

**READING STRATEGIES ADOPTED BY LEARNERS WITH HEARING
IMPAIRMENTS TO ENHANCE COMPREHENSION IN SPECIAL
PRIMARY SCHOOLS, KISUMU COUNTY, KENYA**

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DECLARATION

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

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DEDICATION

This research is dedicated to the fresh memories of my late parents Allan and Joyce who supported my education from humble beginning and whose encouragement inspired me to further my education. Special thanks to my beloved wife, children, siblings and friends who have always supported me morally and financially.

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ABSTRACT

The purpose of the study was to carry out an investigation on strategies adopted by learners with hearing impairments in reading for comprehension in special primary schools for the Deaf. The study was carried out as a result of low performance by learners with hearing impairments in most of academic tasks and in National Examinations in Kenya. The objectives of the research were to; determine the methods of reading used by learners with hearing impairments in learning reading skills, identify reading approaches used by learners with hearing impairments during reading for comprehension activities, determine challenges faced by learners with hearing impairments during learning of reading skills and investigate resources used by learners with hearing impairments during reading for comprehension. The study was guided by Knowle's theory of learning which stresses the need to motivate a learner in order for him or her to be purposeful and proactive in learning. The researcher used descriptive survey design to carry out the study. The study was conducted in two schools for learners with hearing impairments in Kisumu County. The target population of the study was the learners in class two, five and seven. The teachers were those who teach English and Kenyan sign language in the selected classes. In carrying out the study, the researcher used purposive and convenient sampling techniques. The research made use of questionnaires and observation checklists as tools for collecting data for the study. The data collected were analyzed using descriptive and inferential statistics. The key findings of the study were that learners with hearing impairments use look and sign method of reading, they employ reading strategies as those of their hearing peers with much difficulties, the learners with hearing impairments face serious challenges in reading for comprehension and that the learners need special learning resources during reading for comprehension activities. The major conclusions of the study were that the learners with hearing impairments use look and sign method to read and that the method is not suitable, the learners do not have a specific reading strategy, the learners face serious challenges in reading for comprehension and that the learners need special resources to aid them in reading for comprehension.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter focused on the background to the study, the statement of the problem, the purpose of the study, the objectives of the study, research questions, significant of the study, scope of the study, limitation and delimitations, theoretical and conceptual frame work and operational definitions of terms.

1.1 Background to the Study

Reading is a very critical skill to all human kind both the hearing and those individuals with hearing impairments. It is a communicative skill which allows one to appreciate what others have written in print. Reading is very important because it enables one to access information, read for pleasure as a way of relaxing, get direction among others. Hearing individuals read by converting printed letters into phonological code that feeds into their auditory language system (Azbel, 2004). This is a strategy that the hearing employ in coping with reading skill. Individuals with hearing impairments however do not have the ability to read by converting printed letters into phonological code because their auditory system is impaired. This leaves many wondering how the learners with hearing impairments learn to read for comprehension. Many scholars and researchers appreciate the fact that learners with hearing impairments face an uphill task in coping with reading for comprehension. Azbel (2004) attributes this difficulty to expressive skills used by learners with hearing impairments which involves the use of manual skills. He contends that sign language such as American Sign Language (ASL) has grammatical structure that is

completely different from that of spoken English, which is a prerequisite to reading skill. Deficit in reading skill by learners with hearing impairments seemingly is a global issue.

In America reading difficulties among learners or individuals with hearing impairments have been recognized as an area of serious concern. This is because such individuals are part of the wider society. Musselman (2000) says that in spite of a lot of efforts which have been put in place to alleviate reading difficulties among the learners with hearing impairments, most of these individuals with hearing impairments in the United States of America have significant low English reading ability. The difficulty is highly manifested among the learners with severe to profound hearing losses. Chamberlain (2002) argues that reading development is contingent on a fully developed primary language and that incomplete or inconsistency in signed or spoken language may affect the development of reading proficiency. The researcher further says that majority of children who are deaf are born to hearing parents who do not use sign language which is considered to be the first language of the Deaf. This inhibits first language acquisition which is the foundation on which the second language which in this case is English is developed hence creating a barrier to second language acquisition. The difficulty is even more complicated for the learners in situations where synonyms, complex vocabulary, metaphors and antonyms are involved. In recognition of the reading difficulty among the learners, a number of strategies have been put in place in America to improve reading ability for the learners. The strategies include use of technology such as cochlear implants which makes up for the damage in the auditory system hence enabling the individual to hear,

use of video clips with written words signed to provide understanding of the written words , direct instruction visual phonics programmes where the words are spoken into the learner's ear with visual cues provided as well as book sharing experiences where the parents share experiences or illustrations in the books with their children as early as possible to provide background information to the learner and early introduction to use of American Sign Language (Phillips, 2006. & Trezek, 2010).

In Netherlands, it has been documented that individuals with hearing impairments are weak in reading for comprehension. The difficulty is attributed to such learners' weaknesses in vocabulary. The learners with hearing impairments are said to know very few words compared to those who hear. Coppens (2012) concludes that the weakness in vocabulary of learners with hearing impairments is greatest when it comes to difficult words for which an in-depth understanding of their meaning is required. A limited vocabulary is the most serious difficulty inhibiting reading for comprehension among learners with hearing impairments. According to Coppens (2012), strategies that are being utilized by learners to overcome reading difficulty include early identification and use of sign systems, videotaped signs matched with words, sentences or stories as well as Cochlear implants which make up for the deficits in auditory ability.

In South Africa, reading difficulties among learners with hearing impairments have been recognized and appreciated as an area which needs much focus and attention. According to South Africa's Education paper number 6 of 2001, learners with hearing impairments tend to lag behind specifically in tasks which require reading for

comprehension. The reason for this is because education system in South Africa strongly supports the use of total communication which undermines South African sign language (Deaf SA, 1997). The paper therefore seeks to recognize South African sign language as a subject in schools as well as a medium of instruction. Strategies that have been employed are early use of South African sign language and videotaped signs matched with written materials with books full of illustrations.

Uganda just like the rest of the world finds itself in the same dilemma. Learners with hearing impairments in Uganda also experience difficulties in reading for comprehension. According to Baitwabusas (2011), look and sign method is widely used by learners with hearing impairments but has not yielded much in terms of how deaf cope with reading for comprehension.

In Kenya, reading for comprehension by learners with hearing impairments is a big challenge to the learners. The learners perform below average in tasks which require reading for comprehension. Mukangu (2008), attributes mass failure by learners with hearing impairments in social studies at Kenya Certificate of Primary Education (KCPE) level to poor reading ability by the learners. The grades learners get at both primary and secondary levels of education are usually very low making them to be less competitive in the world of academic and job. The study therefore seeks to investigate strategies adopted by learners with hearing impairments in coping with reading for comprehension and suggest strategies that may yield positive results. Learners with hearing impairments in Kisumu County just like in other regions too exhibit serious difficulties in reading comprehension. This has led them into

performing below average in most academic disciplines. The researcher therefore sought to investigate strategies that can be adopted for the learners to enhance their reading comprehension.

1.2 Statement of the Problem

Learners with hearing impairment continue to perform below average in most academic disciplines in Kenya. This is evidenced in the results of the National Examinations such as Kenya Certificate of Primary Education (KCPE) and Kenya Certificate of Secondary Education (KCSE) as revealed by National Analysis (National Quality Assurance and Standards Report of 2008 to 2012). The learners' performance in subjects that require extensive reading to enable them comprehend the written work shows serious difficulties they experience in reading comprehension tasks. Unfortunately for them, all examinable subjects designed for the learners with hearing impairments are presented in English language all of which must be read. The learners are expected to first of all read the instructions before embarking on the questions presented which are in English. This is in spite of the fact that scholars, such as Simeonsson & Rosenthal (2001), assert that learners with hearing impairments exhibit more serious problems in reading English language in general. According to Polloway, Patton & Serna (2008), the deficit in reading is thought to be the primary reason for failure in school. The deficit contributes to loss of self esteem and self confidence among learners with hearing impairments. Learners with hearing impairments in such regions as America, Netherlands have coped with reading difficulty by using videotaped written work and early use of American Sign Language as a way of learning to read (Philips, 2006). They have also coped by being subjected

to direct instruction visual phonic programmes as well as book sharing experiences (Trezek, 2010). It was against this background that that researcher investigated the strategies employed by learners with hearing impairments in enhancing reading for comprehension in class.

1.3 The Purpose of the Study

The purpose of this study was to investigate the strategies employed by the learners with hearing impairments to enhance reading comprehension in special primary schools for the deaf in Kisumu County, Kenya.

1.4 Objectives of the Study

The study aimed at achieving the following objectives:

- To determine the methods of reading used by learners with hearing impairments in reading for comprehension.
- To identify reading approaches used by learners with hearing impairments during reading for comprehension activities.
- To determine challenges faced by learners with hearing impairments in reading for comprehension.
- To investigate resources used by learners with hearing impairments in reading for comprehension.

1.5 Research Questions

- What are the methods used by learners with hearing impairments in reading for comprehension?

- What are the reading approaches used by learners with hearing impairment to cope with reading for comprehension?
- What are the challenges faced by learners with hearing impairment in learning reading for comprehension?
- What are the resources used by learners with hearing impairments in reading for comprehension?

1.6 Significance of the Study

The significance of this study was that the results obtained from the study would be used by Curriculum developers to develop suitable reading strategies to be adopted by learners with hearing impairments. The results would also help teachers of English language to guide their learners to adopt effective reading strategies to enable them read for comprehension.

1.7 Scope of the Study

This study was confined in studying the strategies adopted by the learners with hearing impairments in coping with reading skills in primary schools. The study was conducted in Maseno School for the Deaf and Senior Chief Onunga School for the deaf both in Kisumu County.

1.8 Limitations and Delimitations of the Study

1.8.1. Limitations

The limitations of the study included time constraint. Time limitation was big challenge given the tight schedule as per the graduate school requirement. Another

limitation was job demands where time management is a serious requirement. The researcher was required to perform all the duties in respect of code of conduct and ethics stipulated by the employer. This made the researcher to encounter time challenge. Financial constraint was another limitation because the study involved travelling, typesetting and printing of materials, internet browsing and downloading of some information which require huge sums of money.

The limitations however did not affect in any way the process and the outcome of the study since the researcher redesigned working schedule to include the study. The researcher also sought financial bailout from close relatives and friends.

1.8.2 Delimitations

Delimitations refer to the choices that the researcher made for the study and that were under the control of the researcher. They included researcher's control on the choice of the target population which was learners with hearing impairments, teachers and the head teachers, choice of research variables as well as research objectives which helped to guide the study

1.9 Theoretical Framework and Conceptual Framework

1.9.1 Theoretical Framework

This research work was guided by Knowles' theory of learning. According to Knowles, (1975) a special needs learner is a neglected species who needs to be motivated to learn in order to excel. Knowles emphasizes that learners should know why something is important to learn. The theory explains that learners should be

guided on how to search for information through reading. Knowles (1975), argues that learners who take the initiative in learning (proactive learner) learn more things and better than do retroactive learners. The proactive learners enter learning more purposefully and with greater motivation. Learners with hearing impairments however are not proactive learners but instead are retroactive meaning that they lack motivation to learning due to lack of purposeful reading, lack of prior knowledge of what they read as well as low self esteem. Reading as a skill requires that learners embrace self directed learning which emphasizes on the need for the learners to be proactive. The learners with hearing impairments therefore need to enter into reading more purposefully and with greater motivation. For this to happen, teachers of the learners need to inculcate the culture of self directed learning to the learners with hearing impairments.

1.9.2 Conceptual Framework

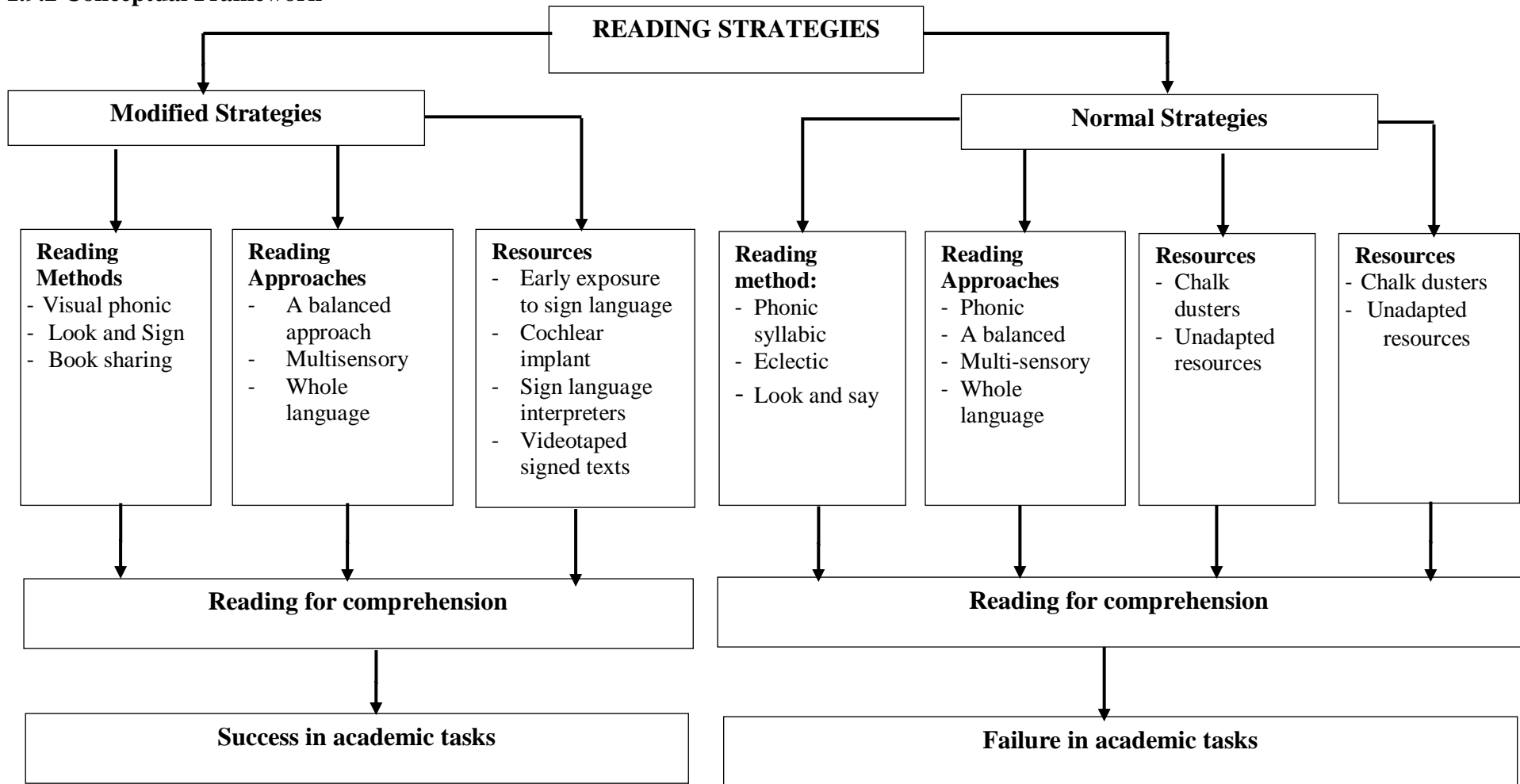


Figure: 1:1 Conceptual framework

In the above conceptual framework, there are set appropriate strategies that if used the learner acquires competence in reading leading to better performance in academic tasks. Inappropriate strategies if applied by learners with hearing impairments leads to difficulties in reading hence the learner performs poorly in subjects that require extensive reading skills for comprehension. This failure makes the learners to develop poor self concept and end up having difficulties in reading.

1.9.3 Operational Definition of Terms

Adopted: It means to take up and practice or use without any modification.

Cognition: In regard to reading, cognition was used to refer to the process of constructing meaning from a text.

Coping: Was used to mean struggle or deal with especially on even terms or with some degree of success.

Hearing impairment: An inability to hear well or not to hear at all.

Reading: A process which involves the active construction of meaning from text using linguistic knowledge and the decoding of letter and words as well as higher order process such as metacognitive strategies.

Sign language: Sign language is a type of language that uses hands, eyes, the mouth, body movements sometimes accompanied by gestures to communicate with individuals with hearing impairments.

Reading Strategies: Refers to deliberate, conscious techniques that readers employ to enhance their comprehension or retention of the textual information.

Reading competence: The ability to repeatedly perform a reading task to a given standard.

Reading for comprehension: The ability to read text, process it and understand its meaning.

First language: One's native language, the language learned by children and passed from one generation to the next.

Second language: A language other than mother tongue that a person or community acquires after mastering the first language.

Profoundly deaf: Totally deaf and unable to hear meaningful stimuli with or without the use of hearing devices.

Orthographic knowledge: It refers to the information that is stored in memory that informs us of how to represent spoken language in written form.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

In this chapter the researcher discussed related literature which included methods used in learning reading skills, patterns of reading development, reading approaches used by learners with hearing impairments, challenges faced in learning reading by learners with hearing impairments, importance of prior knowledge in reading for comprehension, resources required for learning reading skill, the influence of first language acquisition on development of second language and the differences in language structure between English and Kenyan sign language.

2.1 Methods used in Learning Reading Skills

According to Giggs (2000), there are four main methods of learning to read. The methods include phonic, syllabic, and eclectic and look and say methods. Phonic method is the best known and widely used method. It relies on children learning together the alphabet first. They learn the names of letters and the sounds they make. After which they begin to blend the two letters together to make simple words. Each word must be sounded out by the child in order to make meaning out of it by matching the sound with image for which the sound represents. Look and say method is another method where the child or learner is expected to look at the written word and say it. It sometimes entails saying a word without necessarily comprehending the meaning. For learners with hearing impairments, this method is all about look and sign. Unfortunately some words may not elicit a sign spontaneously making it very challenging for the learners to read for comprehension. Syllabic method is a method

where the use of consonant and vowel sounds are blended together to produce a syllable or phoneme. The syllables or phonemes form words, sentences and stories. Eclectic method of reading combines all the methods of reading which include phonic, syllabic and look and say.

The child with hearing impairments is at a disadvantage when expected to use the above methods of reading. Phonic method involves the use of sound through auditory process which for them is impaired. Syllabic method as well involves sounding of syllables which the deaf cannot do since many of them do not have speech. Look and say or sign is a better method but still poses a challenge because not all the words have their corresponding signs. Furthermore, they may provide just the sign without comprehending the meaning of the word.

Azbel (2004) carried out a study on the methods used by deaf learners to read at New York University entitled: How do the deaf read: The paradox of performing a phonetic task without sound. He used experimental research design, six randomly sampled participants whereby three were congenitally profoundly deaf while the other three were hearing participants who were fluent in ASL. Three congenitally profoundly deaf were the experimental group while the hearing was the control group. He found out that the deaf prefer reading while signing i.e. look and sign method. They sign read the prints but forget the previously read texts and hence missing the link between already read texts and the texts being read. According to him, the missing link is responsible for the deficit they experience in reading for comprehension.

2.2. Patterns of Reading Development

Reading development in individuals follows a particular pattern. Goff, Pratt & Ong (2005), assert that research supports memory. Spelling, vocabulary, grammatical knowledge and cognitive and language based skills as evidence for reading predictors in children. This implies that in a natural and normal setting reading development flows in the afore highlighted pattern. The population of individuals or learners with hearing impairments cannot rely solely on hearing sensitivity to aid in reading. It against this background that it is reasonable to assume that they may not follow the same patterns of reading predictors as of those with normal hearing (Kyle & Harris, 2010).

Research is inconsistent in determining predictors of reading success in learners or individuals who are deaf or hard of hearing. However, studies have contributed information toward the understanding of reading acquisition process by identifying factors that appear to impact on reading success. The most prominent of these factors is phonological awareness or the ability to access and manipulate speech sounds (Harris & Beech, 1998). Many researchers concur that phonological awareness has been depicted as a strong predictor of reading outcomes (Weinrich & Fay, 2007). Besides, phonological awareness factor, another factor which contributes to understanding of reading acquisition process is a learner's orthographic processing skill. Orthographic dependence or knowledge is a key area that many researchers propose is a fundamental skill and predictor of reading ability in learners with hearing impairments ie those who are deaf and hard of hearing (Miller, 2005). Orthographic knowledge refers to the information that is stored in memory that informs us of how

to represent spoken language in written form (American Speech and Language Hearing Association (ASHA), 2011). Learners with hearing impairments develop strategies for the acquisition of orthographic knowledge which does not rely on phonology (Miller, 2006).

Deacon, Benere & Castless (2012) assert that orthographic processing skills follow or track the outcome of reading acquisition rather than underpin its development. Their study found out that early word reading significantly predicted later orthographic processing ability after controlling for age, vocabulary and non- verbal reasoning, phonological awareness and earlier measures of orthographic processing skill. Deacon et.al (2012) concluded that children's ability to perform orthographic processing tasks is acquired through their reading process.

Research supports that while some individuals with severe – profound hearing impairments rely on phonological awareness, others use an alternate method to achieve reading success. The preferential use of one or other method may be driven by the child's language and educational history and the nurtured instruction of reading skills (Easterbrooks, Lederberg, Miller, Bergeron & Conner, 2008).

2.3 Reading Approaches Used by Learners with Hearing Impairments

Identifying the most effective way of approaching reading by young children has been the subject of fierce debate for a long time. There are a number of reading approaches that are commonly used. According to McCarthy (2015), some of the reading approaches mostly used by learners are phonics – based approach, whole –

language approach and a balanced approach. The phonics – based approach tries to create an association in the child’s mind between the graphemes (written symbols) and phonemes (sounds) of language (Carnine, Silbert, Kame’enui & Tarver, 2004). Through the use of repetitious exercises to drill this link between text and sound, a learner is expected to build a familiarity and comfort with the basic building blocks of written texts. Once the child has achieved this proficiency, he/she is then encouraged to blend the individual written elements together to produce whole words. Learners with profound hearing losses however do not benefit much from phonic reading approach since the approach emphasizes on use of sound since they do not perceive of stimuli presented in sound form.

Whole – language reading approach focuses on comprehension from the outset with learners being given continuous texts to read in order to build an understanding of vocabulary and meaning. These texts are short, often with words being repeated to help develop familiarity with certain key terms and concepts (Bomenge, 2010). Whole language approach is based on the learner’s rich vocabulary foundation which unfortunately is a big challenge to learners with hearing impairments whose main challenge limited vocabulary and ability to make meaning of read texts. Multisensory approach is an approach that engages more than one sense at a time (McCarthy, 2015). For children with reading issues like dyslexia, the use of sight, hearing, movement and touch can be helpful for learning. The principle of combining movement with speech and reading is applied at other levels of language learning as well. Learners may learn hand gestures to help them memorize the definition of a noun. Learners may manipulate word cards to create sentences or classify the words in sentences by

physically moving them into categories. According to Sibert et al. (2004), most teaching curriculums only cater to the auditory – visual learner. However for some students it is not natural for them to learn, this way they need to move more or learn through tactile projects. These same students that struggle so much to read, write, learn and understand have so many gifts they don't see. Multi sensory approach to reading hence is the most preferable approach to learners with hearing impairments as it provides them with an opportunity to use other senses since their auditory channel is impaired.

A number of scholars posit that there are no specific reading strategies that are specific to learners with hearing impairments. The strategies are generally those that are used by hearing learners. Banner (2010), asserts that deaf readers utilize similar cognitive strategies as their hearing counterparts. Phonological recording is one of the most effective early strategies for developing reading and is predictive of future reading success for hearing children (Ehri, 2005; Juel & Mindencupp, 2000; Share & Gur 1999). However, less is known regarding the extent to which young children who have hearing impairments develop and use phonological strategies to read words. It implies that learners with hearing impairments are forced to employ reading strategies meant for learners who hear. In developed countries learners with hearing impairments are therefore subjected to technological advances such as cochlear implants and digital hearing aids to cope. These technological advances provide learners with hearing impairments to have sufficient functional hearing to enable them perceive and represent spoken language (Geers, Tobey, Moog & Brenner, 2008).

Reading is a complex process which involves active construction of meaning from text using linguistic knowledge and the decoding of letters and words as well as higher order process such as metacognitive strategies (Banner, 2010). In regard to reading, cognition which is the process of constructing meaning from text and metacognition which involves readers' awareness of their own cognitive processes, recognition of comprehension, breaking down knowledge and ability to choose alternate strategies when comprehension fails is very important because through that, reading for comprehension is enhanced (Martin, 1991). There are four components of metacognition namely: Knowing when one comprehends, knowing what one comprehends, knowing what knowledge one needs to acquire in order to comprehend and knowing how to invoke strategies to improve comprehension (Schirmer & McGough, 2005). Duke & Pearson (2003), suggest that good readers are purposeful and active. Prior to reading, good readers activate prior knowledge while they routinely skim through text looking for information relevant to their reading goals as they read. Good readers constantly evaluate whether their goals are being met, frequently formulating predictions and read selectively. They find reading satisfying and productive (Treezek, Wang & Paul, 2010). To many less skilled readers, an unknown word or concept could lead to an irreparable breakdown in the overall comprehension of a text (Armbruster, Lehr, & Usborn 2001). Numerous research studies of hearing children have identified a strong positive correlation between metacognitive skill and reading comprehension ability indicating that good readers possess metacognitive awareness, enabling them to adjust their reading strategies, whereas poor readers do not (National Reading Panel, 2000). However, there are sparse research studies providing a comprehensive picture of the deaf readers' use of metacognitive strategies

and its role in comprehension (Schimer 2003: Treezek et al, 2010). A number of researchers conclude that deaf readers demonstrate significant deficit in the quantity and quality of reading strategies used (Moore & Martin 2006). Deaf readers continue to struggle with lower level text based skills such as word recognition and vocabulary comprehension and therefore do not develop higher level independent strategies, such as self-questioning, activating prior knowledge, inferring, predicting and monitoring for understanding.

The existence of such gaps in the reading by the deaf compels the researcher to find out the reading strategies that these learners employ and which strategies may be suitable for the learners with hearing impairments.

Banner, A and Wang², Y (2010), carried out a study on an analysis of the reading strategies used by adult and student Deaf readers. The location of the study was in Lexington school for the Deaf and Missouri state university in New York. They used a total of 11 participants sampled purposively. They used interviews and think aloud procedure as data collection instruments. The result of the research revealed that majority of deaf individuals with severe to profound hearing losses demonstrated lower level strategies and rarely constructed meaning on what they read. The readers did not exhibit any extra ordinary strategies in reading. The study suggested an investigation into reading strategies that learners with severe to profound hearing losses should utilize in text comprehension.

2.4 Challenges Faced in Learning Reading by Learners with Hearing

Impairments

Different scholars have carried out studies related to the challenges the learners with hearing impairments encounter while learning to read. Marshark (2009), posits that reading achievement among deaf learners is typically low compared to the hearing peers. The learners with hearing impairments face serious difficulties in phonic awareness (Harris & Beech 1998), vocabulary (Lasasso & Davey, 1987; Paul, 1996), Syntax (Kelly, 1996; Quigley, Wilbur, Power, Montanelli & Steinkamp, 1976), and the use of prior knowledge and metacognitive skills, (Jackson, Paul & Smith, 1997; Strassman, 1997). These factors affect the learners' development of literacy and hence making the learners to have difficulties with both low-level and high-level reading skills (Kelly, 1995, & Paul, 2001). An effective instructional reading program needs to address the development of skills such as word identification, word knowledge and comprehension (Loeterman, Paul & Dinahue, 2002). Marshark, (2006), however, claims that there is much that is not known about the learners who are deaf in reading. To him, the lack of progress in promoting deaf learners' reading achievement is largely the cause of the wrong direction taken. He strongly believes that the challenges in educating students who are deaf usually ascribed to reading and writing are not literacy related at all. Eisenbraun (2011) notes that learners who are hard of hearing or who are deaf use many communication approaches and this has many instructional implications. Unfortunately, some of these learners are in classes where the teacher does not know sign language and there is no provision of sign language interpreters. Eisenbraun (2011), also observes that there is no consensus among researchers, educators, parents and the individuals with hearing impairments about the

best reading strategies for learners who are deaf or hard of hearing. Chamberlain (2002) concludes that reading comprehension is contingent on a fully developed primary language and that incomplete or inconsistent signed or spoken language may affect the development of reading proficiency.

2.5 Importance of Prior Knowledge in Reading for Comprehension

Majority of learners with hearing impairments exhibit serious difficulties in reading for comprehension. One of the reasons advanced for their difficulty in reading for comprehension is their inability to activate prior knowledge. According to Armbruster, Lehr & Usborn (2001), majority of learners with hearing impairments are less skilled in reading due to inability to activate their prior knowledge. This inhibits their ability to relate what they have information about and the current text being read. The most important factor in determining how much readers will comprehend and how well writers will be able to communicate about a given topic is their level of knowledge about that topic. Interest in the topic is often related to prior knowledge (Allington & Cunningham, 2010). They contend that the importance of prior knowledge to comprehension and communication is included in virtually all modern theories of reading. According to Schema theory, prior knowledge provides a schema – a frame work or structure that helps thinking readers familiarity with a phenomenon. Comprehension and communication are so dependent on prior knowledge that children whose knowledge of a topic is limited, have difficulty comprehending much of what they read and difficulty communicating in writing about that topic. Children who read little have the least opportunity to acquire new knowledge through reading.

2.6 Resources Required for Learning Reading Skill

Ramsey (1997) observes that, for learners with severe to profound hearing impairments to approach print, they need access to an intelligible social context which also provides recourses for the task they have to do. The learning resources if well utilized would make learning to the learners real and more meaningful. Mitchell (2007) observes that learners who are deaf require support services and learning materials beyond the books, chalk, dusters and play materials. Top on the list of resources is the proficient use of sign language because it is a communicative resource.

According to Finnergan (1992), sign language especially American Sign Language is an efficient language and resource for visual learning and is sometimes considered to be an easier first language to acquire than any written or verbal form of English or any other spoken language. In Kenya, the Kenyan Sign Language is considered as the first language for persons with hearing impairments. The sign language should be introduced to the learners early enough in life. Unfortunately many children with severe to profound hearing impairments are born to hearing parents.

Julsrud (2011) asserts that 90% of deaf children in USA are born to hearing parents. This means that the children lack early language stimulation. Goldin-Meadow and Mayberry (2001), suggest that individuals with good signing skills may be better readers than individuals with poor sign language skills. Chamberlain (2002) on the other hand argues that reading development is contingent on a fully developed primary language and that incomplete or inconsistent sign language may affect the

development of reading proficiency. Other resources include the use of videotaped signed written texts, pictures and real objects matched to written text and human resource such as competent teachers and interpreters. A beginner in reading learns to read by looking at English print while the teacher, parent or instructor interprets the story in sign language. Accessing videotaped signed texts is not really easy much as it is hard to get pictures of all English words and vocabularies. In this study therefore, the research endeavored to find out the resources used to teach reading to learners with hearing impairments in primary schools.

2.7 Influence of First Language on Acquisition of Second Language

The language acquisition theory advanced by Krasher's theory on second language acquisition, suggests that the acquisition of a language has to occur within some environment, setting and in consonance with some social aspects of the human existence. The learners with severe to profound hearing impairments have some modes of communication which they acquire within their family cycles and in the community at large. Such modes of communication become the first language to these learners and are largely gestures or natural signs. The school programme/curriculum demands that the learners including those with hearing impairments learn another mode of communication while at school. For that reason, Kenyan Sign Language becomes the very first option mode. This mode of communication is put into work by the teachers, who have been exposed to it or the learners learn it during out of class activities.

Schutz (2007), states that language acquisition does not require extensive use of conscious grammatical rules and does not require tedious drill. Krashen (2003) goes further to state that acquisition of language requires meaningful interactions in the target language in which speakers are concerned not with the form of their utterances but with the messages they are conveying and understanding. Reading in both first and second language contexts involves the reader, the text and the interaction between the reader and the text where the reader pays attention to written prints and gets information from the written piece of information. Reading in first language shares numerous important basic elements with reading in a second language but first language offers foundation because through it prior knowledge of contents which is a prerequisite for reading comprehension is easily anchored.

According to Singhal (1998), second language learner uses first language knowledge and various strategies to facilitate their learning of target language in such language skills as speaking, reading and writing. This phenomenon in which knowledge acquired in first language is used to learn contents in second language is known as language transfer. Transfer occurs consciously as a deliberate communication strategy, where there is a gap in the learner's knowledge and unconsciously either because the correct form is not known, although it has been learnt, it has not completely been internalized (Benson, 2002). As people learn language, they develop certain skills which enable them to comprehend what they read and naturally transfer the skills learned in first language to the second language. O'Malley and Chamot (2004), define transfer as the use of previous linguistic or prior skills to assist comprehension or production on the new skills. This indicates that while reading in a

second language learners transfer their first language knowledge or skills so that they can comprehend information presented in written form in second language.

Learners with hearing impairments have sign language as their first language. Unfortunately it is never always their first language depending on their families' background. Deaf learners born to hearing families get their first language in their schooling time. Before going to school, they use natural signs and body languages which are as varied as the families they come from. Sign language becomes almost a second language to them making English which may be the medium of instruction and extensively used in reading as third language. Those born to deaf families acquire sign language early enough hence use their first language knowledge to acquire second language which in this case is English language. The variation in the first language acquisition is likely to impede acquisition of skills in the second language. It is hence necessary to investigate when learners with hearing impairments acquire their first language and its influence on development of second language skills.

2.8 Differences in Language Structure between English and Kenyan Sign

Language

A look at the language structure between English and Kenyan sign language shows very significant differences. Whereas Kenyan Sign Language is developed using English words its language structure greatly deviates from that of English language. This observation is supported by early researchers such as Newport & Meier (1985), who found that American Sign Language does not ease the task of learning to read because of its lack of congruence with the linguistic structure and vocabulary of

written English. According to Julsrud (2011), the verb and adverb structure in English is complex and difficult to learn radically different from the more concise nature of sign language. Signed sentences are typically made up of nouns and adjectives strung together and heightened by facial expressions. For example, “you are smart” in written English may become, “YOU SMART//. The subject verb object structure in English language for a statement differs from that of Kenyan sign language structure which is object subject verb.

For example: Mother is cooking beans (English) will become BEAN MOTHER COOK NOW// (KSL). Furthermore punctuation in Kenyan Sign Language and English are not anywhere similarly. Full stop which is shown by a dot (.) in English, is indicated by use of double stroke (//) in KSL, a coma which in English language is shown by a sign (,) is shown by a single stroke (/) in Kenyan sign language. Interrogative sentences introduced by Wh-and H- questions in English are written at the end with a line supporting the question mark in KSL.

Examples

1. I go to church – CHURCH ME GO//
2. Why are you late? - YOU LATE $\frac{?}{\text{WHY}}$

Other discrepancies exist in tense indication and glossing. Whereas in English the tenses are indicated by tense markers and change in form of verbs, tenses in Kenyan sign language are indicated either at the beginning or end of a sentence. For example; The baby is crying- BABY CRY NOW// Sentences in English are written in small case unless for the first letters of proper nouns and letters of words starting a sentence.

In Kenyan Sign Language glossing is applied where all words in sentences are written in upper case for example, My father is sick - FATHER MINE SICK//

Comparison of language features between English and Kenyan Sign Language

A comparison of the two languages show glaring discrepancies which may be a contributing factor attributable to reading needs experienced by learners with hearing impairments in reading for comprehension. The compared features include tense markers, plural forms, punctuation and sentence structures.

Tenses in English and Kenyan Sign Language

A language becomes a communicative tool if its tense markers are used appropriately. The correct use of tense directs the reader or the recipient of the information on the flow of information and helps decode the intended meaning of the information.

In order to indicate tense in English language, the tense markers are embedded on the main verb of the sentence. Past tense for instance is shown by changing the verbs by adding – d or – ed on regular verbs or changing the irregular verbs in different ways to show past tense. For example, I stayed at home yesterday.

-ed shows past tense even if the word yesterday is not there. In Kenyan Sign language, the sign for PAST is made then the rest of the words are signed or written without tense marking.

For example,

English	KSL
I stayed home.	PAST HOME ME STAY//

The trend is the same for other tense markers for future tense, past participle tense, present participle tense etc whereby in English language the tense markers are embedded on the main verbs but in Kenyan Sign language the tense markers are either made at the beginning or the end of the sentences.

Plural Forms

Plural forms in English language are indicated by addition of – s or – e.s. for regular nouns and different changes on irregular nouns to show plurals. In Kenyan Sign language the plural forms are indicated by using sign for MANY with the target sign, use of double articulation, reduplication or use of sign for a number with a target sign

For example

English	Kenyan Sign Language
I like mangoes.	MANGO MANY ME LIKE//

(Kenyan Sign Language Syllabus, 2004)

In view of the above discrepancies, it is evident that the structure of the two languages differ Azbel (2004). According to Edwards (1997), learners with hearing impairments are at a disadvantage in making sense of what they read because they do not have access to the same cue systems as the hearing whose English language is closest to that of written English. Kenyan sign language structure is not that close to written

English. The discrepancy drove the researcher to find out the strategies the learners with hearing impairments employ to cope with reading comprehension in spite of the above mentioned discrepancies between the structures of the two languages.

2.9 Summary

The chapter reviewed related literature to the study which included methods used in learning reading skills, patterns of reading development, reading strategies employed by learners with hearing impairments, challenges faced in learning reading by learners with hearing impairments, importance of prior knowledge in reading for comprehension, resources required for learning reading skill, influence of first language on acquisition of second language and differences in language structure between English and Kenyan Sign Language. After reviewing the literature, glaring gaps have been noticed which need to be bridged in order for learners with hearing impairments to cope adequately with reading for comprehension. The methods used in learning are particularly beneficial to the hearing and not to the learners with hearing impairments because they involve the use of sound which can only be accessed through auditory channel. Look and sign method also poses a challenge to the learners with hearing impairments due to their low vocabulary mastery. The learners do not follow the normal pattern of reading development due their impaired auditory channel. The learners also exhibit an inability to activate their prior knowledge hence are unable to relate what they already know and the current texts being read. There seems to be no universal reading strategies available for learners with hearing impairments. In addition, resources required to learn reading by learners with hearing impairments are very expensive and not easily available. Learners with hearing

impairments born of hearing parents lag behind in first language acquisition inhibiting second language development. This leads to deficit in reading ability by learners with hearing impairments. The difference in the language structure of the two languages seemingly increases these learners' difficulties. The study therefore sought to find solution to the gaps identified.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presents a discussion on research design, research variables, location of the study, target population, sampling techniques and sample size, research instruments, piloting of research instruments, validity and reliability of research instruments, data collection techniques, data analysis, logistical and ethical considerations and a summary of the chapter.

3.1. Research Design

The researcher used descriptive survey research design because it ensured systematic collection and analysis of data which gave answers to research questions of this study. Descriptive survey design was also chosen because it was most appropriate for this study which was majorly an educational fact finding and it yielded a great deal of information which was accurate. It enabled the researcher to gather data at a particular point in time and the researcher used the data to describe the existing condition in as far as reading strategies learners with hearing impairments adopt to enhance reading comprehension. Survey method was highly efficient in this study because it brought large volume of data amenable to statistical treatment since data was presented in numerical value.

3.1.1 Research Variables

The study had two variables namely Independent variable and Dependent variable.

3.1.1.1. Independent Variable

The independent variable for the study was reading strategies adopted by learners with hearing impairments.

3.1.1.2 Dependent Variable

The dependent variable for the study was reading for comprehension.

The independent variable ie reading strategies was subject to manipulations which in turn lead to dependent variable being positive or negative as far as the outcome of the study was concerned. In this study suitable strategies were expected to enhance reading comprehension while unsuitable strategies could lead to reading difficulties.

3.2 Location of the Study

The study was conducted in two schools for learners with hearing impairments namely Maseno School for the Deaf and Senior Chief Onunga School for the Deaf both in Kisumu County in Kenya. As at the time of research, Kisumu County had only two schools for learners with hearing impairments with a total population of approximately 241 learners (Kisumu county Quality Assurance and Standards Statistics, 2014). Maseno School for the deaf is in Kisumu West Sub County while senior chief Onunga School for the deaf is in Kisumu East Sub County both in Kisumu County. The two schools admit learners with hearing impairments from all over the country and beyond.

3.3 Target Population

The target population of the study comprised of all teachers of English language and Kenyan Sign Language as well as learners with hearing impairments in Kisumu East and Kisumu West sub Counties of Kisumu Counties in Kenya considering gender. The total number of teachers was 34 including two head teachers with all the learners with hearing impairments in primary schools totaling to 241 learners.

3.4 Sampling Techniques and Sample Size

3.4.1 Sampling Techniques

The researcher used purposive sampling technique to select the two schools of learners with hearing impairments in the county. Purposive sampling technique involves selecting samples using set criteria such as types of school (Orodho, 2008). For this study, the school types in this case were the two special primary schools for the learners with hearing impairments namely Maseno School for the deaf and Senior Chief Onunga School for the deaf. Furthermore, the two schools were purposively selected because they were easily and conveniently accessible.

Purposive sampling technique was also used to sample the teachers and the head teachers of the two special primary schools for learners with hearing impairments because the teachers were directly involved in facilitating reading for comprehension among learners with hearing impairments in the two schools. The teachers sampled were those who taught English language and Kenyan Sign language in standard two five and seven.

To sample the learners to be observed, the researcher used convenient sampling technique. This was based on the availability of learners (respondents) at the time of data collection because the learners with hearing impairments report late to school after holiday vacation. Besides one of the sampled schools was a mixed day special primary school attracting learners from the slums and flood prone areas.

The learners sampled for the study were those whose hearing loss ranged between severe to profound and are the ones normally placed in special schools. The learners did not make use of hearing aids since the aids did not assist learners whose hearing loss levels range between severe to profound. The study thus did not use learners whose hearing loss levels ranged between mild to moderate and made use of hearing aids.

3.4.2. Sample Size

The researcher sampled 12 teachers and 2 head teachers for the study. The teachers for the study were a teacher for English language and Kenyan sign language in the three classes selected for the study in each of the two schools for learners with hearing impairments. The sampled classes were drawn from lower, mid upper and upper primary school levels. In lower primary level class 3 was conveniently sampled, class 5 to represent mid upper and class 7 represented upper primary. Two learners a boy and a girl were conveniently sampled in each sampled class in the two schools. The 2 head teachers for the 2 schools were sampled purposively by virtue of being the administrators of the 2 sampled schools. This meant that 12 teachers, 2 head teachers and 12 learners were sampled for the study.

Table 3.1: Respondents' sampling frame

School	Head teachers	Teachers	Learners	Total
Maseno	1	6	6	13
Onunga	1	6	6	13
Total	2	12	12	26

3.5 Research Instruments

The research was carried out using questionnaires and observation checklists as research instruments to collect data for the study. The researcher used questionnaires to collect data from the teachers and the head teachers and observation checklists to collect data from the learners.

3.5.1 Questionnaires for Teachers and Head teachers

The questionnaires used to collect data from the sampled teachers and head teachers of learners with hearing impairments contained both closed and open ended questions and were used to collect quantitative data. Questionnaires were preferred as data collection instruments because they provide respondents with freedom to respond to the questions at their own time without coercion or intimidation i.e. they are free from bias of the interviewer (Fraenkel & Wallen, 2008). The questionnaires are also cost effective on the side of time. The questions were customized to focus on the research objectives and were developed by the researcher with the guidance of supervisors

3.5.2 Observation Checklists for observed data

Observation checklists were used to collect data from the learners with hearing impairments. The researcher used observation checklists to observe the learners as they were engaged in learning reading for comprehension in classroom setting through participatory approach. These instruments assisted the researcher to observe the behavior of learners during reading sessions. The learners were subjected to tasks which were used to ascertain their comprehension of the read texts. The observation provided the researcher with first hand information of reading situation of the learners

3.6 Pilot Study

Pilot study is the trying out of a study in a smaller scale to determine if the study will produce the expected results or not (Mugenda and Mugenda, 1990). It is a rehearsal of the real or main survey that helps to ascertain the validity and reliability of research methods and instruments. Piloting study of the research instruments was done prior to the launch of the actual study to ensure that all the items in the research instruments were clear and to guard against any ambiguity of the items. The pilot study was done in the neighbouring County of Siaya at Nina special primary school for the Deaf. Peters (1994) observes that it is highly desirable to run a pilot on a questionnaire and to revise it based on the result of the test. The feedback obtained from the pilot study was used to restructure the items on the data collection instruments in order to make the items clearer. The respondents' concerns raised during piloting were taken note of and addressed in preparation for the implementation phase.

3.6.1 Validity of Research Instruments

The researcher endeavored to ensure that the research instruments which included questionnaires and observation checklists were valid. The researcher ensured that the items in the research instruments were based on research objectives and measured what they were meant to measure. The content validity of the instruments was ensured by the use of expert assessment procedure. The expert assessment procedure involved a repeated administration of research instruments through the guidance of my supervisors who are lecturers in the department of special needs education in Kenyatta University until a desirable content validity index of 0.82 was attained. Validity index above 0.7 is always considered desirable.

This was calculated using Spearman rank order correlation formula below

$$Rho = \frac{1 - 6\sum D^2}{n(n-1)}$$

Rho = Spearman correlation index.

D = Difference in rank for a pair of scores.

n = number of scores within the each distribution.

3.6.2 Reliability of Research Instruments

Reliability is a measure of the degree to which a research instrument yields consistent results or data after repeated trials (Mugenda and Mugenda, 1999). Reliability of research instruments in this study was ensured through test – retest technique. To achieve this, the researcher administered questionnaires to a sample of six pairs of

respondents in a special school in the neighbouring county of Siaya at Nina special primary school. The administration of the questionnaires was repeated using the same instruments after 14 days. The respondents were different from those who participated in the pilot exercise. The results of the two tests were correlated using Pearson moment correlation coefficient to give a recommended minimum value of $r_{xy} > 0.7$.

This was calculated using the following formula

$$r_{xy} = \frac{\sum x-y}{\sqrt{\sum x^2 - \sum y^2}}$$

Where x – Response from first test

Y – Response from retest

r_{xy} – Person moment correlation

Both questionnaires and observation checklists were checked for reliability before the roll out the research with correlation coefficient of 0.78 and 0.80 respectively achieved.

3.7 Data Collection Techniques

The researcher got an approval letter and letter of introduction from Graduate School of Kenyatta University to use in seeking permission to collect data from the sampled schools from the National Commission for Science Technology and Innovation. Upon receipt of permission from the National Commission of Science Technology and Innovation, the researcher used the permit to further seek permission from Kisumu East and Kisumu west sub – county directors of Education. The permission letters from the respective sub county directors were in turn used by the researcher to

seek permission from the heads of the two institutions of learners with hearing impairments in order to carry out research in the institutions.

After obtaining permission from the relevant authorities, the researcher personally distributed the questionnaires to the respondents in their respective schools and asked them to respond to them following the instructions on them. The researcher personally went back to the schools to collect the filled in questionnaires from the respondents after an interval of two weeks. The questionnaires were administered to 12 teachers and 2 head teachers.

The researcher also made arrangements with school head teachers and English and Kenyan Sign Language teachers in order for the researcher to attend some reading lessons to observe and indicate observations on the observation checklists. The researcher observed 12 learners with hearing impairments who were sampled.

3.8 Data Analysis

Being a descriptive survey research design, the researcher analyzed data from the questionnaires and observation checklists using descriptive statistics as well as inferential statistics. The researcher presented data using tables of frequencies, bar-graphs, histograms and pie charts to give the status of the existing conditions. The data was after then interpreted using inferential statistics which included percentages, means and standard deviations. These were made possible through the use of Statistical Package for Social Scientists (SPSS) analysis soft ware.

3.9 Logistical and Ethical Considerations

The researcher ensured that the title chosen for the study was not lifted from another work of the same content. All cited work of other researchers which were not researcher's own work, were duly acknowledged by the researcher. The researcher further followed the laid down procedure by the university in obtaining permit and permission to carry out the study.

The researcher also took keen note of confidentiality issues by making confidential all the responses obtained through questionnaires and observation checklists. The researcher also informed the participants of their rights of participation or non-participation in the research process as well as the purpose of the research which was basically a requirement for the attainment of a Master's degree.

CHAPTER FOUR

FINDINGS, INTERPRETATION AND DISCUSSIONS

4.1. Introduction

The purpose of the study was to investigate the reading strategies adopted by learners with hearing impairments in reading for comprehension in special primary schools in Kisumu County. This chapter therefore presents the findings, interpretation and discussion of research study.

In presentation of findings, interpretation and discussion of the study, the head teachers' responses and those of the teachers were analyzed together. The head teachers were two while the teachers were twelve in number giving a total of fourteen. The researcher therefore discussed the findings with a total of fourteen teachers which comprised the head teachers and the teachers.

The objectives of the research were:

- a) To determine the methods of reading used by learners with hearing impairments in reading for comprehension.
- b) To identify reading approaches used by learners with hearing impairments during reading for comprehension activities.
- c) To determine challenges faced by learners with hearing impairments in reading for comprehension
- d) To investigate resources used by learners with hearing impairments in reading for comprehension.

4.2. Demographic Information

Demographic information included gender distribution of the respondents, level of education, working experience and their age

4.2.1. Gender of the respondents

Gender of the respondents who participated in the study is presented in table 4.1

Table 4.1: Gender of the respondents

Variable	Category	Frequency	Percentage
Gender	Male	5	35.71%
	Female	9	64.29%
i) Teachers	Male	6	50%
	Female	6	50%
Learners	Male	6	50%
	Female	6	50%
Total		26	100.00

Table 4.1 shows that 9 representing 64.29 % of the teachers of learners with hearing impairments in special primary school for the deaf were females 5 (35.71%) of the respondents were male while 6 learners representing 50% were female and 6 (50%) were males. The study shows that majority of teachers of learners with hearing impairments in Special Primary Schools for the Deaf fall under female categorization of gender. This is a positive trend since many learners with hearing impairments require more time to comprehend skills in reading comprehension activities calling for patience from their teachers, a quality majorly present in majority of female teachers This finding supports Dewar (2013) who found out that lady teachers have

more influence on learners' achievement because majority of them exercise patience. He reported that majority of them adjust to level of their students only interact with them educationally.

4.2.2 Level of education of respondents

The level of education of the respondents who took part in the study is presented in Table 4.2.

Table 4.2: Level of education of teachers

Respondents	Level of education	Frequency	Percentage
Teachers	Masters	1	7.14%
	Bachelor	7	50%
	Diploma	4	28.57%
	Certificate	2	14.29%
Total		14	100%

Table 4.2. Shows that 7 representing 50% of the respondents were holders of bachelor degree in special needs education, 4 (28.57%) were Diploma holders, 2 (14.29%) of them were certificate holders (P1) while 1 (7.14%) of the respondents was a holder of Master's degree. The finding shows that half of the teachers of learners with hearing impairments are highly skilled in teaching the learners. The teachers hence only require an enabling environment, commitment, patience and adequate teaching/learning resources to be able to meet the diverse needs of the learners with hearing impairments. This finding supports Clotfelter, Ladd and Vigdor (2007) who reported that high level of education of teachers and the length of time teachers take with learners has a positive impact on learners' achievement. The more educated and

experienced teachers have had to do with differentiated approaches to teaching which benefit learners.

4.2.3 Teaching Experience of the Teachers and Head teachers

Teaching experience of the teachers and head teachers who participated in the study was sought in order to provide evidence of how teachers had worked with the learners. The findings are presented in Table 4.3.

Table 4.3. Teaching experience of the teachers and head teachers.

Teaching Experience			
i) Teachers	Below 5 years	2	14.29%
	5-10 years	4	28.57%
	Above 10 year	8	57.14%
Total		14	100%

Table 4.3 shows that majority of respondents 8 representing 57.14% had a teaching experience of more than 10 years in their current working stations, 4 (28.57%) had a teaching experience of between 5 – 10 years while 2 (14.29%) had a working experience of below 5 years. This implies that slightly more than half of teachers had taught in the schools for a longer period of time and were quite conversant with strategies that learners with hearing impairments adopted during reading for comprehension. It also implies that the teachers were aware of the challenges the learners faced in reading comprehension tasks. It was also noted that both the head teachers of the schools who participated in the study had working experience of more than 10 years. This implied that the head teachers too were quite experienced in the

education of learners with hearing impairments. They were conversant with reading comprehension needs of learners with hearing impairments

4.3. Methods of Reading Used By Learners with Hearing Impairments

The study sought to determine reading methods that learners with hearing impairments used during reading for comprehension activities. The teachers were asked to indicate reading methods learners with hearing impairments applied in reading. The results are indicated in Figure 4.1.

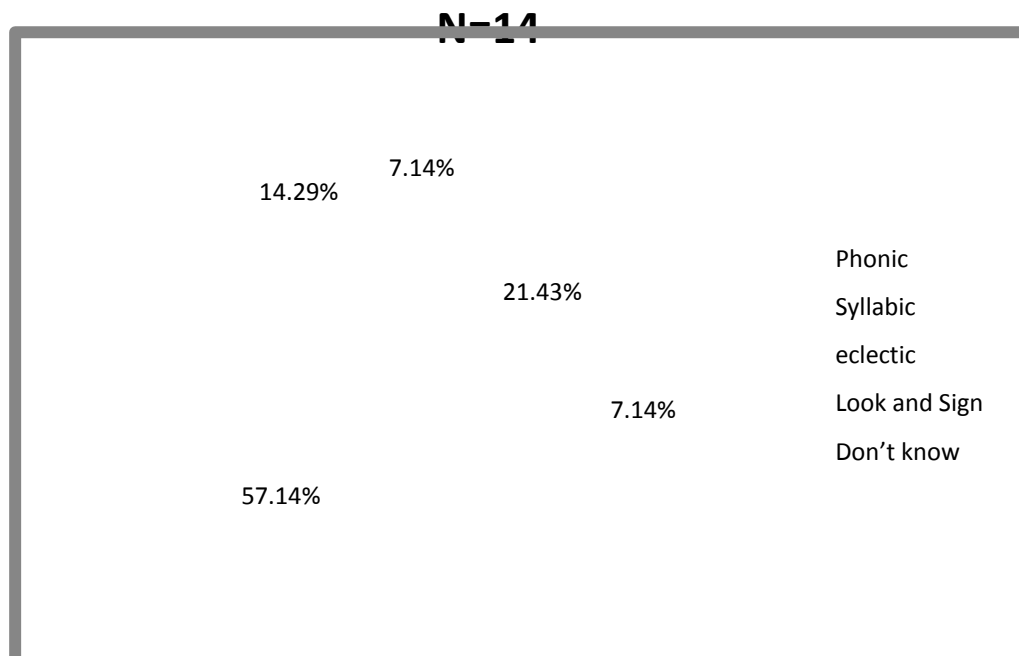


Figure 4.1: Methods of reading used by learners with hearing impairments in Reading for comprehension

Figure 4.1 shows that majority of the teachers of learners with hearing impairments 8 (57.14%) reported that the learners applied look and sign method which is a replica of look and say method that is quite often used by hearing learners. Three (21.43%) of

the teachers reported that the learners with hearing impairments used syllabic method, 2(14.29%) of the teachers indicated that they did not know the methods of reading used by learners with hearing impairments. One (7.14%) of the teachers reported that learners with hearing impairments used phonic method. No teacher suggested eclectic method.

The finding of the study shows that more than two thirds of teachers of learners with hearing impairments use look and sign method of reading.

This finding supports Giggs (2002) who observed that look and say method which is a replication of look and sign method used by learners with hearing impairments is a method whereby the learner looks at a written or printed letter, word or sentence and says or signs it. He further explains that the method sometimes entails saying a word without necessarily comprehending its meaning. For learners with hearing impairments an unfamiliar word may not elicit spontaneous sign. For such words learners with hearing impairment embrace finger spelling. They finger spell the unfamiliar words because they do not have signs for the words. Finger spelling is sign system in which learners with hearing impairments form letters of the alphabet on their fingers. Azbel (2004) reports in his study on the paradox of performing a phonetic task without sound that the deaf prefer reading while signing whereby they use look and sign method.

However, Look and sign method though widely used by majority of learners with hearing impairments especially those with severe to profound hearing losses it is not

very suitable in reading for comprehension because in an event that the learners encounter unfamiliar words. This is because they tend to finger spell most words hence causing a disconnect in the comprehension of the task being read.

In order to triangulate data for the study, the researcher went further to observe the learners with hearing impairments in a classroom setting to determine the methods of reading the learners employed during reading for comprehension activities. The results are shown in Figure 4.2.

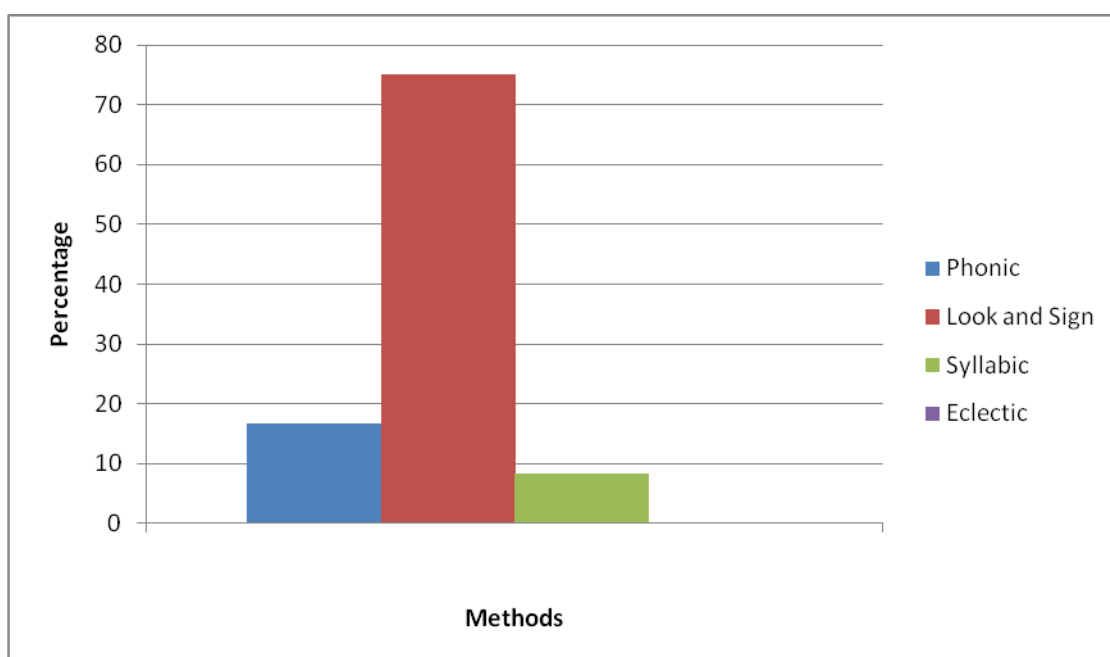


Figure 4.2: Methods of reading that learners with hearing impairments used in reading for comprehension.

Figure 4.2, shows that 9 representing 75% of learners with hearing impairments used look and sign method of reading during reading, 2 (16.67%) of the learners used

phonic method while 1(8.33%) of the learners used syllabic method of reading. None of the learners used eclectic method.

The finding shows that three quarters learners with hearing impairments use look and sign method in reading. The researcher found out that the learners who used look and sign method were either severe or profound deaf while those who used phonic method were post-linguals. This was an indication that learners with hearing impairments whose hearing losses range between severe to profound rely on manual mode of communication. Manual mode of communication refers to the use of sign language and finger spelling for communication. Post-lingual learners are learners with hearing impairments who became deaf or acquired hearing loss after developing speech and language. The post-lingual learners used phonic method of reading because they had acquired some speech and were able to use sound in an attempt to verbally articulate the written texts.

The finding supports Baitwabusas (2011) who found out that look and sign method of reading is widely used by learners with hearing impairments in Uganda. According to Baitwabusas (2011), look and sign method of reading preferred by learners with hearing impairments has not yielded much in terms of how the learners with hearing impairments read for comprehension. This is due to the fact that the learners only sign familiar words and where they encounter an unfamiliar word they fingerspell the words without necessarily comprehending the meaning of the finger-spelt words. Due to that, a disconnect is created hence inhibiting reading for comprehension. The finding also supports Mukangu (2008) who attributed mass failure by learners with

hearing impairments in Social studies at Kenya Certificate Primary Education level to poor reading methods that the learners used. He found out that learners used look and sign method when reading but contended that Social studies contained sentences with abstract words which were too difficult for learners with hearing impairments to conceptualize. Social Studies as a subject require thorough reading for comprehension because many of the questions are quite abstract and hence learners need to have good literacy skills which are not anchored in look and sign method.

According to Deacon, Benere & Castles (2012), the learners with hearing impairments use look and sign method which does not enhance orthographic processing skill. Orthographic processing skill refers to the information that is stored in memory which informs on how to represent spoken language in written form. This is lacking in majority of learners with hearing impairments because they do not possess phonological awareness (Weinrich & Fay, 2007).

The finding also supports Apel (2011) who reported that orthographic knowledge depends upon the understanding of both grapheme representations and orthographic rules of a language. This means that a learner ought to master classes of letters or syllables representing phonemes which are smaller meaningful units that make up words in order to activate information he or she has stored in memory.

This informs the learner on how to represent spoken language in written form and vice versa. The finding support Baitwabusas (2011) who attributes lack of orthographic processing skill in look and sign method of reading to the serious

difficulty experienced by learners with hearing impairments in reading for comprehension tasks. These difficulties are associated with the learners' inability to activate their prior knowledge as a result of the hearing impairment.

4.3.2. Competence of Learners with Hearing Impairments in Reading Ability

In an attempt to find out the competence of learners with hearing impairments in reading ability, the teachers of learners with hearing impairments were asked to indicate whether or not learners with hearing impairments were competent in reading ability. The results are indicated in Table 4.4

Table 4.4: Competence of learners with hearing impairments in reading ability from questionnaire

Responses	Frequency	Percentage
Yes	4	28.57
No	10	71.43
Total	14	100.00

Table 4.4 shows that 10 (71.43%) of teachers of learners with hearing impairments reported that learners were not competent in reading ability while 4 (28.57%) reported that the learners were competent in reading ability. This finding shows that majority of learners with hearing impairments are not competent in reading comprehension ability implying that the learners experience serious difficulties in tasks requiring them to read for comprehension.

This finding support Deacon, Benere & Castles (2012) who revealed that learners with hearing impairments use look and sign method which does not enhance the learners' orthographic processing skill. They contend that orthographic processing skill which refers to information that is stored in memory and informs individuals on how to represent spoken language in the written form is lacking in majority of learners with hearing impairments. This is so because they do not posses phonological awareness. The finding also supports Apel (2011) who observed that orthographic knowledge depends upon the understanding of both mental grapheme representations and orthographic rules of a language. The orthographic rules of a language provide the pattern which ensures appropriate language acquisition. The pattern systematically flows from memory, spelling, vocabulary, grammatical knowledge and cognition to language based skills. The flow of pattern of reading development to a learner is an evidence of reading predictors.

The learners with hearing impairments were therefore not competent in reading ability because as observed in the findings, they possessed limited vocabulary as result of their inability to activate prior knowledge due to their poor memory. The learners were found to be very forgetful hence were not able to relate past experiences with the current information presented in written form. They did not possess the required pattern of language development as a result of their impairment.

In order to triangulate data for the study, the researcher also sought to find out the competence of learners with hearing impairments by observing them during reading lessons and indicating whether or not the learners were able to read competently at

their grade levels. The learners were given reading tasks according to their grades to read answer specific questions from the read texts and observed. The results are shown in Table 4.5.

Table 4.5: Competence of learners with hearing impairments in reading ability from observation.

Responses	Frequency	Percentage (%)
Able to comprehend	3	25
Unable to comprehend	9	75
Total	12	100

Table 4.3 shows that majority of learners with hearing impairments 9 (75%) were not able to comprehend the task. Only 3 (25%) of the learners with hearing impairments were able to comprehend the read task.

The finding shows that three quarters of learners with hearing impairments were not able to read and understand while only a quarter of them were able to read for comprehension. This was due to the fact that the learners employed unsuitable reading methods. The learners also had limited vocabulary besides facing limitations in the flow of development of literacy skills and pattern of language acquisition and development.

The finding supports Baitwabusas (2011) who found out that the most undoing for learners with hearing impairments in reading is the use of look and sign method. She confirms that, look and sign method which lacks orthographic processing skill which

is widely used by learners with hearing impairments in Uganda and has been confirmed to disadvantage them in reading tasks. The finding also supports Duke & Pearson (2003), who note that learners with hearing impairments are not competent in reading ability because they are not purposeful and active readers. Both authors contend that learners with hearing impairments do not activate prior knowledge which is a prerequisite to purposeful and active reading. Moores & Martin (2006), conclude that deaf readers demonstrate significant deficit in quality of reading strategies hence making them to experience serious difficulties with respect to competence in reading ability.

Learners with hearing impairments are therefore poor readers who lack competence in reading ability. This is attributed to methods of reading they use coupled with a number of factors which include the fact that the learners are not purposeful and active readers. The learners as earlier observed lack orthographic processing skill and hardly activate their prior knowledge.

4.3.3 Responses of Learners with Hearing Impairments on Reading

Comprehension Questions

The study intended to investigate how learners with hearing impairments responded to questions requiring reading for comprehension. The teachers of learners with hearing impairments were asked to rate response of the learners with hearing impairments on reading comprehension questions. The results are shown in figure 4.3.

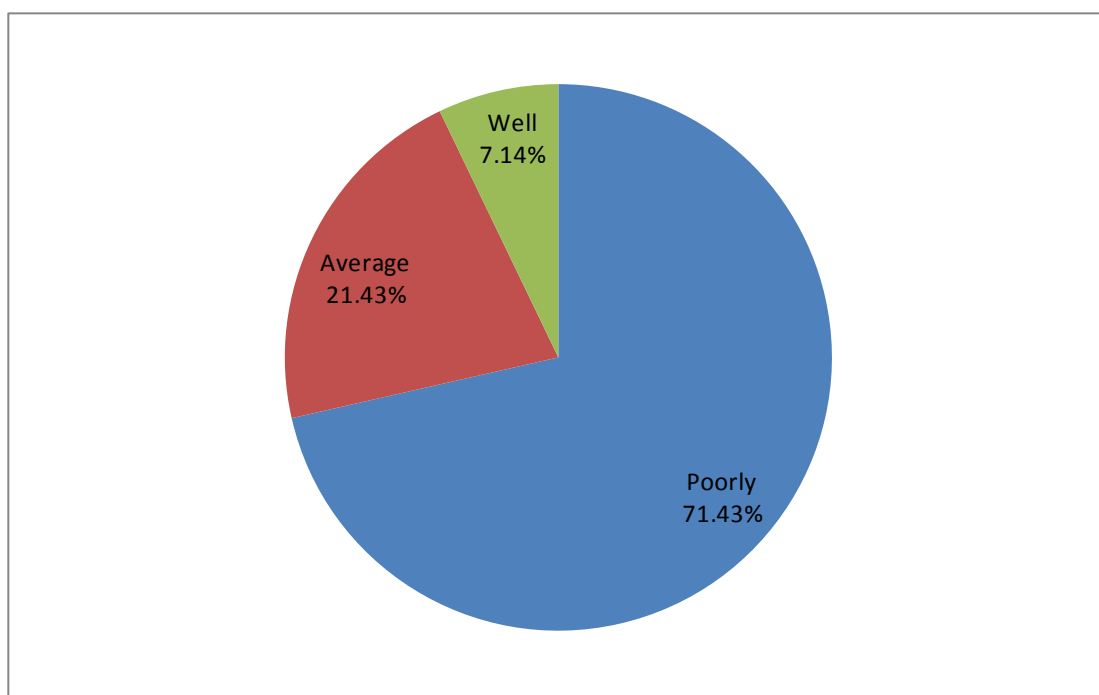


Figure 4.3: Responses of learners with hearing impairment on reading Comprehension questions

Figure 4.3 shows that majority of teachers of learners with hearing impairments 10 (71.43%) reported that learners with hearing impairments responded to reading comprehension questions poorly, 3 (21.43%) of the teachers reported that the response of learners with hearing impairments to reading comprehension was average while a very small percentage i.e.1 (7.14%) reported that the learners responded to reading comprehension questions well. None of the respondents reported that learners with hearing impairments responded to reading comprehension tasks very well.

The finding hence reveals that majority of learners with hearing impairments respond to reading comprehension tasks poorly. This could be attributed to lack of one of the four skills in any Language. The four skills follow one another in a sequence and

follow the pattern of Listening, speaking, reading and writing (Julrud, 2011). Learners with hearing impairments have their hearing or auditory channel impaired hence are not able to develop literacy skills with ease because they do not hear. They also do not possess the ability to acquire the normal pattern of language development.

This finding supports Harris & Moreno (2005) who found out that comprehension in reading strategies by learners educated orally and those whose preferred language is a signed language, suggests that communication mode has a profound effect on the extent to which children who are deaf make use of phonological coding in reading. The learners educated by use of manual mode which emphasizes on the use of Sign Language and Finger spelling do not possess phonological code in communication and this precludes easy comprehension of information presented to the learners in written form. Weinrich & Fay (2007), concluded that many researchers concur that phonological awareness which, learners with hearing impairments lack, has been depicted as a strong predictor of positive reading outcomes coupled with orthographic processing skill. Phonological awareness means that the children are exposed to oral mode of communication which emphasizes on the use of auditory – verbal strategy in which the learner hears spoken stimuli and decodes them then responds verbally. The finding also supports Miller (2002), who found out that children who are native signers do not engage in phonological recording hence experience difficulty in reading written texts with ease. Lack of phonological recording and use of manual code for communication therefore contribute immensely to serious difficulty experienced by learners with hearing impairments in reading comprehension tasks.

The researcher also sought to find out how learners with hearing impairments managed tasks which required reading for comprehension. The researcher observed the learners performing reading assignments then indicated how they responded to reading for comprehension questions. The results are shown in Figure 4.4.

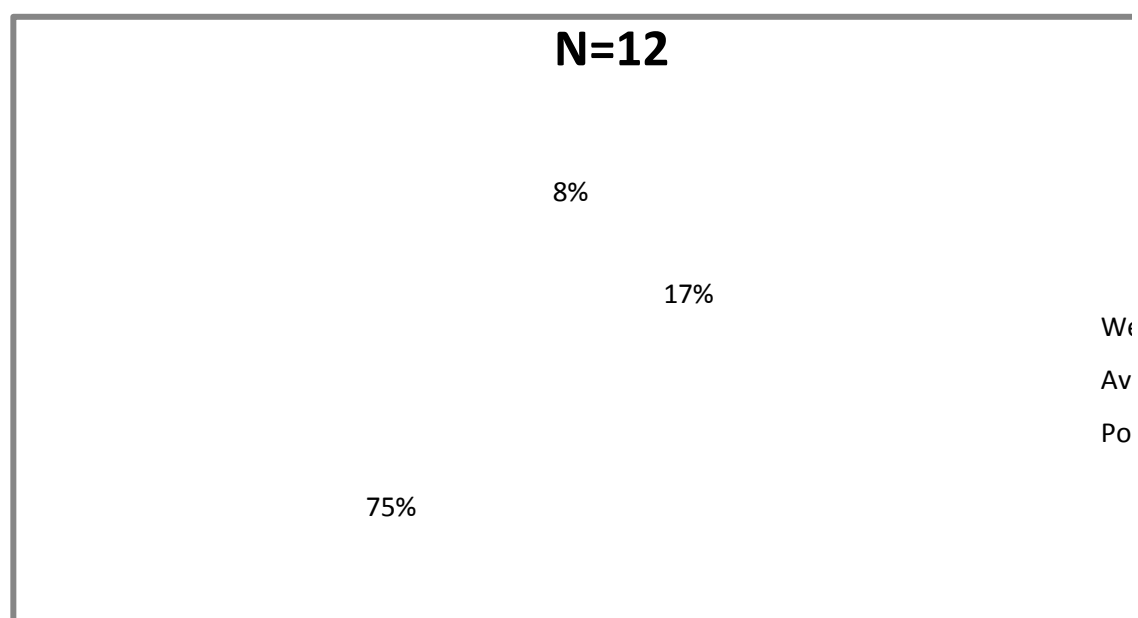


Figure 4.4: Response of learners with hearing impairments to reading Comprehension questions

Figure 4.4 shows that from observations in classrooms, 9 representing 75% of learners with hearing impairments responded to reading comprehension questions with high degree of difficulty, 2 (17%) of the learners responded to comprehension questions fairly good while only 1(8%) of them responded to comprehension question well. The findings from the observation data in classroom situation corroborates with the findings from teachers that three quarters of learners with hearing impairments experienced difficulties when responding to tasks which required reading for comprehension.

The findings of the study supports Simeonsson & Rosenthal (2001) who noted that learners with hearing impairments exhibited more serious problems in reading for comprehension. This is because they lacked the ability to conceptualize a huge range of vocabularies especially when faced with the task of reading abstract words or long sentences without visual cues. Polloway, Patton and Serna (2008), further explained that serious deficits in reading comprehension by learners with hearing impairments are thought to be a primary reason for the learners' failure in academic tasks. It is because of the learners' limitation in reading comprehension that they fail to interpret written information, hence, attack written tasks without purpose but for the sake of it because they do not have any choice. The learners are especially disadvantaged as a result of limited vocabulary. This finding also supports Coppens (2012) who observed that limited vocabulary which is a characteristic associated with learners with hearing impairments is the greatest contributor to serious difficulty experienced by the learners in reading for comprehension.

Learners with hearing impairments are therefore generally less skilled in reading due to the fact that they are not purposeful and active readers. The learners lack the ability to activate prior knowledge hence not being able to relive past experiences and relate them with the current situation presented in written form.

4.4.1 Reading Approaches used by Learners with Hearing Impairments During Reading for Comprehension Activities

The second task of the study was to identify reading approaches used by learners with hearing impairments during reading for comprehension activities.

The teachers of learners with hearing impairments were asked to indicate the reading approaches learners with hearing impairments use during reading for comprehension activities. The results are shown in Table 4.6.

Table 4.6. Reading Approaches used by learners with hearing impairments during reading for comprehension activities

Responses	Frequency	Percentage
Phonic	0	0
Whole-language	1	7.14
Balanced	3	21.43
Multisensory	10	71.43
Total	14	100.00

Table 4.6 shows that nearly three quarters 10(71.43) of teachers of learners with hearing impairments reported that the learners used multisensory approach, about a quarter 3(21.43) reported that the learners used a balanced approach, while the minority 1(7.14) reported that the learners used whole language approach. None of them reported that the learners used phonic approach.

The finding shows that majority of learners used multisensory approach to reading during reading for comprehension activities. This finding supports McCarthy (2015) who reported that students who do not use auditory channel which emphasizes the phonic approach are better placed when exposed to multisensory approach. Learners with hearing impairments may use hand gestures to help them memorize the

definition of a noun. They may manipulate word cards to create sentences or classify the words in sentences by physically moving them into categories. Sibert et.a. (2004) further contend that most teaching curriculums only cater to the auditory-visual learner. However for some students, it is not natural for them to learn this , they need to move more or learn through tactile projects. Learners with hearing impairments fall under the category of those disadvantaged as a result of rigid curriculums which only cater for auditory- visual learners. Due to this, multisensory reading approach comes in handy to cater for their needs.

4.4.2 Reading Strategies employed by Learners with Hearing Impairments in Reading for Comprehension

The teachers of learners with hearing impairments were asked to indicate whether or not learners with hearing impairments had specific strategies they employed in coping with reading for comprehension. The results are indicated in Table 4.4

Table 4.7: Strategies employed by learners with hearing impairments during reading for comprehension activities

	Response	Frequency	Percentage
N = 14	Yes	4	28.57
	No	8	57.14
	No Response	2	14.29
	Total	14	100.00

Table 4.6 shows that majority of teachers of learners with hearing impairments 8 representing 57.14% reported that learners with hearing impairments did not have

specific Strategies they employed in coping with reading comprehension. Four (28.57%) of the respondents reported that learners with hearing impairments had specific strategies while minority of the respondents 2 (14.29%) did not respond to the question. The finding shows that there is no specific reading strategies that learners with hearing impairments employed during for comprehension that are only suitable and applicable to them in particular but they tend to employ the strategies that are employed by hearing individuals

The study findings support Banner (2010) who observed that deaf readers do not have specific reading strategies that are peculiar to them but instead utilize similar cognitive strategies as their hearing counterparts. They employ the strategies with much difficulty especially where phonological recording which is one of the most effective strategies is involved. The learners as well tend to sign read the written texts but as observed earlier, face challenges especially where unfamiliar words are encountered. Therefore the only option they have is to finger spell the words without decoding their meanings. In recognition of the fact that learners with hearing impairments are forced to employ reading strategies meant for learners who hear, developed countries subject the learners to technological advancement such as cochlear implants and digital hearing aids in order to cope. These technological advances provide the learners with sufficient functional hearings to enable them perceive and represent spoken language which has to do with phonological recordings (Geers, Tobey, Moog and Brenner, 2008). In spite of the above revelation, Eisenbraum (2011) observed that there is no consensus among researchers, educators, parents and individuals with hearing impairments about the best reading strategies for

learners who are deaf or hard of hearing. This means that there is no one and specific reading strategy that has been identified to be the most appropriate for learners with hearing impairments.

In an effort to come up with a possible solution to this dilemma, Philip (2006) and Trezek (2010) suggest the use of direct instruction visual phonic programmes as one of the strategies for learning reading for comprehension by learners with hearing impairments. Direct instruction visual phonic programme is a programme in which the instructor or the teacher assists the learner by making him or her observe the teacher reads the text then the read text is sounded in the learner's ear and the learner is expected to read the same way as the instructor. Both authors add book sharing experience as another strategy where parents share experiences with their children to provide prior knowledge to them. Moores & Martin (2006) conclude that a number of researchers report that learners with hearing impairments demonstrate significant deficit in the quantity and quality of reading as a result of struggling to conform to reading strategies suitable to hearing because there are no specific reading strategies still there for the deaf and hard of hearing.

The finding therefore reveals that there is no specific reading strategy that learners with hearing impairments employ in coping with reading for comprehension but instead utilize strategies meant for their hearing counterparts. The learners with hearing impairments experience serious difficulty in an attempt to cope with such strategies because their pattern of language acquisition and development differ from that of their hearing peers.

4.4.3 Achievement Level of Learners with Hearing Impairments in Reading for Comprehension

The researcher sought to find out the achievement level of learners with hearing impairments in reading for comprehension. The teachers of the learners with hearing impairments were asked to indicate the achievement level of learners with hearing impairments in reading for comprehension. The results are indicated in Fig.4.5

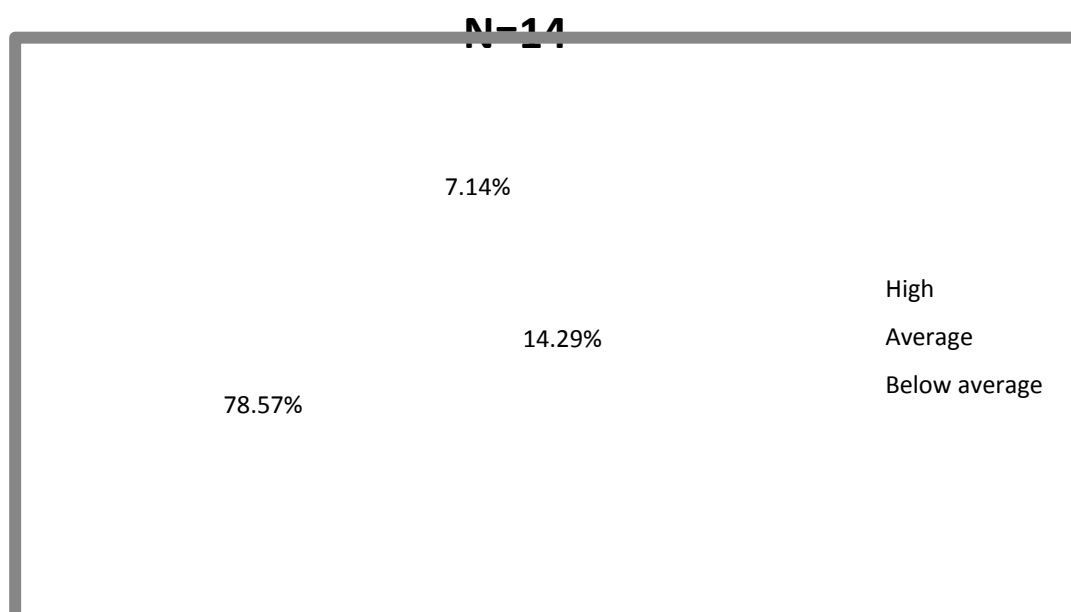


Figure 4.5: Achievement levels of learners with hearing impairments in reading For comprehension

Figure 4.5 shows that majority of the respondents 11 representing 78.57% reported that the achievement level of learners with hearing impairments in reading for comprehension was below average, 2 (14.29%) of the respondents reported that the achievement levels were average while 1 (7.14%) of them reported that learners with hearing impairments' achievement level in reading for comprehension was high.

The study finding on this area shows that majority of learners with hearing impairments' achievement levels in reading for comprehension is very low. This scenario could be attributed to their adoption of unsuitable reading strategies that were reported earlier

This study findings support Musselman (2000) who observed that most learners with hearing impairments have significant low English reading which enable them to experience low achievement levels in reading for comprehension. The low achievement level of learners with hearing impairments is as a result of receptive and expressive skills they use which involve the use of manual skills (Azbel, 2004), and serious deficit in vocabulary by the learners (Coppens, 2012). Generally, learners with hearing impairments experience low achievement in tasks which require reading for comprehension due to a number of factors among them are their inability to activate prior knowledge or lack of orthographic processing skill, limited vocabulary as well as the method of reading they use. Majority of learners with hearing impairments perform poorly in tasks which require reading for comprehension. This is the reason as to why they perform poorly in many areas of academic tasks including National examinations such as Kenya Certificate of Primary Education (KCPE).

4.4.4 Suitability of Reading Strategies Adopted by Learners with Hearing

Impairments in Reading for Comprehension

The study intended to determine whether or not reading strategies adopted by learners with hearing impairments were suitable. The teachers of learners with hearing impairments were asked to indicate whether or not the reading strategies learners with

hearing impairments adopted in reading for comprehension were suitable. The results are indicated in fig.4.6.

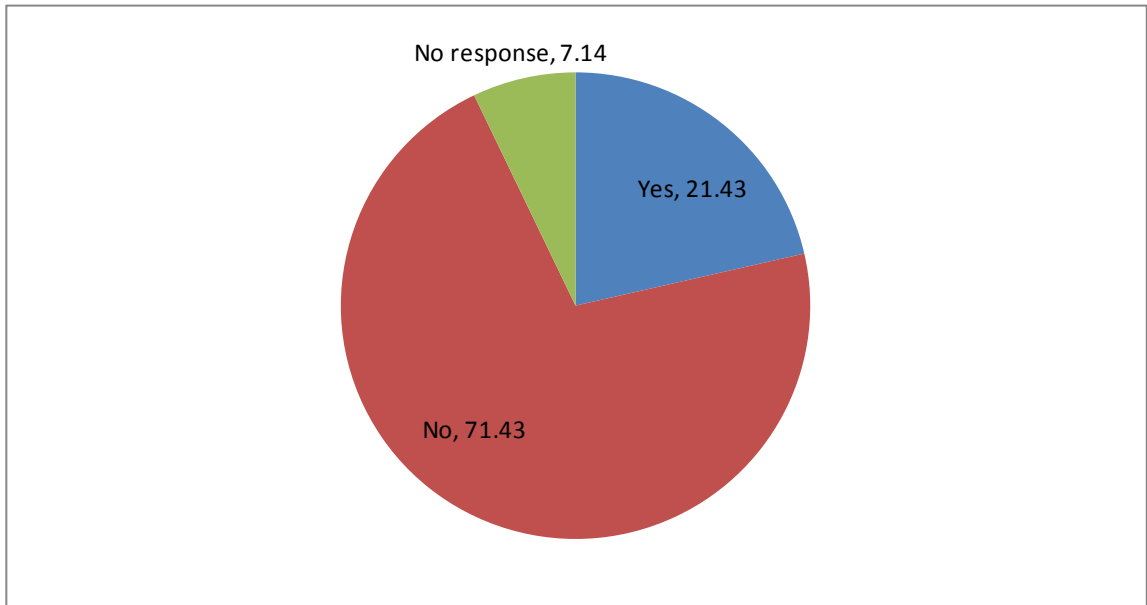


Figure 4.6: Suitability of reading strategies adopted by learners with hearing impairments in reading for comprehension

Fig 4.6 shows that overwhelming majority of the respondents ten (71.43%) of teachers of learners with hearing impairments reported that reading strategies adopted by learners with hearing impairments were not suitable, 3 (21.43%) of the respondents observed that they were suitable while 1 (7.14%) did not provide response.

The study found out that reading strategies adopted by learners with hearing impairments were not suitable. This was because the learners with hearing impairments did not have specific reading strategies suitable for them and that they tend to adopt those suitable for hearing learners. The learners as well used unsuitable

reading methods such as verbalizing unintelligible words, finger spelling almost every word among others.

The finding supports Moores and Martin (2008) who observed that deaf readers demonstrated significant deficit in the quantity and quality of reading strategies. The learners demonstrate such deficits because they tend to utilize reading strategies suitable to individuals who hear. The study further supports Banner (2010) who found out that, deaf readers do not have specific reading strategies but instead tend to utilize similar cognitive reading strategies as their hearing counterparts but with much difficulty. They find much difficulty when trying to utilize strategies used by their hearing counterparts because they are different audiologically. The hearing individuals are able to sound the words in sentence putting stress, intonation and pause in order to read them for understanding. They are able to get feedback of what they read by listening to themselves while learners with hearing impairments are limited in ensuring that they put speech marks where necessary and also they are not able to get feedback of their own voices because their auditory pathways are impaired.

The researcher further observed the learners during reading lesson to find out suitability of reading strategies adopted by learners with hearing impairments during reading for comprehension. The results are indicated in Figure 4.7.

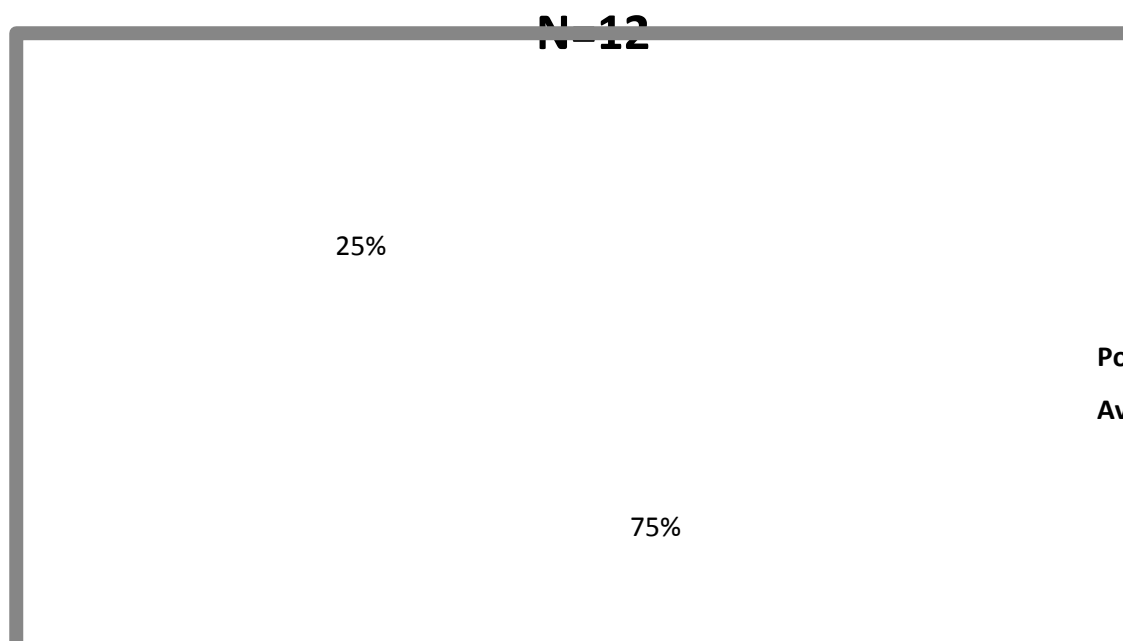


Figure 4.7: Reading strategies adopted by learners with hearing impairments during reading for comprehension activities from observation.

Figure 4.7, shows that majority of learners with hearing impairments 9 (75%) employed unsuitable reading strategies during reading for comprehension activities while 3 (25%) of the learners employed suitable reading strategies during reading for comprehension activities.

The study finding showed that three quarters learners with hearing impairments employed unsuitable reading strategies. The finding hence revealed that the learners adopted unsuitable reading strategies and probably that answered the question as why the learners experience difficulty in reading for comprehension.

The study supports Mukangu (2008) who attributed mass failure by learners with hearing impairments in Social Studies at Kenya Certificate of Primary Education (KCPE) level to poor reading strategies they employ. Social Studies require good reading strategies in order to decode the information presented to enable an individual make an informed choice among a set of options to be chosen. Learners with hearing impairments become disadvantaged in reading for comprehension because they tend to use strategies suitable for the hearing this is because hearing individuals read by converting printed letters into phonological code that feeds into their auditory language system (Azbel, 2004). The learners with hearing impairments have their auditory language system impaired. This renders their reading strategies, unsuitable, hence creating reading difficulties that the learners experience.

Kyule & Harris (2010) added that learners with hearing impairments do not naturally follow the normal patterns of reading development as a result of their hearing impairment. This implies that the learners do not apply appropriate reading strategies because one of the factors which impact positively in reading development is phonological awareness or the ability to access and manipulate speech sounds (Harris & Beech, 1998). This finding also supports Weinrich and Fay (2007) who observed that phonological awareness, which lacks in individuals with hearing impairments, has been depicted as a strong predictor of reading outcomes. Baitwabusas (2011) further noted that learners with hearing impairments do not employ suitable reading strategies and methods in reading for comprehension. In her study she found out that those learners with hearing impairments experienced serious challenges in reading for comprehension as a result of unsuitable reading strategies. The reading strategies that

the learners try to adopt are arguably those which are only suitable for their hearing peers hence they do that with a lot of difficulty. The difficulty comes as a result of the channels they use for communication which in many times is manual mode. The above observations explain the reason as to why majority of learners with hearing impairments experience serious difficulties in tasks on reading comprehension activities.

4.4.5 Use Prior Knowledge as an Aid to Reading for Comprehension

The researcher sought to find out whether learners with hearing impairments activate their prior knowledge to aid them in reading for comprehension. The teachers of learners with hearing impairments were asked to indicate whether or not learners with hearing impairments activated their prior knowledge as an aid to reading for comprehension. The results of the findings are indicated in table 4.7.

Table 4.8: Whether learners with hearing impairment use prior knowledge as an Aid to reading for comprehension

Response	Frequency	Percentage
Yes	3	21.43
No	9	64.29
No response	2	14.28
Total	14	100.00

Table 4.8 shows that 9 representing 64.29% of teachers of learners with hearing impairments reported that learners with hearing impairments did not activate prior knowledge as an aid to reading for comprehension, 3 (21.43%) of the respondents

reported that the learners activated while 2 (14.28%) did not provide their responses to the question.

The study findings reveal that learners with hearing impairments did not in many occasions activate their prior knowledge to aid them in reading for comprehension. This makes the learners to be unable to link their past experiences with the current texts being read by them.

The findings support Duke and Pearson (2003) who found out that good readers are always purposeful and active. They noted that prior to reading; good readers activate prior knowledge while they skim through text looking for information which is relevant to their reading goals as they read. The study findings also support Armbruster, Lehr & Usborn (2001) who observed that majority of learners with hearing impairments are less skilled in reading due to inability to activate their prior knowledge and hence making it almost impossible to relate what they have information about and the current text being read. They further reported that an unknown word or concept could lead to an irreparable breakdown in overall comprehension of a text to a learner with hearing impairment. This is because the learner with hearing impairment will not sign read the word but instead will finger spell it without comprehending the meaning of the word or concept thereby distorting the information for the learner.

The study findings therefore show that the learners with hearing impairments face serious challenges in reading for comprehension because they are unable to activate

their prior knowledge which makes them not to relate what they already know to what they read.

4.5 Challenges Faced By Learners with Hearing Impairments in Reading For Comprehension

The purpose of the study was also to determine challenges faced by learners with hearing impairments in reading for comprehension. The teachers of learners with hearing impairments were asked to indicate if reading for comprehension was a challenge to learners with hearing impairments. The results are indicated are in figure 4.8

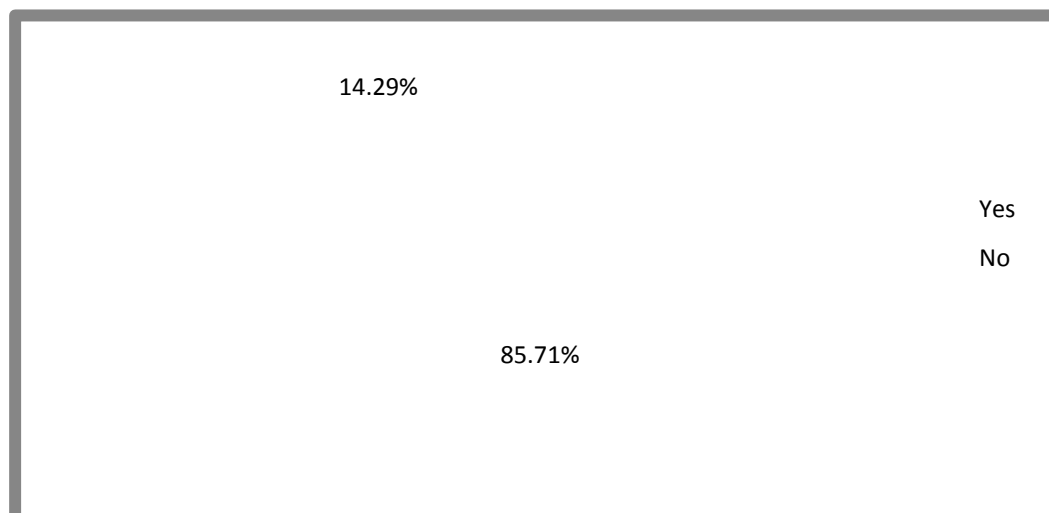


Figure 4.8: Whether reading for comprehension is a challenge to learners with hearing impairments

Figure 4.8 shows that 12 representing 85.71% of teachers reported that reading for comprehension was a challenge to learners with hearing impairments while minority 2 (14.29%) of the teachers reported that reading for comprehension was not a challenge.

The findings reveal that more than three quarters of learners with hearing impairments experience serious challenge in reading for comprehension tasks. This is due to the methods of reading they use and the strategies they employ during reading for comprehension activities.

The findings also support Musselman (2000) who reported in his study that most individuals with hearing impairments have significant low English reading ability. He went further to note that reading difficulties are highly manifested among learners with severe to profound hearing losses. The learners have significant low English ability because they lack a fully developed first language on which to develop English language which is a second language. Singhal (1998) observed that second language learners use first language knowledge and various strategies to facilitate their learning of second language. Many learners with hearing impairments are born to hearing parents who do not use manual mode of communication hence making the learners to fail to acquire first language early enough. Julsrud (2011) found out that 90% of deaf children are born to hearing parents meaning that the children lack early language stimulation which affects development of second language. This makes the learners to experience significant low English reading ability.

The findings also revealed that learners with hearing impairments face very serious challenges when they are subjected to tasks which require reading for comprehension. It has been observed that the learners' failure in most academic tasks is as a result of the challenges they face in reading for comprehension. They usually read but do not

comprehend what they read and therefore respond to such tasks without serious purpose.

The researcher also sought to establish whether or not reading for comprehension is a challenge to learners with hearing impairments by observing the learners in a classroom setting.

The results are shown in figure 4.9

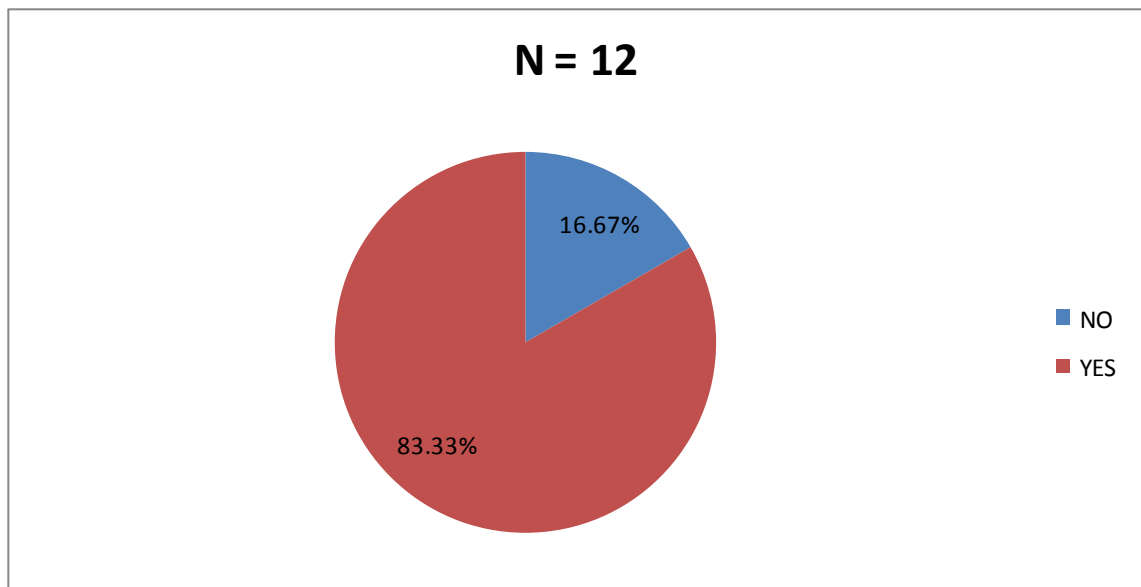


Figure 4.9: Whether reading for comprehension is a challenge to learners with hearing impairments

Figure 4.9 shows that majority of learners with hearing impairments 10 (83.33%) faced challenge in reading for comprehension while only 2 (16.67%) of the learners with hearing impairments did not have serious challenge in reading for comprehension. The findings from classroom observation reveal that majority of

learners with hearing impairments face serious challenge in reading for comprehension. Some of the reasons for the challenge they face is their inability to process and use of phonological awareness, an inability to activate their prior knowledge as well as their inability to follow normal patterns of reading predictors. The findings support Armbruster, Lehr and Usborn (2000) who reported that majority of learners with hearing impairments face serious challenge in reading for comprehension due to their inability to activate their prior knowledge.

Kyule and Harris (2010) further attribute the learners' difficulty in reading for comprehension to their inability to follow normal patterns of reading predictors as their hearing peers. The learners' pattern do not follow the normal pattern which starts from Listening to speaking, reading and finally to writing. The learners do not make use of their auditory channel and hence miss out the foundation of reading predictors which are listening and speaking. The finding also supports Deacon, Benere and Castles (2012) who observed that phonological awareness is a factor that significantly aids in reading ability. They noted that this factor lacks significantly among learners with severe to profound hearing losses hence make it very difficult for the learners to possess the necessary ability to read for comprehension.

They contend that the learners may not rely on hearing sensitivity as a result of their auditory impairments as well as limitation in auditory-verbal ability. Inability to rely on hearing sensitivity pose an irreparable challenge to the learners with regard to reading for comprehension in an educational set up. South Africa's Education paper number 6 of 2001 also advances the idea that learners with hearing impairments lag

behind especially in tasks which require reading for comprehension. Simeonsson and Rosenthal (2001) concluded that learners with hearing impairments exhibit more serious problem in reading for comprehension. First among the numerous challenges learners with hearing impairments face is their inability to process phonological codes. This is because learners with hearing impairments are sometimes educated orally. Harris and Moreno (2005) observed that a comparison of reading strategies of children educated orally and those whose preferred language is a signed language suggest that communication mode has a profound effect on the extent to which children who are deaf make use of phonological coding in reading. This shows that oral mode of communication has more advantage in terms of reading development compared to manual mode. Miller (2002) argues that children who are native signers do not engage in phonological recording hence making it very difficult for the individuals to read texts with ease. This challenge contributes to the huge difficulty experienced by learners with hearing impairments in reading comprehension tasks.

The findings therefore reveal that learners with hearing impairments lag behind in most of academic tasks because they face serious challenge in reading for comprehension.

4.5.1 Aspect of Teacher Training and Competence as an Issue in Learning of

Reading for Comprehension by Learners with Hearing Impairments

The study sought to find out if teacher training and competence is an issue in learning of reading for comprehension by learners with hearing impairments. The teachers of

learners with hearing impairments were asked to agree or disagree whether teacher training and competence is an issue.

The responses of the teachers are shown in Figure 4.10

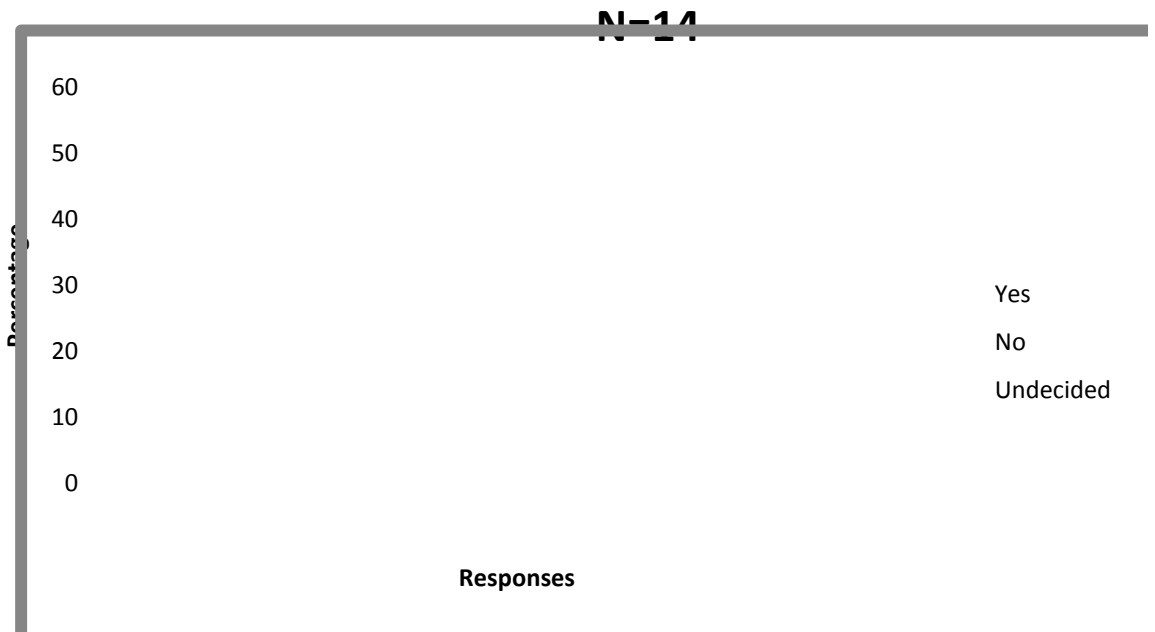


Figure 4.10: Aspect of teacher training and competence as an issue in teaching of reading for comprehension by learners with hearing impairments

Figure 4.10 shows that 8 (57.14%) of the teachers of learners with hearing impairments agreed that teacher training and competence were an issue in the learning of reading for comprehension by learners with hearing impairments. Five (35.71%) of the respondents disagreed that teacher training and competence were not issues in learning of reading for comprehension by learners with hearing impairments while 1 (7.14%) of the respondents was not decided on whether or not teacher training and competence were issues in the learning of reading for comprehension by learners with hearing impairments.

The study finding shows that teacher training and competence are a key in the learning of reading for comprehension by learners with hearing impairments. This is because teachers who are not well trained to teach reading for comprehension to learners with hearing impairments may not have the necessary skills to teach learners how to read for comprehension. Teachers' competence also plays a key role on how learners with hearing impairments learn to read with an intention to comprehend what they read. Well trained and competent teachers impact positively on how learners with hearing impairments learn how to read for comprehension.

The study supports Hussain, Khan I and Knanz (2010) who observed that to raise the standards of education and literacy, to be specific, the quality of teaching staff needs to be improved. This implies that there is need to re-examine the relevance of teacher training with a focus being on teaching literacy to learners with hearing impairments. Improvement in a society has always been due to improvement in the quality of teachers' performance for which teachers' training has a vital role. Azhar and Kayam (2011) noted that professional development through intensive in-service training can greatly enhance the capacity of teachers in operationalizing the innovative concept of teaching. Teachers' training and competence are therefore areas that need a lot of attention in order to ease the challenge of reading for comprehension by learners with hearing impairments. Teacher training and competence are two key elements that must be put into perspective when education on literacy of learners with hearing impairments is to be undertaken. Teachers ought to have the required skills and knowledge on how to guide learners with hearing impairments in reading for comprehension activities.

4.5.2 Similarities in Sentence Structure between English and Kenya Sign

Language

The study sought to find out the effects of Kenyan Sign Language on development of English literacy by learners with hearing impairments. The teachers of learners with hearing impairments were asked to indicate if sentence structures in English language and Kenyan Sign Language were similar. The results are shown in table 4.8

Table.4.9: Similarities in sentence structure between English Language and Kenyan sign language.

Response	Frequency	Percentage
Agree	0	0
Disagree	14	100
Total	14	100

Table 4.9 shows that all the teachers of learners with hearing impairments 14 (100%) disagreed that sentence structures between English language and Kenyan sign language were similar. None of the respondents agreed that the sentence structures were similar.

The study findings reveal that sentence structures in Kenyan Sign Language and English Language are different. This is so in spite of the fact that Kenyan Sign Language borrows greatly from English Language. A study of sentence structures in English and Kenyan Sign Language by Adoyo (2004), shows that conspicuous differences exist between the two languages.

The study supports Newport & Meir (1998) who observed that American Sign Language does not ease the task of learning to read because of its lack of congruence with the linguistic structure and vocabulary of written English. This finding implies that learners with hearing impairments use Sign Language whose structure is different from that of English. Azbel (2004) observes that sign system such as American Sign Language (ASL) has grammatical structure which is completely different from that of spoken English or English language in general.

In Kenya, Kenyan Sign language which borrows greatly from American Sign Language has grammatical sentence structures which are different from sentence structures in English language despite its use of words presented in English language. The study also supports Adoyo (2004) on his study of Kenyan sign language and simultaneous communication. He observed that Kenyan sign Language and English language differ in structure and there are signs or words omissions in Kenyan Sign language, which can change the meaning of a concept in English language. Due to that, the learners with hearing impairments experience serious difficulty in English literacy because their interactions with fellow Deaf and even the hearing mostly takes place in signed English language which has been observed to have omissions which take serious toll on English comprehension. The differences hence pose serious challenge to learners with hearing impairments in reading for comprehension.

Juslrud (2011) adds that the verb and adverb structure in English are complex and difficult to learn and are radically different from the more concise nature of sign languages such as Kenyan Sign Language. The study therefore reveals that there exist

numerous differences in sentence structure between English and Kenyan Sign Language. The differences in sentence structure between the two languages are also a factor which contributes to challenges the learners face in reading for comprehension.

4.5.3 First Language Acquisition by Learners with Hearing Impairments

The researcher intended to investigate how learners with hearing impairments acquire their first language popularly known as the mother tongue. The teachers of learners with hearing impairments were asked to indicate how many learners with hearing impairments had hearing parents the responses of are indicated in Figure 4.11

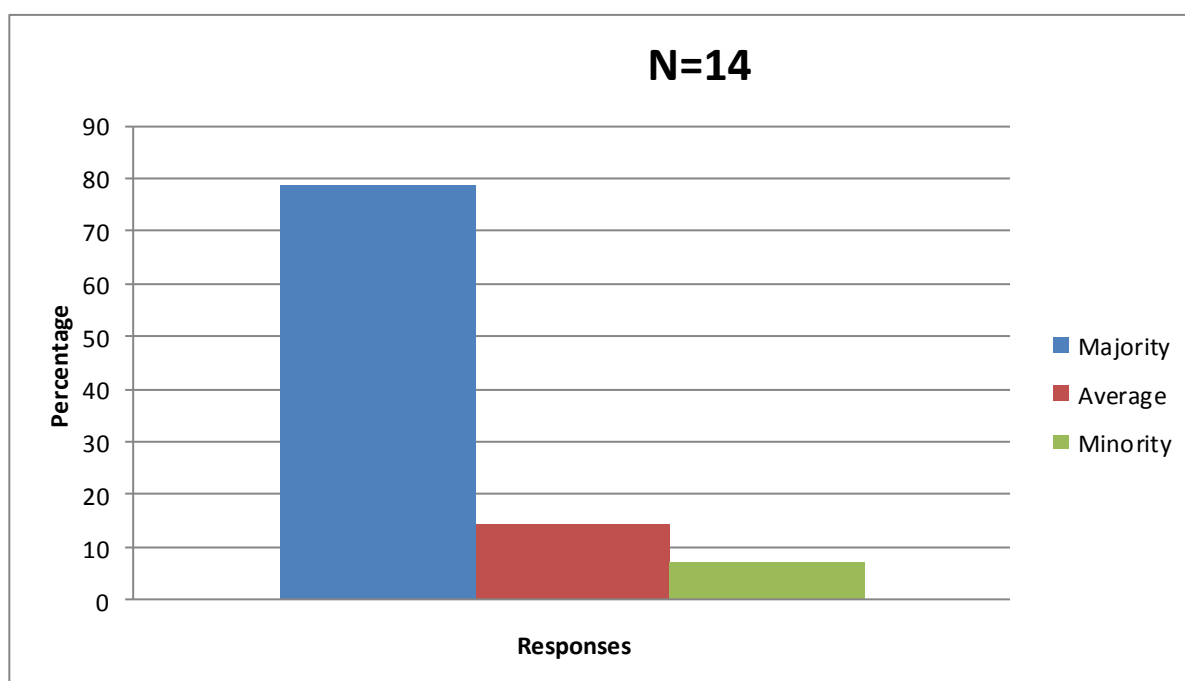


Figure 4.11: First Language Acquisitions by Learners with Hearing Impairments

Figure 4.11 reveals that majority of the respondents 11 (78.57%) reported that majority of learners with hearing impairments were born to hearing parents, 2 (14.29%) of the

respondents observed that an average number of learners with hearing impairments were born to hearing parents while 1 (7.14%) of the respondents reported that a very small percentage of learners with hearing impairments were born to hearing parents. The study supports Julsrud (2011) who found out in his study that 90% of deaf children in United States of America were born to hearing parents. The study by Julsrud implies that majority of the children with hearing impairments do not have the privilege of learning first language from their parents in a natural setting. Due to this reason, they rarely acquire first language naturally.

The study also supports Phillips (2006) who observed that since many learners with hearing impairments have been found to hail from hearing families they should be introduced to environments which stimulate sign language acquisition and development early. This is further supported by Trezerk (2010) who suggested that learners with hearing impairments born to hearing parents should be introduced early to use of American Sign Language. This is necessary because development of a second language depends on an already established first language. For learners with hearing impairments to develop appropriate mastery of English language, they need to have had a solid foundation of their mother tongue.

The study hence found out that one of the major reasons why learners with hearing impairments experienced difficulties in reading for comprehension is their inability to acquire first language naturally and early enough. The learners are not subjected to language stimulation environments early enough. This scenario is made to be so because a child with hearing impairment born to hearing parents will obviously lag

behind in first language acquisition. This is as a result of the child's parents and even siblings not being able to engage the learner in conversation because their channels of communication are totally different.

4.6. Resources Used by Learners with Hearing Impairments in Reading for Comprehension

The last task of the study sought to investigate learning resources used by learners with hearing impairments in reading for comprehension. The teachers of learners with hearing impairments were asked to indicate whether learners with hearing impairments required special learning resources to assist them in reading for comprehension. The responses are shown in Table 4.9.

Table 4.10: Resources used by learners with hearing impairments in reading for comprehension

Responses	Frequency	Percentage
Strongly agree	9	64.29%
Agree	4	28.57%
Disagree	1	7.14%
Strongly disagree	0	0%
TOTALS	14	100%

Table 4.10 shows that 9 representing 64.29% of teachers of learners with hearing impairments strongly agreed that learners with hearing impairments required special resources to assist them in reading for comprehension, 4 (28.57) of them agreed while 1(7.14%) of the teachers disagreed that the learners required special resources. None of them strongly agreed.

The study findings reveal that learners with hearing impairments required special learning resources for them to cope with demands of reading for comprehension. The learning resources should be those that meet the reading needs of learners with hearing impairments such visual aids, coloured pictures, videotaped signed sentences matched with written texts among others.

The study findings support Mitchell (2007) who observed that learners with hearing impairments require support services and learning materials beyond the normal resources which include books, chalks dusters and play materials. Unfortunately these special learning resources are not easily available and are usually very expensive. The resources include digital hearing aids, video-taped signs matched with written texts among others. Besides, proficient use of Sign language has also been advanced as topping the list of special learning resources that the learners require in order to learn reading as a skill. Sign language is a communicative resource especially for learners with hearing impairments. The study also supports Goldin – Meadow and Mayberry (2001) who noted that individuals with good signing skills are better readers than individuals with poor signing skills. Good signing skills improve English literacy as has been observed by a number of scholars. This implies that learners with hearing impairments who are proficient in sign language use that ability to comprehend written texts with ease compared to those with poor signing skills.

In order to triangulate data for the study, the researcher went further to observe the adequacy of reading resources used by learners with hearing impairments during reading for comprehension activities. The findings are indicated in Table 4.10.

Table 4.11: Adequacy of reading resources used by learners with hearing impairments in reading for comprehension

N = 12

Response	Frequency	Percentage
Adequate	3	25
Not adequate	9	75
Total	12	100

Table 4.11, shows that 9 (75%) of learners with hearing impairments were exposed to learning resources which were not adequate during reading for comprehension sessions whereas 3 (25%) of the learners were exposed to adequate learning resources. The findings reveal that majority of learners with hearing impairments are subjected to learning resources which are not adequate especially in meeting their needs. Much of the resources are those that are suitable to learners who hear. They are normal resources which are found in any regular classroom but do not meet the diverse reading needs of learners with hearing impairments.

The findings support Chamberlain (2002) who proposes the use of videotaped signed texts matched with written texts as one of the most effective special learning resource for learning reading for comprehension by learners with severe to profound hearing losses. These learning resources enable the learners to practice reading ability by

looking at a written text and comprehending it by matching the sign with written text. Trezek, Wang and Paul(2010) add cochlear implants to the list of special resources required by learners with hearing impairments. Cochlear implants make up for the deficit in auditory ability. It means that the learners with hearing impairments are fitted with artificial cochlear which will enable them to process auditory stimuli and eliminate for them the use of sign language which as learnt earlier is limited in vocabulary and has structure very different from English language. Harris & Beech (1998) assert that manipulation of speech sounds is a sure way of mastering reading skills. This according to Trezek et. al. (2010), can only be achieved if the learners' auditory – verbal ability is enhanced. The auditory – verbal ability can be enhanced through cochlear implant. Cochlear implant enables learners with hearing impairments to follow the normal patterns of reading development as done by hearing learners.

The finding therefore reveals that for learners with hearing impairments to learn reading for comprehension skills, they need to be exposed to learning resources which meet their unique reading needs. These resources should be special resources beyond the normal resources used in a regular reading class.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

This chapter presents the summary of the main findings of the study, conclusions and, recommendations.

The purpose of this study was to investigate the strategies employed by learners with hearing impairments in reading for comprehension in special primary schools for the deaf in Kisumu County, Kenya.

The study focused on the following research objectives;

- To determine the methods of reading used by learners with hearing impairments in reading for comprehension.
- Identify reading approaches used by learners with hearing impairments during reading for comprehension activities.
- Determine challenges faced by learners with hearing impairments in reading for comprehension.
- Investigate resources used by learners with hearing impairments in reading for comprehension.

5.2. Summary of the Study

5.2.1. Methods of Reading used by Learners with Hearing Impairments in

Reading for Comprehension

The findings of the study on the methods of reading used by learners with hearing impairments in reading for comprehension shows that the majority of learners use look and sign method to read. This is a synonym to look and say methods used by the hearing. Look and sign method however has been proved by many researchers as not an effective method of reading comprehension because some vocabularies do not elicit spontaneous signs hence creating disconnect in reading leading to difficulties in reading for comprehension. The study also found out that majority of learners with hearing impairments is not competent in tasks which require reading for comprehension. The incompetence of learners in reading for comprehension task is attributed to the poor methods of reading.

The study further shows that the limited vocabulary that is a characteristic alive in learners with hearing impairments contributes to severe limitation by the learners in reading for comprehension. This, according to the study, is the reason for poor response to the tasks that require reading for comprehension the learners with hearing impairments experience.

5.2.2 Reading Approaches used by Learners with Hearing Impairment During Reading for Comprehension Activities.

The findings of reading approaches used by learners with hearing impairments during reading for comprehension activities shows that learners with hearing impairments

benefited most from multisensory reading approach as opposed to other reading approaches. The finding also shows that the learners employed similar strategies as their hearing counterparts. The learners however employ the strategies with serious difficulties leading them to face serious challenge in reading for comprehension. The findings also show that the achievement level of learners with hearing impairments on reading comprehension task is very low as a result of the strategies employed by the learners which are not suitable. The findings further indicate that the learners with hearing impairments do not make use of prior knowledge as an aid to read for comprehension.

The learners do not have an ability to activate prior knowledge. This inability further provides the reason for their minimal skills in reading for comprehension.

5.2.3. Challenges Faced by Learners with Hearing Impairments in Reading for Comprehension

The findings of the study show that reading for comprehension pose a serious challenge to learners with hearing impairments. The challenge in reading for comprehension is primarily the main reason for their failure in academic tasks. The findings of the study also show that the teacher training and competence contribute to challenges faced by learners with hearing impairments in reading for comprehension. The training in special needs education for teachers is seen not to be adequate in preparing teachers to teach learners with hearing impairments to read for comprehension.

The study also shows that glaring differences between English and Kenyan sign language add to the challenges faced by learners with hearing impairments in reading for comprehension. The study further attributes the time in life when a learner with hearing impairments acquires first language is predictor to competence in reading for comprehension. The study found out that majority of learners with hearing impairments are born to hearing parents. This inhibits first language acquisition by the learners hence making it challenging for the learners to acquire skills to transfer in the second language. Late acquisition of sign language by learners with hearing impairments contribute to challenges the learners face in reading for comprehension.

5.2.4 Resources used by Learners with Hearing Impairments in Reading for Comprehension

The findings of the study show that the learners with hearing impairments require special learning resources in reading for comprehension rather than the normal learning resources used by hearing learners. The learning / teaching resources suitable for learners with normal hearing do not adequately cater for the reading needs of learners with hearing impairments. The resources the learners require in reading for comprehension include; Sign Language as a communicative resource, Cochlear implants, sign language interpreters Video tapped signed texts among other resources.

5.3 Conclusion

The study elicited the following conclusions based on the findings drawn from the objectives. First and foremost the teachers of learners with hearing impairments in special primary schools for the deaf teaching reading comprehension in Kisumu

county, is mainly female with majority being Diploma and Bachelor degree holders and have taught for more than five years in their current station.

5.3.1. Methods of Reading Used By Learners with Hearing Impairments in

Reading for Comprehension

Majority of learners with hearing impairments in special primary schools for the deaf used Look and Sign method when undertaking reading for comprehension tasks. The study concluded that look and sign method of reading that the learners used was not suitable. This was the main reason advanced for the serious difficulty the learners experienced in reading for comprehension generally.

5.3.2 Reading Approaches used by Learners with Hearing Impairments during

Reading for Comprehension Activities

The study concluded that learners with hearing impairments did not benefit from such reading approaches as phonics based whole language but greatly benefited from balanced approach and multisensory approaches. They also did not have specific reading strategies they employed during reading for comprehension activities but instead adopted reading strategies used by their hearing peers. The strategies they employed did not meet their reading needs hence made them experience serious difficulties in reading for comprehension.

5.3.3 Challenges Faced by Learners with Hearing Impairments in Reading For Comprehension

Learners with hearing impairments faced numerous challenges when undertaking reading for comprehension activities. The challenges ranged from methods of reading they used, their limited vocabulary, lack of teacher competence and inadequate learning resources.

5.3.4 Resources Used By Learners with Hearing Impairments in Reading For Comprehension

Learners with hearing impairments required special learning resources to help them cope well with tasks that need reading for comprehension. Reading resources need to be modified and differentiated to cater for the unique needs of learners with hearing impairments.

Learners with hearing impairments faced a number of challenges when involved in reading for comprehension activities. The challenges could be remediated to minimize such challenges. The learners with hearing impairments need special resources to help them cope well with tasks that require reading for comprehension. The resources to be used by hearing learners need to be modified and differentiated to cater for the unique needs of learners with hearing impairments.

5.4. Recommendations

5.4.1. Research Recommendations

The recommendations of the study are as follows:

Learners with hearing impairments should be trained on reading methods which are likely to enable them engage in reading for comprehension tasks with less difficulties.

A preferable method is eclectic which combines all the methods.

More suitable reading strategies should adopted for learners with hearing impairments to free them from menace of trying to adjust to the reading strategies suitable for their hearing peers.

Special learning resources need to be developed to help learners with hearing impairment engage in reading for comprehension activities with less difficulty. These resources should be those beyond the normal learning resources.

Teacher training should be tailor made to be inclusive of the reading needs of learners with hearing impairments at all levels of teacher training colleges up to the university.

The study also recommends that all the mechanisms should be put in place by all stakeholders to ensure that learners with hearing impairments are identified early enough so that they can be placed in education settings early enough to enhance first language acquisition.

The study further recommends that oral means of communication with illustrations should be encouraged by the policy makers especially in teaching English literacy to learners with hearing Impairments as opposed to the use of sign language.

5.4.2. Further Research

Further research is recommended on appropriate reading methods that learners with hearing impairments should be subjected to.

Further research is also being proposed on the best strategies learners with hearing impairments should adopt in reading for comprehension.

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APPENDICES**APPENDIX A:****RESEARCH BUDGET**

No	Items	Amount Kshs.
1.	Stationary	1,000.00
2.	Internet Services	4,000.00
3.	Transport	12,000.00
4.	Printing And Binding	8,000.000
5.	Photocopying	1,000.00
6.	Meals	2,000.00
7.	Miscellaneous	5,000.00
8.	Research Assistants	5,000.00
	Total	38,000.00

APPENDIX B:
TIME SCHEDULE

August 2014	Proposal Writing
December 2014	Final Correction on Proposal
January 2015	Proposal Presentation
February 2015	Piloting Data Collection Instruments
May 2015	Actual Data Collection
July 2015	Data Analysis And Report Writing
November 2015	Thesis Defense
December 2015	Graduation

APPENDIX C:
QUESTIONNAIRES FOR TEACHERS OF
LEARNERS WITH HEARING IMPAIRMENT

NAME OF THE SCHOOL _____

SUB-COUNTY _____

Please provide information by either putting a tick on your response or commenting briefly as appropriate.

The information provided will be strictly confidential and will only be used for the purpose of this research study.

1. What is your gender? Male Female
2. For how long have you taught in this school? Below 5 yrs 5-10 yrs
 above 10 yrs
3. Are you trained in special needs Education?
 Yes No
4. What is your level of training in special needs Education? Certificate
 Diploma
 Undergraduate Master
 Any other specify _____
5. In which class do you teach English language?

6. For how long have you taught English language as a subject?
 Below 1 year 1-3 years 3-6years above 6 years

7. Have you had any specialized training in teaching English to the learners with hearing impairments? Yes No
8. Which reading methods do learners with hearing impairment apply in reading?
Phonic Syllabic Eclectic Look and sign I don't know
Any other specify
9. How often have you attended capacity building training on new methods of teaching reading comprehension to learners with hearing impairments?
None rarely often
10. Are your learners with hearing impairment competent in reading ability?
Yes No.
11. What is their average achievement level in reading for comprehension?
High Average Below average
12. What reading approaches do learners with hearing impairment use?
Phonic approach
Whole language
Balanced approach
Multisensory approach
13. Do learners with hearing impairments have specific strategies they employ in coping with reading for comprehension? Yes No
14. How do learners with hearing impairment respond to reading comprehension question?
Very well Well Average Poorly

15. Do learners with hearing impairment use their prior knowledge as an aid to reading for comprehension?

Yes No

16. Are the strategies employed by the learners with hearing impairment in coping with reading for comprehensive suitable?

Yes No

17. Is reading for comprehension a challenge to learners with hearing impairment?

Yes

18. Do your learners with hearing impairment require resources to assist them in reading for comprehension? Yes No

19. Learners with hearing impairment require special learning resources.

Strongly agree Agree Disagree Strongly disagree

20. Are the resources readily available?

Yes No

21. How long does it take them to learn sign language?

Short time Long time

22. Do learners with hearing impairment who sign well perform better in reading tasks?

Yes No not sure

23. Do you think learners with hearing impairment are guided well by teachers in learning to read for comprehension? Yes No

24. Is teacher training and competence an issue in learning of reading for comprehension by learners with hearing impairments? Yes No

If yes, how can it be overcome?

25. Sentence structures in English language and Kenyan Sign language similar?

Yes No

APPENDIX D:
QUESTIONNAIRES FOR PRINCIPALS OF
SCHOOLS FOR LEARNERS WITH HEARING IMPAIREMNT

NAME OF THE SCHOOL _____

SUB - COUNTY _____

Please provide information on this questionnaire using a tick or brief comments as appropriate.

Your responses will be treated with utmost confidentiality and will be used for the purpose of this study only.

1. What is your gender? Male Female
2. For how long have you been the principal of this school? _____ years
3. Have you trained in special needs education?
Yes No
4. What is your level of training in special needs Education?
Certificate Diploma Undergraduate Masters
5. Is English language an issue among the learners with hearing impairment in this school?
Yes No
6. Does the school have a language policy? Yes No

7. How does English language contribute to overall performance of the school in national examinations?

Positively

Negatively

8. How do learners with hearing impairment read especially the Bible at the assembly?

Look and sign

Read aloud

Read silently

9. How often do teachers in your school get exposed to new methods of teaching reading for comprehension? None at all rarely always

10. Do they usually have prior knowledge of what they read?

Yes

No

not sure

11. On average how many learners with hearing impairment are born of hearing parents?

Majority

About average

Minority

12. Do learners with hearing impairment have mother tongue? Yes No

13. What language do learners with hearing impairments born of hearing parents come with to school?

Unstructured gestures and signs

Structured signs and gestures

14. How does this affect their learning of English language?

Positively negatively

15. What is the achievement level of learners with hearing impairment in tasks which require reading for comprehension? High average low

16. Do learners with hearing impairment in your school have prior knowledge of what they usually read?

Yes No Not sure

17. Are resources for learning reading available in this school? Yes No

18. What reading approaches do learners with hearing impairment use?

Phonic approach

Whole language

Balanced approach

Multisensory approach

19. Do learners in this school experience challenges in reading for comprehension?

Yes No

20. Do you think the training teachers have is adequate to teach learners with hearing impairment English language? Yes No

21. Is there need for teachers to be specifically trained on methods of teaching learners with hearing impairments reading for comprehension? Yes No

undecided

APPENDIX E:
OBSERVATION CHECKLIST

What reading methods do learners use during reading activities?

Look and sign

Read silently

Phonic method

Electric method

Are learners with hearing impairments able to read at their class level for comprehension?

Yes

No

What is the achievement rate of learners with hearing impairments in reading comprehension tasks?

High

Average

Below average

Do the learners with hearing impairments have back ground information of reading tasks presented to them to read?

YES

NO

Does reading for comprehension pose challenges to learners with hearing impairment according to their grade level?

YES

NO

How do the learners with hearing impairments respond to tasks in reading comprehension?

Very well

Well

Fairly

Poorly

Are the teachers meeting the reading needs of the learners with hearing impairments?

APPENDIX F:
RESEARCH PERMIT



**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

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No.

Date:

28th January, 2015

NACOSTI/P/15/4019/4725

Barack Agunda Odhiambo
Kenyatta University
P.O. Box 43844-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *“Reading strategies adopted by learners with hearing impairments in reading for comprehension in special primary schools in Kisumu County, Kenya,”* I am pleased to inform you that you have been authorized to undertake research in **Kisumu County** for a period ending **30th March, 2015**.

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

On completion of the research, you are required 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: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Kisumu County.


The County Director of Education
Kisumu County.

THIS IS TO CERTIFY THAT:
MR. BARACK AGUNDA ODHIAMBO
of KENYATTA UNIVERSITY, 29-40628
Mutumbu, has been permitted to
conduct research in Kisumu County
on the topic: 'READING STRATEGIES
ADOPTED BY LEARNERS WITH HEARING
IMPAIRMENTS IN READING FOR
COMPREHENSION IN SPECIAL PRIMARY
SCHOOLS IN KISUMU COUNTY, KENYA
for the period ending:
30th March, 2015

Permit No. : NACOSTI/P/15/4019/4725
Date Of Issue : 28th January, 2015
Fee Received :Ksh 1,000

Applicant's Signature

Secretary
National Commission for Science, Technology & Innovation



CONDITIONS

- 1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit**
- 2. Government Officers will not be interviewed without prior appointment.**
- 3. No questionnaire will be used unless it has been approved.**
- 4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.**
- 5. You are required to submit at least two(2) hard copies and one(1) soft copy of your final report.**
- 6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice.**

REPUBLIC OF KENYA



NACOSTI
National Commission for Science, Technology and Innovation

RESEARCH CLEARANCE PERMIT

Serial No. A 4096

CONDITIONS: see back page

REPUBLIC OF KENYA

MINISTRY OF EDUCATION SCIENCE AND TECHNOLOGY
STATE DEPARTMENT OF EDUCATION

WHEN REPLYING QUOTE
knortheducationoffice@gmail.com



KISUMU WEST DISTRICT
P.O. BOX 3001-40100
KISUMU

Tel: 020785643/44

REF: KSM/N/ED/SCH/5/VOL.1/(41)

26TH FEBRUARY, 2015

TO WHOM IT MAY CONCERN

RE: RESEARCH AUTHORIZATION

Authority has been granted to Barack Agunda Odhiambo to carry out research in Kisumu West Sub County on "*Reading strategies adopted by learners with hearing impairments in reading for comprehension in special primary schools*".

Kindly accord the bearer of this letter any necessary assistance.

A handwritten signature in blue ink, appearing to read 'Kamugunah O. Williams'.

KAMUGUNAH O. WILLIAMS
SUB COUNTY DIRECTOR OF EDUCATION
KISUMU WEST

DISTRICT EDUCATION
OFFICER
KISUMU WEST

KISUMU EAST