>Maseno – 2 Nyangoma – 2 Nyangweso 1 Kuja 2</td>
<td>28</td>
</tr>
<tr>
<td>Able to sign part I and II with some strain scoring 25-35 marks</td>
<td>8</td>
<td>Maseno – 2 Nyangoma – 3 Nyangweso - 2 Kuja - 2</td>
<td>32</td>
</tr>
<tr>
<td>Able to sign part I and II with a lot of strain leaving out main items of the story</td>
<td>10</td>
<td>Maseno – 2 Nyangoma – 2 Nyangweso - 2 Kuja - 2</td>
<td>40</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>25</strong></td>
<td><strong>25</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

From table 4.11 it is illustrated that both teachers’ and headteachers’ were fluent in sign language (7/25), while (8/25) were averagely fluent in sign language. However 10/25 could not sign fluently. Although they signed, they left out main items of the story scoring 10/25. The conclusion was that some teachers’ and a few headteachers’ were not conversant with many signs, this it could be a factor contributing to low performance in KCPE,

### 4.4 Curriculum Content

As stated earlier, curriculum provides guidelines on the content sequence of activities, formats of teaching, time schedules, educational resources and evaluation procedures. Its framework aims at reaching the average learners of whom, learners with hearing impairments are among them.
The headteachers and teachers were asked whether the curriculum content offered to the learners was appropriate and the responses in relation to this are summarized in table 4.12.

Table 4.12: Headteachers and teachers’ responses on the relevance of the curriculum content

<table>
<thead>
<tr>
<th>Relevant of curriculum content</th>
<th>Frequency of headteachers and teachers</th>
<th>N = 25</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentage %</td>
</tr>
<tr>
<td>Yes</td>
<td>18</td>
<td>72</td>
</tr>
<tr>
<td>No</td>
<td>3</td>
<td>12</td>
</tr>
</tbody>
</table>

Table 4.12 results indicate that most teachers agreed that the curriculum content is not. Teachers and headteachers were also asked to state 1-10 causes of being unable to cover the syllabus and the responses are as illustrated in table 4.13.

Table 4.13: Teachers and headteachers reasons for not completing the syllabus

<table>
<thead>
<tr>
<th>Teachers and headteachers reasons for not covering the syllabus n =125</th>
<th>Frequency</th>
<th>Percentage %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content too wide</td>
<td>21</td>
<td>84</td>
</tr>
<tr>
<td>Curriculum not adapted</td>
<td>17</td>
<td>68</td>
</tr>
<tr>
<td>Stipulated time short</td>
<td>20</td>
<td>80</td>
</tr>
<tr>
<td>Inadequate instructional materials</td>
<td>19</td>
<td>76</td>
</tr>
<tr>
<td>Takes more time to explain concepts</td>
<td>14</td>
<td>56</td>
</tr>
<tr>
<td>Teaching formats to be used challenging</td>
<td>18</td>
<td>72</td>
</tr>
<tr>
<td>Lack of signs for words or concepts</td>
<td>16</td>
<td>64</td>
</tr>
<tr>
<td>Lack of efficiency in sign language</td>
<td>22</td>
<td>88</td>
</tr>
<tr>
<td>Varying understanding of learners</td>
<td>13</td>
<td>52</td>
</tr>
<tr>
<td>Learners poor memory thus repetitions</td>
<td>11</td>
<td>44</td>
</tr>
</tbody>
</table>
Table 4.1 indicates that some teachers failed to respond to particular items, thus the total number of responses for such an item was less than the expected 125 for each item. The table generally coincides with the previous issue of communication and mainly sign language with 88% and 65%. It was followed by the curriculum content being too wide 84% in comparison to the stipulated time 80%. The least reason for not covering the curriculum which teachers pointed out was that most learners have poor memory, thus teachers must have several repetitions of going over the past lessons.

4.5 Format of Teaching

The format of teaching learners with hearing impairments varies from one learner to another. Respondents were asked whether they encountered any problem in the way they taught and their responses are as shown in table 4.14.

Table 4.14: Head teachers and teachers responses on whether they encountered any challenges in the formats of teaching used

<table>
<thead>
<tr>
<th>Format of teaching challenges</th>
<th>Headteachers and teachers responses n = 25</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
</tr>
<tr>
<td>Yes</td>
<td>18</td>
</tr>
<tr>
<td>No response</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>25</td>
</tr>
</tbody>
</table>

As shown in table 4.14, 72% of the responses were for the respondents who agreed that they faced several challenges in the use of formats of teaching in class, and 28% felt that there were no challenges. This indicates that the teaching and learning process is affected since they are a majority who face challenges with the format of teaching, thus they cannot deliver the information to the students as required.

Mean scores and t-tests for the headteachers and teachers who had challenges with the formats of teaching and the results are as indicated in table 4.15.
Mean scores and t-tests for formats of teaching used by teachers’ and headteachers’

<table>
<thead>
<tr>
<th>Formats of teaching</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Degree of Challenges</th>
<th>T. value</th>
<th>T (sig) probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>18</td>
<td>3.3887</td>
<td>.4309</td>
<td>24</td>
<td>1.371</td>
<td>0.0035</td>
</tr>
<tr>
<td>No</td>
<td>7</td>
<td>3.0102</td>
<td>.3404</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Significant at .05 confidence level.

Lavene's test was done to determine whether the variability of the scores within the formats was the same. The variances were found to be different implying that $t = 1.371$, $df = 24$, $r$ – significant $= 0.007 < 0.05$ which is significant.

Those who agreed had therefore a higher mean of 3.3887 than those who disagreed, with a mean of 3.0102.

Teachers and headteachers were asked to state 1-6 things with regard to the challenges they faced in using various formats of teaching. Teachers’ and headteachers responses are presented in table 4.16.

**Table 4.16: Factors Contributing to Challenges of using formats of teaching**

<table>
<thead>
<tr>
<th>Formats of teaching facts</th>
<th>Frequency</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 300</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unsuitable format to learners</td>
<td>22</td>
<td>1</td>
</tr>
<tr>
<td>Learners understanding level</td>
<td>21</td>
<td>2</td>
</tr>
<tr>
<td>Lack of communication skills</td>
<td>19</td>
<td>3</td>
</tr>
<tr>
<td>Hidden disabilities of learners</td>
<td>18</td>
<td>4</td>
</tr>
<tr>
<td>Behaviour problems of learners</td>
<td>16</td>
<td>5</td>
</tr>
<tr>
<td>Attitude of teachers</td>
<td>14</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>110</td>
<td></td>
</tr>
</tbody>
</table>
As can be observed from table 4.16, illustrating the responses to open-ended questions, unsuitability of the formats of teaching were more frequently given as contributing to their inability to teach effectively learners with hearing impairments, this was followed by the understanding level of the learners. Attitude of the teachers towards learners with hearing impairments was the lowest ranked factors.

Table 4.17 Headteachers’ and teachers’ responses on teaching format used in teaching various subjects

<table>
<thead>
<tr>
<th>Teachers teaching formats n=275</th>
<th>Maths</th>
<th>English</th>
<th>Kiswahili</th>
<th>Kenya sign language</th>
<th>Science</th>
<th>Social Studies</th>
<th>CRE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>Demonstrations</td>
<td>20</td>
<td>80</td>
<td>15</td>
<td>60</td>
<td>21</td>
<td>84</td>
<td>16</td>
</tr>
<tr>
<td>Exhibitions</td>
<td>14</td>
<td>56</td>
<td>21</td>
<td>84</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Experiments</td>
<td>10</td>
<td>40</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Class discussion</td>
<td>47</td>
<td>68</td>
<td>17</td>
<td>68</td>
<td>5</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>Lectures</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>20</td>
<td>80</td>
<td>0</td>
</tr>
<tr>
<td>Simulations</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Comparison</td>
<td>10</td>
<td>40</td>
<td>14</td>
<td>56</td>
<td>10</td>
<td>40</td>
<td>12</td>
</tr>
<tr>
<td>Question / Answer</td>
<td>25</td>
<td>100</td>
<td>24</td>
<td>95</td>
<td>15</td>
<td>60</td>
<td>15</td>
</tr>
<tr>
<td>Diagrams / graphs/ flowcharts</td>
<td>15</td>
<td>72</td>
<td>23</td>
<td>82</td>
<td>11</td>
<td>44</td>
<td>11</td>
</tr>
<tr>
<td>Remedial instruction</td>
<td>18</td>
<td>72</td>
<td>25</td>
<td>100</td>
<td>20</td>
<td>80</td>
<td>14</td>
</tr>
<tr>
<td>Peer Tutoring</td>
<td>16</td>
<td>64</td>
<td>15</td>
<td>60</td>
<td>16</td>
<td>64</td>
<td>20</td>
</tr>
<tr>
<td>IEP</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Computer Technology</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
From table 4.17, it is clear that some few teachers together with the headteachers failed to respond to particular items, thus the total responses for such an item was less than the expected twenty five. Table 4.17 generally indicates that most teachers tended to use some teaching format when teaching learners with hearing impairments. This is because the mean scores are above one out of seven which is the average mean score. Most headteachers and teachers mean average of 70% suggested that the teachers use question and answer method compared to an average mean of 1.6% who mentioned individual attention. There were other methods which indicated no response (0). This can be interpreted to mean that teachers are not able to effectively cater for individual pupils’ learning needs in their classes that would affect their academic performance. This could be due to what teachers had suggested earlier. Thus because of individual differences in degree of hearing loss, age at on set, understanding level, availability of suitable instructional materials among others, teachers often resort to methods like remedial instruction and sometimes peer tutoring in abid to assist these pupils to perform well. Where as the effectiveness of the teaching formats was beyond investigation by this study, such teaching formats may make these pupils to perform below the expected standard.

The results also indicate that none of the schools use teaching formats such as IEP and computer technology learners with hearing impairments. These methods including exhibitions, experiments, demonstrations and class discussions enhance interactive learning; encourage individual attention and interest unlike lecture format. Therefore, they are suitable teaching formats for pupils with hearing impairments whom majority have trouble paying attention to a task for more than a stretch of thirty minutes due to their relatively short attention span according to Curtis and Shave (1980). Thus, in teaching a particular subject to learners with hearing impairments, one must find out the effectiveness of various formats of teaching.

Further analysis was done to ascertain whether there was statistical significant difference of teaching formats used by teachers in the different schools involved in the study. The teachers’ comments on the teaching formats used in their schools was thus analysed by use of one-way ANOVA method of analysis at $\alpha = 0.05$ level. The summary of the results is presented in table 4.18.
Table 4.18 : Significant Difference in Teaching Methods used by Teachers

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>Ms</th>
<th>F-ration</th>
<th>5% F-limit (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between sample</td>
<td>0.775</td>
<td>7</td>
<td>0.11</td>
<td>0.2559</td>
<td>2.42</td>
</tr>
<tr>
<td>Within sample</td>
<td>13.76</td>
<td>32</td>
<td>0.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td><strong>14.54</strong></td>
<td><strong>39</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.18 reveal that there is no significant difference in the teaching formats used by teachers across the schools studied (F=0.2559, p = 2.42). This is because all the teachers in these schools tended to use more of question and answer method in comparison to other teaching formats. This means that teachers are influenced by the same prevailing factors in the way they teach learners with hearing impairments in special primary schools. Thus, appropriate measures have to be put in place to enable teachers to employ effective teaching formats during the lesson in order to achieve maximum potential for every child leading to good KCPE performance.
### 4.6 Observation Checklist

**Table 4.19**

<table>
<thead>
<tr>
<th>Item</th>
<th>Specific Item</th>
<th>Condition</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Instructional materials</strong></td>
<td>Individual hearing aids</td>
<td>Only few learners were hearing aids. Some hearing aids were not functional.</td>
<td>All students are given appropriate hearing aids, and those spoilt be repaired.</td>
</tr>
<tr>
<td>Group hearing aids</td>
<td>Three quarters were spoilt</td>
<td>Group hearing aids need to be repaired and put into use.</td>
<td></td>
</tr>
<tr>
<td>Speech kit and audiometer</td>
<td>Some were spoilt and some schools had only one each</td>
<td>Need more than two of them and the spoilt ones be repaired.</td>
<td></td>
</tr>
<tr>
<td>Flash charts pictures diagrams and graphs</td>
<td>Available in some classes and some were neither well written nor drawn</td>
<td>Should be suitable and available in all classes, well written and drawn.</td>
<td></td>
</tr>
<tr>
<td>Real objects</td>
<td>Minimal</td>
<td>More real objects and centres of interest made</td>
<td></td>
</tr>
<tr>
<td>Library</td>
<td>Small sized and not well equipped</td>
<td>Library be spacious, with enough reading materials that’s variable.</td>
<td></td>
</tr>
<tr>
<td>Educatve magazines</td>
<td>Few educative magazines available</td>
<td>Need for more educative magazine for language and vocabulary purposes.</td>
<td></td>
</tr>
<tr>
<td>Classroom</td>
<td>Sound proof</td>
<td>Minimal</td>
<td>Need for all classrooms to be sound proof</td>
</tr>
<tr>
<td>Curriculum</td>
<td>Regular curriculum</td>
<td>Kiswahili not included in the regular curriculum</td>
<td>Though Kiswahili made optional can be taught alongside sign language</td>
</tr>
<tr>
<td>Teaching methods</td>
<td>Normal teaching methods</td>
<td>Teachers were not making use of the IEP</td>
<td>To be used IEP to suit every learner</td>
</tr>
<tr>
<td>Modes of communication</td>
<td>Oralism</td>
<td>Oral / Aural</td>
<td>Manualism</td>
</tr>
<tr>
<td>-------------------------</td>
<td>---------</td>
<td>--------------</td>
<td>-----------</td>
</tr>
<tr>
<td></td>
<td>Most teachers did not use speech and lip reading</td>
<td>Few teachers used speech, lip-reading and hearing aids</td>
<td>Most teachers did not use signs and body language</td>
</tr>
<tr>
<td></td>
<td>Learners had a wide ranged range of hearing loss thus oralism was not a pre-requisite</td>
<td>It was not very effective as quarters of the students did not have hearing aids</td>
<td>It was fair but most teachers were not competent in sign language</td>
</tr>
</tbody>
</table>

From the researchers’ observation, some items were available, others were not. The results are as shown in table 4.19.
4.7 Summary

In this chapter data collected through lesson observation schedules, questionnaires and interviews have been presented, analysed, interpreted and results discussed with reference to research questions. The new finding was that majority of the teachers rarely give individual attention to pupils with hearing impairments in the teaching and learning process due to prevailing factors that hinder them to do so. This may lead to low academic attainment by such pupils in examinations such as KCPE.
CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter presents a summary of the research findings, conclusions made in accordance with research result, recommendations for future implementations and suggestions for further research in this aspect of education.

5.1 Summary of the Research Findings

The study intended to establish the factors affecting KCPE performance of learners with hearing impairments in which ex-post facto research design was used. The study was carried out in four selected counties, Nyanza and three set of the instruments were used. These included questionnaires for headteachers and few teachers, interviews for twenty five teachers and one hundred pupils and an observation checklist. The summary of the findings of this study based on the research questions as follows:-

The first question sought to find out whether instructional materials used by teachers influence the learners academic performance. The study revealed that:

The text-books were the most commonly used resources by the teachers in the teaching and learning process. The textbooks were used by pupils to do some exercises in class while the teacher moved around the classroom marking their work. However, the text-books available were few in some of the lessons observed and the pupils had to share. This encouraged cheating in class work and therefore the teacher could not easily recognize those who had difficulties in doing the class work.

Generally, there were very few teaching aids being used by teachers in the teaching and learning process during the lessons. The few charts and models that were present in some classes were not fully utilized. Some charts were very old and hanging on the walls. The failure to incorporate such teaching aid did not motivate pupils with hearing impairments that’s had an auditory deficit and one of their active senses was the eye. Furthermore, some of these learners
attention span is relatively short and therefore the need to arouse their interest in abid to sustain it and boost their academic performance.

The second question intended to establish the teachers’ knowledge and skills level in the use of communication approaches in teaching learners with HI. The study established that:

All the teachers through the interviews and questionnaire indicated that the most appropriate mode of communication is total communication. This was also preferred by majority of the learners. Total communication entails all modes of communication such as sign language, reading, writing, gestures among others. Total communication caters for all categories of learners with HI.

Sign language being a component of total communication was a challenge to majority of the teachers. More than a half of the teachers were not fluent in both the expressive and receptive skills of sign language. This posed a concern as it is the mother tongue of learners with HI and is also an examinable subject instead of Kiswahili. Out of the four schools, only seven teachers were able to sign fluently and communication with the learners. It was noted that most of the teachers mainly used gestures and just talked to the students orally. In response, the learners ignored the teachers and signed to each other as the teacher was writing on the chalkboard. In the observed lessons, learners were naught with behavior problems when they realized the teacher was not conversant with sign language. On the other hand, teachers made comments that learners with HI had behavior problems and could make them not concentrate.

Teachers were unable to have class control of the pupils, as the learners concentrated telling their own stories in class hence, making the teachers’ work difficult. Only few pupils completed their work and could raise their hand to answer questions in all the observed lessons.

Some teachers started signing to explain a particular concept but got stuck on the way. In some incidences a learner responded to a question through signing and the teacher could say its ‘okay’, then some bright learner could say ‘no’ and go to explain in the chalkboard in some observed lessons.

The third question sought to find out how; coverage of curriculum content offered to learners with HI affect their academic performance.
1. Generally almost all the teachers and headteacher indicated that the curriculum was irrelevant arguing that it was not possible to cover the syllabus as stipulated by the Ministry of Education.

2. Majority of the teachers and headteachers gave reasons why coverage of curriculum is a challenge. These included: content being too wide and the stipulated time short, inadequate instructional materials plus the challenge of sign language among others.

3. Teachers proposed learners be provided with adaptive curriculum and instructional materials which includes hearing aids; the teaching formats also be revised to suit each learner individually. The learners should take 10-12 year in primary school before they sit for KCPE in comparison to the hearing.

4. The fourth question was to identify the formats of teaching used by teachers for various learning activities. The study revealed the following:-

1. Teachers encountered many challenges when teaching learners with it. The teachers said that when the format of teaching was not suitable to a learner and the learners having varied level of understanding, then the academic performance went down.

2. Teachers were of the opinion that the varied communication approaches affected the format of teaching a hundred percent. Some gave an example in the course of using a lecture method in Christian Religious Education to teach about the Holy Spirit, the teacher would lack other vocabulary in sign language for the abstract signs.

3. Headteachers and teachers agreed that there were as many formats of teaching as there are teachers. However the most common teaching format they used in all the selected schools was question and answer followed by demonstrations.

4. Teachers did not give opportunities to all the learners to participate in class activities. It was found that majority of the teachers use whole class instructional approach to teaching. Though questions and answers format was also widely used, teachers concentrated on the bright pupils to give the answers. In this case, those slow learners were left out rendering them passive participants in the teaching learning process that could affect their KCPE performance.

5. Special methods of teaching such as IEP and computer technology were not used to assist pupils with hearing impairments in all the schools involved in the study.
5.2 Other Findings

1. All the schools involved in the study were in the rural setting.

2. There were several cases of repetition reported in all of the schools used for the study. The reasons given included:
   - Lagging behind in school work
   - Poor academic performance

3. The study established the following during the observation of lessons proceedings.
   (a) There were pupils who had difficulties in learning in all the lessons observed especially in social studies, science and Christian religions studies.
   (b) Pupils shared text books, because even though available were not enough.
   (c) Only few pupils who are bright and quick actively participated in answering questions posed by the teacher.
   (d) Some pupils told stories in sign language and laughed as the teacher noted a point on the chalkboard.
   (e) Some teachers got stuck on the way either in expressive or receptive sign language.

6. The study established the following in relation to challenges in performance of learners with HI.

1. There is generally lack of adequate facilities especially charts, group hearing aids, models among others.
2. Teachers do not have enough time to pay individual attention to pupils due to the heavy work load.
3. Most teachers lack knowledge and skills of sign language and the format of teaching.
4. Some classes are too big for the teacher as the ratio is supposed to be 1:12 yet it was even 1:25 in Nyangoma.
5. There is need for more teachers, classrooms and teaching learning materials. There is lack of workshops or in-service courses for the teachers to review their sign language skills, making of instructional materials and the teaching format.
6. The syllabus was not covered within 8 years as stipulated by the MOE.
7. Most learners had to spend more years in school than the hearing to catch up with them academically.
5.3 Conclusion

The study has identified some factors that affect KCPE performance of learners with hearing impairments. From the summary of the findings given in section 5.1, it can be concluded that teachers acknowledged the factors that affect KCPE performance of learners with HI. It was also observed that they were able to identify the solutions to curb the poor KCPE performance of these learners. However, majority of them lacked the knowledge and skill of sign language and teaching format. Therefore, they could not effectively assist these learners to boost their academic performance. Moreover, teachers did not make use of instructional materials and even improvise the materials to make use of the other active senses when one has hearing loss, for instance, the sense of sight and touch. Teachers did not give individual attention to pupils with hearing impairments as they communicate by observing the face of someone. Instead, majority of the teachers handled the learners just like the hearing. This probably encouraged such pupils to be left out in the teaching and learning process and turned to telling their own stories in sign language. Such a situation is likely to result incomplete coverage of the syllabus and to low academic attainments by such pupils, as in KCPE performance.

This could be attributed to prevailing factors related to teachers, pupils and the learning environment such as poor seating arrangements, suitability and adequacy of instructional materials, lack of knowledge and skill in communication approaches such as sign language and coverage of curriculum content. Some factors influenced the academic performance during the lesson proceedings, while other influenced them by consequential effects occurring either before or after the actual learning and teaching process.

For this, reason, personalized systems of instruction that cater for these learners’ needs are rarely used by teachers. This coupled with their learning characteristics which include limited cognitive ability, poor memory, relatively short attention span and auditory deficit might have contributed a great deal to their KCPE performance. Therefore, a concerted effort is needed to alleviate problems that hinder effective teaching in abid to boost these pupils in public special primary schools of learners with hearing impairments. In particular, parents, teachers, school administration and the government should play a proactive role in ensuring
that appropriate measures are put in place in order to facilitate the KCPE performance of these learners.

5.4 Recommendations of the Study

The study recommends that:-

1. Efforts should be made by the quality assurance and standard division in the Ministry of Education in organizing for relevant in-service programmes for all teachers and headteachers in the special schools where they can be enlightened and sensitized on communication approaches, sign language and even instructional materials. This will facilitate academic performance.

2. TSC should employ more SNE teachers in the schools to cater for their needs.

3. Teachers need to display on the wall or notice board the charts or diagrams so that learners can read over and over again.

4. The KIE should revise the school curriculum so that it can benefit learners of all categories with hearing impairment. Also the curriculum is implemented in teachers’ training college.

5. Headteachers should organize sign language workshops and lesson presentations at school level to assist the teachers in the teaching and hearing process in a bid to enhance academic performance.

6. The MoE should supply relevant and adequate instructional materials to schools to enable all learners access the school curriculum.

7. Teachers should provide opportunities in class and support to pupils with hearing impairments to enable them participate in the teaching and learning process in a bid to enhance their KCPE performance.

8. School based examinations should be developed to provide certification for learners with severe degree of hearing loss that cannot comply with either the adopted or adapted curriculum.

9. The MoE should emphasize to have extra streams to accommodate high number of pupils being enrolled. This will reduce class size to a teacher pupil ration of 1:12, hence allowing effective teacher-pupil interaction to enhance academic performance.
10. There should be scholarships to both teachers and pupils when they excel in KCPE. It
would boost the morale of both the teachers and pupils at national level.

5.5 Suggestions for Further Research

1. The study was carried out in rural setting and in public special schools. Further research
can be done in urban settings, units and even private schools so that informed
generalization of factors affection KCPE performance can be reached.

2. With improved technology, appropriate experiment can be undertaken to investigate the
effectiveness of computer technology, in teaching learners with hearing impairments.

3. Research can be done to investigate the influence of teachers’ attitude towards learners
with HI, and its effect to academic performance.
References


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APPENDIX A

TEACHERS’ QUESTIONNAIRE (TQ)

This questionnaire aims at getting your opinion in relation to the academic performance of learners with hearing impairments in special schools. The information you give will remain confidential and use only for its intended purpose. Kindly fill the questionnaire with honesty and individuality. Your identity will remain confidential and you need not write your name.

Name of institution:____________________________________________________
Number of pupils in your class:____________________________________________

1. a) Does teachers’ use of instructional materials influence the learners’ performance?  
   Yes [ ]  No [ ]

   b) Whatever answers give reasons.
   ______________________________________________________________________

2. How do instructional materials affect your teaching in terms of:
   a) Availability__________________________________________________________
   b) Adequacy___________________________________________________________
   c) Suitability___________________________________________________________
   d) Utilization___________________________________________________________

3. Other ways in which instructional materials affect your teaching of learners with HI.
   ______________________________________________________________________

B1. Which modes of communication do you use when teaching learners with hearing impairments?
   ______________________________________________________________________

2. Why do you prefer that particular mode of communication from others?
   ______________________________________________________________________

Give reasons
How does the mode you use affect the learners’ academic performance?

<table>
<thead>
<tr>
<th>Mode of Communication</th>
<th>Teachers who use it</th>
<th>Way it influenced performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Response</td>
<td>Positively</td>
</tr>
<tr>
<td>Sign language</td>
<td></td>
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<tr>
<td>Total communication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bilingualism</td>
<td></td>
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</tr>
</tbody>
</table>

4. Do you have knowledge and skill of all the modes of communication?
   Yes [ ]   No [ ]
   Whichever answer, give reasons
   __________________________________________________________________________
   __________________________________________________________________________

C1.a. Does the curriculum content offered to learners with HI suit them?
   Yes [ ]   No [ ]
   b. Give reasons for your answer
   __________________________________________________________________________

2.a. Are you able to cover the syllabus as stipulated by the MOE? Yes [ ]   No [ ]
   b. Give reasons for your answer.
   __________________________________________________________________________

3. State five challenges you face in the syllabus.
   __________________________________________________________________________

Give reasons why coverage of the syllabus with HI learners may be difficult.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
D1.a. Do you encounter any challenges with the formats you use when teaching?

Yes [ ]  No [ ]

b. Give reasons for your answer. ___________________________________________

2. State the challenges teachers face in the use of various formats of teaching.

__________________________________________________________________________

3a. List the formats of teaching that teachers use.

__________________________________________________________________________

__________________________________________________________________________

4a. Which of the formats of teaching do you think are more suitable for learners with HI?

__________________________________________________________________________

4b. Give reasons for your answer.___________________________________________
APPENDIX B

Headteachers’ Questionnaire

A.1. Do you supply teachers’ with instructional materials.

Yes [ ] No [ ]

2a. Does the teachers use of instructional materials influence the learners performance?

Yes [ ] No [ ]

b. Give reasons for your answer. ______________________________________________________

_________________________________________________________________________________

3. How do instructional materials affect teaching in terms of:-

a. Availability______________ b. Adequacy ______________

c. Suitability _______________ d. Utilization _____________

B1. Which modes of communication do teachers use when teaching?

_________________________________________________________________________________

2. Why would a teacher prefer a particular mode of communication? ________________

3a. Does the mode of communication a teacher uses in teaching affect the learners performance? Yes [ ] No [ ]

b. State how it affects the learners’ performance if Yes.

_________________________________________________________________________________
<table>
<thead>
<tr>
<th>Mode of Communication</th>
<th>Teachers’ who use it</th>
<th>Way it influences performance</th>
</tr>
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<tbody>
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<td>Total Communication</td>
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<tr>
<td>Bilingualism</td>
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<td></td>
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</tbody>
</table>

4a. Do you and the teachers’ have the knowledge and skill of sign language?
   Yes [ ]  No [  ]
   b. Give reasons for your answer. ________________________________________________

C.1a. Does the curriculum content offered to learners with HI suite them? Yes [ ]  No [  ]
   b. Give reasons for your answer. ________________________________________________

2a) Are teachers’ able to cover the syllabus content as stipulated by the MOE.
   b. Give reasons for your answer.
      __________________________________________________________________________

3. Which challenges do you find in coverage of the curriculum? ________________

D1. Which formats of teaching for the teachers’ use in teaching learners with HI?

2. What challenges do teachers encounter in teaching using the formats? __________

3a. Which is the common format of teaching used by teachers? ________________
   b. Why do teacher prefer it? _________________________________________________
APPENDIX C

LEARNERS QUESTIONNAIRE (INTERVIEWS)

A1a. Do teachers’ use instructional materials when teaching? Yes [   ] No [   ]

b. If yes, state some of the materials and how teachers’ use them.

____________________________________________________________

B1a. Do the teachers’ use of instructional materials assist you? Yes [   ] No [   ]

b. If yes, explain how? ________________________________

C1. Which modes of communication do teachers’ use when teaching?

_________________________________________________________

2a. Which modes of communication do you prefer? __________________________

b. Give reasons for your preference. _________________________________

1. Which formats of teaching do teachers use when teaching? ______________________

2. Which formats of teaching do you prefer teachers to use? _______________________

   Give reasons for your answer.

3a. How do you perform academically in examination? ____________________________

b. What could be the causes of your performance?_____________________________


APPENDIX D

OBSERVATION OF LESSONS

Which of the following resource materials are in class and how are they used in assisting pupils with Hearing Impairments.

Resource materials in class. How used

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>How effectively</th>
<th>Used ineffectively</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text Books</td>
<td>[   ]</td>
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<tr>
<td>Models</td>
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<td>[   ]</td>
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<tr>
<td>Teacher – made resources</td>
<td>[   ]</td>
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<td>[   ]</td>
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<tr>
<td>Others</td>
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<td>Individual hearing aids</td>
<td>[   ]</td>
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<td>Group hearing aids</td>
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<td>Speech kit and Audiometer</td>
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<td>Regular curriculum</td>
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</table>
### Modes of communication used

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>How effectively</th>
<th>Used ineffectively</th>
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<td>Bilingualism</td>
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<td>Sign language</td>
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</table>

### Format of Teaching

<table>
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<tr>
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<th>Yes</th>
<th>No</th>
<th>How effectively</th>
<th>Used ineffectively</th>
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<td>Question and Answer</td>
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</tbody>
</table>
APPENDIX E

HEADTEACHERS AND TEACHERS LANGUAGE PROFICIENCY INTERVIEW

Instructions:

Respondent is expected to provide the following details:

- Correct spelling of own name
- Sign name
- Sign or spelling of where he/she comes from
- Mention vocabulary like teacher, audiologist, children, deaf, subjects, homework, morning, evening discipline, signing skills, encourage, motivate

Critical thinking to provide details of job challenges.

Creativity

Sign out to respondent the following as you score:

1. HALLO//
   _____?

2. NAME YOU WHAT
   _____?

3. YOU FROM WHERE
   _____?

4. YOU WORK WHAT

5. WORK THIS LONG HOW//

6. EXPLAIN ME MORE ABOUT WORK YOUR//

7. TELL ME CHALLENGE DIFFERENT WORK YOUR//
   _____?

8. YOU THINK CHALLENGE THESE POSSIBLE SOLVE HOW
   _____?
9. BEFORE YOU JOB THIS INTEREST WHY

2.(a) VOCABULARY

- ANIMALS e.g. ELEPHANT, LION, GIRAFFE, MONKEY BIRD etc.
- ANIMAL BEHAVIOUR e.g. ROAR
- VEHICLES, DRIVE, FAST/SLOW, HAPPY, TICKET
- TREE, PATH, EXCITED, TIME/HOURS, EAT
- NUMBERS, DAYS OF THE WEEK/DATE

- KSL grammar/correct sentence structure.
- Respondent expected to be confident and composed.
- Respondent expected to use non manual makers e.g. facial expression, body movement.
- Use of correctly finger spelt words.
- Fluency in signing.
- Appropriate placement and location.
- Correct use of parts of a sign i.e. hand shape, movement, location, orientation.

2.(b) VOCABULARY EXPECTED

- CLASSROOM, CHILDREN, WALK, GIRL, BOY, SCHOOL
- WORD, DIFFERENT, SWEEP, COMPOUND, RUBBISH, FIRE, BURN
- TOILET, BUCKET, BROOM, CLEAN, WATER
- DESK, WIPE, CHAIR, TABLE, BUSY
- ALL, PARADE, TEACHERS, TALK, GO
- RUN

Creativity is expected from the respondent.
Details of information in the picture.
Respondent expected to finger spell appropriately and use correct signs.