CHALLENGES IN TEACHING AND LEARNING OF LEARNERS WITH HEARING IMPAIRMENT IN AN INTEGRATED EDUCATION PROGRAMME IN PUBLIC PRIMARY SCHOOLS IN NAIROBI COUNTY, KENYA

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E55/CE/10761/08

A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF EDUCATIONAL MANAGEMENT, POLICY AND CURRICULUM STUDIES IN PARTIAL FULFILMENT FOR THE REQUIREMENTS OF THE DEGREE OF MASTER OF EDUCATION OF KENYATTA UNIVERSITY

NOVEMBER, 2017
DECLARATION

I declare that this research project is my original work and has not been presented in any other university/institution for consideration of any certification. This research project report has been complemented by referenced sources duly acknowledged. Where text and data have been borrowed from other sources including the internet, these are specifically accredited and references cited using the current APA system and in accordance with anti-plagiarism regulations.

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This project report has been submitted with my approval as university supervisor.

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DEDICATION

I would like to dedicate this work to my children Terry, Edgar and Lulu for their patience and encouragement during my studies. May this work inspire their future endeavours.
ACKNOWLEDGEMENTS

First, I thank the Almighty God for the gift of life and for enabling me complete this project. I would like to extend my sincere gratitude to Kenyatta University for granting a chance to pursue this course in the institution. My sincere appreciation goes to my supervisor Dr. Wilfridah Itolondo whose expertise and guidance have made this project take shape into completion. I am also grateful to head teachers, teachers and pupils who took part in the study. I also thank my colleagues for their invaluable moral support during the preparation of this document. Lastly, special thanks to my family members for their moral and material support, patience, understanding and encouragement during the entire time of my studies. God bless you all.
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<tr>
<td>ECDE</td>
<td>Early Childhood Development Education</td>
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<tr>
<td>FPE</td>
<td>Free Primary Education</td>
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<tr>
<td>EFA</td>
<td>Education for all</td>
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<tr>
<td>H.I</td>
<td>Hearing Impairment</td>
</tr>
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<td>IEDC</td>
<td>Integrated Education Program for the Disabled Children</td>
</tr>
<tr>
<td>MDG</td>
<td>Millennium Development Goals</td>
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<tr>
<td>NCERT</td>
<td>National Council for Educational Research and Training</td>
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<tr>
<td>SEEP</td>
<td>Special Education Expenditure Programme</td>
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<td>SNE</td>
<td>Special Needs Education</td>
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<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
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<tr>
<td>U.S.</td>
<td>United States</td>
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<td>UNESCO</td>
<td>United Nations Educational, Scientific and Cultural Organization</td>
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<td>UPE</td>
<td>Universal Primary Education</td>
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<tr>
<td>ZPD</td>
<td>Zone of Proximal Development</td>
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ABSTRACT

Including children with hearing impairment in mainstream schools has generated a lot of debate across the globe with many campaigning for the rights of these children to be educated separately in special schools in which they can access information through sign Language. Pupils with hearing impairment have been found to lag behind in academics as compared to the visually and physically impaired on account of their problems in communication, socialization, curriculum adaptation, modifications and sign language interpretation. This study investigated challenges in teaching of the hearing-impaired learners in regular public primary schools in Nairobi County, Kenya. The research objectives were to establish challenges in relation to instruction strategies, teacher preparedness, provision of teaching and learning resources and the curriculum content delivery. The study adopted a case study design and targeted 5 public primary schools with special units for hearing impaired pupils in Nairobi County. Purposive sampling technique was used to select the headteachers of the five schools (5), teachers (25) who are trained to handle pupils with hearing impairment and pupils with hearing impairment (167) who comprised of the study population and a census sampling technique was applied to select all the units in the study population who comprised the sample size. Data collection tools were questionnaires, interview schedules and observation guide. Data were coded and entered in the computer for analysis using the Statistical Package for Social Sciences (SPSS) version 17.0. The findings were represented in the forms of frequency counts, means and percentages. The results of data analysis were then presented using frequency distribution tables and bar graphs. The study established that challenges related to instructional strategies used by teachers include variation between spoken and sign language, teacher competence in the use of appropriate strategies and lack of facilities that support the instruction strategies. Challenges in relation to teacher preparedness were; difficulty in explaining abstract concepts, inability to appropriately use teaching aids, inability to train the children to listen, lip-read or sign, failure among teachers to choose appropriate instruction strategies, communication barriers with learners and inadequate evaluation of hearing impaired pupils. Challenges related to provision of teaching and learning resources were; teachers not being able to expose learners to variety of reading materials, inadequate hearing aids leads to HI learners not being able to follow lessons while lack of adequate lighting makes use of signing ineffective. Challenges as a result of the appropriateness of the current curriculum included that the curriculum has no provisions of instruction strategies for integrated education programme and as a result, teachers are left to device their own teaching strategies. Based on the findings of the study, the following recommendations were made; that the teachers training curriculum should be modified to include instruction strategies for integrated education programme for the hearing impaired pupils to equip teachers with skills to implement the integrated education curriculum; that the Ministry of Education should ensure that public primary schools offering the integrated education programme are equipped with assistive devices to enhance curriculum delivery for SNE learners; that the Ministry of Education should facilitate in-service training for teachers in SNE to ensure that they are adequately prepared to implement the integrated education curriculum and that the Ministry of Education through KISE and KICD should modify the current curriculum to incorporate aspects of SNE under the integrated education curriculum.
CHAPTER ONE

INTRODUCTION

This chapter describes the background of the study, statement of the problem, purpose of the study, objectives of the study, research questions, significance of the study, delimitations and limitations of the study, assumptions of the study, theoretical and operational definitions of terms.

1.1 Background to the Study

The term integrated education has attracted much attention in the recent years. An examination of the use of the term has revealed that the term has come to mean different things to different people. According to UNESCO (2005), the term refers to the diversity of needs of all learners through increased curriculum content, approaches, structures and strategies, with a common vision which covers all children of the appropriate age range and a conviction that it is the responsibility of the regular system to educate all children. It is a process of reforming schools and attitudes, which ensures that every child receives quality and appropriate education within the regular schools. In this way, integration is more complex than mere physical placement of children with special needs in the regular classroom. As Jenkins, Pious & Jewell, (1990) put it, integration implies that the regular classroom should change to accommodate all different learners and in the process, desirable services be offered to all children within the regular classroom. One major assumption is that in an integrated setting, the classroom teacher rather than the special needs educator has the primary responsibility for educating all children in the classroom.
Including deaf children in mainstream schools has been an extremely complex, controversial and contentious issue across the globe. Many have campaigned for the rights of deaf children to be educated separately in special schools in which they can access information through their most natural first language, Sign Language, the language of the deaf community. The question has always been whether special needs educators and regular classroom teachers can work in an equal partnership to provide children with hearing impairment with relevant and adequate education within the regular classroom. Further, to what extent can the classroom practice be modified to optimize child’s academic and social integration, considering that the idea of integrated education programme is to produce a student who is well integrated both academically and socially. The basic problems faced when deaf and hearing students are educated together according to Antia and Stinson (1999) are lack of mutual access to communication.

Arguing against the move to place children with hearing impairment in an integrated class, Kaupinnen (1994) has pointed out that the fundamental goal of educating these children is not actually to “normalize” or to be the same but to provide them with the same possibilities of participating in the society in adult life. The then World Federation of the Deaf (WFD) secretary general reiterated that because of the special communicative consequences of deafness, deaf people risk being isolated if they are put together with hearing pupils who do not know how to sign and that a deaf individual has no chance of real participation if he is surrounded by people who do not know how to sign. According to Kaupinnen including a deaf child in a regular system increases his handicap.
Moores (1996) have reported deaf children in integrated settings experiencing a number of problems some of which include; rapid rate at which tasks in the classroom are discussed, abrupt and quick turn taking in the discussions, rapid change of the conversational theme or topic, the high numbers of speakers involved in a group discussion. These may create difficulties in the control of the communication and may result in the deaf not benefiting from the group discussion. Although a section of hearing-impaired students (especially the post-lingual deaf and those who are hard of hearing) can be educated with their hearing counterparts in public schools, Antia & Stinson (1999) have empirically documented that the outcomes of the academic and social integration are not satisfactory. It has been pointed out that there are some difficulties that are inherent in inclusive practices such as the regular classroom teachers who possess negative attitude towards integration.

According to Jones (2006), although the rationale of integration is to foster friendship and provide access to full curriculum, this only works for some hearing impaired groups of children where there are viable groups to support and befriend one another and where they are nurtured in communicating naturally in signs. It has also been noted that placing a hearing-impaired child in a regular classroom requires increased instructional, collaboration and management demands on the part of the regular classroom teacher.

According to Reed (1994), although integrated education programme for the deaf has been advocated for in Kenya to enable hearing impaired children to feel as members of the same class and school community, there is still a need to be conscious of providing quality special needs education. This means that Kenyans
must ensure that all children no matter their difficulty or disability, or severity of
disability are given the kind of education that is relevant for them. Such an education
must be adjusted to enable the children maximize their potential and needs, and these
can only be given through a relevant system. The special needs educator should not
only focus on a child’s level of functioning, but more on the child’s whole world
situation including the community where he grows up and develops.

Research in special education has found out that teaching and learning of hearing-
impared children has been faced with many challenges throughout Europe for many
years, both for the learners and for the teachers. Different organizations and
government bodies (United Nations, European Parliament, European Commission)
have expressed their concerns about learners with special educational needs and the
policies in most EU countries are directed to integrating deaf persons in the
mainstream education, with more deaf entitled to receive a bilingual education,
which includes both the signed and the spoken language of the country, and in the
upper secondary education they also study foreign spoken languages (FSL). In her
research Signed Languages in Education in Europe – a preliminary exploration,
Language Policy Division, Council of Europe, Michael (2005) points out that in
many countries, Deaf schools are exempted from teaching certain subjects, and in
the mainstream, deaf and hard of hearing children were exempted from learning
languages. Michael, (2005) notes that often such exemptions were based on the false
assumption that hearing impairment is a learning disability.

Kalanje (2002), notes that in regular secondary schools, there can be two groups of
hearing impaired children, those wearing hearing aids and those whose hearing
disability does not require them to wear assistive devices. Hearing aid users have
residual hearing and the hearing aid brings their hearing almost to a normal level, through the amplification process. Some students may require lip reading to reach a normal level of comprehension and these will need preferential seating arrangements (Chimedza and Peterson, 2003). In an environment which is unsympathetic in acoustic terms, the hearing aids will pick up and amplify every detail of sound, irrespective of its relevance (Kalanje, 2002). The noisier the environment is, the more likely it is that the undesired noises will be amplified to the detriment of more important sounds, such as the teacher’s voice, (Booth and Ainscow, 2003). Kapp (1991) points out that secondary school buildings and classrooms should be designed and equipped in such a way as to harmonize with the personal and didactical needs of students they are to accommodate. The existing infrastructure at regular secondary schools offering integrated education programme needs to be adjusted to accommodate all learners’ needs. Chakuchichi, et al (2003) notes that the content of the least restrictive environment should be in the perspective of accessing the curriculum.

Ainscow (1995) suggested the ideal physical environment for students with hearing impairment. The classrooms should be away from noise and controlled for acoustics that affect hearing aids. There is need to add carpets, window treatments, or acoustical wall/ ceiling coverings to absorb sound and reduce noise from furniture scrapping on hard surfaces by attaching rubber shoes to the legs of students’ desks and chairs. The classrooms should also be well lit to enable the hard-of hearing and deaf students to speech read and to read the signing. Besides the acoustically treated classrooms, speech rooms and auditory training centers should be available. These are sound proofed and have special equipment to help in speech and auditory training and conducting audiometric tests at school level.
The purpose of the various accommodations is to level the "playing field (Someth and Lewin, 2005). Decisions as to which supplementary aids and services, accommodations, modifications or supports are appropriate for a particular student, are to be made on an individualized basis, even at secondary school level (Adoyo, 2008). According to Moores and Martins (2006), a certain level of working noise is tolerated particularly where students are using a variety of resources or working on group tasks.

In a study by Mushoriwa and Gasva (2008) in Zimbabwe, few classrooms were carpeted and low level of working noise in regular schools can cause problems for students who rely on hearing aids because all sounds are picked up and amplified by an aid. Mushoriwa et al (2008) recommended that parents and teachers should try to understand the problem of the students and try to cooperate with them in helping their navigation of the learning process and work output. In class, a teacher should try to speak slowly and clearly so that they can easily understand the lesson. While teaching, a teacher should stand at one place, so that he or she engages the attention of students with hearing disabilities so as not to distract them with constant movement.

In a study reported by Adoyo (2008) it was revealed that teachers were not using latest techniques and materials for instruction when working with children with hearing impairment. The study suggested that more emphasis should be laid on showing the practical things to students, so that they can easily understand the lesson. The teacher should also make diagrams on the chalkboard for explaining the things. If a student with hearing disability asks a question, the teacher should remain calm and answer question slowly and clearly to provide clarity. Students should be
encouraged to express themselves freely in the class. Teachers should try to develop activities that involve all the children together. This helps to keep a healthy and collaborative interaction of students with hearing impairment with their peers in the classroom. It also helps in creating a better social adjustment for them in daily classroom interactions. With the proper care and instruction, children with hearing disabilities can have a positive and productive experience in any learning environment.

According to Strong & Prinz (2000), early and consistent use of a system of total communication serves as a springboard for intellectual development and subsequent academic achievement. Communication methods will likely vary according to the skill of the student as well as the curriculum content. The most convincing study to support teaching the deaf should be total or manual communication as reported by Stinson and Whitmire (2000). It appeared that total communication or manual communication is more effective for the hearing impaired students, and that it at least gives them a means of communicating that is superior to the oral approach. It calls for the teacher, therefore, to be thorough and familiar with all the techniques available to teach the hearing impaired. Moss (1995) contends that most of the same teaching strategies used. The concept of integration implies a sense of belonging and acceptance (Chakuchichi et al, 2002), a positive response to individual differences (Pijl, Meijer and Hegarty (2007) and developing an integrated environments that promote educational success for all students (Hodkinson and Vickerman, 2009) however, the physical placement of students with hearing impairment in regular secondary schools is often overemphasized, while other aspects of developing integrated environments are neglected (Chimedza and Peterson, 2003). A key factor
in the integration of hearing impaired students in regular secondary schools is resource mobilization (Chimedza and Peters, 2001). Starting with the recognition that many students with hearing impairment are still excluded from education for reasons based on lack of resources there is need to ensure that adequate resources are made available (Chakuchichi et al, 2003). Resources does not only refer to teaching methods and materials but also to time available for instruction and to the knowledge and skills of teachers acquired through training and experience (Pijl, Meijer and Hergarty, 2007).

Attending to the needs of various students with hearing impairment implies that there should be profound changes in the curriculum, methodology and organization of the schools in order to accommodate the needs of all learners (Hergarty, 2008). Curriculum includes structures, practices and organization within schools and the social relationship which students foster and sustain as well as what is taught, the way teaching takes place and the way in which pupils are organised for learning (Adoyo, 2008). The curriculum needs to be integrated. Although hearing impaired students follow the same curricular as their hearing counter parts. They have extra subjects they do in order to help them access the co-curricular.

According to Chimedza and Peterson (2001) to avoid harm to the academic education of students with hearing impairment in regular secondary schools full panoply of services and resources is required. These include adequate supports and services for the student, well designed educational programmes, professional development for all teachers involved, general and special educators and reduced class size based on the severity of the students’ needs. In addition there is need for professional skill development in the area of cooperative learning, peer tutoring and
adaptive curriculum, collaboration between parents, teachers and administrators. There is need to provide sufficient funding so that schools would be able to develop programmes for students based on student need instead of the availability of funding. The challenge of integration without support is that it may amount to “child dumping” and can be more frustrating than segregated services (Chakuchichi et al, 2003).

The integration of children with hearing impairment does not depend solely on whether the child is severely or profoundly deaf, or the level of intelligence or the ability to lip read, language development, or availability of resources but also on teachers’ attitudes (Booth and Ainscow, 2002). Sacks (2001) reports of a study which revealed that the regular teachers were least prepared for integrated education programme of children with disabilities. The teachers had little training in dealing with individual differences and specific instructional processes developed for special needs students. The roles and responsibilities of regular education teachers were never clearly defined in this process. These teachers and their regular education students were not prepared for the integration of children with disabilities.

A study by Makokha (2013) observed that the school had adequate visual aids for Kiswahili such as charts, flash cards, posters, drawings, pictures, object labels and others on display. Nonetheless, these visuals were hardly used during the lessons. Text books for Kiswahili, which are among the most useful learning devices, were not adequate in number and were not used optimally. Visual aids are helpful since vision is the pupils primary means of receiving information. Visuals provide memory links and thus learners recall mechanism is boosted. When visuals aids are not fully utilized in the learning process, learners’ memory is not enhanced. This
reduces their retention of material learnt, thereby contributing to the learners poor performance (Makokha, 2013).

In addition, it was observed that there were very few assistive technologies available at the school. At the time the research was conducted, there were only two cassette players that were used by teachers to carry out speech training, no group hearing aids were available, and the few individual hearing aids available were not fully utilized. In addition, only twenty teachers out of thirty-six were competent in speech training as well as in KSL. Subsequently, the researcher concluded that the educational resources available in the school were not enough to cater to the needs of the entire school (Makokha, 2013).

1.2 Statement of the Problem

Integrated education for the hearing impaired is a crucial problem faced by Educationists, authorities and teachers all over the world. Hence, solution of this problem is an urgent need for the development of the society and for the development of the hearing-impaired children. Pupils with hearing impairment lag behind in academics as compared to their counterparts with visual impairment and physical disabilities on account of their problems in communication, socialization, curriculum adaptations and modifications and above all sign language interpretation. These problems take a more severe form when these students with hearing impairment join higher education. Since the implementation of the Individuals with Disabilities Education Act (IDEA), which advocates the placement of special needs students in the least restrictive classroom environment, children with hearing impairment have increasingly been integrated in mainstream settings. Integration provides several advantages. Deaf and hard of hearing students can more efficiently
learn to communicate with their hearing peers, they may feel less physically and socially isolated from other children, and they may have more access to certain academic or vocational opportunities. When determining whether integration is the ideal option for a hearing-impaired student, parents, teachers, and school administrators need to consider factors such as the availability of trained support aides, the district's access to assistive technological devices, the student's linguistic and academic levels, and the potential for effective peer and teacher communication. Taking into consideration the sensitivity of the issue, the researcher conducted this study to identify the challenges faced by students with hearing impairment in an integrated educational programme in public primary schools in Nairobi County where in this study challenges and inclusion are mutually inclusive.

1.3 Purpose of the Study

The purpose of the study was to investigate on the challenges to teaching/learning of the hearing-impaired learners in integrated educational program in five public primary Schools in Nairobi County.

1.4 Research Objectives

The study was guided by the following research objectives:

i) To establish challenges in relation to instruction strategies used to teach learners with hearing impairment in an integrated education programme in Nairobi County.

ii) To determine teacher preparedness to teach learners with hearing impairment in an integrated education programme.

iii) To examine challenges in relation to provision of teaching and learning resources for learners with impairment in an integrated education programme.
iv) To find out challenges in relation to the curriculum content delivery for learners with hearing impairment in integrated education programme.

1.5 Research Questions

The study sought to answer the following research questions:

i) In which way are instructional strategies used to teach learners with hearing impairment in an integrated education programme in Nairobi County affecting their academic achievement?

ii) How prepared are teachers in teaching of learners with hearing impairment in the integrated education programme?

iii) What are the levels of provision of teaching and learning resources facing teaching of learners with impairment in an integrated education programme?

iv) How is the current curriculum content delivery affecting teaching of learners with hearing impairment in integrated education programme?

1.6 Significance of the Study

It is hoped that this study may provide valuable insights to the head teachers, teachers of primary schools and the parents on the challenges to teaching/learning of the hearing-impaired learners in integrated educational program. The findings of the study may provide the Ministry of Education (MoE) with data on how to enhance effective education system on teaching/learning of hearing impaired learners in an integrated education programme. In turn, the Ministry of Education may be in a position to analyze these strategies and establish their effectiveness, in order to take effective measures regarding the programme.
The study may also assist education planners and enable Quality Assurance Officers during their visits to schools to give proper guidance to the schools’ managers on the best approaches of handling the emerging challenges while implementing on the challenges to teaching/learning of the hearing-impaired learners in integrated educational program. Study findings may assist the donors and other well-wishers in assessing the level of needs in the implementation of the programme. The study may also add to the body of knowledge of primary education management and education change management besides filling gaps in research which could prompt other researchers to do similar studies in other regions or levels of education.

1.7 Delimitation and Limitations of the Study

1.7.1 Delimitations of the Study

The study was carried out in public primary schools in Nairobi County. It investigated challenges to teaching/learning of the hearing-impaired learners in integrated education programme. Head teachers and teachers participated in the study. Data were collected using questionnaires, interview schedule and observation checklist.

One of the key criteria of research findings is to be able to generalize to the larger population. Generalization can be defined as ‘the ability of the researcher to make a justified extension of their conclusions, applying them to members of the target population and other situations. For this extension to be justified, the sample must be representative, the results should have a high ecological validity and the results must be replicated. Since this study was conducted in Nairobi County only which has different socio-economic characteristics with other regions in the country the findings of this study could not be generalizable to the whole nation.
1.7.2 **Limitations of the Study**

The study was limited by the fact that it is not possible to control some intervening variables. For example, there might have been variation in the capacity of the head teachers’ due to experience and training. Some had more work experience and can handle the challenges better than others and therefore the generalization of findings to all schools might need to be considered basing on this possible diversity.

In data collection, the study relied on questionnaires, which include self-assessment measures for head teachers. As pointed out by Sharma (2008), research has shown that individuals tend to over-rate themselves on desirable traits and under-rate themselves on undesirable traits. This means that some head teachers may have overrated their competence in some areas of school management, which may have led to the wrong conclusion that there are no challenges to teaching/learning of the hearing-impaired learners in integrated educational program. During the interview session with the head teachers the researcher addressed the possible limitations that might have arose which could have affected validity and accuracy of the data collected.

1.8 **Assumptions of the Study**

This study was based on the following assumption:

i) That there are challenges to teaching/learning of the hearing-impaired learners in integrated education programme in public primary schools.

ii) That all the respondents gave genuine, truthful, and honest responses to the questionnaires.
1.9 Theoretical and Conceptual Framework

1.9.1 Theoretical Framework

This study was guided by Vygotskys theory on how knowledge is acquired. Vygotskys Theory is a social learning theory which emphasizes that children learn through interaction with environment. Vygotsky views the child as an apprentice who learns through interacting with others and things in their environment rather than as a scientist acting alone. According to him, acquisition of knowledge is active and socially constructed rather than just a passive conditioning. Vygotsky proposed that social interaction extremely influences cognitive development. Vygotsky believes that development is a lifelong process that should be analyzed. Instead a product should be obtained which is dependent on social interaction which promotes social learning and cognitive development.

Vygotsky called this phenomenon the Zone of Proximal Development (ZPD) which he described as the distance between the actual development and the level of potential that is determined through problem solving under parental guidance or in collaboration with more capable peers, this means that a student can perform a task, under the guidance of an adult or in collaboration with peers that could not be achieved alone. The ZPD bridges the gap between what is known and what can be known. Vygotsky claimed that learning occurred in this zone since much of what children learn is through interaction. Vygotsky believe that isolation was inappropriate and that guidance by another is usually most beneficial. Woods and others (1976) described this process as scaffolding; the support given by a more knowledgeable other e.g. a teacher. So scaffolding involves providing help within the ZDP. It's the instructional process where the adult adjust the amount and type of
support offered so that it's best suites the child's level of development. Children with hearing impaired, require social interaction more than anyone else. Since the rate of development depends on the experiences that the child is exposed to.

Because of his or her impairment, the hearing impaired child tends to be isolated right from an early age. This child needs more adult guidance during ZPD than the hearing child to compensate for what he missed out due to his impairment of his learning capacity, with this extra guidance offered by through a special education teacher, peers, the gap between the hearing, the learner with the hearing impairment, what she/he knows and what she or he can learn can be bridged as easily as that of a hearing child guided by this, the study will investigate how the teachers manage the learners with hearing impairment in the special unit and the challenges they face in an attempt to identify the forms of guidance to provide to the learners with hearing impairment so as to achieve their highest academic potential.

Learners with hearing impairment require a lot of motivation to learn, since they give up easily due to the hardships they encounter. This study investigated challenges that teachers face as they try some form of reinforcement to motivate these learners to learn. The study also recognized some practices that demoralize the teachers i.e. the attitude from the other teachers, the most teaching/learning strategies amongst others. Although it’s especially important to introduce children to school early enough because the school is a better place for socializing and there are teachers and other older children, of whom their ideas operate above their current knowledge level, giving them access to new ideas and concepts, guiding children to look for answers by imitating what they see in others, listening to instructions and working as part of a group provide opportunities for them to expand their current
base of knowledge. Vygotsky further explains that human beings use tools that develop from a culture, such as speech and writing to mediate their social environment, known as culturally specific mediators. Initially children develop these tools to serve exclusively for social functions; as a means of internalization of this tools leads to higher thinking skills. According to Vygotsky language is an important mediator including sign language, although below the age of 2 years it is used merely to communicate with the others. However after this time speech is used to solve problems, in or in others words to transform elementary mental functions (communication) into higher mental functions that form shapes and regulate thoughts. Vygotsky believes that language is important for the internalization of concepts. With the use of Kenya sign language as a medium of instruction this study will be asking what is the most suitable teaching/learning strategy to be used in the classroom of the hearing impaired and how challenging is it to the teachers?

1.9.2 Conceptual Framework

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Intervening Variable</th>
<th>Dependent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Challenges in relation to;</td>
<td>Implementation of the integrated education curriculum for pupils with hearing impairment.</td>
<td>Academic achievement of learners with hearing impairment in an integrated education programme.</td>
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<tr>
<td>• Instruction strategies.</td>
<td></td>
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<tr>
<td>• Teacher preparedness.</td>
<td></td>
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<tr>
<td>• Provision of teaching and learning resources.</td>
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<td>• The curriculum content delivery.</td>
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Figure 1.1: Conceptual Framework
Source: Researcher, 2015
The conceptual framework presents the interaction between dependent and independent variables. The independent variables are the challenges facing curriculum implementation of learners with hearing impairment in the integrated education programme in public primary schools in Nairobi County. These challenges include instruction strategies, teacher qualification, provision of teaching and learning resources and challenges in relation to the curriculum content. This affects the implementation of the integrated education curriculum which in the end impact on the pupils’ academic achievement.

1.10 Definition of Operational Terms

Challenge: refers situation that is difficult because you must use a lot of effort, determination, and skill in order to be successful

Hearing Impaired: refers to someone who is hard of hearing or who has no hearing

Integrated Education: refers to teaching students with disabilities in special classes or units in mainstream schools.

Learning: refers to gain knowledge or information

Programme: refers to a scheme; a prospectus; especially, a brief outline or explanation of the order to be pursued, or the subjects embraced.

Teaching: refers includes all the activities of providing education to other.
CHAPTER TWO

LITERATUREREVIEW

2.1 Introduction

This chapter presents the related literature on challenges facing the implementation of the integrated education curriculum for learners with hearing impairment. The chapter is organized under the following sub-sections: Challenges in relation to instruction strategies, challenges in relation to teacher qualification, challenges in relation to provision of teaching and learning resources and challenges in relation to the curriculum content. The chapter also gives a summary and gaps identified.

2.2 Challenges in Relation to Instruction Strategies

According to Hodkinson and Vickerman (2009) variation between the spoken language and sign language in UK has been found to be a major challenge to teachers dealing with learners with hearing impairment at the elementary level of education. According to Moores and Martins (2006), there have been various constraints in teaching languages to the hearing impaired in as the naturally evolved sign languages have a grammar and vocabulary, which are distinct from the spoken language used in the same country or region. This includes the word order in a sentence, which is generally completely different from the word order in a sentence in the spoken or written language. It is important to stress that hearing impaired persons cannot master spoken languages as easily and comprehensively as sign languages and the spoken language of their Country or region will always remain a foreign or second language for them. This therefore poses an instructional challenge as many teachers typically rely heavily on oral methods and students who cannot hear may be deprived the chance to learn at same pace as their hearing counterparts (British Deaf News, Feb 2002).
According to Johnson (2003), when teaching learners with hearing impairment, teachers should use instruction strategies and teaching and learning resources that provide learners with practical experiences so that these learners can easily understand the lesson. Teachers should also make diagrams on the chalkboard for explaining the things. In a study by Adoyo (2008) on ways of educating deaf children in an inclusive setting in Kenya it was revealed that teachers were not using latest techniques and materials for instruction when working with children with hearing impairment. The mode of content delivery was majorly theoretical with practical experiences being limited to technical subjects.

According to Moores and Martins (2006) the practice in the USA demands that if a student with hearing impairment asks a question, the teacher should remain calm and answer the question slowly and clearly to provide clarity. Students should be encouraged to express themselves freely in the class. Teachers should also try to develop activities that involve all the children together. This helps to keep a healthy and collaborative interaction of students with hearing impairment with their peers in the classroom. It also helps in creating a better social adjustment for them in daily classroom interactions. Mulonda (2013) in a situational analysis on the use of sign language in the education of the deaf in Zambia, teachers encouraged pupils to participate actively in the instruction process. It was however, observed that in classroom learners with hearing impairment were mostly not involved in oral discussion.

Stinson and Whitmire (2010) suggest more key teaching adaptations for students with Hearing impairment like adapting the regular classroom materials such as different textbooks, planning assignments and activities that allow mainstreamed
hearing impaired students to be successful, providing individual instructions such as planning for one-on-one sessions, providing extra time for skill reinforcement and breaking down instruction material into smaller segments. Reed (2008) asserts that hearing impaired students are more likely to succeed in regular education classrooms if they receive targeted support services in the classroom. Collaboration between general and special education teachers is of necessity, especially considering that integration of hearing impaired students may be stalled by an education system that is not fit to include them because of the barriers of lack of knowledge, lack of will, lack of vision and lack of resources, (Hodkinson and Vickerman, 2009).

According to a study by Naanda (2005) on the Development of an Inclusive Approach in Early Childhood Education in Namibia revealed that teachers’ most preferred method of teaching was demonstration. Only one teacher employed Total Communication, whereas no teacher at all used Individualized Education Program (IEP), which is the most highly recommended method of teaching learners with hearing impairment. On the other hand, learners preferred learning through finger spelling, story-telling, signing and writing. They did not rank learning by observation as highly, showing a disparity in the learning methods preferred by pupils and the teaching methods preferred by teachers. Stinson and Whitmire (2010) notes that in order to optimize pupils’ learning, it is important that teaching and learning methods align so as to cater for pupils’ needs and abilities.

The study by Makokha (2010) on challenges to learning of Kiswahili among children with hearing impairment in Kakamega County revealed teachers were overloaded and as such could not provide the one-to-one attention so much required in teaching learners with hearing impairment. Teachers were left with the option of
adopting learning styles of majority of learners hence any learners with a different learning style could not learn optimally thus slowing the learning process for them. Teachers also complained of learners being at different levels academically hence difficulty to coordinate them in one class.

2.3 Teacher Preparedness

According to Pearson (2007), the body of knowledge and skills in education is ever changing and thus teachers knowledge need to be changing constantly to meet the challenges caused by changes in the society in which it provides services. There is a belief that teacher development leads to change in teacher behaviour which in turn positively influences teacher classroom practices and hence improves the teaching and learning practices (Pearson, 2007). In that case a need to develop teachers’ knowledge for the purpose of enhancing teaching and learning in the classroom is imperative. For changes to happen in the teaching and learning process there is a need to have a constant delivery of knowledge and skills to teachers through on the job training before introducing a new innovation in education.

In a study by Cummins (2006) on the Relationship between ASL Proficiency and English Academic Development, the integration of learners with hearing impairment in USA is supported by qualified teachers and other personnel such as interpreters, note-takers, teacher aids, deaf education teachers, and consultants. According to United Nations Educational, Scientific and Cultural Organization (UNESCO, 1994), provision of additional support in the form of teacher aides, audiologists and sign-language interpreters in regular classes are important so as to ensure that inclusive schools accept their whole-school responsibility for all children in their care. It further suggests that co-operation between relevant personnel from other sectors
such as educational audiologists, paramedics, social-workers, psychologists and psychiatrists helped to get rich source of expertise in educating learners with hearing impairment, where inadequate staff needs for learners with hearing impairment was addressed.

A study by Mbassa (2004) on teachers’ views on disabled learners in inclusive classrooms in Primary Education in Tanzania revealed that teachers said they do not have knowledge and skills in handling classes accommodating pupils with hearing impairment. The special education trained teachers on the other hand said they were initially trained to teach ordinary pupils at certificate level and later on they went into training as special education teachers. When they come into class they fail to choose which strategies to use. This shows that including pupils with disabilities into their classes needed preparation first. According to Mbassa (2004) pupils with hearing impairment are able to interact and participate fully if teachers plan a variety of classroom activities and that a teacher who is trained into more than one profession to serve the same level of learners always becomes in dilemma on what to do. Teachers who had no any training in special education had a similar view that they were working in an environment of which they were not prepared for.

In a study by Musengi (2009) on the impact of hearing aid fitting on teaching practices in Zambia, most teachers said that once they provided hearing impaired pupils with hearing aids they then proceeded to teach them with the rest of the hearing class. One teacher said, “I am not exactly sure how much they pick up in these lessons but some of them do answer questions correctly afterwards. However most of the time it appears there are quite a lot of misunderstandings.”
In the student interviews, most HI students concurred with the teachers that available hearing aids were inefficient. One HI student said,

“My hearing aid is faulty so I keep it switched off.” Another said,
“The battery is flat so I do not use it.” Another said,
“There is too much noise in the classroom, so I cannot really use it there. But outside, it helps me a lot.”

Most teachers acknowledged that teaching HI children was difficult for them. Some said they were not conversant with appropriate skills and language for use. One said, “I am not a specialist so I cannot do many of the extra things that a specialist would in order to help these children.”

All the teachers said that the specialist skills of teaching HI children were difficult for them as they were not specialists and so did not know how to train the children to listen, lip-read or sign. One teacher said, “I am taught many skills by the specialist teacher during staff development courses and consultation time but I quickly forget the Sign Language alphabet and signs.” (p.112).

A study by Kinyanjui (2004) in Kenya argues that qualification levels of teachers in any school form important input variables, which can have tremendous impact on school outcome. The study adds that a teacher's formal qualification, experience, motivation, creativity, interaction with learners and his methodology may greatly influence academic performance of a school. Raju (1973) in a study on rural schools in Kenya found that most of them lacked properly trained teachers. Since the studies reviewed were done in other parts of Kenya and have indicated a deficiency on the issue of qualification and experience of teachers, there is need for such a study to be
done which is more current. The review also indicates that the themes are out dated and may apply only to limited extent in today’s situation hence a need for an up to date study.

Johnson (1960) observes that curriculum implementation is hampered by the degree to which teacher’s commitment is constantly interfered with. This comes about when teachers are stressed due to lack of teaching facilities or lack of appropriate time to plan for their work and deliver in time. The researcher supports this view because teachers who have no time to prepare for their work will not carry out teaching process properly.

In a study by Mwenda (2010), the results showed that difficulty in explaining abstract concepts and communication barriers were cited as among the challenges in teaching learners with hearing impairment. The head teachers reported that this was due to teacher’s inadequate training. Teachers who participated in the study raised a concern that the special education training given in colleges is not enough hence they experience problems when teaching children who are hearing impaired. One teacher noted that the children with hearing impairment are supposed to follow the regular curriculum and if a teacher is not well equipped then it poses a problem to the teachers. The biggest problem or challenge to half of the teachers according the study was that of communication.

In a study by Ogada (2010), head teachers questioned the levels of preparations done by teachers who were handling learners with hearing impairment. All of them said that the teachers are not effective due to inadequate training in special education. Majority of the teachers indicated that they had done distance learning programme
with Kenya Institute of Special Education which according to them does not adequately train teachers especially in the area of hearing impairments since the course was intended to train teachers for inclusive purposes and not education of learners with hearing impairment. The study also reported that teachers also rarely attend in-service courses which are very important for keeping teachers abreast with current trends and issues on Sne.

2.4 Provision of Teaching and Learning Resources

Provision of teaching-learning materials and equipment is important. In the U.S.A, Johnson (2009) observes that the use of Formulated Module, (FM) system has made effective learning of learners with HI in deaf schools possible. FM systems allow the educator to wear a microphone that would amplify their voice through speakers placed in the classroom. In Hong Kong, the Otic Foundation (2007) observed that education department provided audiological equipment for the schools under the code of Aid for integrated HI schools (Bilken, Lehr, Searl & Tailor, 2008). In Singapore, the Ministry of Education (MOE, 2010) had carried out a pilot project in educating learners with HI in regular schools, where teachers wear a small microphone which was linked to an FM transmitter device. The device lowered the sign to noise ratio so that the pupils with HI could distinguish the teacher’s voice from environmental interference (Derseh, 1995).

According to Stinson and Whitmire (2000), classroom design and layout have obviously great importance for these students who require the use of items of special equipment. Ainscow, (1995) suggested the ideal physical environment for students with hearing impairment. The classrooms should be away from noise and controlled for acoustics that affect hearing aids. There is need to add carpets, window
treatments, or acoustical wall/ceiling coverings to absorb sound and reduce noise from furniture scrapping on hard surfaces by attaching rubber shoes to the legs of students desks and chairs. The classrooms should also be well lit to enable the HI students to speech read and to read the signing. Besides the acoustically treated classrooms, speech rooms and auditory training centres should be available. These are sound proofed and have special equipment to help in speech and auditory training and conducting audiometric tests at school level. The purpose of the various accommodations is to level the playing field, (Someth and Lewin, 2005).

Decisions as to which supplementary aids and services, accommodations, modifications or supports are appropriate for a particular student should be made based on an individualized basis, even at secondary school level (Adoyo, 2008). According to Moores and Martins (2006), the study conducted on noise factors and illumination, reported that, a certain level of working noise is tolerated particularly where students are using a variety of resources or working on group tasks. According to the students, few classrooms were carpeted and low level of working noise in regular schools can cause problems for students who rely on hearing aids because all sounds are picked up and amplified by an aid.

In a study by Chireshe (2011) in Zimbabwe on educational resources for HI learners, three categories of resources: visual aids, assistive technology and human resources were analyzed. The study established that the visual aids available in the classroom were greatly underutilized since they were used less than fifty percent of the time. There were very few pieces of assistive technology. Learners were hesitant of making use of the few individual hearing aids available as they complained of irritation and the discomfort they caused. There were no group hearing aids. The
school had only two cassette players. No computers and no television sets. Learning activities would be more effective if these technologies were available and put in use.

In a study by Kanyanta (2003) in Zambia, the findings showed that all the teachers interviewed were using classrooms with no acoustic treatment due to lack of funds. The head teachers further expressed the problems which the teachers had reported to them as they teach the children with HI in the school and units. They include lack of hearing devices especially hearing aids which are very important in the learning of children with HI as they amplify the sound in order for pupils who are HI to benefit or to hear.

Kinyanjui (2008) in a study on special primary school and units of Meru North district revealed that the state of teaching and learning resources is inadequate as indicated by 75% of the respondents. This was a major hindrance for effective learning of pupils with HI in the district. All the respondents indicated that available materials and resources were inadequate. The teachers were using classrooms which were not acoustically treated and reported that was due to lack of funds. This posed a hindrance to effective learning of pupils with HI.

In a study by Musengi and Regis Chireshie (2012), in interviews with school heads revealed that some learning resources materials were said to be in short supply and others were adequate. Mirrors that were said to be needed in the teaching of speech were cited as material resources that were in short supply. Hearing aids were said to be enough as every one of the deaf pupils had received a donated hearing aid. Naanda (2005) in their studies in Namibia revealed that the implementation of an
effective integrated education programme programme is hampered by a shortage of human and material resources. UNESCO (1994) as the founding document on which integrated education programme is based, is clear that support is an important factor for successful integration.

Okutoyi, Kochung and Kabuka (2012) in a study on support services and resources in regular primary schools with hearing impaired learners in Kenya which adopted descriptive survey design and targeted 121 learners with HI, 1584 hearing learners, 36 teachers and 18 head teachers revealed that teaching-learning materials were used in schools as indicated by 74.7% of respondents. KSL textbooks were inadequate as indicated by 8.9% of respondents and resource rooms with HI compliance were used as indicated by 1.45% of respondents. Hearing aids were acquired mostly through provision by parents as indicated by 59.7% of respondents, while least method of acquisition was provision by donors and voluntary organizations as indicated by 7.45% of respondents.

It was also observed that the school had adequate visual aids for Kiswahili such as charts, flash cards, posters, drawings, pictures, object labels and others on display. Nonetheless, these visuals were hardly used during the lessons. Text books for Kiswahili, which are among the most useful learning devices, were not adequate in number and were not used optimally. Visual aids are helpful since vision is the pupils’ primary means of receiving information. Visuals provide memory links and thus learners’ recall mechanism is boosted. When visuals aids are not fully utilized in the learning process, learner’s memory is not enhanced. This reduces their retention of material learnt, thereby contributing to the learners’ poor performance (Okutoyi, Kochung and Kabuka, 2012).
In addition, it was observed that there were very few assistive technologies available at the school. At the time the research was conducted, there were only two cassette players that were used by teachers to carry out speech training, no group hearing aids were available, and the few individual hearing aids available were not fully utilized. In addition, only twenty teachers out of thirty-six were competent in speech training as well as in KSL. Subsequently, the researcher concluded that the educational resources available in the school were not enough to cater to the needs of the entire school.

2.5 Challenges in Relation to the Curriculum Content Delivery

A survey by Mushoriwa and Gasva (2008) revealed that the education of the deaf is one of the obstacles that need to be carefully designed and adapted in order to facilitate the development and implementation of a proper inclusive system. It facilitates the development of more inclusive settings and creates a conducive environment for learning especially when the individual teacher makes adaptations to enhance sense in the local context for the individual learner. Oyewumi A. (2008) found that the primary education curriculum in Nigeria did not make provision for children’s different developmental and learning needs as it was not designed for learners with diverse needs, did not take into account their different learning speeds and excluded relevant content. Chiresh (2011) established that implementation of Zimbabwean integrated education programme was hindered by the current curriculum which did not meet the needs of special needs children. In addition, teachers admitted to not having the skills to use individualized instructions or address deaf children specific special educational needs. Johnson (2010) noted that teaching patterns which cover large amounts of content in short periods for large
classes through lecture and assignments are detrimental to integrated education programme.

According to Maina (2009), special institutions in Kenya follow the regular curriculum, which is extensive and demanding, centrally designed and rigid, leaving little flexibility for adaptations for teachers to try out new approaches. The timing for the completion of the curriculum is also unrealistic for the HI learners as the teaching and learning processes are slowed down due to the processes involved. A study by Maundu (2011) noted that the current curriculum does not put into consideration cultural diversities. One of the respondents demanded a curriculum, which takes cognizance of their origin, culture, lifestyle and their values. He further observed that the curriculum should be flexible and be able to facilitate and responds to their children’s diversities and that it should provide diverse opportunities for practice and performance in terms of content, methods and levels of communication.

According to Muka (2009), due to the broad regular curriculum, adaptation to fit the needs of those who are deaf might be difficult. That because schools in Kenya are ranked according to the mean scores obtained in national examinations, head teachers may be uncomfortable with the HI for fear of lowering their mean scores based on the low expectations also expressed by Johnson (2009). The study further revealed that there have been claims that in some schools, HI learners were denied examination registration for fear of lowering the schools mean scores.
2.6 Summary of the Literature Review

The reviewed literature provided a global as well as local perspective of challenges facing the implementation of the integrated education curriculum for learners with hearing impairment. Studies reviewed showed that integration of hearing impaired learners in regular schools has presented challenges to both teachers and learners. The challenges range from instruction strategies, teacher preparedness, provision of teaching and learning resources and the curriculum content delivery. Most of the studies reviewed were conducted in overseas countries thus the need for the current study. A number of studies were carried out in special schools while the current study will be carried out in regular schools under the integrated education programme. Other studies were done in secondary schools while the current study will be conducted in public primary schools.
CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter deals with the methodology that will be used in the study. It comprises of research design, location of the study, target population, sampling technique and sample size, data collection techniques, research instruments, pilot study, data analysis, logical and ethical consideration.

3.2 Research Design

This study adopted a case study design. This is because the design helps a researcher to examine the existing status of variables at a given point of time. It also enables the researcher to collect data for the purpose of describing a population which is scattered in different parts of Nairobi County and therefore not easy to be observed directly. This enables the researcher to obtain pertinent and precise information concerning identifying the challenges to teaching the hearing-impaired learners in an integrated program. According to Patton (1990), a case study seeks to describe a unit in detail, in context and holistically.

Orodho (2003) explains further that a case study becomes particularly useful when one identifies a case both rich with information and in the sense that a great deal can be learnt from a few examples of the phenomenon under study, and then draw valid recommendations from the facts discovered. This is why this study adopted the Case Study because with all views concerning the challenges to teaching and learning the hearing impaired in an integrated program put together the study was able to provide an in-depth information hence the understanding of the events being studied. One of the greatest strengths of the case study design is its adaptability to different types of
research questions and to different research settings. The use of multiple sources of evidence allows triangulation of findings which, according to Yin (2009), is a major strength of the case study design. Case studies also offer the benefit of studying phenomena in detail and in context, particularly in situations where there are many more variables of interest than there are observations. Another potential advantage of case studies is that the format may make the research accessible to wider readership than some other designs.

3.3 Location of the Study
The study was carried in Nairobi County. Nairobi County is one of the 47 counties of Kenya. The smallest yet most popular of the counties, its capital is Nairobi, which is also the capital and largest city of Kenya. Nairobi County also has institutions dealing with learners with hearing impairment. The researcher is also familiar with study locale. The locale is also accessible and familiar to the researcher; hence, data collection could not be hindered by the participants’ resentment due to suspicion. Familiarity with the research locale helps in gaining acceptance (Karugu & Olela, 1993).

3.4 Target Population
Target population is defined as all the members of a real or hypothetical set of people, events or objects to which a researcher wishes to generalize the results of the research study (Borg & Gall, 1989). The total target population consists of five public primary schools, which are the number of schools that have integrated learners with hearing impairment in Nairobi County. The primary school years are an important phase of a child’s education. During these formative years, parents and teachers want to build every child’s confidence and desire to learn. The curriculum
should aim at providing the child with a broad range of learning experiences that will help him to discover his talents and interests. These experiences also include for learners with special needs. The target population comprised of 5 head teacher, 25 teachers who are trained to handle pupils with hearing impairment and 167 pupils with hearing impairment.

3.5 Sampling Technique and Sample Size

3.5.1 Sampling Techniques

According to Orodho (2005) sampling means selecting a given number of subjects from a defined population as representative of that population. Any statements made about the sample should also be true of the population. The purposive sampling method under probability sampling was used to select five schools in Nairobi county. The five public primary schools which have deaf units are the only public primary schools which have integrated learners with hearing impairment in Nairobi County. Purposive sampling was also used to select teachers who are trained to teach pupils with hearing impairment and also select students with hearing impairment. Purposive sampling is a non-probability sample that is selected based on characteristics of a population and the objective of the study. Purposive sampling is also known as judgmental, selective, or subjective sampling.

3.5.2 Sample Size

The Sample Size comprised of five public primary schools which have deaf units and are the only schools which have integrated learners with hearing impairment in Nairobi County. These schools were purposively chosen because the researcher is a teacher in one of the regular schools and is interested in discovering more about the education of the hearing impaired in a unit. This is where the learners with hearing
impairment attend their classes with their specially trained teachers. Singleton (1993) advises that the ideal setting for any study should be easily accessible to the researcher and should be that which permits instant rapport with the informants. The sample size comprised of 5 head teachers, 25 teachers and 167 pupils with hearing impairment. The researcher applied the census sampling technique to select the respondents. A census is a study of every unit, everyone or everything, in a study population. It is known as a complete enumeration, which means a complete count.

3.6 Research Instruments

The main tools of data collection for this study were questionnaires, interview schedules and observation guide.

3.6.1 Questionnaires

The questionnaires were used for data collection because it offers considerable advantages in the administration. It also presents an even stimulus potentially to large numbers of people simultaneously and provides the investigation with an easy accumulation of data. Gay (1992) maintains that questionnaires give respondents freedom to express their views or opinion and also to make suggestions. It is also anonymous. Anonymity helps to produce more candid answers than is possible in an interview. They were administered to the teachers.

3.6.2 Interview Schedules

An interview with open-ended questions was used for collection of data from head teachers of the special units in the study. Interview schedule was divided into three sections: modes of instruction in classrooms, students’ satisfaction and barriers being faced by students with hearing impairment in the integrated classrooms. An interview schedule was administered by the researcher who later recorded the
responses. This also gave the researcher room to have any clarifications done. Interviews are characterized by synchronous communication in time and place. Due to this synchronous communication, interviews can take its advantage of social cues. Social cues, such as voice, intonation, body language etc. of the interviewee can give the interviewer a lot of extra information that can be added to the verbal answer of the interviewee on a question. The value of social cues also depends on what the interviewer wants to know from the interviewee. In interviews, there is no significant time delay between question and answer; the interviewer and interviewee can directly react on what the other says or does. An advantage of this synchronous communication is that the answer of the interviewee is more spontaneous, without an extended reflection.

3.6.3 Observation Guide

According to Cohen (1976) classroom observation produces a broad description of the class teachers’ practices and methods. Kothari & Pals (1993) noted that observations are much better in overcoming the weakness of self-reported evidence. Reil (1995) argue that observation includes listening, asking questions and often participating in activities of the group to get firsthand experience of what daily life involves.

In order to examine into the challenges to teaching/learning of the deaf in the special unit, observation guide was used to collect data for the study that is; to observe the teachers handling hearing impaired learners in the integrated education program. The teaching/learning strategies would only be effectively analyzed by observing how respondents behaved in an actual classroom situation.
Other areas that were also observed included; teaching/learning strategies, availability of teaching and learning resources and equipment and how they were utilized, how the hearing impaired learners interacted with the regular peers, with curriculum and outside the classroom. Many different facets of the problem under the study were observed and noted by the researcher.

The observation guide was also used to enable the researcher to get to the depth of this study because it captured the individuals experiences without the individual knowing that he/she was being studied. It also offered illuminating information which helped the researcher to clarify some information before writing the final report.

3.7 Pilot Study

Pilot study is a distinct preliminary investigation conducted before embarking on the main study (Machin and Campbell, 2008). Before the actual data to be collected, the researcher conducted a pilot study from 3 teachers and 2 students who were not included in the study. The purpose of the pilot study was to enable the researcher to ascertain the reliability and validity of the instruments and to familiarize herself with the administration of the questionnaires therefore improve the instruments and procedures.

3.7.1 Validity

Validity is the degree to which the research instruments appropriately and accurately measure what they are supposed to measure (Orodho, 2005). Based on the analysis of the piloting, modification and removal of ambiguous or unclean items such as questions, inaccurate responses or indicated weaknesses were done to attract
appropriate responses from the respondents. Content validity was established through consultations and discussions with the research supervisors.

3.7.2 Reliability

Mugenda and Mugenda (1999) refer reliability as a measure of the degree to which a research instrument yields same results on repeated trials. Reliability in research is influenced by random error, which is deviation from a true measurement. After the pilot study, the respondents’ questionnaires were tested using split-half technique. Orodho (2005) refers split-half method as a type of reliability testing based on the co-efficient of internal consistency of a research instrument. The instrument is divided into two equal halves usually in terms of even and odd numbered items and scored separately after it has been tested. The Spearman correlation coefficient is calculated from the scores on each half of the test which usually fall between 0.0 and 1.0, the closer the answer to 1.0, the more reliable the instrument is. The correlation coefficient obtained was 0.7322 which closer to 1.0 meaning the instruments were significantly reliable. The ambiguities in the questionnaire items were identified and corrected. This method has the ability to measure the internal consistency of the instruments by taking into account changes in time and circumstances.

$$r = \frac{N\sum xy - (\sum x)(\sum y)}{\sqrt{[N\sum (x^2) - (\sum x^2)][N\sum (y^2) - (\sum y)^2]}}$$

3.8 Data Collection Procedure

A research permit was obtained from the National Commission for Science, Innovation and Technology. Thereafter, the office of the District Education Officer was contacted before the start of the study. The researcher personally administered the questionnaires to the teachers and interviewed the head teachers. The
questionnaires were administered to the respondents who were assured that strict confidentiality would be maintained in dealing with the responses. The head teacher and teachers were given about one week prior to the study to prepare. Face-to-face interviews were then conducted to the head teachers who later gave the consent to the researcher to carry out the study in the schools. Ethical considerations demanded the researcher to honestly explain to respondents the purpose of the study and request for their willingness to participate in it.

3.9 Method of Data Analysis

This research yielded to qualitative data which were collected through questionnaires and grouped according to research questions. Content analysis was used basing on analysis of meanings and implications emanating from respondents information and documented data to conduct descriptive statistics using the different forms of measures of tendency such as frequency tables, pie charts, which were generated using tally sheets and then calculated into percentage. As observed by Gay (1992), qualitative data provides rich descriptions and explanations that demonstrate the chronological flow of events as well as indicating serendipitous (chance) findings.

After data cleaning, the data were coded and entered in the computer for analysis using the Statistical Package for Social Sciences (SPSS) version 17.0. The findings were represented in the forms of frequency counts, means and percentages. The results of data analysis were then presented using frequency distribution tables and bar graphs. The information gathered through interview schedules and observation guides was transcribed into written texts through note taking.
3.10 Logistical and Ethical Considerations

The investigator sought for a permit from The National Council for Science Technology and Innovation to undertake research in the county. Research assistants were trained; they helped in distributing the questionnaires to the selected group of respondents. The subjects of the study remained anonymous. Cover letters were affixed to the questionnaires explaining the reasons for the study and reassuring the respondents of privacy.
CHAPTER FOUR
DATA ANALYSIS, INTERPRETATION OF FINDINGS AND DISCUSSION

4.1 Introduction
This chapter presents data analysis and interpretation of findings based on the objectives of the study. The chapter is divided into the following sub-sections: Respondents demographic information, challenges in relation to instruction strategies, teacher preparedness, provision of teaching and learning resources and challenges in relation to curriculum content with hearing impairment in an integrated education programme. This chapter was presented in relation to the following research objectives:

i) To establish challenges in relation to instruction strategies used to teach learners with hearing impairment in an integrated education programme in Nairobi County.

ii) To determine teacher preparedness to teach learners with hearing impairment in an integrated education programme.

iii) To examine challenges in relation to provision of teaching and learning resources for learners with impairment in an integrated education programme.

iv) To find out challenges in relation to the curriculum content delivery for learners with hearing impairment in integrated education programme.

4.2 Respondents’ Demographic Information
This section presents the demographic information of the respondents aimed at establishing their characteristics relevant in providing information on the implementation of the integrated education curriculum for learners with hearing impairment.

42
4.2.1 Respondents’ Gender

The study sought to establish respondents’ gender. The results are as presented on Figure 4.1.

![Figure 4.1: Respondents’ Gender](image)

The results show that 60.0% of head teachers and teachers were female while 40.0% were male. The study findings also show that 58.0% of pupils were male while 42.0% were female. The findings were an indication that majority of the head teachers and teachers in public primary schools were implementing the integrated education curriculum for hearing impaired learners. Majority of pupils on the other hand were male.

4.2.2 Head teachers and Teachers’ Teaching Experience

In order to reveal head teachers and teachers experience in curriculum implementation in public primary schools, the researcher asked them to indicate the amount of time they have taught. The findings are as shown on Figure 4.2.
The study findings show that 40.0% of head teachers had taught for above 21 years while 20.0% had taught for 5 to 10 years, 11 to 15 years and 16 to 20 years.

The study findings also showed that 24.0% of teachers had taught for 5 to 10 years and 11 to 15 years, 20.0% for above 21 years while 16.0% had taught for below 5 years and 16 to 20 years. The findings showed that most head teachers had a substantial teaching experience and therefore are aware of challenges facing curriculum implementation in public primary schools. The study also showed that head teachers had a higher teaching experience than teachers a confirmation that promotion to school headship is tied to a teacher’s teaching experience.

### 4.2.3 Head Teachers and Teachers Highest Professional Qualifications

In order to establish head teachers and teachers’ qualifications to teach in public primary schools, the researcher asked them to state their highest professional qualifications on the questionnaire. The findings are as shown on Figure 4.5.
The findings showed that 40.0% of head teachers and 44.0% of teachers have attained S1 certificate qualification. The study also showed that 20.0% of head teachers and 32.0% of teachers have attained P1 qualifications while 20.0% of head teachers and 12.0% of teachers. The findings are an indication all head teachers and teachers had the required professional qualifications to head and teach in public primary schools. Head teachers noted that most of the teachers had attained the minimum qualification to teach in public primary schools as most of them were employees of Teachers Service Commission.

### 4.2.4 Duration in the Current School

The researcher asked head teachers to state who long they have been heading the current schools. The findings are as shown on Figure 4.3.
Figure 4.4: Duration in the Current School

The findings show that 40.0% of head teachers have been in the school for more than 16 years while 20.0% have headed the current schools for 6 to 10 years, 11 to 15 years and less than 5 years. The findings are an indication that most head teachers have been in schools long enough to be relied upon to provide accurate information on the challenges facing the implementation of the integrated education programme curriculum for learners with hearing impairment.

4.2.5 Number of Pupils with Hearing Impairment

The Study sought to find from the principals the number of hearing impaired pupils in their schools the findings were represented in Figure 4.4.
The study findings on Figure 4.5 showed that 40.0% of head teachers noted that they had between 11 to 20 learners with hearing impairment while 20.0% said they had below 10, 21 to 30 and above 31 pupils. The findings are an indication that the ratio of hearing impaired to hearing learners is low which might negatively affect resource allocation to support hearing impaired learners given that they may be considered as a minority in schools.

4.3 Challenges in Relation to Instruction Strategies

The first objective sought to established challenges facing curriculum implementation of integrated education programme for pupils with hearing impairment in public primary schools in Nairobi County. Five head teachers and 25 teachers completed questionnaires while 100 pupils were interviewed. Quantitative data were analyzed using descriptive statistics such as frequencies and percentages and presented in tables and figures while qualitative data were analyzed using
content analysis and presented in narrative. The results that follow are discussed in themes.

### 4.3.1 Instruction Strategies used by teachers

Teachers were asked to state the instruction strategies they use when teachers learners with hearing impairment in integrated education programme. The findings are as presented on Table 4.1.

**Table 4.1: Instruction Strategies used by Teachers**

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of lecture method</td>
<td>25</td>
<td>100.0</td>
</tr>
<tr>
<td>Use of question and answer method</td>
<td>21</td>
<td>84.0</td>
</tr>
<tr>
<td>Providing remedial teaching for hearing impaired students</td>
<td>20</td>
<td>80.0</td>
</tr>
<tr>
<td>Use of writing</td>
<td>19</td>
<td>76.0</td>
</tr>
<tr>
<td>Use of Total Communication method</td>
<td>18</td>
<td>72.0</td>
</tr>
<tr>
<td>Use of group activities for the hearing and HI pupils</td>
<td>18</td>
<td>72.0</td>
</tr>
<tr>
<td>Providing individual instruction for hearing impaired pupils</td>
<td>16</td>
<td>64.0</td>
</tr>
<tr>
<td>Use of signing</td>
<td>15</td>
<td>60.0</td>
</tr>
<tr>
<td>Use of demonstration</td>
<td>14</td>
<td>56.0</td>
</tr>
<tr>
<td>Use of diagrams</td>
<td>10</td>
<td>40.0</td>
</tr>
<tr>
<td>Use of group activities exclusively for HI pupils</td>
<td>9</td>
<td>36.0</td>
</tr>
<tr>
<td>Use of finger spelling</td>
<td>8</td>
<td>32.0</td>
</tr>
<tr>
<td>Use of story-telling</td>
<td>6</td>
<td>24.0</td>
</tr>
<tr>
<td>Use of class debates</td>
<td>2</td>
<td>8.0</td>
</tr>
</tbody>
</table>

N = 25

The findings show that all teachers (100.0%) said that they use the lecture method when teaching learners with hearing impairment in integrated education programme. The study also revealed that 84.0% use question and answer method, 80.0% provide
remedial teaching for hearing impaired students while 76.0% use writing. The least used teaching strategies are use of finger spelling as stated by 32.0% of teachers, use of storytelling as cited by 24.0% of teachers and use of class debates as cited by 8.0% of teachers. The findings show lecture method and question and answer are the most preferred instruction strategies which is an indication that instruction strategies used by teachers are majorly addressing the needs of hearing pupils at the expense those with hearing impairment. Teachers noted that although they incorporate a number of instruction strategies, the method most preferred was the lecture method. They noted that other strategies used are only meant to reinforce the lecture method. Most pupils noted that teachers did pay special attention to them during lessons. They also noted that there were no interpreters to assist them during lessons and that their participation in lessons was minimal. Most pupils however reported that they received assistance from other pupils whenever they were unable to perceive what was being taught.

These findings concur with a study by Adoyo (2008) on ways of educating deaf children in an inclusive setting in Kenya it which revealed that teachers were not using latest techniques and materials for instruction when working with children with hearing impairment. The mode of content delivery was majorly theoretical with practical experiences being limited to technical subjects. According to Johnson (2003), when teaching learners with hearing impairment teachers should use instruction strategies and teaching and learning resources that provide learners with practical experiences so that these learners can easily understand the lesson. Teachers should also make diagrams on the chalkboard for explaining the things. The findings whoever contradict a study by Naanda (2005) on the Development of
an Inclusive Approach in Early Childhood Education in Namibia revealed that teachers’ most preferred method of teaching was demonstration. Only one teacher employed Total Communication, whereas no teacher at all used Individualized Education Program (IEP), which is the most highly recommended method of teaching learners with hearing impairment.

4.3.2 Reasons for Use of Instructional Strategies

Teachers were asked to state the reasons why they prefer using specific instruction strategies when teaching learners with hearing impairment in an integrated education programme. The findings are as presented on Table 4.2.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of competence in the use of these strategies</td>
<td>23</td>
<td>92.0</td>
</tr>
<tr>
<td>Classroom population</td>
<td>21</td>
<td>84.0</td>
</tr>
<tr>
<td>Inadequate teaching and learning resources</td>
<td>20</td>
<td>80.0</td>
</tr>
<tr>
<td>Time constraints</td>
<td>19</td>
<td>76</td>
</tr>
<tr>
<td>Students preference</td>
<td>9</td>
<td>36</td>
</tr>
</tbody>
</table>

N = 25

The findings show that 92.0% of teachers explained that they selected instruction strategies based on their levels of competence. The study also revealed that 84.0% said they considered the classroom population, 80.0% said that considered availability of teaching and learning resources, 76.0% said they considered time constraints while 36.0% said strategy choice was based on pupils preference. The findings are an indication that teachers are restricted in the choice of instruction strategies by their levels of competence in teaching learners with hearing
impairment, availability of teaching and learning resources and time allocated to
curriculum delivery. Teachers noted that their choice of instruction strategies was
influenced the time allocated for lessons which made the lecture method the most
preferred instruction strategy. Teachers also noted that the choice of instruction
strategies was influenced by their lack of or inadequate training in SNE and
therefore used strategies mostly meant for hearing learners.

4.3.3 Specific Challenges as a Result of Instruction Strategies

The researcher asked teachers to state the challenges they faced as a result of using
the named instruction strategies. The findings are as presented on Table 4.3.

Table 4.3: Challenges facing teachers teaching learners with hearing impairment

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variation between the spoken language and sign language</td>
<td>23</td>
<td>92.0</td>
</tr>
<tr>
<td>Lack of use of latest strategies and materials for instruction when working with children with hearing impairment</td>
<td>22</td>
<td>88.0</td>
</tr>
<tr>
<td>Over reliance of oral classroom discussion and therefore learners with hearing impairment were mostly not involved.</td>
<td>22</td>
<td>88.0</td>
</tr>
<tr>
<td>Inadequate time to use the instruction strategies</td>
<td>22</td>
<td>88.0</td>
</tr>
<tr>
<td>Lack of teaching and learning resources required for specific strategies these learners can easily understand the lesson</td>
<td>20</td>
<td>80.0</td>
</tr>
<tr>
<td>Inadequate provision of learners with practical experiences so that</td>
<td>19</td>
<td>76.0</td>
</tr>
<tr>
<td>Inability to use suitable instruction strategies</td>
<td>18</td>
<td>72.0</td>
</tr>
<tr>
<td>Inability of learners to utilize the instruction strategies</td>
<td>17</td>
<td>68.0</td>
</tr>
</tbody>
</table>

N = 25
The findings show that 92.0% of teachers noted that instruction related challenges when implementing the integrated education curriculum are the variation between the spoken language and sign language. The findings also show that 88.0% of teachers feel that lack of use of latest strategies and materials for instruction when working with children with hearing impairment and inadequate time to use the instruction strategies are instruction-related challenges they encounter. The findings further showed that 80.0% of teachers cited lack of teaching and learning resources required for specific strategies while 76.0% cited inadequate provision of learners with practical experiences that make them easily understand the lesson. The findings are indication that teachers are facing challenges of use of instruction strategies when teaching learners with hearing impairment in an integrated education curriculum. The challenges range from variation between spoken and sign language, teacher competence in the use of appropriate strategies and lack of facilities that support the instruction strategies.

Findings from the 167 pupils with hearing impairment showed that the lecture method used by teachers makes it hard for them to learn as they are not able to hear what the teacher is saying. These pupils also noted that other strategies such as use of diagrams are not used a lot and that when used they are in most cases inadequate diagrams to explain various concepts. They also observed that teachers teach very fast making it hard for them to follow the lessons. Head teachers on other hand noted that teachers use strategies that suit majority of learners in classrooms and since learners with hearing impairment are the minority, some teachers find less need to identify strategies that are helpful to these students. These findings concur with Hodkinson and Vickerman (2009) who argue that variation between the spoken
language and sign language in UK has been found to be a major challenge to teachers dealing with learners with hearing impairment at the elementary level of education. According to Moores and Martins (2006), there have been various constraints in teaching languages to the hearing impaired in as the naturally evolved sign languages have a grammar and vocabulary, which are distinct from the spoken language used in the same country or region. This includes the word order in a sentence, which is generally completely different from the word order in a sentence in the spoken or written language. It is important to stress that hearing impaired persons cannot master spoken languages as easily and comprehensively as sign languages and the spoken language of their country or region will always remain a foreign or second language for them. This therefore poses an instructional challenge as many teachers typically rely heavily on oral methods and students who cannot hear may be deprived the chance to learn at same pace as their hearing counterparts (British Deaf News, Feb 2002).

4.4 Teacher Preparedness in Curriculum Implementation

The second objective sought to determine teacher preparedness in curriculum implementation of integrated education programme for pupils with hearing impairment in public primary schools in Nairobi County as a result of teacher preparedness. Five head teachers and 25 teachers completed questionnaires while 100 pupils were interviewed. Quantitative data were analyzed using descriptive statistics such as frequencies and percentages and presented in tables and figures while qualitative data was analyzed using content analysis and presented in narrative. The results were discussed in themes in this section.
Table 4.4: Teachers’ Preparedness in Curriculum Implementation

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>They can learn</td>
<td>22</td>
<td>88.0</td>
</tr>
<tr>
<td>They are always ready to be taught</td>
<td>17</td>
<td>68.0</td>
</tr>
<tr>
<td>They are difficult</td>
<td>12</td>
<td>48.0</td>
</tr>
<tr>
<td>They lower the mean score</td>
<td>14</td>
<td>56.0</td>
</tr>
<tr>
<td>Total</td>
<td>25</td>
<td>100.0</td>
</tr>
</tbody>
</table>

N = 25

The findings revealed that 88.0% of teachers feel that learners with hearing impairment can learn. The study also shows that 68.0% said they believe learners with hearing impairment are always ready to be taught. The study findings on the other hand showed that 56.0% of teachers feel that these learners lower the school mean score while 48.0% said they are difficult to teach. The findings are an indication that as much as most teachers agree that learners with hearing impairment can excel in an integrated education curriculum, a substantial number of them hold the view that these learners were less likely to do well when taught together with hearing learners. This points to inadequate preparation/training of some teachers on implementation the integrated education curriculum. Head teachers noted that although teachers’ believe in the ability of hearing impaired learners to excel in academically, they feel that this can be achieved better if these students are sent to special schools.
### 4.4.1 Head Teachers and Teachers Training in SNE

The researcher asked head teachers and teachers to state their levels of professional training in SNE. The results are as presented of Figure 4.6.

![Head teachers and teachers training in SNE](image)

**Figure 4.6: Head teachers and Teachers Training in SNE**

The findings showed that 60.0% of teachers and 40.0% of principals had not had any training in SNE. The study showed that 40.0% of head teachers and 24.0% of teachers had KISE certificate training while 20.0% of head teachers and 8.0% of teachers have KISE diploma training. The findings are an indication that a substantial number of head teachers and teachers have not had training in SNE which makes it difficult for them to effectively implement the integrated curriculum for learners with hearing impairment. Head teachers noted that the introduction of the integrated education programme curriculum for learners with hearing impairment was done without ensuring that teachers are well trained to implement this curriculum.
These findings concur with a study by Ogada (2010), in which head teachers questioned the levels of preparations done by teachers who were handling learners with hearing impairment. All of them said that the teachers are not effective due to inadequate training in special education. Majority of the teachers indicated that they had done distance learning programme with Kenya Institute of Special Education which according to them does not adequately train teachers especially in the area of hearing impairments since the course was intended to train teachers for inclusive purposes and not education of learners with hearing impairment. The study also reported that teachers also rarely attend in-service courses which are very important for keeping teachers abreast with current trends and issues on SNE. Raju (1973), in a study on rural schools in Kenya found that most of them lacked properly trained teachers. Since the studies reviewed were done in other parts of Kenya and have indicated a deficiency on the issue of qualification and experience of teachers, there is need for such a study to be done which is more current. The review also indicates that the themes are out dated and may apply only to limited extent in today’s situation hence a need for an up to date study.

4.4.2 Head teachers and teachers Experience Teaching Hearing Impaired Learners

In order to assess head teachers and teachers’ length of experience teaching learners’ with hearing impairment, they were required to state the number of years they have been teaching these learners. The results are as presented on Figure 4.7.
Figure 4.7: Head teachers and Teachers Experience Teaching Hearing Impaired Learners

The findings showed that 80.0% of head teachers had below 5 years experience in teaching hearing impairment while 20.0% said they had between 5 to 10 years experience. The findings also showed that 56.0% had below 5 years experience, 24.0% said they had between 5 to 10 years while 20.0% said they had 11 years and above experience teaching learners with hearing impairment. The results showed that most head teachers and teachers had limited experience teaching learners with hearing impairment in an integrated education curriculum which impedes their ability to effectively implement this curriculum. Head teachers observed that the programme was introduced not so long ago and it also took some time for schools to enroll learners with hearing impairment and therefore most teachers have little teaching experience with these learners.
4.4.3 Challenges as a Result of Teacher Preparedness

In order to establish challenges facing the implementation of the integrated curriculum for learning with hearing impairment, teachers were asked to reveal challenges they face when teaching these learners together with hearing students. The results are as presented on Table 4.5.

Table 4.5: Challenges as a Result of Teacher Preparedness

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulty in explaining abstract concepts</td>
<td>24</td>
<td>96.0%</td>
</tr>
<tr>
<td>Inability to appropriately use teaching aids</td>
<td>22</td>
<td>88.0%</td>
</tr>
<tr>
<td>Inability to train the children to listen, lip-read or sign</td>
<td>21</td>
<td>84.0%</td>
</tr>
<tr>
<td>Failure to choose appropriate strategies to use</td>
<td>20</td>
<td>80.0%</td>
</tr>
<tr>
<td>Existence of communication barriers</td>
<td>18</td>
<td>72.0%</td>
</tr>
<tr>
<td>Inadequate evaluation of hearing impaired pupils</td>
<td>15</td>
<td>60.0%</td>
</tr>
</tbody>
</table>

N = 25

The study findings show that 96.0% of teachers noted that level of teacher preparedness lead to difficulty in explaining abstract concepts. The study also revealed that 88.0% noted that inadequate teacher preparedness leads to inability for to appropriately use teaching aids, 84.0% said it leads to inability to train the children to listen, lip-read or sign, 80.0% said it causes failure among teachers to choose appropriate strategies to use, 72.0% said it leads to communication barriers while 60.0% said it leads to inadequate evaluation of hearing impaired pupils. The findings show that inadequate teacher preparedness to teacher learners with hearing impairment in an integrated education programme curriculum makes it hard for them to explain abstract concepts as well as inability to use teaching aids and impart learning skills to these learners. Head teachers noted that there has been drop in the
performance of hearing impaired learners who came from special schools and according to them could be largely be attributed to inadequate teacher preparedness and teaching and learning resources. Pupils also noted that since transferring to their current schools they have found it difficult to fully understand what is being discussed in class.

These findings concur with findings from a study by Mwenda (2010) that showed difficulty in explaining abstract concepts and communication barriers as among the challenges in teaching learners with hearing impairment. The head teachers reported that this was due to teacher’s inadequate training. Teachers who participated in the raised a concern that the special education training given in colleges is not enough hence they experience problems when teaching children who are hearing impaired. One teacher noted that the children with hearing impairment are supposed to follow the regular curriculum and if a teacher is not well equipped then it poses a problem to the teachers. The biggest problem or challenge to half of the teachers according the study was that of communication.

4.5 Challenges in Relation to Provision of Teaching and Learning Resources

The third objective sought to find out challenges facing curriculum implementation of integrated education programme for pupils with hearing impairment in public primary schools in Nairobi County as a result of provision of teaching and learning resources. Five head teachers and 25 teachers completed questionnaires while 100 pupils were interviewed. Quantitative data were analyzed using descriptive statistics such as frequencies and percentages and presented in tables and figures while qualitative data were analysed using content analysis and presented in narrative. The results are as discussed in themes in this section.
4.5.1 Availability of Assistive Devices

Teachers were asked to state whether they have assistive devices for learning with hearing impairment in an integrated education programme curriculum. Their responses are as presented on Table 4.6.

Table 4.6: Availability of Assistive Devices

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>10</td>
<td>40.0</td>
</tr>
<tr>
<td>No</td>
<td>15</td>
<td>60.0</td>
</tr>
<tr>
<td>Total</td>
<td>25</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The results show that 60.0% of teachers said that there are no assistive devices for learners with hearing impairment in integrated education programmes while 40.0% said there were assistive devices. The findings are an indication that there are no assistive devices in most schools offering integrated education curriculum for learners with hearing impairment in Nairobi County. Head teachers noted that their school did not have assistive devices due to inadequate funds available to purchase them. Pupils also acknowledged that there are no assistive devices for learners with hearing impairment. These findings concur with a study by Kanyanta (2003) in Zambia, which showed that all the teachers interviewed were using classrooms with no acoustic treatment due to lack of funds. The head teachers further expressed the problems which the teachers had reported to them as they teach the children with HI in the school and units. They include lack of hearing devices especially hearing aids which are very important in the learning of children with HI as they amplify the sound in order for pupils who are HI to benefit or to hear. Kinyanjui (2008) in a study on special primary school and units of Meru North district revealed that the state of teaching and learning resources is inadequate as indicated by 75% of the
respondents. This was a major hindrance for effective learning of pupils with HI in the district. All the respondents indicated that available materials and resources were inadequate. The teachers were using classrooms which were not acoustically treated and reported that was due to lack of funds. This posed a hindrance to effective learning of pupils with H.I.

4.5.2 Assistive Devices Available in Schools

The researcher carried out an observation exercise to determine the availability of assistive devices in schools. The findings are as shown on Table 4.7.

Table 4.7: Assistive Devices Available in Schools

<table>
<thead>
<tr>
<th>Item</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pictures</td>
<td>5</td>
<td>100.0</td>
</tr>
<tr>
<td>Charts</td>
<td>5</td>
<td>100.0</td>
</tr>
<tr>
<td>Hearing aids</td>
<td>4</td>
<td>80.0</td>
</tr>
<tr>
<td>Acoustical wall/ceiling coverings</td>
<td>3</td>
<td>60.0</td>
</tr>
<tr>
<td>Drawings</td>
<td>3</td>
<td>60.0</td>
</tr>
<tr>
<td>Flash cards</td>
<td>2</td>
<td>40.0</td>
</tr>
<tr>
<td>Posters</td>
<td>2</td>
<td>40.0</td>
</tr>
<tr>
<td>Classrooms well lit</td>
<td>2</td>
<td>40.0</td>
</tr>
<tr>
<td>Object labels</td>
<td>1</td>
<td>20.0</td>
</tr>
<tr>
<td>Television sets</td>
<td>1</td>
<td>20.0</td>
</tr>
<tr>
<td>Cassette players</td>
<td>1</td>
<td>20.0</td>
</tr>
<tr>
<td>Computers</td>
<td>1</td>
<td>20.0</td>
</tr>
<tr>
<td>Auditory training centres</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Rubber shoes to the legs of students’ desks and chairs</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Speech rooms</td>
<td>0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

N = 5

The findings show that all schools (100.0%) have teaching aids in form of pictures
and charts. The findings further show that 80.0% of the schools have hearing aids, 60.0% have acoustical wall/ceiling coverings and drawings, 40.0% have flash cards and posters and well-lit classrooms. None of the schools (0.0%) had rubber shoes to the legs of students’ desks and chairs and speech rooms. The findings show that all schools have hearing aids and use pictures and charts as the main assistive devices. All schools however lack well-modified classrooms and special rooms for speech training. The findings concur with a study by Chireshe (2011) in Zimbabwe on educational resources for HI learners, three categories of resources: visual aids, assistive technology and human resources were analyzed. The study established that the visual aids available in the classroom were greatly underutilized since they were used less than fifty percent of the time. There were very few pieces of assistive technology. Learners were hesitant of making use of the few individual hearing aids available as they complained of irritation and the discomfort they caused. There were no group hearing aids. The school had only two cassette players. No computers and no television sets. Learning activities would be more effective if these technologies were available and put in use.

According to Stinson and Whitmire (2000), classroom design and layout have obviously great importance for these students who require the use of items of special equipment. Ainscow, (1995) suggested the ideal physical environment for students with hearing impairment. The classrooms should be away from noise and controlled for acoustics that affect hearing aids. There is need to add carpets, window treatments, or acoustical wall/ceiling coverings to absorb sound and reduce noise from furniture scrapping on hard surfaces by attaching rubber shoes to the legs of students’ desks and chairs. The classrooms should also be well lit to enable the HI
students to speech read and to read the signing. Besides the acoustically treated classrooms, speech rooms and auditory training centres should be available. These are sound proofed and have special equipment to help in speech and auditory training and conducting audiometric tests at school level. The purpose of the various accommodations is to level the playing field, (Someth and Lewin, 2005).

4.6 Challenges facing Content Delivery

The fourth objective sought to find out challenges facing content delivery of integrated education programme for pupils with hearing impairment in public primary schools in Nairobi County as a result of the appropriateness of the current curriculum. Five head teachers and 25 teachers completed questionnaires while 100 pupils were interviewed. Quantitative data were analyzed using descriptive statistics such as frequencies and percentages and presented in tables and figures while qualitative data were analysed using content analysis and presented in narrative. The results are as discussed in themes in this section.

The researcher asked teachers to state the challenges they face when delivering content in the integrated education curriculum as a result of availability of teaching and learning resources. Their responses are as presented on Table 4.8.
Table 4.8: Challenges facing Content Delivery

<table>
<thead>
<tr>
<th>Item</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not able to expose learners to variety of reading materials</td>
<td>16</td>
<td>64.0</td>
</tr>
<tr>
<td>Inadequate hearing aids leads to HI learners not being able to follow lessons</td>
<td>12</td>
<td>48.0</td>
</tr>
<tr>
<td>Lack of microphones makes hard for the learners to hear</td>
<td>8</td>
<td>32.0</td>
</tr>
<tr>
<td>Lack of adequate lighting makes use of signing ineffective</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inadequate time allocated to lessons</td>
<td>22</td>
<td>88.0</td>
</tr>
<tr>
<td>Teachers not adequately trained to teach SNE learners</td>
<td>21</td>
<td>84.0</td>
</tr>
<tr>
<td>Inadequate strategies to teach abstract concepts</td>
<td>20</td>
<td>80.0</td>
</tr>
<tr>
<td>Difficulty to incorporate SNE communication strategies</td>
<td>19</td>
<td>76.0</td>
</tr>
</tbody>
</table>

N = 25

The findings revealed that 64.0% of teachers noted that inadequate assistive devices not able to expose learning to variety of reading materials, 48.0% said inadequate hearing aids leads to HI learners not being able to follow lessons while 32.0% noted that lack of adequate lighting makes use of signing ineffective and lack of microphones makes hard for the learners to hear. The findings also show that 88.0% of teachers found the current time has been allocated for lessons inadequate. In addition, 84.0% of teachers felt that a major challenge as inadequate training to teach SNE learners, 80.0% said the curriculum content delivery has inadequate strategies to teach abstract concepts while 76.0% said the curriculum content presents challenges to incorporate SNE communication strategies.
The findings are an indication that lack of assistive devices hinders effective content delivery as hearing impaired learners have difficulty in following classroom proceedings. Head teachers noted that lack of assistive devices has led to teachers being unable to effectively deliver content which puts learners with hearing impairment at the risk of not being able to learn at all. The findings are an indication that the current curriculum is not appropriate for learners with hearing impairment in an integrated education programme curriculum. Head teachers noted that teachers were using the curriculum meant for hearing learners and therefore not appropriate for hearing impaired learners. Pupils with hearing impairment noted that they find it difficult to follow what was being taught and are forced to work extra hard to catch up. They added that in most cases teachers move to the next topic even before they have fully understood the previous one.

According to Maina (2009), special institutions in Kenya follow the regular curriculum, which is extensive and demanding, centrally designed and rigid, leaving little flexibility for adaptations for teachers to try out new approaches. The timing for the completion of the curriculum is also unrealistic for the HI learners as the teaching and learning processes are slowed down due to the processes involved. A study by Maundu (2011) noted that the current curriculum does not put into consideration cultural diversities. One of the respondents demanded a curriculum, which takes cognizance of their origin, culture, lifestyle and their values. He further observed that the curriculum should be flexible and be able to facilitate and responds to their children diversities and that it should provide diverse opportunities for practice and performance in terms of content, methods and levels of communication.
4.6.1 Challenges as a result of inappropriateness of the Current Curriculum Content

The teacher respondents were asked to rate the appropriateness of the curriculum content in relation to the learning with hearing impairment in an integrated education curriculum. Their observations are as shown on Table 4.9.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very appropriate</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Appropriate</td>
<td>7</td>
<td>28.0</td>
</tr>
<tr>
<td>Inappropriate</td>
<td>8</td>
<td>32.0</td>
</tr>
<tr>
<td>Very inappropriate</td>
<td>10</td>
<td>40.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>25</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

The findings show that 40.0% of teachers noted that current curriculum content is very inappropriate for teaching learners with hearing impairment in an integrated education programme curriculum while 32.0% said it was inappropriate. The findings also show that 28.0% of teachers said it was appropriate while none said it was very appropriate. The findings are an indication that the current curriculum content is not appropriate for learners with hearing impairment in an integrated education programme curriculum. Head teachers noted that the current curriculum content fails to incorporate teaching of learners with hearing impairment together with hearing students. They noted that the Curriculum content has no special provisions towards integration and as a result, teachers are left to device their own teaching strategies which in most cases are not very effective.
The findings are in agreement with Oyewumi (2008) who found that the primary education curriculum in Nigeria did not make provision for children’s different developmental and learning needs as it was not designed for learners with diverse needs, did not take into account their different learning speeds and excluded relevant content. Chireshe (2011) established that implementation of Zimbabwean integrated education programme was hindered by the current curriculum which did not meet the needs of special needs children. In addition, teachers admitted to not having the skills to individualize instruction or address deaf children’s specific special educational needs. Johnson (2010) noted that teaching patterns which cover large amounts of content in short periods for large classes through lecture and assignments are detrimental to integrated education programme.
CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the study, a summary of the findings, conclusions and recommendations arrived at, as well as suggestions for further studies. The study investigated challenges in teaching/learning of the hearing-impaired learners in regular public in Nairobi County, Kenya. The research objectives were to establish challenges in relation to instruction strategies used to teach learners with hearing impairment, find out the teacher preparedness, determine level of provision of teaching and learning resources and challenges in relation to the curriculum content delivery. This study adopted a case study design and targeted 5 head teachers, 97 teachers and 167 pupils with hearing impairment in Joseph Kang’ethe, Aga Khan, Daniel Comboni, Jadhaini and Race Course (public primary schools in Nairobi County with special units). The purposive sampling method under probability sampling was used to select respondents. The sample size comprised of the entire population of the schools under the study. The main tools of data collection for this study were questionnaires, interview schedules and observation guide. The researcher conducted a pilot study from 3 teachers and 2 students who were not included in the study. Data collected were cleaned, coded and entered in the computer for analysis using the Statistical Package for Social Sciences (SPSS) version 17.0. The statistics used included frequency counts, means and percentages. The results of data analysis were then presented using frequency distribution tables and bar graphs.
5.2 Summary of the Findings

The study sought to establish challenges facing curriculum implementation in an integrated education programme for pupils with hearing impairment as a result of instruction strategies used by teachers. The study sought to establish challenges related to instructional strategies used by teachers and revealed that although teachers incorporated a number of instruction strategies, the method most preferred was the lecture method. Challenges related to instruction strategies range from variation between spoken and sign language, teacher competence in the use of appropriate strategies and lack of facilities that support the instruction strategies.

The study also sought to find out teacher preparedness and revealed that most head teachers and teachers have not had training in SNE which makes it difficult for them to effectively implement the integrated curriculum for learners with hearing impairment. It was also found that most of them have limited experience teaching learners with hearing impairment in an integrated education curriculum which impedes their ability to effectively implement this curriculum. Challenges attributed to teacher preparedness included difficulty in explaining abstract concepts, inability for to appropriately use teaching aids, inability to train the children to listen, lip-read or sign, failure among teachers to choose appropriate instruction strategies, communication barriers with learners with hearing impairment and inadequate evaluation of hearing impaired pupils.

The study further sought to find out levels of provision of teaching and learning resources and revealed that most schools have inadequate assistive devices due to inadequate funds available to purchase them. Assistive devices available in most
schools included hearing aids and pictures and charts. All schools however lack well-modified classrooms and special rooms for speech training. Inadequate assistive devices has led to teachers not being able to expose learners to variety of reading materials, inadequate hearing aids leads to HI learners not being able to follow lessons while lack of adequate lighting makes use of signing ineffective.

The study lastly investigated challenges related to the current curriculum and found that the current curriculum is not appropriate for learners with hearing impairment in an integrated education curriculum as it has no special provisions towards integration and as a result, teachers are left to device their own teaching strategies which in most cases are not effective. The findings showed that teachers found the current curriculum inappropriate as inadequate time has been allocated for lessons, had inadequate strategies to teach abstract concepts and presents challenges to incorporate SNE communication strategies.

5.3 Conclusions of the Study

The study sought to established challenges facing curriculum implementation of integrated education curriculum for pupils with hearing impairment and revealed that challenges related to instructional strategies used by teachers include variation between spoken and sign language, teacher competence in the use of appropriate strategies and lack of facilities that support the instruction strategies. In relation to teacher preparedness, there were difficulty in explaining abstract concepts, inability for to appropriately use teaching aids, inability to train the children to listen, lip-read or sign, failure among teachers to choose appropriate instruction strategies, communication barriers with learners with hearing impairment and inadequate evaluation of hearing impaired pupils. On provision of teaching and learning
resources, it was found that teachers were not to be able to expose learners to variety of reading materials, inadequate hearing aids leads to HI learners not being able to follow lessons while lack of adequate lighting makes use of signing ineffective. Challenges as a result of the current curriculum were that the curriculum has no special provisions towards integration and as a result, teachers are left to device their own teaching strategies which in most cases are not effective. The current curriculum was inappropriate as inadequate time has been allocated for lessons, had inadequate strategies to teach abstract concepts and presents challenges to incorporate SNE communication strategies.

5.4 Recommendations of the Study

Based on the findings of the study, the following recommendations were made:

i) The Teachers training curriculum should be modified to include instruction strategies for integrated education programme for the hearing impaired pupils to equip teachers with skills to implement the integrated education curriculum.

ii) The Ministry of Education should ensure that public primary schools offering the integrated education programme are equipped with assistive devices to enhance curriculum delivery for SNE learners.

iii) The Ministry of Education should facilitate in-service training for teachers in SNE to ensure that they are adequately prepared to implement the integrated education curriculum.

iv) The Ministry of Education through KISE and KICD should modify the current curriculum to incorporate aspects of SNE under the integrated education curriculum.
5.5 Suggestions for Further Research

The study makes suggestions for further study in the following areas:

Since the study was confined to public primary schools in Nairobi, a similar study should be carried out in regular schools across the country.
REFERENCES


APPENDICES

APPENDIX I: INTERVIEW SCHEDULE FOR HEADTEACHERS

This research is meant for academic purpose. The study seeks to investigate on the challenges in teaching and learning of learners with hearing impairment in an integrated education programme in public primary schools in Nairobi County, Kenya. You are kindly requested to provide answers to these questions as honestly and precisely as possible. All information will be treated with strict confidentiality.

1. What is your .................................................................

2. Gender? Male [ ] Female [ ]

3. How long have you been the head teacher in the current school? ............... 

4. How many pupils do you have in your school? ........................................ 

5. How many pupils have hearing impairment in your school? ....................

6. Do you have any program of assisting the hearing impaired pupils in your school?
   Yes [ ] No [ ]

7. How do you rate the integrated education programme?
   Excellent [ ] Very Good [ ] Good Average [ ]
   Fair [ ] Poor [ ]

8. What is your professional qualifications?
   PI [ ] SI [ ]
   Diploma [ ] Graduate [ ]
9. Do you have any training on Sne?

Yes [ ] No [ ]

If yes, specify ............................................................................................................................

KISE diploma [ ] KISE certificate [ ]

B.Ed special [ ]

Others (specify) ..........................................................................................................................

10. Have you attended any course on administration management?

Yes [ ] No [ ]

If yes explain ..........................................................................................................................

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

11. Are the learners with hearing impairment allowed to participate in co-curricular activities alongside the regular learners?

Yes [ ] No [ ]

12. What is the attitude of the administration towards the integrated programme?

Positive [ ] Negative [ ]

13. In your own opinion, what do you think can be the best strategy in overcoming the challenges in teaching and learning of learners with hearing impairment in an integrated education programme?

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

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

.................................................................................................................................................
APPENDIX II: QUESTIONNAIRE FOR TEACHERS

This research is meant for academic purpose. The study seeks to investigate on challenges in teaching and learning of learners with hearing impairment in an integrated education programme public primary schools in Nairobi County, Kenya. Do not write any name or identification on this questionnaire. You are kindly requested to provide answers to these questions as honestly and precisely as possible. All information will be treated with strict confidentiality.

Please tick [✓] where appropriate or fill in the required information on the spaces provided.

Answer all questions as indicated either by filling in the blank spaces or ticking the option that applies.

1. What is your gender? Female [ ] Male [ ]

2. Your age (in years):
   - Between 20-29 [ ]
   - Between 40-49 [ ]
   - Between 30-39 [ ]
   - 50plus [ ]

3. Level of education:
   - Masters Degree [ ]
   - Bachelor’s Degree [ ]
   - Diploma [ ]
   - P1 [ ]
   - Other (Specify) .................................................................................................................................

4. How many years have you been a teaching in the current station? .................

5. Which level do you handle?
   - Pre-school [ ] Lower primary [ ] Upper-primary [ ]
6. Have you ever taught the hearing impaired?
   Yes [ ] No [ ]

   If yes how long have you been teaching the hearing impaired?
   Below 5 years [ ] 5 - 10 years [ ] 11 years and above [ ]

7. What is your experience on learners with hearing impairment?
   They can learn [ ]
   They are difficult [ ]
   They are always ready to be taught [ ]
   They lower the mean score [ ]

8. Do you have any assistive devices that can be included in the class to enhance learning to the hearing impaired children?
   Yes [ ] No [ ]

   If yes state them ........................................................................................................
   If no, give reasons ........................................................................................................

9. Apart from teaching, which other responsibility do you have? .........................

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

10. Do you have children with hearing impairment in your club/team?
    Yes [ ] No [ ]

11. Do have any staff member who is hearing impaired
    Yes [ ] No [ ]
12. Which teaching strategies do you frequently/often use?

- Group activity [ ]
- Drama [ ]
- Lecture [ ]
- Debate [ ]
- Any other (Specify) 
- Give your comment 

13. Do you have any training Qualifications in Sne?

- Yes [ ]
- No [ ]

If Yes, which one?
- KISE diploma [ ]
- KISE Certificate [ ]
- B.Ed special [ ]

14. What is the attitude of the administration towards the integrated programme?

- Positive [ ]
- Negative [ ]
- Undecided [ ]

15. In your own opinion, what do you think can be the best strategy in overcoming the challenges in teaching and learning of learners with hearing impairment in an integrated education programme?

..................................................................................................................
APPENDIX III: QUESTIONNAIRE FOR PUPILS

This research is meant for academic purpose. The study seeks to investigate on the challenges in teaching and learning of learners with hearing impairment in an integrated education programme public primary schools in Nairobi County, Kenya. Do not write any name or identification on this questionnaire. You are kindly requested to provide answers to these questions as honestly and precisely as possible. All information will be treated with strict confidentiality.

Please tick [√] where appropriate or fill in the required information on the spaces provided.

Answer all questions as indicated either by filling in the blank spaces or ticking the option that applies.

1. Gender: Male [    ] Female [    ]

2. Which class are you? .................................................................

3. What is your age? ....................................................................

4. Do teacher teach faster than you can learn? .............................

5. Do teachers pay special attention to you in and after class? ........

6. Do the teachers feel more concerned about your hearing impairment? .................................................................

7. Do you feel a sense of belonging to the classroom during lessons? .................................................................

8. Do the teachers make sure that you understand before moving to the next topic? ........................................

9. Are there enough interpreters to ease communication in the classrooms? ........................................
10. Are you encouraged to participate and allowed to figure out things? ................
........................................................................................................................................

11. Do your classmates or friends help you when you feel stuck? ......................
........................................................................................................................................

12. Are there cordial relationship between the hearing impaired and hearing students? ...........................................................
........................................................................................................................................

13. What do you think can be the best strategy to overcome the challenges of teaching and learning of hearing impairment in an integrated educational programme? ...........................................................
........................................................................................................................................
APPENDIX IV: OBSERVATION GUIDE TO BE USED FOR
TEACHING/LEARNING ACTIVITIES

<table>
<thead>
<tr>
<th>Questions</th>
<th>Excellent</th>
<th>Very Good</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>How are the communication strategies used in the classrooms with the hearing impaired learners</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How are the teaching/learning strategies used?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do the hearing impaired children play with others during break time?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do they communicate with the regular</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do teachers interpret for the hearing impaired on the assembly or any function in school?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is the classroom well ventilated?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does the class have enough light?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How is the positioning of the class?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are the furniture assigned to accommodate the hearing impaired learners</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are the furniture enough?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does the time table accommodate the specialist subject?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uniform, school requirement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do all children come in full school attire</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do all children have schoolbags</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do all children eat?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX V: RESEARCH AUTHORIZATION LETTER FROM NACOSTI

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471, 2241349, 310571, 2219420
Fax: +254-20-318245, 318249
Email: secretary@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

Ref: No. 18th November, 2014

NACOSTI/P/14/3349/3786

Everlyn Yabunga Murunga
Kenyatta University
P.O. Box 43844-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on “Challenges in teaching and learning of learners with hearing impairment in an integrated education programme in public schools: A case study of Joseph Kang’ethe primary school in Nairobi County, Kenya,” I am pleased to inform you that you have been authorized to undertake research in Nairobi County for a period ending 31st December, 2014.

You are advised to report to the County Commissioner and the County Director of Education, Nairobi County before embarking on the research project.

On completion of the research, you are expected to submit two hard copies and one soft copy in pdf of the research report/thesis to our office.

DR. S. K. LANGAT, OGW
FOR: SECRETARY/CEO

Copy to:

The County Commissioner
Nairobi County.

The County Director of Education
Nairobi County.

APPENDIX VI: RESEARCH PERMIT

THIS IS TO CERTIFY THAT:
MS. EVERLYN YABUNGA MURUNGA
of KENYATTA UNIVERSITY, 102484-101
Nairobi, has been permitted to conduct
research in Nairobi County.

on the topic: CHALLENGES IN TEACHING
AND LEARNING OF LEARNERS WITH
HEARING IMPAIRMENT IN AN
INTEGRATED EDUCATION PROGRAMME
IN PUBLIC SCHOOLS: A CASE STUDY OF
JOSEPH KANG’ETHE PRIMARY SCHOOL
IN NAIROBI COUNTY, KENYA

for the period ending:
31st December, 2014

Applicant's Signature

Secretary
National Commission for Science, Technology & Innovation

Permit No: NACOSTI/P/14/3349/3786
Date of Issue: 18th November, 2014
Fee Received: Ksh 1,000