TEACHING AND LEARNING OF ENGLISH READING COMPREHENSION: IMPLICATIONS ON ACADEMIC ACHIEVEMENT OF DEAF STUDENTS IN SECONDARY SCHOOLS IN KENYA

BY

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

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This thesis is dedicated to

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ABSTRACT

The academic achievement of deaf students in English in the Kenya Certificate of Secondary Education (KCSE) examination has continuously been below average. In the years 2008, 2009, 2010, 2011 and 2012 deaf students obtained mean scores of 2.53, 3.56, 2.47, 3.18 and 2.50 respectively out of the possible mean of 12. Reading comprehension contributes to 32.5% of the total marks in the KCSE English examination. The teaching and learning of this vital skill has however not been studied. The purpose of this study therefore was to examine the teaching and learning of English reading comprehension and the implications on academic achievement of deaf students in secondary schools in Kenya. Its objectives were to: find out how reading comprehension is taught in relation to teaching strategies, nature of classroom interaction, language of instruction and use of teaching and learning resources; determine perspectives of teachers of English on reading comprehension teaching strategies; find out the learning strategies used by deaf students in English reading comprehension; determine influence of attitude towards reading on deaf students' academic achievement; and establish influence of knowledge of English vocabulary and grammar on deaf students' academic achievement. The study adopted a conceptual framework which described the interaction of teaching and learning variables and academic achievement. Descriptive survey and correlational research designs were used. The study was carried out in four secondary schools for the deaf in Kenya with a target population comprising 88 form four deaf students and 12 teachers of English. Purposive sampling technique was used to select four schools while saturated sampling technique was used to select 11 teachers of English and 79 form four students. Research instruments included questionnaire, document analysis guide, observation and interview schedule. Face and content validity of the research instruments was verified by experts from the School of Education. Reliability of the instruments was established through test-retest method in a pilot study. They were accepted at a reliability coefficient of r =0.70 and above with α= 0.05. Quantitative data was analyzed using descriptive statistics and inferential statistics such as means, percentages, frequency counts and Pearson's correlation coefficient (r) respectively. Qualitative data was transcribed and categorized into emergent themes. The study established that questioning 11(100.0%), silent reading 8(72.7%) and retelling 6(54.5%) were the common teaching strategies although not effectively used. Teacher questioning dominated classroom interaction 462(17.5%) while Kenyan Sign Language and English were inappropriately used 8(72.7%). Teaching and learning resources used were textbooks 11(100.0%). Teachers had a positive perspective (M=3.56) towards reading comprehension teaching strategies. Deaf students used low level learning strategies including: observing pictures and titles 48(60.8%); noting key words and ideas 57(72.2%); finger spelling and signing while reading 7(63.6%); reading slowly and carefully 51(64.6%) and use of the dictionary 56(70.9%). Their attitude towards reading influenced academic achievement (r=0.833, p<0.05). Equally, knowledge of English grammar influenced their academic achievement (r=0.821, p<0.05). Knowledge of English vocabulary further influenced achievement in that 71(89.9%) of the students scored zero in the vocabulary questions. Based on the findings, the study concluded that the teaching and learning of English reading comprehension in secondary schools for the deaf was ineffective. The study therefore recommends effective use of varied teaching strategies and explicit teaching and scaffolding of learning strategies. The results of this study may be used by policy makers and stakeholders in curriculum development on the teaching and learning of English reading comprehension.

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LIST OF ABBREVIATIONS AND ACRONYMS

DEO	District Education Officer
KCSE	Kenya Certificate of Secondary Education
KIE	Kenya Institute of Education
KNEC	Kenya National Examinations Council
KSL	Kenyan Sign Language
L1	First Language
L2	Second Language
M o E	Ministry of Education
SC	Simultaneous Communication

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Reading comprehension refers to the active process of constructing meaning from the text (Vaughn & Linan-Thompson, 2004). It is considered as the essence of reading (Jennings, Caldwell & Lerner, 2006), the very heart and soul of reading (Reutzel & Cooter, 2004) and the central purpose of reading (Vaughn & Linan-Thompson, 2004). The socio-cognitive model of reading views reading comprehension as an interactive process between the reader, the text, the teacher and the classroom context. The interaction between these factors within the social dynamics of the classroom leads to comprehension (Rudell & Unrau, 2004). Relevant components involved in the reading comprehension process include fluency, vocabulary knowledge, background knowledge, discourse knowledge, linguistic knowledge, motivation, purpose, cognitive and meta-cognitive strategies, and integration of non-print information with text (Snow, Sweet, Alvermann, Kamil, & Stricland, 2002).

Existing evidence indicates that the reading development level of deaf students has been low throughout the school years (Wauters, Van Bon & Tellings, 2006). On average, the reading comprehension level of deaf students is at fourth-grade upon high school graduation (Traxler, 2000; Gallaudet Research Institute, 2002; Singleton, Morgan, DiGello, Wiles, & Rivers, 2004; Luckner, Sebald, Cooney, Young, & Muir, 2006). The low level of comprehension has been associated with difficulties in sub-skills necessary for effective reading comprehension. Consequently, they demonstrate one or several of the following behaviors: effortful word recognition, limited vocabulary, a lack of understanding of figurative language, weak topic knowledge, a slow reading rate, inadequate understanding of

syntax, limited knowledge of different genres, a lack of awareness of text organization, a limited repertoire of comprehension strategies, failure to monitor comprehension, lack of motivation and avoidance of reading as much as possible (Kelly, 2003; Chi 2000).

Explanations regarding the poor reading skills of deaf students center around two basic hypotheses namely a phonological coding deficit hypothesis (Padden & Hanson, 2000; Perfetti & Sandak, 2000) and a knowledge deficit hypothesis (Miller, 2002; Paul, 2001). Other proffered explanations include inadequate language skills (Berent, 2009), inappropriate language of instruction (Adoyo, 2001) and inadequate teaching and learning strategies (Kelly, 2003; Wilbur 2000). Cognitive processes such as working memory overload have also been pointed out (Swanson & Howell, 2001). The current study focused on teaching strategies; nature of classroom interaction; language of instruction; and use of teaching and learning resources; teachers' perspectives on reading comprehension teaching strategies; learning strategies; deaf students' attitude towards reading; and deaf students' knowledge of English vocabulary and grammar.

Teaching strategies play a powerful role in determining how much is learnt in the classroom (Morrison, Bachman & Connor, 2005).As a result, the instructional methods adopted by teachers influence the eventual achievement of students (Guloba, Wokadala & Bategeka, 2010). Studies carried out in Nigeria and Ethiopia established that traditional methods which were teacher centered typified reading lessons in regular and deaf schools (Ludago, 2014; Udosen, 2011).The studies, however, did not focus on the reading comprehension teaching strategies used. In East Africa, Nganyi (2006), Ngo'nga'h (2002) and Kibui (2010) found that the teaching of reading comprehension in secondary schools was hindered by:

inadequate preparation for reading lessons by teachers; underutilization of teaching strategies; and lack of a specific and detailed reading curriculum. These studies were all the same not done in secondary schools for the deaf. In addition, secondary school teachers of English in Uasin Gishu County, Kenya were found to be unaware of the specific approaches they used in teaching reading (Manyasi & Onchera, 2013). This study, however, focused on teacher cognition in reading instruction and not the actual teaching of reading comprehension.

The Kenyan Secondary Education English Curriculum for deaf students (KIE, 2004), recommends that teachers devise strategies that will make reading interesting. Moreover, the projected teaching strategies of reading according to the curriculum include silent reading, sign reading, summarizing, note making, group discussions, book reports, dramatization, role play, use of the dictionary, skimming and scanning. The implementation of the foregoing teaching strategies in secondary schools for the deaf in Kenya is, however, not known. In addition, deaf students continue to perform poorly in English hence the need for this study.

Research suggests that teaching strategies that encourage extended interaction and active participation of students are critical in learning (Cazden, 2001). Easterbrooks and Baker (2002) noted that extended classroom interactions were crucial in the development of conversational skills among deaf students since they improved their social and academic outcomes. Studies in special education, however, indicate that teacher talk dominates classroom interactions. For example, Kim and Hupp (2005) observed that classes for elementary learners with cognitive disabilities were characterized by teachers giving

directions and questioning. Wood and Wood (1997) and Heineman-Gosschalk (1999) also established that teachers of the deaf exercised high control during classroom discourse and this affected students' performance. These studies, however, did not ascertain the nature of classroom interaction during reading comprehension lessons. Other studies in Kenya such as those by Bett (2008) and Ogutu (2012) established that teachers of English dominated classroom interaction in language lessons. The studies were, nonetheless, conducted in regular secondary schools and they focused on the teaching of English in general. In addition, Flanders' (1970) category system which does not consider the non-verbal mode of communication used by deaf students was used. The current study employed Craig and Collins (1970) category system which is specifically designed for interactions in classrooms for the deaf, in establishing the nature of classroom interaction during reading comprehension lessons, an aspect that was not examined by preceding studies.

The language of instruction facilitates learning and interaction between teachers and students. Consequently, the low achievement of deaf students has been associated with deficiencies in the language of instruction (Adoyo, 2004; Irokaba, 2006). According to Irokaba (2006), Simultaneous Communication (SC) was the 'official method' of instruction in most African countries. This was confirmed in studies by Adoyo (2004), Ochwal (2008), Maina (2009) and Ludago (2014) which established that SC was commonly used in classrooms for the deaf. None of these studies, however, focused on language use during English reading comprehension lessons. Despite the widespread use of SC, its use has been associated with deaf students' limited knowledge and difficulties in reading comprehension (Irokaba, 2006). Moreover, Ochwal (2008) reported that SC was characterized by omissions, mismatches and distortion of information. The Kenya Secondary School

curriculum (KIE, 2004) and Adoyo (2004) recommend the use of Kenyan Sign Language and English (Bilingual approach) in the education of the deaf. The application of this approach in the teaching of English reading comprehension has however not been ascertained by existing studies.

The use of teaching and learning resources is an integral component in any learning context. Specifically, the use of visual aids has been found to be important in the education of the deaf (Sandra, 2005) and in improving achievement in reading comprehension (Gentry, Chinn & Moulton, 2005). Challenges have, however, been observed among teachers in identification of appropriate reading materials for deaf students (Heinen-Gosschalk, 1999). In East Africa, insufficient utilization of a variety of authentic material and overreliance on textbooks has been reported as a hindrance to the effective teaching of reading to hearing students (Nganyi, 2006). For example, Siima (2011) reported that real objects, chalkboards, pupil's exercise books, charts and flashcards were the instructional materials used during reading and writing lessons in lower primary classes for the deaf (class 1-3) in Uganda. Ogada (2012) further observed that the chalkboard was the most used resource in the teaching of English composition in primary schools for the deaf in Nyanza province, Kenya. Both studies by Siima (2011) and Ogada (2012) were done in primary schools for the deaf and did not specifically focus on reading comprehension. Besides, the instructional materials found to be used in both studies were appropriate for the level of learners but may not necessarily be sufficient in teaching reading comprehension to deaf students at secondary school level. The current study therefore went further to establish the teaching and learning resources used in secondary schools for the deaf which were not well known.

The instructional strategies that teachers plan for their students are determined by their beliefs, perspectives and decisions (Woolfolk Hoy, Hoy & Davis, 2009). According to Dada and Atlanta (2002) teachers' beliefs may not only be associated with teaching practices but also with characteristics exhibited by students such as special educational needs. For instance, Siima (2011) found out that teachers perceived deaf students as slow learners and this influenced their knowledge and of use of methods in teaching reading and writing. Similarly, Ludago (2014) observed that most of the teachers of the deaf in Ethiopia were not energetic and psychologically ready to teach deaf students. Additionally, a positive relationship between teachers' beliefs and their classroom practices in the teaching of reading comprehension has been established (Richardson, Anders, Tidwell & Lloyd, 1991; Chou, 2008). On the contrary, other studies such as that by Khonamri and Salimi (2010) found no significant correlation between teachers' beliefs on the importance of reading strategies and their classroom practices. Richardson *et al*. (1991), Chou (2008) and Khonamri and Salimi (2010) studies relied on teachers' self reports on the use of teaching strategies without observing their actual practices. In addition, they did not establish the perspectives of Kenyan teachers on reading comprehension teaching strategies. The current study employed self reports and observations to compare teachers' perspectives and their actual classroom practices.

Besides effective teaching strategies, the learning of English reading comprehension necessitates readers to be equipped with a variety of strategies to help them understand what is read (Snow *et al*., 2002). The setbacks of deaf students in reading comprehension have therefore been related to their learning strategies. According to Andrews and Mason (1991) and Strassman (1992) deaf students still experienced difficulties with lower-level skills

which delayed the development of independent reading strategies such as, self-questioning, activation of prior knowledge, summarisation, visualisation, prediction, inferencing, monitoring comprehension and the re-reading of difficult sections of a text for understanding. Schirmer (2003) and Strassman (1997) further ascertained that deaf students were less aware when they did not comprehend, lacked awareness of learning strategies and how to use them effectively. These studies were however carried out in countries where English is the first language. Moreover, the strategies used by secondary school deaf students in Kenya in reading comprehension have not been identified by existing studies. The current study therefore aimed at establishing the learning strategies used by secondary school deaf students in Kenya where English is a second language and its acquisition contravenes the linguistic interdependence theory.

Knowledge of English vocabulary has been reported as one of the best predictors of reading achievement in both hearing and deaf students (Richek, 2005; Kyle & Harris, 2006). Research indicates that deaf students experience delayed vocabulary development which adversely affects their achievement in reading comprehension (Lederberg & Spenser, 2001; Musselman, 2000; Kelly, 1996). According to Johns (2009), comprehension decreased by 50.0% when readers knew less than 90% of the words in a passage. This was particularly true for deaf readers (Albertini & Mayer, 2011). In East Africa, Athiemoolam and Kibui (2012) observed that low proficiency in vocabulary affected secondary school hearing students' achievement in reading comprehension. Mukiri (2012) further indicated that there was a significant relationship between vocabulary breadth, depth and reading comprehension. These studies, however, did not look into deaf students' knowledge of contextual vocabulary which Van Zeeland (2012) presumed to be a sufficient condition for

comprehending a text. Other studies in primary schools for the deaf in Ethiopia and Kenya have established that deaf students had low vocabulary knowledge in English reading and writing (Ludago, 2014; Ogada, 2012). Nonetheless, the studies did not examine the influence of knowledge of English vocabulary on secondary school deaf students' achievement in reading comprehension which the current study addressed.

Knowledge of English grammar has also been found to have a fundamental role in reading comprehension (Nation & Snowling, 2000). Consequently, the challenges of students in reading comprehension have been associated with difficulties in interpreting meaning in sentences. This was connected to lack of familiarity with the complex sentence structures that occurred in written languages and rarely in oral languages (Kelly, 1996). Miller, Kargin Guldenoglu, Rathmann, Kubus, Hauser and Superegon (2012) reported that inaccurate syntactic knowledge exerted a direct and adverse effect on deaf students' reading comprehension. Ogada (2012) further established that deaf students had a very low competence level in sentence construction when writing compositions. Similarly, Ludago (2014) reported that knowledge of English structure was one of the major problems that influenced deaf students' overall understanding of a text. Although Ludago (2014) and Ogada (2012) established that primary school deaf students had difficulties in English grammar, the influence of this aspect on achievement in reading comprehension of secondary school deaf students was not ascertained hence the need for this study.

The final success of the teaching and learning process is strongly affected by the reader's attitude (Richeck, List & Lerner, 1989). According to Lipson and Wixson (2003) the student's attitude towards reading is an essential factor that may affect reading performance.

Kırmızı (2011) further asserted that reading attitude was a significant predictor of the reading comprehension strategies employed by students. Studies by Polychroni, Koukoura, and Anagnostou (2006) and Lazarus and Callahen (2000) established that students diagnosed with reading disability had negative attitudes towards reading. This was evident in a study by Monreal and Hernandez (2005) in which Spanish deaf students had an indifferent attitude towards reading at the end of primary school. The study, however, was done in schools where reading was done in Spanish and not English. Similarly, Morgan, Fuchs, Compton, Cordray and Fuchs (2008) established that first grade children who experienced consistent failure in reading had a negative attitude towards reading. This study, nonetheless, did not involve deaf students. The findings of the preceding studies suggest that the challenges of deaf students in reading have an implication on attitude and achievement. There was need therefore to find out the attitude of Kenyan secondary school deaf students towards reading and its implication on achievement in English reading comprehension which was not known.

According to the English syllabus objectives, by the end of form four, a deaf student is expected to: read and understand a range of text; enjoy reading literary and non-literary material; demonstrate awareness of contemporary issues and acquire a long-life interest in reading. In addition, the student should be able to apply reading comprehension skills such as recall, analysis, synthesis, summarizing and note making (KIE, 2004). Deaf students in Kenya, however, still complete school when they can barely read. Existing reports have pointed to inappropriate language of instruction as the key issue (Adoyo, 2001). Other studies such as Maina, Oracha and Indoshi (2011) which provided an insight for this study

indicated that deficiency in English language was a major factor that influenced performance of deaf students in mathematics.

English language plays a vital role in the Kenyan education system since it is the official language and the medium of instruction in schools (Republic of Kenya, 1988). An integrated approach is adopted in the teaching of English where four skills are taught namely listening, speaking, reading and writing. The KCSE examination results, however, indicate that the performance of deaf students in English continues to be below average (Kenya National Examination Council (KNEC), 2008, 2009, 2010, 2011 and 2012). This is evident in Table 1 which shows the mean scores in English for A, B, C and D secondary schools for the deaf in Kenya for the years 2008, 2009, 2010, 2011 and 2012.

Table 1: Kenyan Secondary Schools for the deaf K.C.S.E. English Examination Mean Scores for the Years 2008, 2009, 2010, 2011 and 2012

SCHOOL	**YEARLY MEAN SCORES**				
	2008	**2009**	**2010**	**2011**	**2012**
A	1.96	4.00	2.80	3.21	3.37
B	3.20	2.90	2.01	2.33	2.14
C	2.42	3.77	3.05	-	2.50
D	-	-	2.00	4.00	2.00
AVERAGE	**2.53**	**3.56**	**2.47**	**3.18**	**2.50**

Source: KNEC (2008, 2009, 2010, 2011, 2012)

NB: School D had not registered KCSE candidates before the year 2010
School C's results were cancelled in the year 2011

The KCSE English examination consists of three papers. Paper one, which is marked out of 60, tests functional skills. Paper two which is marked out of 80 tests comprehension, literary appreciation and grammar. Paper three which is marked out of 60 tests creative composition and essays based on set texts. Much of reading comprehension is found in the first three questions of paper two which add to 65 marks. The questions involve reading and answering comprehension questions from a passage, an excerpt from a text, poem or a story. In relation to the total marks from the three papers, reading comprehension therefore accounts for 32.5% of the total marks in the KCSE English examination. This is a significant percentage that is likely to influence deaf students 'academic achievement in English.

Besides reading comprehension being an important skill in English, it is also a service skill in other subjects written in English. There is no doubt therefore, that reading comprehension has an influence on the overall academic achievement of deaf students. Research on the teaching and learning of English reading comprehension among deaf students in Kenya however remains minimal. It was for this reason that this study set to examine the teaching and learning of English reading comprehension and its implications on the academic achievement of deaf students in secondary schools in Kenya.

1.2 Statement of the Problem

The performance of deaf students in KCSE English examination continues to be below average as illustrated in Table 1. In the years 2008, 2009, 2010, 2011 and 2012, deaf students registered mean scores of 2.53, 3.56, 2.47, 3.18 and 2.50 respectively out of the possible mean of 12. Reading comprehension accounts for 32.5% of the total marks in English KCSE examination. This is a significant percentage that is likely to have a negative

influence on deaf students' academic achievement in English. It might also affect their overall performance given that reading comprehension is a service skill that facilitates understanding of all subjects written in English.

Research in the teaching and learning of English reading comprehension in secondary schools for the deaf in Kenya has been given minimal attention. Specifically, it is not known how reading comprehension is taught in these schools despite the below average achievement in English and the curriculum highlighting the teaching strategies to be used. In addition, no study has been done to establish the perceptions of teachers on reading comprehension teaching strategies which would help in improving their classroom practices.

Studies related to the reading strategies of deaf students have been done in primary schools but little is known about the reading comprehension strategies of secondary school deaf students in Kenya. Similarly, factors such as deaf students' attitude towards reading, and knowledge of English vocabulary and grammar have been reported to influence achievement in reading comprehension. However, the attitude of Kenyan deaf students towards reading is not known. Moreover, contextual vocabulary knowledge which determines deaf students' comprehension of a particular passage has not been the focus in previous studies. It has further been reported that deaf students in Kenya have low competence levels in English grammar but the influence of this on academic achievement in reading comprehension has not been ascertained.

The emergence and extensive use of modern technologies in dissemination of information demands a wide range of skills and competencies in reading comprehension if deaf students are to productively function in the society. Similarly, teachers need to prepare the students to

engage effectively and creatively with print and electronic information. This study therefore set to examine the teaching and learning of English reading comprehension and its implications on academic achievement of deaf students in secondary schools in Kenya.

1.3 Purpose of the Study

The purpose of this study was to examine the teaching and learning of English reading comprehension and its implications on deaf students' achievement in secondary schools in Kenya.

1.3.1 Objectives of the Study

The objectives of the study were to:-

i. Find out how English reading comprehension is taught in secondary schools for the deaf and the implications on academic achievement, in relation to:

    -Teaching strategies

    -Nature of classroom interaction,

    -Language of instruction

    -The use of teaching and learning resources

ii. Determine the perspectives of teachers of English on reading comprehension teaching strategies and the implications on academic achievement.

iii. Find out the learning strategies used by deaf students in English reading comprehension and the implications on academic achievement.

iv. Determine the influence of deaf students' attitude towards reading on academic achievement in English reading comprehension

v. Establish the influence of deaf students' knowledge of English vocabulary and grammar on academic achievement in English reading comprehension.

1.4 Research Questions

The study was guided by the following research questions:-

i. How is English reading comprehension taught in secondary schools for the deaf in and what are the implications on students' academic achievement? In relation to:

    -Teaching strategies

    -Nature of classroom interaction,

    -Language of instruction

    -The use of teaching and learning resources

ii. What implications do perspectives of teachers on English reading comprehension teaching strategies have on deaf students' academic achievement?

iii. What implications do learning strategies used by deaf students in English reading comprehension have on their academic achievement?

iv. How does attitude towards reading influence deaf students' academic achievement in English reading comprehension?

v. How does the knowledge of English vocabulary and grammar influence deaf students' academic achievement in English reading comprehension?

1.5 Assumptions of the Study

The study was based on the following assumptions:

i. Reading comprehension is taught in all secondary schools for the deaf in Kenya.

ii. All teachers are trained to teach English to deaf students.

iii. The English county mock examinations were an accurate measure of deaf students' academic achievement in reading comprehension.

1.6 Scope of the Study

This study focused on examining the teaching and learning of English reading comprehension and its implications on deaf students' academic achievement in secondary schools in Kenya. The study was carried out in four secondary schools for the deaf that had done KCSE and county mock English examinations. The variables considered in this study included teaching methods, classroom interaction, language of instruction, use of resources, teachers' perspectives, learning strategies, students' attitude, knowledge of English vocabulary and knowledge of English grammar.

1.7 Limitations of the Study

The limitations of the study were:

i. The use of questionnaires may have resulted to ceiling-floor effect. This was minimized by use of interviews and observations which provided more evidence on the actual behavior of students and teachers.

ii. The use of video recording may have influenced the natural classroom interaction. This was counteracted by preparing the students and teachers beforehand about the use of video recording and its purpose.

1.8 Significance of the Study

The outcome of this study may be useful in strengthening the status of reading comprehension for academic excellence among deaf students. The Teacher Training Colleges may find guidance on teaching methodology for teachers of English of the deaf.

Similarly, the KNEC may find relevant factors to consider in setting English examinations for deaf students. For KIE, English curriculum reform points may be provided. Lastly, a basis for future research in related areas may be provided.

1.9 Conceptual Framework

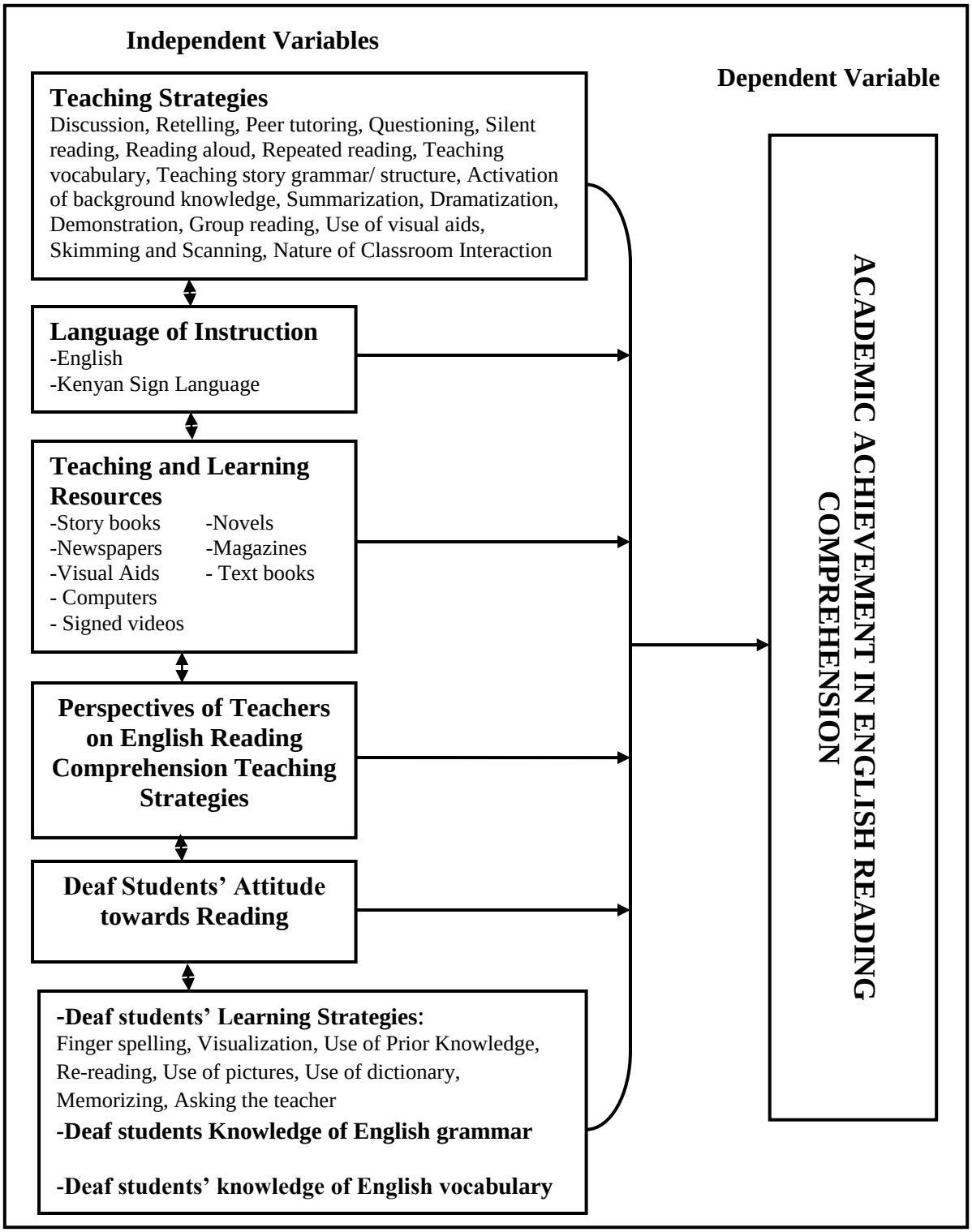


Figure 1: A Conceptual Framework showing the Interaction of Selected Teaching and Learning Variables that have Implications on Deaf Students' Achievement in English Reading Comprehension

Figure 1 illustrates a conceptual framework that outlines the interaction of selected teaching and learning variables that have implications on deaf students' achievement in English reading comprehension. From Figure 1, achievement in English reading comprehension is viewed as an interactive process that involves deaf students' learning strategies, teaching strategies, teaching and learning resources, language of instruction, students' attitude and teachers' perspectives in the classroom context.

Language facilitates the interaction between the student, the teacher and the text during the teaching and learning of reading comprehension. When the teacher and the students are proficient in Kenyan Sign Language and English, a successful interaction occurs in the classroom which promotes comprehension. Proficiency in English implies that deaf students have to know the English vocabulary and grammar in order to understand a text. On the other hand, the teacher needs to recognize the roles that the two languages play in instruction for comprehension purposes. Effective use of either language in the classroom is influenced by the teachers' perceptions and students' attitude towards the language which has an implication on achievement.

A deaf student approaches the task of reading with a set of skills, knowledge and abilities. If the student is acquainted with appropriate strategies for the type of text and knows how to apply them, reading comprehension is achieved. However, if the student lacks the essential skills, knowledge and strategies, reading comprehension becomes a daunting task. This influences his engagement with the text, general attitude towards reading and overall achievement in reading comprehension.

Consequently, a teacher of English has the responsibility of nurturing the unique variables that a deaf student brings to the task of reading. This entails planning and providing the kinds of tasks, materials and teaching strategies that will facilitate reading comprehension. The teacher's perception on deaf students, use of teaching strategies and resources and language of instruction influences the overall outcome of the learning process. A teacher who possesses positive perceptions is therefore enthusiastic in preparation and presentation of lessons. The teacher is also likely to hold higher expectations of his students and use suitable teaching strategies that promote positive reading attitudes among the students and high achievement in reading comprehension.

Effective teaching and learning of reading comprehension is achieved when there is access to, and use of various types of reading resources such as textbooks, newspapers magazines, storybooks, novels and visual aids. This encourages various purposes and forms of reading. It also determines the choice and use of various teaching and learning strategies. Resourceful environments contribute to greater reading frequency, positive attitude towards reading and the development of reading comprehension abilities among deaf students.

1.10 Operational Definition of Terms

Academic Achievement: A student's total score in English reading comprehension.

Attitude: Feeling of a student about reading and the type of reaction they have towards reading.

Classroom interaction: The communication events that occur between the teacher and the student during the teaching and learning process.

Deaf: A student with profound hearing loss who uses sign language to communicate

First Language (L1): The language one acquires first, knows best and uses most of the time such as Kenyan Sign Language

Learning strategies: The activities students engage in when trying to comprehend what they read.

Perspectives: Views, opinions and beliefs held by teachers of English regarding reading comprehension teaching strategies.

Reading comprehension: The process of constructing meaning through the interaction of the reader, the text and the teacher in a classroom context.

Second Language (L2): The second or additional language learnt in a formal setting such as English.

Teaching Strategies: The teaching methods used in English reading comprehension.

CHAPTER TWO

LITERATURE REVIEW

2.1 Teaching of English Reading Comprehension

2.1.1 Teaching Strategies

Teaching strategies refer to organized techniques intended to achieve a discrete learner outcome (Slavin, 2000). Effective teaching demands for the implementation of many strategies and skills to accommodate the needs and learning styles for each individual student in the classroom (Archer, 2004). Most of the strategies that have been found to be effective to hearing students can be modified to meet the needs of deaf students in the best way (Gilbert, 2011). According to Raphael *et al*. (2004) cited in Closs (nd) three principles are paramount in reading comprehension instruction. First, it is imperative that comprehension instruction be explicit. Second, the strategies should be modeled by skillful readers including teachers and peers. Lastly, the strategies must be scaffolded by teachers until the students are able to use the strategies successfully and independently while reading.

Three phases have been identified in English reading comprehension lessons. They include, pre- reading, during reading and post reading. The pre-reading stage is a preparation phase that involves vocabulary teaching; the use of students' background knowledge on the topic; questioning; surveying the text by looking at the title, author, topic sentences and main idea; prediction; and use of instructional aids to set a context. During reading is the active stage of constructing meaning from the text. This involves silent reading, guided reading, demonstrations, explanations, definitions and clarifications. Finally, post reading is the final stage where teachers and students engage in activities such as discussion, summary,

retelling, appreciation, evaluation and word work (Gathumbi & Masembe, 2005; Pinnell, 2002; Readence, Moore & Rickelman, 2004; McCormick, 2007; McIntyre, 2007).

Extensive research and recommendations have been made on effective reading comprehension teaching strategies. For instance, the National Reading Panel's synthesis of comprehension research studies in America (NRP, 2000) indicated that explicit instruction of reading strategies, cooperative learning, use of graphic and semantic organizers, questioning, teaching of story structure and summary were effective strategies of teaching reading comprehension.

Luckner and Handley (2008) also reviewed 52 research publications in journals readily available in the US between 1963 and 2003 on reading comprehension of deaf and hard of hearing students. They included studies at all levels of evidence, experimental or randomised clinical trials, case study or qualitative, correlational or descriptive, and single subject. The strategies that were reported to be effective included: Explicit instruction in strategies for comprehension; teaching narrative structure or story grammar; using modified Directed-Reading Thinking activities (DRTAs- reading for specific purposes, guided questions, guided reading, dramatization, discussion); using approaches that activate and build background information before reading; using reading materials that are high-interest, well-written and have not been simplified grammatically or in vocabulary choice; providing specific activities to build vocabulary knowledge; using connected text instead of sentences in isolation to provide instruction in syntax or grammar; encouraging the use of mental imagery while reading; and teaching students to look for key words to assist in text comprehension. Although this report was comprehensive given the number of studies

reviewed, it was restricted to studies done in the US. The reading comprehension teaching strategies used in Kenya particularly in secondary schools for the deaf were yet to be determined.

A research by Al-Hilawani (2003) in United Arab Emirates on clinical examination of three methods of teaching reading comprehension to deaf and hard-of-hearing students further established that the key word strategy and modified reciprocal teaching techniques were more effective in enhancing deaf students' overall performance in reading comprehension. Modified reciprocal teaching involved combining four instructional strategies including predicting, summarizing, questioning, and clarifying to enhance students' comprehension of text. The key word strategy on the other hand combined comprehension with memorization skills. While this study proposed effective methods that could be used with deaf students, the results were based on only thirty grade three deaf students and six teachers. The generalizability of the results to secondary school deaf students in Kenya may not therefore be conclusive hence the need for this study.

According to Heineman-Gosschalk (1999) teachers who were deaf were highly effective in constructing meaning from text as they read with deaf students. They communicated, read and adopted strategies which were high in semantic contingency and low in control. Such strategies had earlier on been identified by Schelper (1995) and they included: Keeping Sign Language and English visible; avoiding textual limitation; connecting ideas in the stories to the real world; having equal partnership; adjusting sign placement and style to fit the story; use of effective strategies to maintain attention; use of role play to extend concepts; use of eye gaze to elicit participation; providing positive environment; having high

expectation in the abilities of deaf students; and promoting deaf readers as role models. Teachers of English in secondary schools for the deaf in Kenya would therefore be expected to emulate similar strategies in teaching English reading comprehension since teachers who are deaf have proved the effectiveness of the strategies.

In the same way, deaf students have reported the teaching strategies they preferred in reading comprehension. For example, in a study on understanding the motivation of deaf adolescent Latino struggling readers Herzig (2009) found that deaf students reported understanding a text better when the teachers discussed new vocabulary before reading and guided them on the reading by reading aloud. The study, nonetheless, involved four deaf students in elementary school and employed interviews only. Moreover, its focus was not on the teaching of reading comprehension and the findings were not based on secondary school deaf students whose experience in reading is likely to be different.

In a study on the state of reading instruction in Secondary Schools in Akwa Ibom State, Nigeria, Udosen (2011) observed that most reading lessons did not reflect the current understanding of reading as an interactive process. Traditional methods that were teacher centered such as characterized the three phases of reading. For example when using the questioning method, none of the teachers tried questions outside those set in the text. The implications of this study were however geared towards sustainable development and not academic achievement. Similarly, in Uganda, Siima (2011) established that questioning, lecture and demonstration were the commonly used strategies in teaching reading and writing skills to lower primary school deaf students. Ludago (2014) further found that reading lessons in special and integrated primary schools for the deaf in Addis Ababa,

Ethiopia were typified by traditional methods particularly the lecture method. The studies by Siima (2011) and Ludago (2014) shed more light on the strategies used to teach reading to deaf students in Africa. Nonetheless, they were done in primary school for the deaf and did not explore the reading comprehension teaching strategies used in secondary schools for the deaf. In Kenya, Ogada, Oracha, Matu and Kochung (2012) established that repetition, demonstration, guided writing, discussion and signing stories were the strategies used in teaching English composition in primary schools for the deaf in Nyanza province, Kenya. Although this study was done in Kenya, it focused on composition writing and not reading comprehension which the current study addressed.

According to Kenya Deaf Resource Centre (K.D.R.C, 2009) there is no single method or single combination of methods that can successfully teach all students to read. As a result, teachers need to have a wide knowledge of appropriate methods for teaching their students. Nonetheless, teaching strategies such as shared reading, guided reading, independent and peer reading could be used with students who are deaf.

The teaching of English in secondary schools for the deaf in Kenya adopts an integrated approach where the four language skills, that is, listening, speaking, reading and writing are taught in a concurrent manner. Consequently, the curriculum does not explicitly stipulate the teaching strategies of reading comprehension for deaf students. However, it indirectly implies strategies such as silent reading, sign reading, skimming and scanning, teaching of story grammar, summarising, note making, group discussions, book reports, dramatization, role play and the use of the dictionary in the teaching of reading. The need to make reading interesting and fulfilling and the effective planning of pre-reading activities have also been emphasized (KIE, 2004). The implementation of the recommended strategies in teaching

reading comprehension in secondary schools for the deaf is, however, not known hence the need for this study.

Based on the findings and recommendations of previous studies, the current study focused on the use of 16 teaching strategies of reading comprehension which are discussed in subsequent sections.

2.1.1.1 Activation of Students' Prior Knowledge

Prior knowledge refers to what students already know about a topic (Marzano, 2004). Activation of prior knowledge therefore means stimulating students' minds so that they can recognize existing knowledge about the text. According to Miller (2002) prior knowledge is an important factor for creating meaning, and teachers should help students to activate it before reading so that information connected to concepts or topics in the text become more easily accessible during reading. Strategies that effectively activate prior knowledge include brain storming, predicting, pre-reading, picture walks, questioning and topic talking (Brooks, 1997, cited in Closs (nd). Often, deaf students do not have the same depth or breadth of knowledge about topics as their hearing peers. Consequently, teachers need to spend time activating and expanding students' background knowledge prior to reading (Schirmer, 2000).

2.1.1.2 Teaching of Vocabulary

Teaching vocabulary refers to direct instruction of selected words necessary for meaning making in a text. It helps to learn high frequency words that appear in texts, as well as difficult words that represent complex concepts that are not part of their everyday experiences (Armbruster, Lehr & Osborn, 2003). When students do not understand most of

the words used in a text, they spend too much mental energy figuring out the unknown words. This compromises the comprehension of the text as a whole. According to Herzig (2009) deaf students preferred the teaching of vocabulary to be done before reading. Teachers therefore need to teach vocabulary items prior to reading texts. The vocabulary items selected for teaching should be relevant in the meaning making process and not just the word lists supplied in textbooks. Apart from explicit teaching of vocabulary items, teachers can develop students' skills in the use of context clues, word parts and dictionaries (Blachowicz & Fisher, 2000; Pardo, 2004).

2.1.1.3 Teaching of Story Grammar and Text Structure

Teaching of story grammar refers to guiding learners in identifying the setting, main characters, problem, attempts to solve the problem, and the resolution in a text (Luckner & Handley, 2008).Teaching of text structure on the other hand involves helping learners understand how a written text is organized by recognizing relationships across sentences and larger units of a text (Gersten, Fuchs, Williams & Baker, 2001). Discussion of story grammar helps deaf students understand the components of a text (Luckner & Handley, 2008). In contrast, awareness of text structure enables readers to identify, summarize, and recall main ideas and supporting information (Kame'enui, Carnine, Dixon, Simmons, & Coyne, 2002; Meyer, Talbot, Poon & Johnson, 2001).

2.1.1.4 Discussion

Discussion is a strategy in which the teacher and the learners or the learners alone engage in the exchange of ideas and opinions on a topic in order to come up with the best opinion (Gichuba, Opatsa & Nguchu, 2010). Effective teachers of reading comprehension use

classroom discussion to help readers work together in deriving meaning from the texts (Langer, 2001). Apart from promoting greater active participation of students, discussions increase students' literal and inferential understanding of texts (Murphy, Wilkinson, Soter, Hennessey & Alexander, 2009). Effective discussion involves a good understanding of, and critical thinking about the text. This entails listening and linking to others' ideas, providing evidence from the text to support one's thinking and regular student participation.

2.1.1.5 Repeated reading

This is a strategy that requires a student to read the same text repeatedly until a desired goal or criterion is met (Ruskey, 2011). Repeated reading practice has been found to increase the reading rate, accuracy and comprehension of students with and without disabilities in elementary and secondary schools (Therrien, 2004). Specifically, the strategy has been found to increase the reading fluency of deaf students (Schirmer, Therrien, Schaffer & Schirmer, 2009). Effective use of repeated reading for fluency and comprehension purposes involves reading aloud to an adult, provision of immediate and direct feedback on word errors and persistence in reading until a performance criterion is reached (Therrien, 2004).

2.1.1.6 Dramatisation

Dramatisation is a strategy in which teachers have students prepare skits based on a text. This strategy is a text response activity that uses sensational action, exuberant emotions, and somewhat stereotyped characterization to present a message (Gripe, 2006). It provides students the chance to use all skills in decoding meaning, understanding the feelings of others, expanding vocabulary, making appropriate use of syntax, analyzing discourse, generating feedback within context, and building metacognitive knowledge (McMaster,

1998; Urian, 2000). Incorporating drama to instruction not only increases the level of joy in the classroom but also increases story comprehension (Szecsi, 2008).

2.1.1.7 Peer tutoring

Peer tutoring is the acquisition of knowledge and skills through active help and support among status equals or matched companions. It involves people from similar social groupings who are not professional teachers helping one another to learn. It may also consist of students at the same learning level or learners of varying learning levels working together. Peer tutoring experiences enhance communication skills such as questioning, listening, explaining, summarizing, speculating, and hypothesizing. It is also an effective way of increasing students' self-esteem and it enhances retention of more information (Topping, 2005; Greenwood & Hou, 2001; Miller, Topping, & Thurston, 2010). Peer tutoring gives teachers the opportunity to maximize their instructional influence on the classroom as well as to provide individualized instruction (Kourea, Cartledge & Musti-Rao, 2007).

2.1.1.8 Group reading

Group reading refers to a strategy in which the teacher puts several students together for a reading activity. With the support of the teacher, students' model for each other correct responses, provide ongoing feedback and monitor each other's progress. This strategy not only increases the academic time during which students are actively engaged, but also improves students' interactions. This strategy is therefore beneficial to struggling students as well as English as a second language students since these two groups have difficulties learning in whole-class situations where they are often reluctant to participate (Klingner & Vaughn, 1999; Vaughn, Klingner & Bryant, 2001).

2.1.1.9 Retelling

Retelling is a strategy that involves re-stating a story or important elements of a passage that were heard or read. It is one of the most popular ways of assessing reading comprehension (Nilsson, 2008) and has been found to increase students' comprehension (Schisler, Joseph, Konrad & Alber-Morgan, 2010). Whether it is done verbally or in writing, retelling a text enhances a students' ability to recall information, organize it in a meaningful way and draw conclusions about the relationships between ideas (Klingner, 2004). Effective use of retelling with deaf students necessitates modeling and positive corrective feedback with encouragement and praise (Andrews, 1988).

2.1.1.10 Summarisation

Summarisation refers to identifying the main idea in a paragraph or composing a concise statement of the central concepts from a longer passage, either orally or in writing. It helps students to identify, paraphrase, integrate and organize the most important information, themes, and ideas that appear in the text into a clear and concise statement. Summarisation is the driving force that brings a context for comprehending the specific purpose of a text into existence (Doolittle, Hicks, Triplett, Nichols & Young, 2006). Instruction and practice in summarisation not only improve students' ability to summarise text, but also their overall comprehension of the text content (Duke & Pearson, 2002).

2.1.1.11 Skimming and Scanning

Skimming is the process of rapid coverage of the text to determine its gist or main idea (Brown, 2004). The purpose of skimming is to get a general sense of a text and not specific details. It is a high speed reading that can save time and help the readers get through lots of

materials quickly (Mikulecky & Jeffries, 2004). Brown (2004) claims that skimming is a prediction strategy used to give the reader a sense of the topic, purpose, organization of the text, perspective of the writer, its ease or difficulty and its usefulness to the reader. Effective skimming involves asking students to locate facts that are expressed in sentences rather than in single words; saying briefly what the text is about; or giving specific questions that can be answered by glancing quickly through the text. Scanning, on the other hand, entails searching quickly for some pieces of information in a text. The purpose of scanning is to extract specific information without reading through the whole text (Brown, 2001).

2.1.1.12 Questioning

According to Cotton (1989) questions in classroom settings are instructional cues or stimuli that convey the content elements to be learned by students. Teachers ask questions during reading to develop concepts, build background, clarify reasoning processes, enhance critical thinking skills, foster retention and assess understanding (Gunning, 2003; Kintsch, 2005). Two types of questions may be employed by teachers, that is, lower cognitive questions (display questions) and higher cognitive questions (referential questions). Whereas lower cognitive questions ask the student to merely recall previously read or taught information verbatim, higher cognitive questions, on the other hand, require the student to mentally manipulate bits of information previously learned; create an answer; or support an answer with logical evidence. Effective questioning involves combining both higher and lower cognitive questions rather than using only one level (Cotton, 1989; McNeil, 2010).

2.1.1.13 Use of visual aids

Visual aids refer to any graphic displays that depict all or some of the accompanying text's content. Examples of visual aids include pictures, photos, maps, diagrams, charts, animations, and cartoons. The use of visual aids assists students in catching the gist of a text (Pan & Pan, 2009). It also provides readers with an extra source of information when reading. Through matching visual content with linguistic input and background knowledge, students are able to comprehend a text (Hibbing & Rankin-Erickson, 2003). More importantly, the use of visuals motivates and creates interest in students to read a text (Gibbs, 2001). Deaf students' dependence on the visual modality calls for the use of visual aids in teaching as much as possible (Marschark, Lang, & Albertini, 2002).

2.1.1.14 Demonstration

Demonstration is a strategy that focuses on showing rather than telling students what to do during the reading process. The teacher provides a form of modeling and guided practice on the strategies of reading comprehension. This involves showing students when to use strategies, what strategies to use, and how to apply them (Luckner& Handley 2008). The students therefore learn how to think about their reading process while learning from their reading as well (Lapp, Fisher & Grant, 2008).

2.1.1.15 Silent Reading

Reading silently means reading without labial movements or the vibration of vocal cords. This method implies that graphic forms are perceived visually and then transformed into meanings and ideas without passing through the vocal stage. Silent reading is usually seen as natural reading behavior and has been associated with the idea of reading for comprehension

(Alshumaimeri, 2011). Silent reading offers students with opportunities to read texts at their own speed. More so, silent reading builds students' confidence in their abilities to work through and understand a text independently (Hopkins, 1997). For silent reading to be an effective classroom technique intended to develop reading skills and fluency, it should be done in combination with other types of reading instruction, such as guided oral reading (Hiebert & Reutzel, 2010).

2.1.1.16 Reading Aloud

According to Harvey and Goudvis (2007), read-aloud is a teacher or student led activity that allows students to listen, talk and think about the text being read. For deaf students, read-aloud involves signing and reading at the same time. Read-aloud has been found to be an effective method to get students' attention, build motivation for the subject, and relate concepts to real life. It also provides students with a model of fluent reading and the opportunity to gain exposure to new vocabulary and knowledge (Braun, 2010). However, reading aloud has been regarded as a time consuming, unnatural, slow, and boring activity for those who have to listen to a classmate rather than read the text themselves (Dwyer, 1983; Gardner, 1986 cited in Kuzborska, 2011). Moreover, it provides only a superficial impression of the text for the reader who is reading aloud. This is because, when a reader concentrates on pronunciation or expression, the mind lacks the capacity to process the meaning (Nuttall, 2005).

2.1.2 Nature of Classroom Interaction

Vygotsky's sociocultural theory of learning points out that in the first place, human cognition occurs on a social level in interaction with other human beings and thereafter

inside the individual (Vygotsky, 1978). Learning is therefore a social, interactive enterprise in which the teacher and the learner co-construct meaning interdependently. This process joint meaning making is mediated through language during classroom conversations (Mayer, Akamatsu & Stewart,2002).The teaching and learning of reading comprehension can therefore be regarded as a collaborative process where the teacher and students co-construct meaning from the text as opined by Palincsar (2003).

An ideal classroom interaction model is learner- centered where students take a participative role and teachers become facilitators. This allows students to exercise their language skills, ask questions, define problems and lead conversations (Eken, 2000; Ahmad & Aziz, 2009; Chika, 2012).Conversely, teacher-centered interaction is associated with: display questions; inadequate stimulation of students' innovative capacities and intellectual thinking; memorization; cramming of facts; poor knowledge retention; and high dependency on teachers (Zhou & Zhou, 2002; Adeyemi, 2008; McDowell, 2001; Tanner, 2009; Tella, Indoshi & Othuon, 2010)

In order to be proficient and productive students, English language learners including the deaf need many opportunities to interact in social and academic situations (Cazden, 2001; Stipek, 2002). Consequently, effective classroom interaction involves teachers giving students opportunities and encouragement to question, express their views, and comment on issues or ideas that arise during the lessons. It also entails engaging students in discussions in order to explore and support the development of their understanding of content. The consideration and use of students' contributions in expanding the subject theme is also vital

(Alexander, 2000). In this regard, ineffectual classroom interactions would be characterized by teacher dominance and silence or minimal participation from students.

According to Liu (2001) and Tatar (2005) the nature of classroom interaction may be influenced by student and pedagogical factors. The student factors include: language skills; content knowledge; learning styles, interest in the topic; attitude and motivation; and the avoidance of making mistakes and being embarrassed. On the contrary, pedagogical factors may include teacher's encouragement, class size and teaching styles.

The IRF pattern, also known as the triadic dialogue, has proved to be a dominant form of interaction in the classroom setting. It involves teacher initiation, student response and teacher follow-up or feedback. The pattern has been thought to be an exchange system that allows the teacher to control classroom interaction thereby holding the power in the classroom (Cazden 2001). IRF structure can also lead to very different levels of student engagement and participation. In other words, by paying greater attention to students' answers and to what they do with those answers, teachers can bring about greater continuity so as to transform classroom talk from the familiar IRF sequence into purposeful and productive dialogue where questions, answers and feedback progressively build a thematically coherent stretch of discourse (Alexander, 2004).

Studies in Nigeria and Kenya primary schools have shown that teacher-pupil interaction often takes the form of lengthy recitations of questions by the teacher and subsequent answering by individual pupils or the whole class within an IRF structure (Tahir, Muhammad & Mohammed, 2005; Pontefract & Hardman, 2005). Depending on the amount of didactic control the teacher has over the IRF process, the experience can be either positive

or negative for students. It is, however, often negative for the deaf student, as noted by Kretschmer (1997). Although Tahir *et al.* (2005) and Pontefract and Hardman (2005) observed that the IRF structure was common in Kenya and Nigeria; their studies considered classroom interaction in varied subjects and not specifically reading lessons. Besides, they were based in regular primary schools and not secondary schools for the deaf.

Craig and Collins (1970) and Kim and Hupp (2005) established that special education teachers were more directive than responsive during their instructional interactions with their students. Teacher talk dominated their classrooms and was characterized by directions, most often in the form of questions. On the other hand, Wood and Wood (1997), in a review of studies of deaf students' classrooms, reported that when teachers had more control during classroom discourse students produced shorter utterances, asked fewer questions, made less contributions, communicated less with peers and showed more signs of confusion. Conversely, teachers who took less control while teaching elicited more complex utterances from students. Even though the foregoing studies were done in special schools, the findings were still general and did not center on interaction during reading lessons.

Heinnenam-Gosschalk (1999) further established that during reading sessions with deaf children, hearing teachers used high control moves while deaf teachers used low control moves. Learners were found to engage more in conversation around the text when approached with low control strategies. When high control strategies were used a higher percentage of passive responses were seen in the learners' performance. According to Heinemann-Gosschalk (1999) a helpful interaction around the text allowed more time for the learner to sign and less teacher talking or signing; more time for the learner to ask

questions and less questions asked by the teacher; more time for the learner to think and for the teacher to observe; less didactic approaches by the teacher; and more time for the learner to explore the text and read for meaning. The fact that the low control moves used by teachers who were deaf enhanced learner participation and performance in reading sets precedence on what is expected of teachers of English in secondary schools for the deaf during reading lessons.

In Kenya, Bett (2008) and Ogutu (2012) established that teachers of English dominated classroom interaction during language lessons. These studies were however based on regular secondary schools and focused on teaching of English language in general. Bett (2008) used Flanders Interaction Analysis Categories System (FIAC) (Flanders, 1970) while Ogutu (2012) used Second Language Interaction Analysis Schedule (SLIAS) in establishing the nature of classroom interaction. FIAC and SLIAS emphasis is on the verbal communication between the teacher and students. This excludes the deaf who communicate in sign language which is visual. The current study adapted Craig and Collins (1970) category system of communicative interaction in classrooms for the deaf in establishing the nature of classroom communication during reading comprehension lessons in secondary schools for the deaf in Kenya.

Craig and Collins (1970) interaction analysis system was developed in Pennsylvania based on observations in primary and secondary schools for the deaf. The system included an additional dimension describing the non-verbal communicative behavior of the deaf hence was considered appropriate for this study. It consisted of 10 interaction categories derived from FlAC and 10 possible modes of communication between deaf students and their

teachers. Seven categories (1-7) of the Flanders' system described teacher talk, two categories (8 and 9) described student talk, and the last one (10) denoted silence or confusion. The teacher talk categories comprised of: accepting feeling; praising or encouraging; accepting ideas; asking questions; lecturing; giving directions; and criticizing or justifying authority. On the other hand, the student talk categories included student response and student initiation.

The ten possible modes of communication considered by Craig and Collins (1970) included combined (signing and speech), finger spelling, demonstration, dramatization, evasive action, natural gesture, kinesthetic, signing; mechanical, speech and written. This study, however, considered eight modes of communication including combined, finger spelling, evasive action, non-manual signals, manual, speech, gesture and written. This is because some of the modes like dramatization, mechanical and demonstration had been considered as teaching methods. In addition, the timing for coding the categories was adjusted from three seconds to five seconds to cater for the extra time used when signing.

2.1.3 Language of Instruction

The linguistic interdependence theory argues for the existence of a common proficiency underlying all languages. The argument in deaf education, which follows from this theory, is that language skills that have been acquired through learning a sign language will facilitate the acquisition of reading (Cummins, 1991a). In other words, the theory predicts a positive and causal relationship between signing and reading skills. The process of reading should therefore be undertaken within a bilingual framework using the written text and sign language to explain written language (Günther, Hennies & Hintermair, 2009).

Heineman-Gosschalk (1999) found that hearing teachers most frequently mentioned that they had problems with communication and linguistic factors when they read with deaf children. Specifically, the problems included: The use of Sign Supported English (SSE), Signed English (SE) or British Sign Language (BSL) mode of communication; giving meaning to the story; non-transferability of visual system (sign) to English orthography; confusion in complicated sentences; dealing with the interface of text and BSL and ensuring appropriate use of SSE; getting attention between the text and the need to watch for visual clues on the lips; and lack of communication skills. Conversely, the challenges of teachers in using KSL and English when teaching reading comprehension to secondary school deaf students were not known.

Irokaba (2006) noted that since Simultaneous Communication (SC) is the 'official method' of instruction in most African countries there is the danger of the deaf child's limited knowledge in the second language, disrupting comprehension. This was evident in a survey by Adoyo (1995) in twelve schools for the deaf in Western Kenya where almost 95.0% of teachers were finding it difficult to use SC effectively. The survey also found that there was confusion between KSL and SC as teachers didn't know the difference between the two. Adoyo (2004) and Ochwal (2008) further ascertained that SC was characterized by omissions, mismatches and distortion of information. These shortcomings had a great impact on what was communicated to the learners leading to communication difficulties such as distortion and unintelligibility of the message.

A study by Adoyo (2004) on Simultaneous Communication and Kenyan Sign Language also revealed that deaf students performed better in memory recall and comprehension passages

presented in Kenyan Sign Language (KSL) than in Simultaneous Communication. However, he asserted that there was a role for signed spoken language separate from signing and speaking at the same time. Its use would assist deaf students as they struggle to understand the difference between KSL and English syntax, morphology, reading and writing.

In a paper on linguistic challenges facing deaf students in Kenya, Wamae (2002) was of the view that there is need to re-examine the use of sign language in schools for the deaf. Specifically, she raised questions on whether the sign language mode of instruction takes cognisance of the acquisition of the various grammatical structures of English in order to help the deaf learner acquire English as a service subject. This would, in turn help the learner to write coherently and undertake fluent and complex composition in standard English; while enhancing the adequacy of sign language in aiding the learner to acquire reading skills in English.

The Kamunge report (Republic of Kenya, 1988), on language policy states that the language of catchment area of a school be used as the language of instruction in pre-school, the first three years of school and in adult education programs. English is recognized as the official language and the language of instruction from grade four to university. In the teaching of English, the Secondary School English curriculum (KIE, 2004) also recommends the use of Kenyan Sign language and Signed English in the teaching of English. Adoyo (2004) asserted that the use of Kenyan Sign Language in instruction of deaf students was advantageous in that it provided a linguistic foundation and background knowledge necessary in making second language more comprehensible.

From the studies by Adoyo (2004) and Ochwal (2008), it is evident that SC is commonly used by teachers of the deaf regardless of its weakness. The use of the same in teaching English reading comprehension in secondary schools for the deaf has however not been ascertained by existing studies despite its negative influence on students' academic achievement.

2.1.4 The Use of Teaching and Learning Resources

The use of teaching and learning resources is an integral component in any learning context. Key to this is the use of visual aids which have been found important in: illustrating or reinforcing concepts; appealing to more than one sense at the same time, increasing students' understanding and retention level; differentiating instruction and thereby maintaining students' attention; and creating a relaxed atmosphere and context for learning (Domin, 2010). Deaf students' dependence on the visual modality calls for the use of visual materials and displays in the classroom (Marschark *et al.,* 2002). Teachers are therefore encouraged to use visual aids in teaching reading to deaf students to provide additional access to information presented in the classroom (Sandra, 2005).

Heineman-Gosschalk (1999) observed that one of the major problems of teachers of the deaf was to find the right materials to teach reading to deaf students. Teachers of the deaf therefore spent a lot of time identifying problems in the deaf students' learning process, developing learning routes, exploring reading sources and analyzing children's progress in literacy development. Very little room was therefore left for students to search for relevant literature on their own and express what they value as interesting to read. This protective approach by teachers made their pupils dependent on the teachers' conditions for learning.

The study recommended that deaf students should be offered varied, relevant and extensive reading environment. The challenges identified in this study were however based in primary schools and not secondary schools for the deaf.

Gentry, Chinn and Moulton (2005) studied the effects of multimedia computers on the reading achievement of twenty-six Taiwanese deaf students in elementary school. The experiment consisted of three kinds of intervention: text alone, text and graph, and text and sign language video. The results indicated that pure text alone produced the poorest performance of deaf students in reading comprehension while multimedia presentation produced better performance. The findings of this study point to the relevance of teaching and learning resources in reading comprehension. However, the teaching and learning resources used in reading comprehension in secondary schools for the deaf in Kenya are not known hence the need for this study.

In a study on factors affecting quality of English teaching and learning in secondary schools in Nigeria, Aduwa-Ogiegbaen (2006) found that the use of textbooks, dictionaries, chalkboards, work-books and posters dominated the teaching of English language. Modern media such as audio and video tapes, language laboratories, flash cards, computers and magazines and newspapers were rarely used. Nganyi (2006) further reported that there was insufficient utility of reliable materials such as newspaper articles, magazines, poems, advertisements and brochures in teaching reading in East African secondary schools. This slowed down the learners' scope and ability of reading due to overreliance on textbooks. The observations made from these studies were nonetheless done in regular secondary schools and not secondary schools for the deaf.

In a study on factors influencing the use of media in the teaching and learning of English in Kakamega East district, Kenya, Wangila (2011) observed that teachers used non- textual media less frequently during reading lessons. On the other hand, Ogada (2012) found that the chalkboard was the most used teaching resource in composition writing in primary schools for the deaf in Nyanza province, Kenya. English textbooks were found to be inadequate and the use of visual aids was minimal. Wangila (2011) and Ogada (2012) studies however did not look into the use of teaching and learning resources in English reading comprehension in secondary schools for the deaf.

In the teaching of English, the Kenyan Secondary School English curriculum for deaf students (KIE, 2004) recommends the use of resources such as visual aids, textbooks, signed recorded material, original materials from teachers and pupils, improvised materials, magazines, newspapers, pamphlets, handouts, notes, labels, symbols, signs, posters, advertisements, realia, signed or written poetry. Other suggested resources include, class readers, charts, maps models, library books, resource centers, computers, television sets, reports, periodicals and resource persons. It is, however, not known whether teachers of English in secondary schools for the deaf in Kenya use the recommended resources in teaching reading comprehension. The current study therefore aimed at establishing the use of teaching and learning resources in English reading comprehension in secondary schools for the deaf and its implications on academic achievement.

2.2 Perspectives of Teachers on Reading Comprehension Teaching Strategies

In order to understand how teachers approach their work, it is necessary to understand their guiding beliefs and principles (Arib, 2010). Like all human beings, teachers make decisions

on their teaching practices based on their beliefs (Stuart & Thurlow, 2000; Squires & Bliss, 2004). These decisions and actions have significant impact on the learning experiences provided for students and their behavior (Wiest, 1998). According to Johnson (1994), teachers' beliefs influence their perception and judgment and play a role in how information on teaching is translated into classroom practices. Karabenick and Noda (2004) indicated that teacher beliefs were significant because they affected their motivation to engage with students, which in turn translated into higher student motivation and performance.

Teachers' beliefs may not only be associated with teaching practices but also with the nature of educational needs. According to Dada and Atlanta (2002) teachers form an attitude towards students due to the characteristics they exhibit such as special educational needs. This influences their enthusiasm in preparation and presentation of lessons. Specifically, teachers of the deaf have been found to exhibit low expectations across topic areas such as writing and reading (Wood, 1998). They tend to offer simplified instruction and repetitious work of low complexity (Lane, Hoffmeister & Bahan, 1996). Other studies, for example, Siima (2011) established that teachers in Uganda perceived deaf students as slow learners and this influenced their knowledge and of use of methods in teaching reading and writing. Similarly, Ludago (2014) observed that most of the teachers of the deaf in Ethiopia were not energetic and psychologically ready to teach deaf learners. The results of studies by Siima (2011) and Ludago (2014) elucidate the general disposition of teachers towards deaf students. They are, however, less informative about the beliefs and perceptions of teachers towards the teaching strategies particularly in reading comprehension.

Richardson *et al.* (1991) studied the relationship between teachers' beliefs and practices in reading comprehension instruction. The study demonstrated that in most cases, the beliefs of teachers were related to their classroom practices in the teaching of reading comprehension. On the other hand, Chou (2008) conducted a study based on the assumption that teachers' approaches are highly influenced by their beliefs. Findings of the study revealed that there were no significant differences between the participants' beliefs and their choice of reading approaches. Both Richardson *et al.* (1991) and Chou (2008) studies used teachers' self reports on the use of teaching strategies and did not include observation. Apart from teachers' reports, the current study employed observations to establish the actual use of reading comprehension teaching strategies.

Discrepancies on what the teachers believe and their actual practices have been identified in various studies. For example, Commeyras and Degroff's (1998) survey on literacy educators of the deaf perspectives indicated that their practices were not always in line with their beliefs on the instructional practices. Observations by Lockwood (2006) further revealed that teacher instructional beliefs did not always correspond to classroom practice in reading classes for the deaf. According to Mohammed (2006), mismatches between beliefs and practices may be attributed to lack of procedural knowledge in teaching reading, insufficient weekly time, big classes, students' levels of motivation and English competence, final assessments, teachers' workload and teachers' motivation. Research on perspectives of teachers and their classroom practices during reading lessons in secondary schools for the deaf in Kenya is still minimal. This study, therefore, aimed at determining the perspectives of teachers of English on reading comprehension teaching strategies and their implications on academic achievement.

2.3 Learning Strategies Used in English Reading Comprehension

2.3.1 The Reading Process and Learning Strategies

In an attempt to explain the process of reading, three major groups of the reading models namely bottom-up, top-down and interactive have been developed. Each group of these models explains the strategies believed to be used by students as they engage in the meaning making process from the text.

2.3.1.1 Bottom-Up Models

The reading process in the bottom-up models starts with the decoding of the smallest linguistic elements especially phonemes and words, continued with creating meaning from the larger elements (Carrell, 1989). The elements of text that are emphasized include letters, words, phrases, and sentences. These elements are integrated from smaller to larger units to arrive at meaning (King & Quigley, 1985). Gough (1972) argued that the bottom-up model emphasises on the print itself, where the starting point of reading is to grasp word description, letter information, linguistic elements and sentences before understanding the meaning of the whole text. A reader's background knowledge may not be considered in the process (Grabe & Stoller, 2002).

Readers who rely too much on bottom-up processing make reading errors because they pay too much attention to graphic features and not enough to semantic concerns. They also tend to give verbatim answers from the text when inferences should be made and prior knowledge applied, rely on surface meaning and often use the dictionary to translate new words (McAnally, Rose & Quigley, 2006).

Webster (1986) argued that the use of a bottom-up approach was not a very efficient way of reading. If one had to generate hypotheses about words, sentences and context all the time in order to read, this might be very laborious. Lipson and Wixson (2003) also asserted that words, letters and sentences cannot simply be read correctly. They need to be understood in a meaningful way that is determined by the knowledge in a reader's long-term memory. According to Van Duzer (1999),Grabe (2004) and Eskey (2005), when using the approach, the reader decodes a text word by word. This leads to a slow pace of reading and overload of the short term memory. Consequently, the reader cannot remember what they read or critically think and this lowers motivation for reading. Lipson and Wixson (2003) therefore asserted that higher level skills should be an important element in reading comprehension.

2.3.1.2 Top-Down Models

Top-down models recognize the importance of higher skill levels in the reading process. Theorists such as Goodman (1972) proposed that a reader's prior knowledge interacts with the text to facilitate comprehension. These theorists argued that skilled readers rely as little as possible on graphemic details and use prior knowledge and context as they strive for comprehension. According to Lewis (1998), readers using top-down approaches are actively involved because of their use of semantic and syntactic guides, which help with the anticipation and prediction of meaning. They rely on their knowledge and experience of the world, language and reading. Apart from prior knowledge, Eskey (2005) further asserts that readers employ other strategies such as guessing main idea, contextual prediction, skimming and scanning during the reading process. According to Ahmadi, Hairul, and Pourhossein (2012), the top-down model emphasizes on reading skills like prediction, guessing, summarizing, getting the gist of the meaning of a text and inference.

Lipson and Wixson (2003) however noted that top-down approaches often cannot account for the ways in which beginners and poor readers approach a text. These readers often read using a lower-level text-driven system, focusing on the text only because they are unfamiliar with it and the content, yet they can still derive meaning in the process. Even accomplished readers resort to text-driven options if they are reading a passage they find particularly difficult. Ahmadi, Hairul, and Pourhossein (2012) further observed that emphasis on the model may result to over reliance on a reader's background knowledge and ignorance of textual features. Moreover, the model overlooks the possible difficulties that a reader may experience in predicting an unfamiliar topic of a text.

2.3.1.3 Interactive Models

According to Rumelhart (1977) the key understanding the reading process is to determine how bottom up and top down models interact. On the other hand, Stanovich (1984) asserted that interactive reading models provided a more realistic account of the reading process for both good and poor readers than strictly top-down or bottom-up models. His central argument was that reading is neither a bottom-up nor a top-down process because it involves a synthesis of simultaneous processes at several different levels. According to Anderson (1991), the interactive models emphasize that the reader is an active information processor whose goal is to construct a model of what the text means. Two important principles of interactive theories state that, (i) prior knowledge plays a central role in constructing meaning from text, and (ii) readers develop and apply a large repertoire of processing strategies ranging from strategies for decoding print to complex metacognitive strategies.

Competence in low-level skill and high level skills is therefore necessary for effective reading comprehension.

According to Lewis (1998), an interactive approach is particularly useful to deaf students as they may be lacking both bottom-up and top-down abilities. Bottom-up challenges may include reading problems regarding decoding because of reduced language and listening skills. On the other hand, top-down challenges may include limited experience of the world and of language. The application of both low level and high level strategies is therefore paramount if deaf students are to comprehend a text effectively.

2.3.2 Learning Strategies in Reading Comprehension

Learning strategies are techniques, principles, or rules that enable a student to solve problems and complete tasks independently (Friend & Bursuck, 2009). Learning strategies in reading can be classified into cognitive and metacognitive strategies (O'Malley, Chamot, Stewner-Mazanares, Russo & Kupper, 1985). Cognitive strategies involve direct interaction with the text. They facilitate comprehension by operating directly on oncoming information and manipulating it in ways that enhance learning. Examples of cognitive strategies include underlining words, the use of titles, and the dictionary, note taking, guessing from the context, the building of imagery, activating prior knowledge, summarizing, the use of linguistic clues and text markers, skipping of difficult parts and the repetition of words or phrases (Anastasiou & Griva, 2009). On the other hand, metacognitive strategies, involve the allocation by a reader of significant attention to planning, controlling, monitoring, and evaluating the reading process at different phases (Pressley, 2002; Brown, 2007). According to Bloom's taxonomy (Bloom, Englehart, Furst, Hill & Krathwohl, 1956) the highest level

of learning involves higher order thinking skills, such as, metacognition. Consequently, effective reading comprehension necessitates the combination of both cognitive and metacognitive strategies (Ahmadi & Hairul, 2012; Blair-Larsen & Vallance, 2004).

Existing literature indicates that reading strategies can be classified according to the phases in which they are used that is, pre-reading strategies, during reading strategies and post-reading strategies (Yang, 2006; Lau, 2006; Mihara, 2011). Before reading, skilled readers employ strategies such as setting purpose for reading; previewing the text; making predictions; and the activation of relevant background knowledge (Duke & Pearson, 2002). Setting purpose for reading gives the reader an idea of how to be selective in the reading of material and to focus on the critical content (Pressely, 2002). In comparison, previewing involves reading parts of a text such as the titles, subheadings, bold and italicized words, pictures, figures, tables, introduction and conclusion. It allows readers to become familiar with contents of a text and activate prior knowledge (McNamara, 2007). According to Hibbing & Rankin-Erickson (2003), struggling readers benefit greatly from previewing illustrations provided in the text because they tend to require confirmation about what they are reading. However, when text illustrations do not match the story, comprehension can decrease and learning can be reduced.

During reading is a phase in which readers try to make sense of what they read by monitoring their comprehension and using fix up strategies (Vacca, 2002, Duke& Pearson 2002). Comprehension monitoring is the awareness of whether comprehension is occurring while the use of fix-up strategies involves the conscious application of appropriate approaches to correct comprehension (Zipke, 2007). Consequently, skilled readers employ

strategies such as visualization, self questioning, identifying main ideas, and the use of contextual clues and reference resources such as the dictionary to handle unfamiliar words and phrases (Duke & Pearson 2002). Visualization is the ability to build mental pictures or images while reading. It depends upon prior knowledge and engagement with the topic (Manning, 2002). Visualisation helps the reader to link the text to a concrete experience (Pressley, 2002). Self-questioning keeps readers engaged as they ask questions to clarify understanding and proceed to make meaning. It is a metacognitive indicator of reflective reading (Harvey & Goudvis, 2007).

Contextual clues are additional information in the text that can be used to help deduce the meaning of an unknown vocabulary word within the text. A reader may infer the meaning of a word by using contextual clues combined with logic or prior knowledge (Hartmann & Blass, 2007). Contextual evidence helps the learner to guess the meanings of the new words and saves a lot of time which is wasted on constant reference to the dictionary (Weatherford, 1990 in Rokni & Niknaqsh, 2013). Frantzen (2003) and Padak and Raskinksi (2000) however, asserted that when the contextual clues are outside the student's area of prior knowledge, the student may be unable to access them even when they are clear and direct. For deaf readers, Belanger and Rayner (2013) observed that less skilled readers used contextual clues more than skilled readers.

Identifying a main idea is a cognitive strategy that requires readers to comprehend what has been read, make conclusions about the significance of information and consolidate it concisely (Paris *et al.*, 1991 in Oyetunji, 2011). Skilled readers identify main ideas and important information as they read. They are able to distinguish less important ideas from

key ones that are fundamental to the meaning of the text (Harvey & Goudvis, 2007). This strategy can also be used after reading.

After reading is an evaluation phase in which skilled readers summarise the text, question themselves or generate questions about the text to confirm whether they understand and remember what they have read. In case of gaps in comprehension, they use fix-up strategies such as re-reading, reading more slowly and carefully or reflecting about the text (Duke & Pearson, 2002; Grabe 2004; Gourgey, 2001; Horner & Shwery, 2002; Pressley & Hilden, 2006).

Summarisation involves identifying the main ideas in a text and composing a concise statement of the central concepts in writing. It helps readers to focus on main ideas and to disregard less relevant ones. It also encourages deeper engagement with a text as readers re-read the text to construct a summary (Kamil, 2004).

Reflection entails thinking over the ideas in the text; analyzing how the text aligns with prior knowledge and purpose for reading; and making inferences and conclusions. It helps readers to revise their schema and incorporate new knowledge. Moreover, reflection refines and deepens readers' understanding of the text (Locke, 2005).

Re-reading refers to restudying a text material again after an initial reading (Dunlosky, Rawson, Marsh, Nathan & Willingham, 2013). It involves on-going and repeated encounters with a text, guided by a particular task so that segments of the text get revisited and rethought. Re-reading offers students the opportunity to re-think messages and see features they had not noticed in the initial reading (Swaffar & Arens, 2010). It can, however, be time

consuming especially for longer texts (Short, Kane & Peeling, 2000). Less skilled readers have been reported to re-read more compared to skilled readers (Zabrucky & Commander, 1993).

In their study on reading strategies used by adult and student deaf readers, Banner and Wang (2011) observed that skilled deaf readers were capable of using multiple reading strategies proficiently. Specifically, the strategies employed included: setting the purpose for reading; the use of background knowledge; the use of mental imagery; self-questioning; self generation of questions; summary; paraphrasing; predicting; visualizing; and the identification of main ideas. Other strategies included: skimming; substituting an unfamiliar word for a familiar one in relation to the context; and the translation of the text into sign language. On the other hand, less skilled deaf readers rarely used metacognitive strategies; skipped unfamiliar words; re-read the text several times; relied on contextual clues; and were unable to visualize and make connections.

Findings from other studies indicate that deaf students are less aware of their lack of reading comprehension than hearing peers; they rely more on pictures and less on their relevant background knowledge to help them predict and comprehend text; and generally make passive readers instead of actively engaging comprehension strategies unless prompted by the teacher (Marschark, Sapere, Convertino, Seewagen & Maltzen, 2004; Schirmer, 2003; Schirmer, Bailey & Lockman, 2004).

Strassman's (1997) explanation of the challenges of deaf students in implementing metacognitive regulative strategies was that they continued to struggle with lower level text-based skills such as word recognition and vocabulary comprehension. This meant that they

did not develop higher level independent strategies, such as self-questioning, activating prior knowledge, inferring, predicting and monitoring for understanding. Schirmer *et al.* (2004) posited that teaching methods that fostered dependence were largely responsible for the lack of use of metacognitive strategies. They summarised existing research which showed that teacher questioning that encouraged application of background knowledge and used salient details from the reading as a basis of drawing inferences increased students' abilities to analyse, synthesise and evaluate what they had read. It also increased independence in applying metacognitive processes.

Strassman (1992) categorized the reading comprehension strategies that deaf students reported using if they did not understand what they read or needed to remember information in a story or answer questions. She found that most of the responses fell into three categories namely asking someone; matching the words on the work sheet to those in the texts; and re-reading. Ewoldt, Israelite & Dodds (1992) also identified an extensive list of reading comprehension strategies used by 16 deaf readers enrolled at a large residential day school for the deaf. In rank order by frequency, the strategies included: re-reading the text; asking someone; using prior knowledge ; using picture cues; continuing to read more text; using the dictionary; reading the text slowly; reading other materials; reading the text carefully; memorizing aspects of the text; using text features ; and using mental imagery. McAnally, Rose and Quigley (2006) however asserted that the use of prior knowledge has generally been insufficient.

In a study on reading experience through deaf eyes- a case study of two deaf high school students, Chow (2003) found that the students preferred reading the text themselves before

they asked for help. The students used a combination of English and American Sign Language (ASL) in building comprehension, decoding words, monitoring and repairing comprehension. Finger spelling was used to hold text when they did not understand the meaning of a word or phrase while mental pictures were used in translation of information read into ASL. The students reported to refer to a personal bank of English vocabulary and background knowledge combined with contextual clues such as text structure to draw appropriate meaning from the text. Self questioning was used to check comprehension while the varying of the reading rate, looking back, re-reading or reading ahead were used as fix-it strategies.

In a study on the effect of reading strategy instruction on L2 teacher trainees' performance in Botswana, Oyetunji (2011) established that the most preferred reading strategies by the trainees were the use of background knowledge, the use of inference and re-reading. The least preferred reading strategies were the identification of the main idea, drawing conclusions and summarisation. Dhillon and Wanjiru (2013) further reported that the English learning strategies used by pupils in an urban primary school in Kenya included keeping vocabulary notebooks, the use of dictionaries, working in groups, peer teaching, role-playing, group translations and group word games. Although the results of these studies captured elements of reading comprehension strategies, they were neither based on secondary school students nor deaf students.

Most of the foregoing research on the learning strategies of deaf students in reading comprehension was done in America and Europe where English is a first language therefore the expectations were high. The learning strategies of secondary school deaf students in

Kenya where English is a second language and its acquisition violates the linguistic interdependence theory are not known. In addition, the English curriculum for Secondary Schools for the deaf (KIE, 2004) does not clearly stipulate the reading comprehension strategies deaf students are expected to use hence the need for this study.

2.4 Students' Attitude towards Reading

Reading attitude is described as a state of mind, accompanied by feelings and emotions that make reading more or less probable. Reading attitudes are learnt characteristics that determine whether students engage in or avoid reading activities. They can be influenced by students' self concept, levels of reading ability and interests, attitudes and behaviors of their parents, peers and teachers (Harris & Sipay, 1990; Garrett, 2002; Baker, 2003). Research indicates that success in reading skills correlate with attitude towards reading (Guthrie & Wigfield, 2000; Wigfield & Asher, 2002; Morgan & Fuchs, 2007). In this regard, it has been concluded that students' attitude towards reading directly affects their achievement in reading comprehension. Alternatively, students' success in reading comprehension makes them develop positive attitudes towards reading (Kush, Matley & Brookhart, 2005).

Reading ability is a factor that can predict reading attitude (Sainsbury& Schagen, 2004). According to Woolfolk-Hoy (2005), it is natural to predict that poorer readers, who have reason to expect frustrating outcomes, will tend to harbor more negative attitudes than better readers. Similarly, a reader's history of success or frustration plays a central role in shaping attitude. Students may avoid reading and the associated reading tasks in school because they lack the necessary skills and conceptual knowledge to effectively engage with a broad range of texts. As students get older and move through the primary years, struggling ones often

apply task avoidance strategies since their self-efficacy, beliefs and general attitudes towards reading become increasingly negative.

Parental involvement and home environment play a part in the establishment of reading attitude. If reading is seen as a positive way to spend time and encouraged at home, it is more likely that the students will have a positive attitude towards it. It has been found that it is not necessary for parents to be avid readers, as long as they encourage and promote reading as an important and positive way of spending time (Sainsbury & Schagen, 2004; Klauda, 2009). Results of a study by Partin and Gillespie (2002) indicate that having a literary environment at home with a variety of reading materials contributes to a positive reading attitude among adolescents. In addition, time spent in reading directly relates to reading success and is in turn associated with positive attitudes towards additional reading, increased knowledge of the world, and provisions for worthwhile life experiences (NRP, 2000).

For many deaf readers, the reading experience can be described as frustrating and unsatisfactory. Failure is not fun, so it is not surprising that unskilled readers have unfavorable attitudes towards reading (Garner, Alexander & Hare, 1991). In addition to low reading skills, many deaf readers lack self confidence as independent, efficient readers (Ewoldt, 1986). Consequently, reading is avoided because it is not a pleasurable activity. Thus the habits of readers who are deaf establish a vicious cycle: the less they read, the less they practice and build reading and language skills (Chow, 2003).

In their study on reading levels of deaf Spanish students, Monreal and Hernandez (2005) found that at the end of primary school (mean age 13 years), the students had reading levels

similar to or lower than the reading levels of hearing students at the onset of primary school education (mean age 7 years). In addition, the students had an indifferent attitude towards reading. This study, however, was done in elementary schools where reading was done in Spanish and not English. Similarly Morgan, Fuchs, Compton, Cordray, and Fuchs (2008) established that first-grade hearing children who experienced early and consistent reading failure had lower levels of reading motivation, saw themselves as less competent readers, and had more negative attitudes towards reading than children who experienced early success in reading. This study nonetheless did not involve secondary school deaf students.

In a study on understanding the motivation of deaf adolescent Latino struggling readers established, Herzig (2009) reported that regardless of how deaf students felt about reading, they recognized that reading was important in schoolwork and accomplishing their future goals. However, they perceived reading as an academic activity and did not count reading for enjoyment among their reading experiences or as their purpose for reading. These findings were however based on interview reports of only four deaf students in elementary school. Parault and Williams (2010) in their study of reading motivation, reading amount, and text comprehension further found that text comprehension was associated with the reading motivation and dimensions of challenge. In addition, text comprehension was associated with the amount of reading for personal enjoyment. The results of this study were, however, based on a small sample size of 24 deaf adults at the university level. A larger sample size would possibly have yielded different and more reliable results. In addition, the reading experience of deaf adults at the university level is likely to be different from that of secondary school deaf students hence the need for this study.

Loh and Tse (2009) examined the relationship between reading attitudes, self-concepts as readers, and reading performance of Chinese fourth-grade in Hong Kong. The study revealed that there were no significant relationships between attitudes, self-concepts, and the students' reading performance in both English and Chinese. The study, however, engaged hearing students only. Mellet and Crow (2009) also investigated the relationship between selected affective factors and achievement in English among secondary school students in Zimbabwe. The results of the study revealed that attitudes towards English, students' self concept of academic ability and students' perception of their teachers of English correlated significantly with their academic achievement. On the other hand, Kiptui and Mbugua (2009), conducted a study to determine the psychological factors that contributed to poor achievement in English language in secondary schools in Kenya. They found that negative attitude towards English was one of the factors that affected academic achievement. Studies by Mellet and Crow (2009) and Kiptui and Mbugua (2009) nevertheless focused on hearing students and English in general.

The findings of reviewed studies in deaf education suggest that the challenges of deaf students in reading have an implication on attitude and achievement. There was need therefore to find out the attitude of Kenyan secondary school deaf students towards reading and its implication on achievement in English reading comprehension which was not determined by the foregoing studies.

2.5 Knowledge of English Vocabulary and Grammar and Achievement in Reading Comprehension

2.5.1 Knowledge of English Vocabulary

The term vocabulary refers to words that one needs to know to communicate with others. Vocabulary is important for reading to learn as well as learning to read. Students need to understand the meaning of the words they read if they are to learn from what they read (Nagy & Scott, 2000). Children learn vocabulary indirectly as well as directly (Armbruster, Lehr & Osborn, 2003). Most vocabulary is acquired indirectly through daily interactions with adults, siblings, and peers through conversations around routines, games, nursery rhymes, songs, and reading activities (Landry & Smith, 2006). Though most words are learned indirectly, some vocabulary items must be taught directly. Direct vocabulary instruction helps students to learn high frequency words that appear most often in texts, as well as difficult words that represent complex concepts that are not part of their everyday experiences (Armbruster *et al.*, 2003). Skilled readers know several meanings of many words and are able to comprehend words in and out of context (Brabbham & Lynch-Brown, 2002)

Vocabulary knowledge has been identified as a significant predictor of reading comprehension in hearing students (Wallace, 2007; Zhang & Annual, 2008) and in deaf students (Kyle &Harris, 2006). Vocabulary experts assert that students need to know at least 95.0% of the words in a written or spoken text for general comprehension (Hu & Nation, 2000; Van Zeeland & Schmitt, 2012). Others like Hirsch (2003) and Sedita (2005) contend that adequate reading comprehension depends on a reader's knowledge of at least 90.0% of the words in a text. Readers who do not recognize at least 90.0% of the words not only have

difficulty in comprehending a text but also miss out on the opportunity to learn new words (Sedita, 2005). According to Johns (2009), when readers know less than 90.0% of the words in a passage, comprehension drops to 50.0% or less. This is particularly true for deaf readers (Albertini & Mayer, 2011). The current study considered knowledge of 90.0% and above of the words in the passages as the threshold for effective reading comprehension.

Several studies have indicated that deaf students demonstrate low vocabulary knowledge (Marschark & Wauters, 2008; Paul, Wang, Trezek & Luckner, 2009; Rose, McAnally & Quigley, 2004). The challenge in vocabulary acquisition is attributed to factors such as less exposure to words in the environment because of hearing loss and weak reading abilities. As a result, deaf students undergo delays in building their level of vocabulary knowledge; have smaller lexicons; acquire new words at slower rates; have a narrower range of contexts that result in word learning; and have difficulty in understanding multiple word meanings (Lederberg & Spencer, 2001; Musselman, 2000).

Kyle and Harris (2006) established a relationship between vocabulary and reading ability among 7-8 year old deaf students. The study employed the productive vocabulary measure in which the students were asked to give the correct name of an object. A regression analysis further indicated that productive vocabulary was the strongest predictor for sentence comprehension. However, the study involved deaf children whose vocabulary was still developing .The use of productive vocabulary therefore seemed suitable bearing in mind that they were emergent readers. On the contrary, the current study considered receptive vocabulary knowledge whose relevance in reading comprehension is absolute.

In East Africa, Athiemoolam and Kibui (2012) found that low proficiency in vocabulary affected secondary school students' achievement in reading comprehension. Mukiri (2012) in a study on the depth and breadth of vocabulary knowledge and English language reading comprehension among selected standard eight pupils in Meru Central District further established that there was a positive significant relationship between depth and breadth of vocabulary knowledge and reading comprehension although depth of vocabulary knowledge had a slightly higher relationship. These studies, however, involved hearing students and did not consider contextual knowledge of vocabulary of secondary school deaf students which Van Zeeland (2012) presumed to be a sufficient condition for comprehending a text.

Ludago (2014) observed that limitation in vocabulary knowledge was a major challenge in reading comprehension as reported by Ethiopian eight grade deaf students. Ogada (2012) further established that deaf students had challenges in the choice and range of vocabulary used in composition writing which influenced their achievement. Both studies were, nevertheless, done in primary schools and not secondary schools for the deaf. Moreover, Ogada (2012) study did not address vocabulary knowledge in English reading comprehension. One outstanding fact is that KSL, the language that deaf students understand best does not have sign equivalents for all the words used in English. This implies that the students might not be familiar with some of the words used in English which is likely to affect their comprehension. The present study therefore aimed at establishing the influence of the knowledge of English vocabulary on deaf students' academic achievement in English reading comprehension.

2.5.2 Knowledge of English Grammar

Grammar (syntax) is a system regarding the structure of a language that involves rules along with the information about sequencing words in order to construct meaningful sentences (Davenport, 2002). It can be used to identify the relationship between words and contribute to the unique meaning of the text (Bernhardt, 1991). Students' knowledge of syntax is a powerful predictor of their reading comprehension abilities (Schoonen, Hulstijn & Bossers, 1998). According to Alderson (2000) there is no need of testing syntactic knowledge and reading comprehension in isolation, as tests of reading comprehension had nothing more than what students gained from their proficiency in grammar.

Analyses of the English grammatical knowledge of deaf students have shown delays in virtually every aspect of English syntax (Berent, 1988). Musselman (2000) stated that deafness usually results in limited spoken language abilities and poor knowledge of the syntax of the spoken language. Consequently, explanations for the impoverished reading comprehension skills of deaf readers presuppose that they often lack adequate syntactic knowledge to sustain the integration of correctly recognized written words into broader ideas at the sentence level (Miller, 2000). According to Miller *et al.* (2012) failure of reading comprehension among the deaf appears to arise from reliance on a reading strategy that skips the processing of sentence structure as a vital source of information, as well as reliance on insufficiently developed or deviant syntactic knowledge for the processing of text meaning.

A number of studies by Quiley and Colleagues (in Paul, 2001) focused on the performances of deaf students on nine major English syntactic structures on the sentential level that is

negation, conjunction, question formation, pronominalisation, verbs, complementation, relativisation, disjunction and alternation. The students were found to have specific difficulties with verb inflectional processes and auxiliaries, embedded structures such as relative clauses and sentences that did not adhere to a subject-verb-object interpretation. With respect to processing and knowledge issues, Quigley and Colleagues(in Paul, 2001) research indicated that syntactic difficulties were due to lack of knowledge of the major syntactic constructions which appear frequently in written materials. Despite the detailed findings of this study on the syntactic structures that deaf students had difficulties in, the influence of the same on achievement in reading comprehension was not addressed which the current study aimed at establishing.

Investigations of sentence level understanding have provided evidence that: while specific syntactic structures are particularly difficult for deaf students to comprehend, difficulties with syntax may be less of a factor in comprehension than the ability to identify words in print through phonological or non-phonological recoding; syntactic difficulties may depress the ability of deaf students to apply vocabulary knowledge during reading; inadequate context inhibits reading comprehension of deaf students; and text that is rewritten to control syntactic complexity and sentence length may result in more understanding difficulties for deaf students due to lack of text coherence (Miller, 2000).

Research has also shown that deaf students use sign language (L1) in reading comprehension (Chow 2003). This implies that the linguistic specifications of their translations are equivalent to sign language syntax which is different from English syntax. Lozanova and Savtchez (2009) observed that sign languages have a grammar and syntax that

are quite different from that of spoken languages, a factor that confuses learners. Specifically, Ali, Okwaro and Adera (2003) indicated that Kenyan Sign Language (KSL) does not follow the English language pattern. Instead, it follows OSV (Object + Subject + Verb) word order which is different from English word order which follows SVO (Subject + Verb + Object) as in:

***English**: The cat is under the table*

***KSL**: TABLE CAT UNDER*

From the above example, a deaf student who is learning English as a second language is likely be confused by the two sentences. KSL is a visual language: it is not a written language even though it borrows words from English which is written. A clear distinction between English and KSL therefore has to be made if deaf students are to master English.

A study by Ludago (2014) revealed that understanding the grammar of Amharic and English languages was a major problem that affected the reading comprehension of eighth grade deaf students in Addis Ababa. On the other hand, Ogada (2012) asserted that the use of Kenyan Sign Language by deaf students had implications on the use of English syntax in composition writing. The study revealed that most deaf students had low level competence in sentence construction. It also emerged that most sentences were written in KSL which affected the level of coherence. This study, however, did not establish whether the knowledge of English syntax also had an implication on achievement in English reading comprehension. The present study therefore aimed at determining the influence of knowledge of English grammar on deaf students' academic achievement in reading comprehension.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research Design

Descriptive survey and correlational research designs were adopted for this study. Descriptive research design is used to gather information on the nature or condition of a present situation. Past events and how they relate to current conditions are also considered (Cresswell, 2009; Best & Kahn, 2006).The use of the design is advantageous in that a combination of procedures such as questionnaires, interviews and observations are employed providing an opportunity for triangulation (Cohen, Manion & Morizon, 2000; Kombo & Tromp, 2006). Correlational design was used because it explores relationships between two or more variables (Cresswell, 2009). The use of the design maximises the generalisability to situations because it measures variables in their natural settings (Steg, Buunk & Rothengatter, 2008).

The combination of descriptive survey and correlational research designs in this study therefore enabled the researcher to find out facts; seek opinion; determine relationships; describe, analyse and interpret data on the teaching and learning of reading and the implications on academic achievement of deaf students in secondary schools in Kenya.

3.2 Area of Study

This study was conducted in four secondary schools for the deaf that had form four students. The schools are located in Kakamega, Nyeri , Migori and Siaya counties in Kenya. These schools were purposively selected because they had registered students in KCSE and county

mock English examinations which formed a basis for this study in terms of academic achievement.

Kenya is geographically located along the equator on the eastern part of the African continent at latitude 0.4252° South and longitude 36.7517° East. It covers an area of 582,650 km^2 with a population of 38,610,097 people as per the 2009 census. It borders Tanzania to the Southwest and Indian Ocean in the Southeast. Sudan and Ethiopia lie to the North and Uganda to the West, while Somalia is situated to the East. Lake Victoria is lies to the West. Kenya is divided into 47 counties. Its major towns include Nairobi, Mombasa, Kisumu, Nakuru and Eldoret. The climate of Kenya varies from tropical along the coast to arid in the interior. The key physical features include mountains and highlands in the west and the central parts; the coastal plain in the south; an arid interior, tropical coast; semi-desert in the north; the Great Rift Valley, Mount Kenya, and Lakes Nakuru and Turkana. The Kenyan highlands are one of the most agriculturally productive regions in Africa (Central Intelligence Agency, 2009)

Most Kenyans are bilingual. They speak English and Swahili. A large percentage also speaks the mother tongue of their ethnic groups. The vast majority of Kenyans are Christians (Central Intelligence Agency, 2009). According to the census statistics of 2009, the population of people with disabilities in Kenya is 1,330,312 million, accounting for 3.5% of the total population .Out of this population, 187,818(14.0%) are persons who are deaf (Kenya National Bureau of Statistics, 2010). According to the National Survey on Persons with Disabilities in Kenya, 14,620 (3.6%) of youth between ages 15 to 24 have disabilities, of which 5848(0.4%) are deaf (Government of Kenya, 2008a). The age bracket of form four

deaf students in this study was 17-21 years. The map of Kenya showing the location Kakamega, Nyeri, Migori and Siaya counties is attached as Appendix XII.

3.3 Study Population

The study population of this study comprised teachers of English and students because of the key role they play in the teaching and learning of English reading comprehension respectively. Specifically, the study population included 88 form four deaf students and 12 teachers of English in four secondary schools for the deaf in Kenya. Form four deaf students were considered in this study because they had covered adequate content of the English curriculum and had adequate experience. This put them in a better position of giving informed opinions and views on the teaching and learning of English reading comprehension. Additionally, their achievement in reading comprehension in the county mock examinations depicted the output of the teaching and learning practices employed.

3.4 Sample and Sampling Techniques

Purposive sampling technique was used to select four secondary schools for the deaf. The technique involves the use of the researcher's discretion in selecting cases that best meet the research objectives. It is normally used when the researcher wishes to select cases that are particularly informative (Saunders, Lewis & Thornhill, 2009). In this study, the technique allowed the researcher to select secondary schools for the deaf that had already registered for KCSE and County mock examinations.

Saturated sampling a non-probability sampling technique in which all the members of the target population are selected because they are too few select a sample out of them (Mugenda & Mugenda, 2003) was used to select 11 teachers of English and 79 form four

students. This was after a pilot study that involved 1(8.3%) of the teachers and 9(10.2%) of the students. In this study, teachers of English and form four students were considered too few to necessitate picking a sample out of them. Table 2 shows the population and respective sample sizes of teachers and students.

Table 2: Sample Frame

Category of Respondents	Total Population	Sample Size	Percentage
English Teachers	12	11	91.7%
Students	88	79	89.8%

3.5 Instruments of Data Collection

This study used questionnaire, lesson observation schedule, interview and document analysis guide. There were two sets of questionnaires, one for the teachers of English and the other for students.

3.5.1 Student Questionnaire (SQ)

Student Questionnaire was used to collect data from form four deaf students. Questionnaires allow the collection of information over a short period of time especially when the population is large and time is limited (Gall, Gall & Borg, 2007) hence considered appropriate for this study. This instrument was divided into four sections which focused on the use of teaching and learning resources, attitude towards reading, students' learning strategies and teaching strategies. The information collected addressed the first, third, fourth and fifth objectives of the study. SQ is attached as Appendix I.

3.5.2 Teachers of English Questionnaire (TEQ)

The Teachers of English Questionnaire was used to collect data from the teachers. This instrument was divided into three sections which focused on student's learning strategies, teacher's perspectives on teaching strategies of English reading comprehension and the adequacy of teaching and learning resources. The questionnaire items addressed the first, second and third objectives of the study. TEQ is attached as Appendix II.

3.5.3 Teachers of English Interview Schedule (TEIS)

The Teachers of English Interview Schedule was used for in-depth interviews with the teachers of English. The instrument enabled the collection of information that could not be directly observed. It also complemented the questionnaire in the collection of information related to teaching and learning strategies. The interview items addressed the first and second objectives of the study. TEIS is attached as Appendix III.

3.5.4 Lesson Observation Schedule (LOS)

A lesson observation schedule was used during English reading comprehension lessons. The LOS was divided into three sections meant to collect information on teaching strategies (Section A), deaf students' learning strategies (Section B) and the nature of classroom interaction (Section C). Observations allow the researcher to see what the respondents actually do rather than what they say they do (Gall, Gall & Borg, 2007). The use of observation in this study therefore helped to confirm teachers' and students' responses in questionnaires and interviews. It also provided an opportunity for analyzing teachers' and students' behavior in the classroom.

In establishing the nature of classroom interaction during reading comprehension lessons, an adapted version of Craig and Collins (1970) category system of communicative interaction in classrooms for the deaf was used. The adaptations included using eight modes of communication which were relevant to this study instead of the original ten. The time interval for recording the categories was increased from the original three to five seconds to accommodate the extra time used when signing.

The analysis consisted of 10 interaction categories and 8 modes of communication between deaf students and teachers. The categories for teacher talk included: accepting feeling (1); praising or encouraging (2); accepting ideas (3); asking questions(4); lecturing(5); giving directions(6); and criticizing or justifying authority(7); Student talk categories included student response(8) and student initiation(9). Category 10 denoted silence or confusion. The modes of communication on the other hand included: combined(C), finger spelling (F), evasive action (E), manual (M), gesture (G), speech (S), non-manual signals (N) and written (W).

The researcher considered 20 minutes of active interaction between the teacher and students during the lesson in determining the nature of classroom interaction. A blank observation sheet was used to code the interaction categories and the communication modes used. At the end of each five seconds interval, the symbols of the system which represent the category and mode of communication which occurred during that interval were recorded. For example, if the teacher asked the class the date, using speech, the symbols 3S were recorded. In this instance, the 3 represented teacher question and the S represented speech. If a student responded during the next five seconds, interval using finger spelling, the symbols 9F were

recorded, 9 signifying student response and the F signifying finger spelling mode. A one second silence was indicated by # mark while # # # # # indicated a continuous 5-second pause. A slash mark (/) indicated that the speaker had been interrupted. Lesson Observation Schedule (LOS) and the adapted Craig and Collins (1970) category system of communicative interaction in classrooms for the deaf are attached as Appendix IV and V respectively.

3.5.5 Document Analysis Guide (DAG)

Document analysis is a technique used to categorise, investigate, interpret and identify the limitations of written documents (Payne & Payne, 2004). It has the potential for revealing information that a respondent is not ready to share or may not be available during observations. It further provides first-hand information on the kind of written feedback given by students (Merriam, 2001). Achievement tests have been recognized as crucial documents for establishing the influences of teaching methods (Best &, Kahn, 2006).

This study therefore used a document analysis guide to obtain information about deaf students' achievement in English reading comprehension, knowledge of grammar and vocabulary. The documents analyzed included form four deaf students' county mock English paper two examination marked scripts. The county mock examination was considered appropriate for this study, first, because it has been found to be a strong predictor of students' performance in KCSE (Njuguna, 2006; Kipng'etich, 2012; Odhiambo, 2013; Andala, Digolo & Kamande, 2014). Secondly, the examination is comprehensive and done at a time when form four students have covered much of the syllabus content. Analyzing the results would therefore give a clear picture of the final product of the teaching and learning

practices employed in English reading comprehension. Finally, individual students' marked scripts were accessible. This made it possible to obtain detailed information on achievement in reading comprehension, grammar and vocabulary which would otherwise not be available in the final records.

The county mock English examination for each school was different given that the secondary schools were located in different counties. The analysis of achievement in reading comprehension therefore involved three different passages, two of which were expository while one was narrative. The expository passages tackled health and literacy topics. From the curriculum content, the topics were found to be relevant and within the students' knowledge. The passages had 620, 740 and 960 words. The reading comprehension section of paper two was marked out of twenty in all the three passages. Part of the comprehension questions in each of the passages tested knowledge of English grammar. The testing of knowledge of grammar involved at least one question which required students to rewrite a sentence by changing its tense or starting it with an adverb. The sentences were derived from the passage. In addition, the last section (question 4) of each paper tested knowledge of English grammar. This provided additional information on the achievement of deaf students in English grammar.

Vocabulary knowledge was established by analyzing the achievement of deaf students in vocabulary which was the last question among the reading comprehension questions. Contextual vocabulary knowledge was tested in all the papers. This involved students explaining the meaning at least two and a maximum of four vocabulary items as used in the passage. A correct response on each of the vocabulary items was awarded one mark. The

researcher further asked individual students to underline on their scripts the difficult words they encountered while reading the passages. Word counts of the difficult words helped in establishing the extent to which deaf students understood the words used in the passages (contextual vocabulary knowledge). In this study, the set threshold for effective comprehension was knowledge of at least 90.0% of the words in the passage as recommended by Hirsh (2003), Sedita (2005) and Johns (2009). Document Analysis Guide is attached as Appendix VI.

3.6 Validity and Reliability of Research Instruments

3.6.1 Validity of the Research Instruments

Validity refers to the degree to which results obtained from analysis of data actually represent the phenomenon under study (Mugenda & Mugenda, 2003). In this study, face and content validity were considered. Face validity is a qualitative means of ascertaining whether a measure on the face of it appears to reflect the content of a concept (Bryman & Bell, 2003). Content validity, on the other hand, is a qualitative means of ensuring that a measure includes an adequate and representative set of items to cover a concept (Drost, 2011). Consequently, the determination of the face and content validity of the research instruments in this study guaranteed accuracy and connection among the questions asked and variables measured. Normally, face and content validity are ensured by obtaining subjective judgments by the experts in the concerned field (Bryman & Bell, 2003; Sekaran, 2003). The research instruments for this study were presented to experts in the School of Education who judged the face and content validity of the instruments independently and made recommendations. Adjustments were then made based on their recommendations before the instruments were used in the field.

3.6.2 Reliability of the Research Instruments

According to Best and Kahn (2006), reliability refers to the extent to which a research instrument measures whatever it is meant to measure consistently. The reliability of the research instruments was established through a pilot study in one of the secondary schools for the deaf, involving 1 teacher (8.3%) and 9 students (10.2%) who did not take part in the actual study. Test re-test method was used to establish the reliability of the questionnaire and interview schedule. The instruments were administered twice at an interval of two weeks. Pearson's product moment correlation coefficient was used to establish the reliability of the students' attitude scale and teachers' perspectives scale. The acceptable reliability coefficient was set at of 0.70 and above at an alpha level of 0.05 as recommended by Wuensch (2012). The two yielded reliability coefficients of 0.74 and 0.78 respectively hence accepted. Responses from the two administrations of the interviews were counter checked thematically to ascertain consistency. Any inadequacies, inconsistencies and weaknesses of the research instruments identified during the pilot study were corrected.

Inter-rater reliability was used to establish the reliability of lesson observation schedule. Inter-rater reliability refers to the degree to which two or more observers make consistent estimates of the same phenomenon (Cohen, Manion & Morrison, 2007). In this study, a teacher of the deaf who had been trained by the researcher on the coding process was involved in the observation of the videos recorded during reading comprehension lessons. Both the researcher and the teacher checked the teaching and learning strategies used. In addition, they coded the categories and modes of interaction in establishing the nature of classroom interaction. A percentage of agreement was obtained by dividing the number of times the researcher and the teacher agreed by the total number of ratings. The acceptable

level of agreement was set at 80.0% and above which is the conventionally accepted level of agreement for inter-observers (Leslie & Reilly, 1999; Barlow et al., 2008 & Cooper et al., 2007 in Matella, Nelson, Morgan & Marchlands, 2013).

3.7 Data Collection Procedures

Before conducting the research, permission was sought from the School of Graduate Studies Maseno University. Courtesy calls were paid to the County Education Officer's (formerly known D.E.O.) offices. Thereafter, a visit to the schools was made to: obtain permission from the principals on behalf of the students; meet the respondents for public relations; and make necessary arrangements. Subsequent visits were made to the schools for collection of marked scripts, classroom observations, interviews and distribution of the questionnaires.

The first visit to the schools was done after the County Mock examinations had been marked. This enabled the researcher to have the students underline difficult words encountered in the reading comprehension passages and make copies of individual student Paper 2 marked scripts. Each student was given a code number which was assigned to respective scripts and questionnaires for identification purposes.

The second visit was made to the schools to conduct classroom observations, interviews and distribute questionnaires. This exercise took two days in each school. In the administration of the questionnaires each of the respondents was given a copy of the questionnaires and advised not to write their names on it. The researcher then explained the purpose of the study and assured the respondents of confidentiality of information provided. The need to provide honest responses was emphasized. Moreover, the researcher explained to the students in KSL the instructions and other terms used in the questionnaire for better

understanding. Clarifications were also provided upon request. After filling in the questionnaires, they were immediately collected to avoid loss and collusion. Teachers of English supervised the students as they filled in the questionnaires while a research assistant recorded the videos.

One reading comprehension lesson was observed for each teacher of English. Every single observation was video recorded for the 40 minutes lesson time. This enabled the researcher to capture and analyze all aspects of the teaching and learning process during reading comprehension lessons. It also provided a permanent resource which according to Orlova (2009) could be retrieved repeatedly to observe various aspects of classroom practice. With the help of a research assistant, two video cameras were set at the most appropriate view points in the classroom. One camera captured the teacher while the other one captured the students. To reduce observer effect, students and teachers were prepared beforehand about the use of video recording and its purpose. The researcher played the role of a non-participant observer in the classroom by sitting at the back of the classroom taking notes as video recording progressed.

Each teacher was engaged in a face to face interview in a separate venue after the lesson observation. This provided confidentiality for the teachers and an opportunity for the researcher to seek clarifications on issues observed. The teachers were encouraged to provide their opinions voluntarily and openly without being confined to the interview questions. The researcher took notes on the teachers' responses as the interview progressed.

3.8 Methods of Data Analysis

Quantitative data collected from close-ended questionnaire items, lesson observation schedules and document analysis was analysed using descriptive statistics such as means, frequency counts and percentages. It was presented using frequency tables and pie charts. Qualitative data collected from open-ended questions, was analysed and organised in an ongoing process according to the themes, sub-themes, categories and sub-categories that emerged.

A rating scale was used to establish the attitude of deaf students towards reading and perspectives of teachers of English on reading comprehension teaching strategies. The positively stated items on attitude scales were coded on a five points rating scale. The score values were assigned as follows: Definitely True (DT) = 5 points, True (T) = 4 points, Somewhat True (ST) =3 points, Not True (NT) = 2 points and Definitely Not True (DNT) =1 point. For negatively stated statements, the scoring procedure was reversed as follows: Definitely True (DT) = 1; True (T) = 2; Somewhat True (ST) = 3; Not True (T) = 4; and Definitely Not True (DNT) = 5. Teachers' perspective and students' attitude were calculated by first summing up scores of individual teachers and students for each of the statements. The sum was then divided by the number of respondents to get the mean score for each statement. The mean scores were then summed up and divided by the number of statements to get the overall mean that represented the perspective or attitude. A mean score of 2.9 and below was interpreted as negative, between 3.0 and 3.4 as neutral and 3.5 and above as positive.

Pearson's product moment correlation (*r*) was used to establish the influence of knowledge of grammar on deaf students' academic achievement in English reading comprehension. It was similarly used to establish the influence of attitude towards reading on deaf students' academic achievement in English reading comprehension. The significance level (α) was set at 0.05.

In reporting data from interviews, teachers were assigned numbers from teacher 1 to 11. The numbers were used as pseudonyms for the purpose of confidentiality. Teachers were therefore referred to by these numbers while reporting data from interviews.

CHAPTER FOUR

RESULTS AND DICUSSION

4.1 Introduction

This chapter presents the results and discussion of the data collected on the teaching and learning of English reading comprehension and the implications on academic achievement of deaf students in secondary schools in Kenya. Findings of the study are presented and discussed according to the research objectives. The objectives were to: find out how reading comprehension is taught in secondary schools for the deaf; determine the perspectives of teachers of English on reading comprehension teaching strategies; find out the learning strategies used by deaf students in English reading comprehension; establish the influence of deaf students' attitude towards reading on achievement in English reading comprehension; and determine the influence of knowledge of English vocabulary and grammar on deaf students' achievement in English reading comprehension.

4.2 How English Reading Comprehension is taught in Secondary Schools for the Deaf and the Implications on Academic Achievement

The first objective of this study was to find out how English reading comprehension is taught in secondary schools for the deaf and the implications on academic achievement. Specifically, the study aimed at finding out the teaching strategies used, the nature of classroom interaction, language of instruction and the use of teaching and learning resources during English reading comprehension lessons.

4.2.1 Teaching Strategies Used in English Reading Comprehension

Data regarding the teaching strategies used in English reading comprehension was collected through questionnaires, classroom observations and interviews. Students were asked to indicate, in the questionnaires, the teaching strategies that teachers of English used during reading comprehension lessons. Their responses are summarized in Table 3.

Table 3: Teaching Strategies used in English Reading Comprehension as Reported by Students (n=79)

	Strategy	Very Often f (%)	Often f (%)	Sometimes f (%)	Hardly f (%)	Never f (%)
1.	Teaching vocabulary	11(13.9)	16(20.3)	26(32.9)	18(22.8)	8(10.1)
2.	Teaching story grammar and text structure	7(8.9)	12(15.2)	18(22.8)	30(38.0)	12(15.1)
3.	Repeated reading	19(24.0)	24(30.4)	14(17.7)	12(15.2)	10(12.7)
4.	Activation of students' background knowledge	25(31.6)	21(26.6)	13(16.5)	11(13.9)	9(11.4)
5.	Retelling	33(41.8)	21(26.6)	11(13.9)	8(10.1)	6(7.6)
6.	Skimming and scanning	6(7.6)	9(11.4)	22(27.8)	32 (40.5)	10(12.7)
7.	Dramatisation	8(10.1)	9(11.4)	18(22.8)	31(39.2)	13(16.5)
8.	Summarisation	13(16.5)	11(13.9)	21(26.6)	20(25.3)	14(17.7)
9.	Reading aloud	20(25.3)	17(21.5)	24(30.4)	11(13.9)	7(8.9)
10.	Silent reading	27(34.2)	23(29.1)	12(15.2)	9(11.4)	8(10.1)
11.	Group reading	23(29.1)	15(19.0)	17(21.5)	13(16.5)	11(13.9)
12.	Questioning	47(59.5)	16(20.3)	7(8.9)	5(6.3)	4(5.0)
13.	Use of visual aids	5(6.3)	13(16.5)	17(21.5)	28(35.4)	16(20.3)
14.	Peer tutoring	14(17.7)	26(32.9)	20(25.3)	12(15.2)	7(8.9)
15.	Demonstration	8(10.1)	10(12.7)	17(21.5)	29(36.7)	15(19.0)
16.	Discussion	36(45.6)	14(17.7)	13(16.5)	8(10.1)	8(10.1)

f - Frequency

As evident in Table 3, questioning 47(59.5%), discussion 36(45.6%), retelling 33(41.8%) and silent reading 27(34.2%) were the strategies that were used very often. Strategies that were hardly used included skimming and scanning 32(40.5%), dramatisation 31(39.2%), teaching of story grammar/text structure 30(38.0%), demonstration 29(36.7%) and use of visual aids 28(35.4%). These findings signify that the teaching strategies that were used frequently in English reading comprehension according to students were questioning, discussion, retelling and silent reading.

Questioning, retelling, discussion and silent reading were some of the strategies indicated by Luckner and Handley (2008) and Gathumbi and Masembe (2005) as effective in teaching reading comprehension. Their regular use in this study coincides with the results of Udosen (2011) and Ludago (2014) which showed that the same strategies were commonly used in teaching reading in Nigeria and Ethiopia. Questioning, retelling and discussion call for active learner participation. Employment of the strategies by teachers of English therefore indicated an attempt to engage learners in the teaching and learning process. On the other hand, silent reading offered the students a chance to interact with the text independently. The consistent use of only four strategies, however, depicted underutilization of the available effective strategies of teaching English reading comprehension stipulated in the curriculum (KIE, 2004). It also contradicts Slavins (2000) conception of effective teaching in which teachers are expected to use varied strategies to accommodate the needs and learning styles of each individual student in the classroom.

The frequent use of only four strategies further suggests a traditional approach towards the teaching of reading comprehension which puts less demand on the teacher. It also shows

ignorance or reluctance of teachers to try out new strategies. This further explains why strategies such as skimming and scanning, dramatization, teaching of story grammar and text structure, demonstration and use of visual aids were rarely used. Deaf students experience an array of challenges in reading which cannot be addressed by only four strategies. They require adequate exposure to the use of skills such as summarisation, skimming and scanning, use of background knowledge and understanding the story grammar/texture through modeling and explicit teaching. Lack of this experience especially in the classroom context therefore puts them at risk of reading failure since they are not adequately equipped with the essential skills of handling a reading task.

The researcher also carried out observations to establish the teaching strategies used during English reading comprehension lessons. The results are presented in Table 4.

Table 4: Teaching Strategies in English Reading Comprehension as Observed (n=11)

	STRATEGY	O f (%)	WD f (%)	S f (%)	NS f (%)	NU f (%)
1.	Teaching vocabulary	0(0.0)	0(0.0)	0(0.0)	5(45.5)	6(54.5)
2.	Teaching story grammar and text structure	0(0.0)	0(0.0)	0(0.0)	0(0.0)	11(100.0)
3.	Repeated reading	0(0.0)	0(0.0)	2(18.2)	0(0.0)	9(81.8)
4.	Activation of students' background knowledge	3(27.3)	1(9.1)	1(9.1)	0(0.0)	6(54.5)
5.	Retelling in K.S.L	2(18.2)	0(0.0)	0(0.0)	4(36.4)	5(45.4)
6.	Skimming and scanning	2(18.2)	0(0.0)	0(0.0)	0(0.0)	9(81.8)
7.	Dramatisation	1(9.1)	0(0.0)	0(0.0)	0(0.0)	10(90.9)
8.	Summarisation	0(0.0)	0(0.0)	0(0.0)	2(18.2)	9(81.8)
9.	Reading aloud	2(18.2)	0(0.0)	0(0.0)	2(18.2)	7(63.6)
10.	Silent reading	0(0.0)	0(0.0)	0(0.0)	8(72.7)	3(27.3)
11.	Group reading	2(18.2)	1(9.1)	0(0.0)	2(18.2)	6(54.5)
12.	Questioning	4(36.4)	2(18.2)	2(18.2)	3(27.3)	0(0.0)
13.	Use of visual aids	0(0.0)	0(0.0)	0(0.0)	0(0.0)	11(100.0)
14.	Peer tutoring	1(9.1)	1(9.1)	0(0.0)	0(0.0)	9(81.8)
15.	Demonstration	0(0.0)	0(0.0)	0(0.0)	0(0.0)	11(100.0)
16.	Discussion	3(27.3)	2(18.2)	0(0.0)	0(0.0)	6(54.5)

Key: Outstanding **(O),** Well Demonstrated, **(WD)** Satisfactory **(S),** Not Satisfactory **(NS**), **NU**- Not used, **f** - Frequency

Table 4 shows the teaching strategies used in English reading comprehension as observed by the researcher. From Table 4, the teaching strategies that were commonly used included questioning 11(100.0%), silent reading 8(72.7%) and retelling 6(54.5%). Of the three strategies, only questioning was outstanding in 4(36.4%) of the classes observed. Strategies

such as teaching of story grammar and text structure, demonstration and the use of visual aids were not used in all the classes observed.

The finding that questioning, silent reading and retelling were the regularly used teaching strategies from the observations concurs with students' reports in which the same strategies were commonly used. It also corresponds with findings by Udosen (2011) and Ludago (2014) on the frequently used strategies in teaching reading in Nigeria and Ethiopia. Similarly, strategies such as teaching of story grammar/text structure, demonstration and the use of visual aids were rarely used from students' reports and observations. It is, however, worth noting that from observations the questioning, silent reading and retelling strategies were not effectively used.

Effective use of the questioning strategy entails combining both high and low cognitive questions (Cotton, 1989). Observations, however, revealed that the use of questioning was outstanding in 4(36.4%) classes only. Teachers in these classes combined display questions (low cognitive) and referential questions (high cognitive). In the rest of the classes, much of the questioning was done using display questions. Display questions require students to simply recall previously read information. Their use therefore limits the students' ability to engage in higher level thinking skills such as inference, analysis, evaluation, synthesis, prediction and critiquing which are vital in reading comprehension.

Effective use of silent reading on the other hand necessitates the combination of the strategy with other strategies such as guided oral reading. Specifically, when the strategy is used alone, it is difficult for the teacher to detect whether the students are actually reading or pretending to read (Hierbert & Reutzel, 2010). The use of silent reading in this study would

therefore be considered insufficient given that it was not combined with other strategies such as guided oral reading. This also implied that there was no reinforcement of reading strategies, constant feedback or support from the teacher which would help the students to develop independent reading comprehension skills.

Retelling was one of the strategies used by teachers to test students' comprehension. In all the classes observed retelling was done by students in KSL. The use of the strategy was outstanding in only two classes where students included all the details of the text in their narrations. The titles of the texts read were '*The Beauty Contest*' and '*The Hare and the Tortoise'.* These texts seemed simple in nature and within students' background knowledge. In the rest of the classes, the use of the strategy was ineffective given that students missed important ideas in the text or could not retell the text. In addition, teachers failed to provide corrective feedback promptly if the students missed important aspects of the text when using the strategy as recommended by Andrews (1988). This may be attributed to lack of understanding of what students were signing due to deficiencies in KSL or an oversight.

Evidence from observations and students' reports shows that there was minimal use of visual aids in teaching English reading comprehension. This finding concurs with a study by Ogada (2012) study which also established that the use of visual aids in the teaching of English composition was minimal in primary schools for the deaf in Nyanza province. The rare use of visual aids by teachers can be attributed to inadequate time for preparation, lack of creativity or limited material and resources. Lack of visual aids during the teaching and learning process limits deaf students' avenues for sourcing extra information given their dependence on the visual modality. It also leads to a labored process of teaching and

learning given the teachers' incompetence in sign language which eventually affects student's comprehension.

Through observation, the study further established the reading phases during which various teaching strategies were used. The results are presented in Table 5.

Table 5: Teaching Strategies in English Reading Comprehension and Phase when Used as Observed (n=11)

	Strategy	**Pre-Reading Phase f (%)**	**During Reading Phase f (%)**	**Post Reading Phase f (%)**	**Not Used at All f (%)**
1.	Teaching vocabulary	0(0.0)	0(0.0)	5(45.5)	6(54.5)
2.	Teaching story grammar and text structure	0(0.0)	0(0.0)	0(0.0)	11(100.0)
3.	Repeated reading	0(0.0)	2(18.2)	0(0.0)	9(81.8)
4.	Activation of students' background knowledge	8(72.7)	0(0.0)	0(0.00	3(27.3)
5.	Retelling	0(0.0)	0(0.0)	6(54.5)	5(45.5)
6.	Skimming and scanning	0(0.0)	0(0.0)	2(18.2)	9(81.8)
7.	Dramatisation	1(9.1)	0(0.0)	0(0.0)	10(90.9)
8.	Summarisation	0(0.0)	0(0.0)	2(18.2)	9(81.8)
9.	Reading aloud	0(0.0)	4(36.4)	0(0.0)	7(63.6)
10.	Silent reading	0(0.0)	8(72.7)	0(0.0)	3(27.3)
11.	Group reading	0(0.0)	5(45.5)	0(0.0)	6(54.5)
12.	Questioning	0(0.0)	0(0.0)	11(100.0)	0(0.0)
13.	Use of visual aids	0(0.0)	0(0.0)	0(0.0)	11(100.0)
14.	Peer tutoring	0(0.0)	0(0.0)	2(18.2)	9(81.8)
15.	Demonstration	0(0.0)	0(0.0)	0(0.0)	11(100.0)
16.	Discussion	0(0.0)	0(0.0)	5(45.5)	6(54.5)

f- frequency

Table 5 shows the phases of reading in which teaching strategies were used. From the table, the most frequently used teaching strategies before, during and after reading were activation of students' background knowledge 8(72.7%), silent reading 8(72.7%) and questioning 11(100.0%) respectively.

The pre-reading stage is a preparation stage in which teachers are expected to employ strategies such as teaching of vocabulary; activation of students' background knowledge; surveying the text, discussion of the text title, pictures and illustrations, topic sentences and main idea; prediction; and use of instructional aids to set a context (Gathumbi & Masembe, 2005; Pinnell, 2002; Readence, Moore & Rickelman, 2004; McCormick, 2007; McIntyre, 2007, Udosen, 2011). Observations, however, revealed that none of the teachers applied other strategies apart from activating the students' background knowledge. This finding concurs with a study by Udosen (2011) which established that teachers rarely utilized diverse teaching strategies that actively prepared students for construction of meaning from the text. The finding nonetheless defies the recommendation of the Secondary Education English Curriculum for the deaf, that teachers of English carefully devise pre-reading activities that will make reading fulfilling (KIE, 2004). Considering the limited background knowledge that deaf students possess on various topics, there is need to adequately prepare them in advance on the text they are about to encounter. This creates awareness about the text and establishes a mental framework for reading. It further builds students' interest and confidence in approaching the text. Otherwise, inadequate preparation at the pre-reading phase implies that students approach the task without a purpose and are not stimulated enough to engage in higher order thinking that would facilitate comprehension.

From the observations (see Table 4) the teaching of vocabulary was found to be unsatisfactory. This is because in all the classes observed, teachers attempted to teach vocabulary provided in the text after the students had finished reading as evident in Table 5. In addition, none of the teachers was able to teach all the difficult words provided in the text. Students were left to check the remaining vocabularies in the dictionary on their own. When teachers engaged students in checking out vocabularies in the dictionaries, the latter ended up finger spelling words in the dictionary or providing varied meanings of the word from the dictionary. This was an indication of low vocabulary knowledge, lack of sign equivalents for the words and difficulties in relating the dictionary to text meanings. Interviews with the teachers revealed that relating dictionary and text meanings of vocabulary was one of the concepts that was challenging to deaf students. Most teachers 9(81.8%) further reported that in order to save time, they preferred to discuss the vocabularies provided in the text rather than allowing students to report the new words encountered. The explanation provided was that when students were given the chance to recount the vocabularies they ran into, they ended up supplying too many of them that could not all be discussed within a lesson.

The teaching of vocabulary after reading contradicts the recommendations by Sandra (2005) on the teaching of new vocabulary to deaf students prior to reading. It futher disagrees with deaf students' preference of teaching vocabulary before reading as reported by Herzig (2009). The implication is that the students approach the reading task without understanding the key words necessary for comprehension. Further, the tendency of deaf students to provide more vocabularies when given an opportunity suggests the need for intensive teaching of vocabulary and the involvement of students in the choice of the vocabulary to be

taught. This should be done before reading to ensure that learners understand the words they read for comprehension purposes.

During reading is the active stage of constructing meaning from the text. Effective teaching strategies during this stage include silent reading, guided reading, demonstrations, modeling, explanations, definitions and clarifications (Gathumbi & Masembe, 2005; Pinnell, 2002; Readence, Moore & Rickelman, 2004; McCormick, 2007; McIntyre, 2007, Udosen, 2011). From observations however, only silent reading was commonly used during this stage. No attempts were made by the teachers to model reading through strategies such as reading aloud or use of context clues to arrive at meaning of unknown words. This finding corresponds with Udosen (2011) study which established that teachers did not model reading to their students. Nonetheless, it contrasts deaf students' preference for model reading by the teacher which facilitated understanding of the text as established by Herzig (2009). Lack of modeling, monitoring, guidance and corrective feedback from the teacher indicates a passive role of the teacher during this phase. The implication is that students are not empowered to monitor and control their reading strategies. They also become less cognitively engaged during the reading process and this affects their overall comprehension of the text.

The post reading phase involves consolidation and elaboration on understanding the text. Teachers and students are expected to engage in activities such as discussing and summarizing, retelling, appreciation, questioning and word work (Gathumbi & Masembe, 2005; Pinnell, 2002; Readence, Moore & Rickelman, 2004; McCormick, 2007; McIntyre, 2007, Udosen, 2011). Observations, however, indicated that most teachers utilized the

questioning strategy only. In addition, the questions asked were limited to what was set in the core textbooks. This finding matches Udosen (2011) study which found out that none of the teachers tried questions outside those set in the text. Questioning is one of the traditional strategies commonly used to check understanding. Its use in this study, especially after reading, signifies a traditional approach towards the teaching of reading with the ultimate goal of assessing. This can be attributed to reluctance by the teachers in trying out new methods and their perception towards strategies such as summarisation which was found to be negative (see Table 11). Such a disposition does not develop deaf students' critical thinking skills after reading such as inference, evaluation and application. It also contravenes the purpose of reading and puts the students at risk of failure in reading.

Through interviews, teachers recounted the teaching strategies they preferred in teaching English reading comprehension and the rationale for adopting them. The strategies that were preferred by most teachers included questioning, silent reading, retelling, discussion and peer tutoring. The questioning strategy was preferred because it helped in checking understanding and keeping the students attentive. Silent reading was favored because it saved time while retelling aided in ascertaining comprehension of the whole text. On the other hand, discussion captivated students' interests and enhanced learner participation. It also enabled the students to learn from their peers. Peer tutoring compensated the teachers' challenges in communication. The foregoing reasons for preference of the four strategies were informed by the following remarks:

> *"I prefer questioning because it helps me test students' comprehension and capture their attention." (Teacher 8)*

"I always use silent reading because it saves time. When deaf students sign and read, more time is consumed and I am not able to cover what I had planned (Teacher, 1).

"It is only through retelling that I am able to truly establish whether a deaf student has comprehended the whole text or not." (Teacher 11)

"I like discussion especially after reading because it captivates deaf students' interest, provides an opportunity for them to participate and, makes the class lively. The students also exchange ideas and learn from each other." (Teacher 2)

"Sometimes when I explain a concept through signing, students do not understand me, but when a peer explains to them the same concept, they are able to understand."(Teacher 6)

The reports by the teachers of English on the preferred teaching strategies indicate that none of them had an inclination towards effective strategies such as the teaching of vocabulary, the teaching of story grammar/structure, demonstration (explicit teaching of reading strategies), skimming, scanning, use of visual aids and summarisation. This implied a lack of awareness on the importance of the strategies to deaf students or rigidity in trying out new strategies. This could be detrimental to deaf students' academic achievement given that some of the skills such as summarisation, knowledge of English vocabulary and grammar are vital in reading comprehension.

4.2.2 Nature of Classroom Interaction

Data regarding classroom interaction was collected and analysed using Craig and Collins (1970) adapted category system of communicative interaction in classrooms for the deaf. The results are captured in Table 6 and 7.

Table 6: Nature of Classroom Interaction as Observed (n=11)

	Category	Frequency	Percentage
1.	Accepts feeling	11	0.4
2.	Praises or encourages	31	1.2
3.	Accepts or uses students' ideas	153	5.8
4.	Asks questions	462	17.5
5.	Lecturing	357	13.5
6.	Giving directions	368	13.9
7.	Criticizing or justifying authority	8	0.3
8.	Student-talk-response	1023	38.8
9.	Student-talk-initiation	14	0.5
10.	Silence or confusion	213	8.1
	TOTAL	**2640**	**100**

Table 6 shows the nature of classroom interaction during English reading comprehension lessons in secondary schools for the deaf. From the table, much of students talk 1023(38.8%) occurred in the form of responses to teacher questions. There was minimal 14(0.5%) initiation of the talk by students. Teacher talk, in contrast, was characterized by the asking questions 462(17.5%), giving directions 368(13.9%) and lecturing 357(13.5%). It is therefore evident that classroom interaction was dominated by teachers by asking questions and giving directions. Much of the student talk was based on responses rather than initiation.

The finding that teachers of English dominated classroom interaction is consistent with studies by Craig and Collins (1970) and Kim and Hupp (2005) which established that special education teachers dominated classroom interactions and were more directive than responsive. The finding that questioning and the provision of directions characterized the

teacher talk in this study however disagrees with Bett's (2008) and Ogutu's (2012) results which indicated that teacher talk was characterized by lecturing. Some of the factors that may have contributed to the teachers' dominance in classroom interaction as observed included: teachers focusing on bright students only, students' difficulties in English, students' lack of confidence and fear of making mistakes, and inability to understand teachers' instructions.

The dominance of teacher talk during classroom interaction can also be attributed to the type of questions asked by the teachers. Out of the 462 times that teachers asked questions only 44(9.52%) of the questions were inferential. This implied that much of the teacher questioning strategy was through display questions. The questions required short responses which limited the engagement time of students. Longer responses only occurred when students were asked to retell a personal experience which was done by few students in the classroom. The dismal performance by deaf students in English necessitates the provision of opportunities in which they can learn and develop the skills already acquired. The dominance of teachers in classroom interaction therefore denies deaf students the advantage of independent thinking, language development and the exercise of skills previously learnt which come with genuine classroom interactions. The likelihood of becoming apathetic towards the learning process is also possible since the students are not actively engaged.

The modes of communication used during the teacher and student talk were also established using the Craig and Collins (1970) category system. The results are shown in Table 7.

Table 7: Mode of Communication used During Student and Teacher Talk (n=11)

		Teacher Talk		Student Talk	
	Mode of communication	**Frequency**	**Percentage**	**Frequency**	**Percentage**
1.	Combined(Sign and Speech)	702	50.5	0	0.0
2.	Signing	496	35.7	763	73.6
3.	Writing	124	8.9	69	6.7
4.	Finger spelling	22	1.6	150	14.5
5.	Non- manual Signals	15	1.1	24	2.3
6.	Evasive Action	0	0.0	12	1.1
7.	Speech alone	0	0.0	0	0.0
8.	Gestures	31	2.2	19	1.8
	TOTAL	**1390**	**100**	**1037**	**100**

Table 7 shows the modes of communication used during student and teacher talk. From the table, most teachers 702(50.5%) used the combined mode (sign and speech). The use of speech alone, touch and evasive action were not observed. Most of the students 763(73.6%) conversely used signing alone. The use of speech alone was also not observed among students. These findings indicate that the combined mode (Simultaneous Communication) and signing alone were frequently used during teacher and student talk respectively.

The dominant use of Simultaneous Communication (SC) during teacher talk is consistent with findings by Adoyo (2004) and Ochwal (2008) that SC was commonly used by teachers in schools for the deaf. Omissions and mismatches are, however, inevitable when using SC. This leads to distortion of information which makes SC an ineffective mode of communication (Adoyo, 1995). The use of this mode therefore has a likelihood of affecting deaf students' reading comprehension.

In addition to signing, finger spelling was the second most used mode of communication by deaf students. Finger spelling was mainly used when students either did not know the meaning of a word or there was no sign equivalent to it. This mode was, however, rarely used by teachers. In the few instances where it was used, the production was not only slow but also characterized by omissions and hesitations. The challenges teachers faced in the use of finger spelling might have resulted in teachers opting to write on the blackboard hence the rare use of the mode. Finger spelling is one of the modes which deaf teachers incorporate into their teaching. This is done through the chaining procedure where words written on the blackboard are linked with both sign and finger spelling (Humphries & MacDougall, 2000). The use of this procedure arises from the deaf teachers' intuitions about the complex relations of sign, finger spelling and print that need to be developed in the minds of deaf students if they are to become skilled readers (Chamberlain & Mayberry, 2000). Teachers of English therefore needed to adopt the chaining procedure especially in the teaching of vocabulary.

4.2.3 Language of Instruction

Data regarding language of instruction was collected, analyzed and presented as shown in Table 8.

Table 8: Language of Instruction used during English Reading Comprehension as Observed (n=11)

	Language of Instruction	O f %	WD f %	S f %	NS f %	NU f %
1.	S.E and KSL	0(0.0)	0(0.0)	0(0.0)	8(72.7)	3(27.3)
2.	S.E only	0(0.0	0(0.0)	0(0.0)	2(18.2)	9(81.8)
3.	KSL only	2(18.2)	0(0.0)	0(0.0)	0(0.0)	9(81.8)

KEY: Kenyan Sign Language **(KSL)**, Signed English **(S.E),** Outstanding **(O),** Well Demonstrated, **(WD)** Satisfactory **(S),** Not Satisfactory **(NS**), **NU**- Not used,

f – Frequency

Table 8 indicates the language of instruction used by teachers of English during reading comprehension. From the table S.E and KSL were used in most classes 8(72.7%), which was, however, not satisfactory. S.E alone was used in 2(18.2%) of the classes and its use was also not satisfactory. KSL alone was used in 2(18.2%) of the class and its use was outstanding. It can therefore be concluded that S.E and KSL were the languages used during English reading comprehension lessons. However, their use was not effective.

The Secondary School English curriculum for deaf students (KIE, 2004) recommends the use of KSL and Signed English in the teaching of English. The form of Signed English that is recommended is Signed Exact English (S.E.E) which follows the grammatical structure of English. It is assumed that the use of S.E.E facilitates deaf students' acquisition of the English grammar. KSL, on the other hand, helps in explaining concepts for comprehension purposes. Considering the challenges deaf students experience in L2 acquisition, the use of the two languages facilitates learning and competence in English (Cummins, 1991).

Nonetheless, the two languages play different roles hence have to be kept separate to avoid confusion (Adoyo, 2004). In this study, the use of S.E and KSL was not satisfactory. First, when using S.E, all the teachers could not maintain exact sign-word correspondences during the discourse. Attempts to follow the English word order were made but some words such as the articles ended up being omitted. In other instances, teachers signed what was thought to convey the intended meaning. Secondly, keeping the S.E and KSL separate during classroom discourse was also a challenge. Most teachers 8(72.7%) would start a sentence in S.E and end in KSL or mix the two in a single sentence. This was typified in the following transcriptions:

1. **Teacher said**: Now yesterday I told you to read a story.

   Teacher signed: NOW YESTERDAY I TELL YOU READ STORY, THERE THERE TRUE?

2. **Teacher said**: Same story there is something that brings problem making people to suffer a lot.

   Teacher signed: SAME STORY THERE SOMETHING THAT BRING PROBLEM MAKE PEOPLE TO SUFFER A LOT

3. **Teacher said**: Have you met a person before who is as proud as the hare.

   Teacher signed: YOU MEET BEFORE PERSON PROUD SAME HARE

4. **Teacher said:** Who is stuck on the way?

   Teacher signed: STUCK WAY

5. **Teacher said**: So we have heard the story from that boy

Teacher signed: WE HEAR STORY

6. **Teacher said**: She used a place next to the gate that had an opening

Teacher signed: USED PLACE NEXT GATE OPENING

In example 1, the teacher starts accurately in S.E.E English but ends up in KSL while in example 2, the teacher starts in KSL and ends in English with omissions of suffixes such as 'ing' in the word 'making'. Example 3 is characterized by the teacher speaking in English but signing in KSL. The rest of the examples that is 4, 5 and 6 indicate omissions of some words with teachers signing what they thought would convey the equivalent meaning.

The ineffective use of S.E.E by the teachers might be attributed to speed differentials when speech and signs are used concurrently which forced the teachers to omit signing some words in order to synchronise the two. It might also be as a result of inadequate signing skills. This finding corresponds with that of Adoyo (1995, 2004) whose results showed that teachers of the deaf were not proficient in the use of SC and sign language in general. According to Adoyo (2004), S.E and KSL have a separate role in instruction which, if appropriately executed, would help deaf students understand the difference between KSL and English syntax. The mixing of S.E and KSL by teachers in this study therefore indicates a lack of awareness on the role of the two languages in instruction which creates confusion of English syntax among students.

Deaf students need role models in language use if they are to acquire grammatical English which is essential in reading comprehension. Lack of exact representation of the English grammar and mixing of KSL and S.E hence leads to poor mastery of English grammar. This has implications on achievement in English reading comprehension in that students will have difficulty in deriving the correct meaning from various syntactic constructions in the text.

4.2.4 The Use of Teaching and Learning Resources in English Reading Comprehension

The use of teaching and learning resources during English reading comprehension lessons was established through classroom observations and questionnaires. Data collected was analysed and presented in Table 9 and 10.

Table 9: The Use of Teaching and Learning Resources by Teachers of English during Reading Comprehension as Reported by Students (n=79)

	Resource	Very Often	Often	Sometimes	Hardly	Never
		f %	f %	f %	f %	f %
1.	Real objects	5(6.3)	11(13.9)	16(20.3)	27 (34.2)	20(25.3)
2.	Pictures	9(11.4)	13(16.4)	16(20.3)	32(40.5)	9 (11.4)
3.	Signed videos	4(5.1)	7(8.9)	12(15.2)	13(16.4)	43(54.4)
4.	Computers	5(6.3)	4(5.1)	8(10.1)	23(29.1)	39(49.4)
5.	English textbooks	68(86.1)	5(6.3)	4(5.0)	1(1.3)	1(1.3)
6.	Charts	6(7.6)	6(7.6)	15(19.0)	21(26.6)	31(39.2)
7.	Magazines	4(5.1)	5(6.3)	12(15.2)	25(31.6)	33(41.8)
8.	Newspapers	10(12.7)	14(17.7)	18(22.8)	29(36.7)	8(10.1)
9.	Novels	10(12.7)	11(13.9)	27(34.2)	19(24.0)	12(15.2)
10.	Story books	8(10.1)	14(17.7)	18(22.8)	26(33.0)	13(16.4)

KEY: **f**-frequency

Table 9 shows the frequency of use of teaching and learning resources by teachers of English as reported by students. From the table, 68(86.1%) of the students reported that textbooks were used very often. Majority of students reported that resources such as signed videos 43(54.4%), computers 39(49.4%), magazines 33(41.8%) and charts 31(39.2%) were never used. It can, therefore, be concluded that the most used teaching and learning resources in English reading comprehension according to students were textbooks.

In all the classes observed, no other resources were used in the teaching and learning of English reading comprehension except textbooks.

The use of textbooks only as observed and reported by students implies that the utilization of varied teaching and learning resources during English reading comprehension lessons was minimal in secondary schools for the deaf. This finding corresponds with Nganyi's (2006) report in which textbooks were confirmed to be the most used resources in teaching reading in East Africa. It, however, contradicts with Ogada (2012) finding where the chalkboard was the most used teaching resource in composition writing in primary schools for the deaf in Nyanza province, Kenya. Possible explanations for the common use of textbooks include inadequate time for preparation, inadequate reading resources or teachers' lack of creativity. Text books are a useful resource since they provide a guideline to the content and activities that occur within the classroom. However, they cannot be relied on entirely to develop communicative language competence, because the answers in many of the activities are very predictable and monotonous (Gómez-Rodríguez, 2010). Richards (2001) further asserted that textbooks cannot meet the varied needs of the learners.

The use of visual aids during the teaching of deaf students is recommended due to their dependence on the visual modality. Unfortunately, observations and reports from students indicate that teachers over relied on textbooks and rarely used visual aids in teaching reading comprehension. This denies deaf students access to additional information which would enhance comprehension. The opportunities of learning new information which lacks in their background knowledge and the perfecting of their reading skills are also limited. Overreliance on the textbooks in the classroom context makes reading lessons less captivating thereby de-motivating students from extensive reading. This eventually influences deaf students' achievement in English comprehension.

Apart from the use of teaching and learning resources in the classroom, additional information was sought on the adequacy of the reading resources in the various schools. This was done through questionnaires administered to teachers. The results were as shown in Table 10.

Table 10: Teachers of English Rating on Adequacy of Reading Resources in the School (n=11)

	Reading Resource	VA	A	I	NA	DK
		f %	f %	f %	f %	f %
1.	English text books	3(27.3)	0(00.0)	8(72.7)	0(0.0)	0(0.0)
2.	Novels	5(45.4)	4(36.4)	2(18.2)	0(0.0)	0(0.0)
3.	Story books	5(45.4)	3(27.3)	3(27.3)	0(0.0)	0(0.0)
4.	Signed videos	0(0.0)	1(9.1)	10(90.9)	0(0.0)	0(0.0)
5.	Visual aids (e.g Charts, and pictures)	0(0.0)	3(27.3)	7(63.6)	0(0.0)	1(9.1)
6.	Newspapers	1(9.1)	4(36.4)	6(54.5)	0(0.0)	0(0.0)
7.	Magazines	0(0.0)	1(9.1)	8(72.7)	2(18.2)	0(0.0)
8.	Computers	0(0.0)	0(0.0)	10(90.9)	1(9.1)	0(0.0)

KEY: VA- Very Adequate **A**- Adequate **I**-Inadequate **NA**- Not available
DK- Don't Know **f**-frequency

Table 10 indicates that the reading resources rated by majority of teachers as very adequate included novels 5(45.4%) and story books 5(45.4%). Reading resources that were reported by majority of the teachers as inadequate included signed videos 10(90.9%), computers 10(90.9%), English text books 8(72.7%), magazines 8(72.7 %) visual aids 7(63.6%) and newspapers 6(54.5%). Based on these findings, it is evident that English textbooks, signed

videos, visual aids, newspapers, magazines and computers were inadequate in secondary schools for the deaf in Kenya.

Even though text books were the main resource used in the teaching and learning of reading comprehension, teachers' reports on the adequacy of resources confirmed that they were inadequate in most schools. It was further confirmed during classroom observations that only one class (1.9%) had the ideal student-book ratio of 1:1 of the core English text. This was comparable to the finding by (Ogada, 2012) that English textbooks were inadequate in primary schools for the deaf in Nyanza province, Kenya. The inadequacy of the textbooks forced some teachers to use the group reading strategy in which one student read aloud as the others watched. This implied that students lacked the opportunity to directly interact with the text independently and this was likely to affect their comprehension.

Interviews with the teachers on the reading habits of deaf students further disclosed that, despite most schools having adequate story books and novels, the students rarely visited the library to borrow the books with an exception of best performing students. Teacher 2, 5, 7 had this to say:

> "*Our school has a lot of novels and story books but deaf students rarely borrow them. They gather dust on the shelves." (Teacher 2)*
>
> *"Most of the time our students borrow course books and not story books." (Teacher 5)*
>
> *"I normally recommend to my students some of the interesting story books available in our library but when I follow it up from the library records only best performing students seem to make a point of borrowing them."(Teacher 7)*

On the reading habits of deaf students, interviews with the teachers further revealed that deaf students read books that had pictures, used simple language and were not voluminous. In addition, their engagement in reading was superficial. Teachers 1, 3 5 had this to say:

> *"When deaf students borrow reading material such as newspapers their focus is on pictures rather than the content." (Teacher 1)*
>
> *"Deaf students don't read. They just skim through books looking at pictures in the text. If a book does not have pictures the interest is gone." (Teacher 3)*
>
> *"I normally find my deaf students preferring to read short story books that have pictures such as those used in primary school."(Teacher5)*

The reports by teachers' in the interviews point to the fact that the reading habits of deaf students were ineffective in terms of frequency, engagement, skill and purpose. This may be attributed to language difficulties; their understanding on the purpose of reading; and motivation for reading as established by Parault and Williams (2010). The finding that deaf students rarely borrowed story books or novels is commensurate with their own reports on spending less time in reading other materials other than text books (see Table 22). It also concurs with their understanding of reading as an academic endeavor and not a leisure activity (see Table 20). The implication is less practice and exposure to varied texts leading to poor reading skills and background knowledge which negatively influences achievement in reading comprehension.

4.3 Perspectives of Teachers of English on Reading Comprehension Teaching Strategies and its Implications on Academic Achievement

The second objective of this study was to establish the perspectives of teachers of English on reading comprehension teaching strategies and the implications on deaf students' academic achievement. A rating scale was used to establish the perspectives. Data regarding the

perspectives of teachers of English on reading comprehension teaching strategies is presented in Table 11.

Table 11: Perspectives of Teachers on English Reading Comprehension Teaching Strategies (n=11)

	Statement	Mean
1.	Teaching of vocabulary found in the text to deaf students takes too much of the lesson time	3.82
2.	Teaching English grammar during reading comprehension boosts deaf students' proficiency in English.	4.18
3.	Use of repeated reading is irrelevant to deaf students	3.55
4.	Activating deaf students' knowledge about a topic enhances their comprehension	4.27
5.	Deaf students understand best when a text is retold in Kenyan Sign Language	4.55
6.	Understanding the title of the text helps deaf students to predict about the text	4.00
7.	Skimming helps deaf students to figure out the key words and ideas in the text.	4.00
8.	Use of Kenyan Sign Language in English reading comprehension distorts meaning	2.18
9.	Dramatisation does not add value to deaf students' reading comprehension	3.91
10.	Summarisation is difficult for deaf students	1.91
11.	Reading aloud interferes with deaf students' ability to follow the story	2.64
12.	Silent reading saves time when teaching reading comprehension to deaf students	3.64
13.	Group reading helps deaf students share ideas	4.00
14	Use of dictionaries doesn't improve reading comprehension among deaf students	2.00
15.	Questioning during reading helps in checking deaf students' comprehension	4.00
16.	Use of visual aids does not enhance deaf students' reading comprehension	4.45
17.	Deaf students can never learn how to locate important information in a text through scanning	3.91
18.	Deaf students understand best when their peers explain to them reading comprehension passages	3.90
19.	Demonstration of reading comprehension strategies to deaf students makes no difference	2.45
20.	Discussion encourage deaf students to participate during reading comprehension lessons	3.82
	OVERALL MEAN	**3.56**

Table 11 illustrates the perspectives of teachers of English on selected reading comprehension teaching strategies. From Table 11, teachers had an overall positive perspective (Mean=3.56) towards English reading comprehension teaching strategies. Negative perspectives were however depicted on teaching strategies such as summarisation (Mean=1.91), use of dictionaries (Mean= 2.00), use of KSL (Mean=2.18), demonstration of teaching strategies (Mean=2.45) and reading aloud (Mean=2.64).

Findings on the perspectives of teachers on English reading comprehension teaching strategies indicate that teachers had positive perspectives on most of the recommended strategies. The expectation therefore is that teachers would employ varied strategies during teaching. In contrast, observations and students' reports showed that only three teaching strategies that is, questioning, silent reading and retelling were frequently used. This implies that the perspectives of teachers of English towards reading comprehension teaching strategies did not correspond with their classroom practices which concurred with Lockwood's (2006) findings. Interviews with the teachers revealed that time, motivation and deaf students' proficiency in English were constraints in the implementation of the strategies. This also coincided with Mohammed's (2006) observation that discrepancies between beliefs and practices could be attributed to time limitations, students' competence in English, and teachers' motivation.

Negative perspectives on summarisation, the use of the dictionary and demonstration of reading comprehension strategies implied that teachers were less likely to use the strategies during reading comprehension lessons which was evident from students' reports and observations (see Tables 3 and 4). The implication is that the students become less aware of

the effective use of reading strategies which influences their achievement in reading comprehension as posited by Ahmadi and Pourhossein (2012). Specific evidence from marked scripts of English reading comprehension (see page 138) showed that deaf students had difficulties in summary writing. Classroom observations further revealed that learners had difficulty in relating dictionary and text meaning. This might be attributed to the negative perspectives of teachers towards the strategies.

In establishing the general attitude of teachers of English towards teaching reading comprehension to deaf students, teachers of English were asked to indicate whether they enjoyed teaching reading comprehension to deaf students and provide reasons for their answers. Data on the teachers' responses is presented in Figure 2.

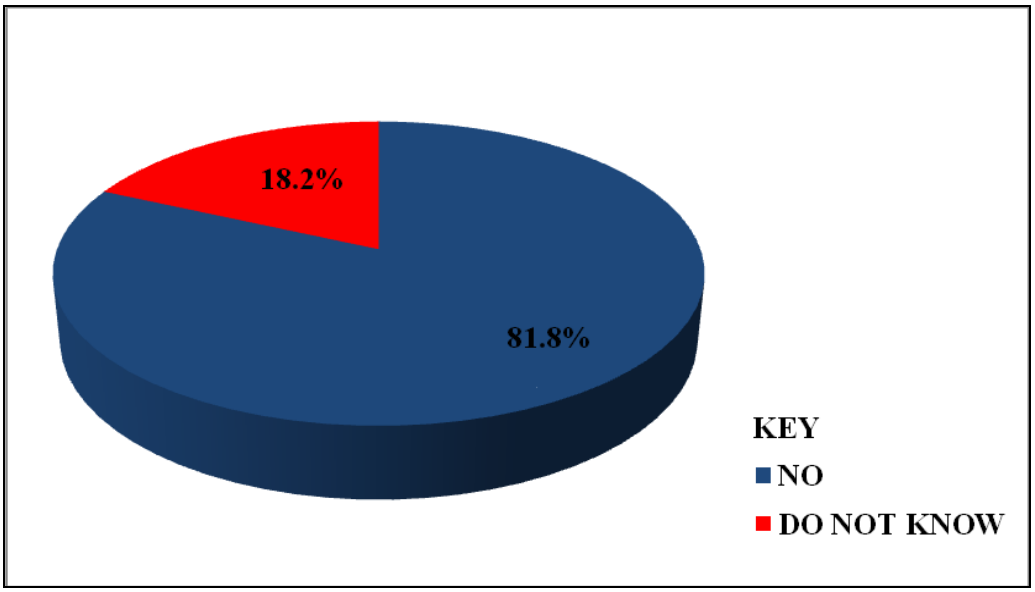


Figure 2: Teachers' Responses on Enjoyment of Teaching English Reading Comprehension to Deaf Students (n=11)

Figure 2 illustrates responses by teachers of English on the enjoyment of teaching reading comprehension to deaf students. From the figure 9(81.8%) of the teachers reported that they did not enjoy teaching English reading comprehension to deaf students whereas 2(18.2%)

said that they were not sure whether they enjoy it. None of the teachers indicated that they enjoyed teaching reading comprehension to deaf students. It can therefore be concluded that most of the teachers did not enjoy teaching English reading comprehension to deaf students.

The reasons provided by the teachers for not enjoying teaching reading comprehension to deaf students included:

i. Most deaf students are not proficient in English, thus making it difficult to teach reading comprehension 8(72.7%).
ii. Deaf students' use of Kenyan Sign language which complicates the teaching of English reading comprehension 7(63.6%).
iii. Deaf students constantly falling below expectations even with much investment into the teaching of reading 6(54.5%).
iv. Deaf students taking too long to comprehend which is very frustrating 4(36.4%).
v. Passages in the text books are too long and out of the deaf students' experience and background knowledge 4(36.4%).
vi. The students getting fixated on the hard words and not being able to continue reading until the word is explained to them 3(27.3%).
vii. Deaf students losing concentration easily, thereby making the teaching of English reading comprehension difficult 2(18.2%).

The teachers who did not know whether they enjoyed teaching English reading comprehension to deaf students explained that when deaf students understood a comprehension passage, teaching was enjoyable but when they did not, teaching them was a challenging task.

The discovery that most teachers of English did not enjoy teaching reading comprehension to deaf students depicts a negative attitude. This attitude is further elucidated by the reasons provided where deaf students fall below teachers' expectations' and teaching them is perceived as a difficult and frustrating task. This finding corresponds to results by Wood (1998) and Dada and Atlanta (2002) in which teachers reported had an indifferent attitude towards students with special needs. A negative attitude towards teaching English reading comprehension to deaf students suggests the possibility of teachers' lack of enthusiasm in preparation and presentation of lessons; reluctance in helping the students in specific areas of difficulty; and pessimism on the ability of deaf students. Such a disposition will, in the long run, affect deaf students' achievement in English reading comprehension.

4.4 Learning Strategies used by Deaf Students in English Reading Comprehension and the Implications on Academic Achievement

The third objective of this study was to find out the learning strategies used by deaf students in English reading comprehension and the implications on academic achievement. Data regarding the learning strategies used by deaf students during English reading comprehension was collected through observations and questionnaires. This data was analyzed and presented in Tables 12, 13,14,15,16 and 17.

The results of learning strategies used by deaf students in English reading comprehension as observed by the researcher are presented in Table 12.

Table 12: Learning Strategies Used by Deaf Students in English Reading Comprehension as Observed (n=11)

	STRATEGY	Used to a Very Large Extent	Used to a Large Extent	Used to a Small Extent	Used to a Very Small Extent	Not used at all
		f (%)	f (%)	f (%)	f (%)	f (%)
i.	Finger spelling	7 (63.6)	2 (18.2)	1 (9.1)	1 (9.1)	0 (0.0)
ii.	Signing while reading	7 (63.6)	2 (18.2)	0 (0.0)	1 (9.1)	1(9.1)
iii	Pointing at words with fingers	6 (54.5)	3 (27.3)	1 (9.1)	1 (9.1)	0 (0.0)
iv.	Use of the dictionary	5 (45.4)	3 (27.3)	1 (9.1)	2 (18.2)	0 (0.0)
iv	Asking a friend	3 (27.3)	2 (18.2)	5 (45.4)	1 (9.1)	0 (0.0)
v.	Asking the teacher	3 (27.3)	5 (45.4)	1 (9.1)	2 (18.2)	0 (0.0)
vi	Peer reading	0 (0.0)	1 (9.1)	7 (63.6)	0 (0.0)	3(27.3)
ix.	Skipping vocabularies	0 (0.0)	0 (0.0)	0 (0.0)	1 (9.1)	10(90.9)
vi.	Note taking	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	11 (100.0)

KEY: f-frequency

It is evident from Table 12 that the observed learning strategies that were used to a very large extent included finger spelling 7(63.6%), signing while reading 7(63.6%) pointing at words with fingers 6(54.5%) and use of the dictionary 5(45.4%). Note taking was not used in all the classes. These findings signify that the most used learning strategies by deaf students during reading comprehension included finger spelling, signing while reading and pointing at words while reading.

The use of finger spelling, signing while reading and pointing at words depicts the observable behavior of deaf students as they read. The identification of these strategies was

therefore limited to what the researcher could directly observe when the students were reading. Otherwise, some strategies like the use of mental imagery could not be explicitly observed. This finding is important in that existing studies on reading strategies used by deaf students such as Banner and Wang (2011) and Strassman (1992) relied on students' reports and not the observable behavior.

Finger spelling is one of the strategies used by deaf students when they encounter difficult words as reported by Chow (2003). Its use in most of the classes observed thus signified lack of knowledge of words used in a text or sign equivalents. The use of the strategy does not provide the direct meaning of a word unless supplemented with other strategies such as the use of a dictionary. Frequent use of the strategy further interferes with the flow of ideas during reading which eventually interferes with the overall comprehension of a text.

Signing while reading can be equated to vocalized reading among hearing readers. The use of the strategy has been regarded as a bad reading habit by Gathumbi and Masembe (1997). It slows down the speed of reading not only when a student vocalizes but also when a student signs. Nutall (2005) pointed out that those who read aloud do not learn much about the meaning of the text. They only have a shallow impression of what they have just read hence low comprehension levels.

Pointing at words with fingers during reading on the other hand indicates an active engagement with the text. However, this strategy has been regarded as a bad reading habit and is often associated with beginners (Gathumbi & Masembe 2005; Johns, 2009). The practice also points to difficulties in word identification often characterized by a slow reading rate which compromises comprehension.

Teachers of English were further asked to indicate in the questionnaires how often deaf students used selected learning strategies during reading comprehension. The results are presented in Table 13.

Table 13: Learning Strategies Used by Deaf students in English Reading Comprehension as Reported by Teachers (n=11)

	STRATEGY	VFU f (%)	FU f (%)	RU f (%)	NU f (%)	DK f (%)
1.	Silent reading	4(36.4)	1(9.1)	5(45.4)	1(9.1)	0(0.0)
2.	Signing while reading	8(72.7)	2(18.2)	1(9.1)	(0.0)	0(0.0)
3.	Translating the text into K.S.L	3(27.3)	6(54.5)	1(9.1)	1(9.1)	0(0.0)
4.	Re-reading	4(36.4)	5(45.4)	1(9.1)	1(9.1)	0(0.0)
5.	Reading ahead	0(0.0)	3(27.3)	1(9.1)	5(45.4)	2(18.2)
6.	Guessing meaning of words	0(0.0)	1(9.1)	4(36.4)	6(54.5)	0(0.0)
7.	Use of background knowledge	6(54.5)	3(27.3)	1(9.1)	1(9.1)	0(0.0)
8.	Asking someone	3(27.3)	5(45.4)	2(18.2)	1(9.1)	0(0.0)
9.	Self questioning	0(0.0)	2(18.2)	0(0.0)	8(72.7)	1(9.1)
10.	Use of picture cues	7(63.6)	1(9.1)	2(18.2)	1(9.1)	0(0.0)
11.	Use of the title to predict the text	3(27.3)	2(18.2)	5(45.4)	1(9.1)	0(0.0)
12.	Use of the dictionary	6(54.5)	3(27.3)	2(18.2)	0(0.0)	0(0.0)
13.	Finger spelling unknown words	8(72.7)	2(18.2)	1(9.1)	0(0.0)	0(0.0)
14.	Use of mental imagery	1(9.1)	0(0.0)	1(9.1)	7(63.6)	2(18.2)
15.	Note taking	1(9.1)	1(9.1)	2(18.2)	6(54.5)	1(9.1)
16.	Memorizing aspects of the text	0(0.0)	1(9.1)	3(27.3)	5(45.4)	2(18.2)
17.	Skipping difficult words	1(9.1)	5(45.4)	3(27.3)	0(0.0)	2(18.2)
18.	Varying the reading rate	0(0.0)	3(27.3)	5(45.4)	2(18.2)	1(9.1)
19.	Skimming/scanning	0(0.0)	2(18.2)	5(45.4)	2(18.2)	2(18.2)
20.	Summarisation	0(0.0)	3(27.3)	6(54.5)	2(18.2)	0(0.0)

KEY: Very Frequently Used **(VFU)** Frequently Used **(FU)** Rarely Used **(RU)** Not Used **(NU)** Don't Know **(DK)**

Data from Table 13 shows that the learning strategies that were most frequently used included signing while reading 8(72.7%), finger spelling 8(72.7%) and use of picture cues 7(63.7%). The learning strategies that were not used included self questioning 8(72.7%), the

use of mental imagery 7(63.7%), note taking 6(54.5 %) and guessing the meaning of words 6(54.5%). It can therefore be concluded that according to teachers of English, the most used learning strategies by deaf students in reading comprehension included signing while reading, finger spelling and use of picture cues.

The finding that signing while reading and finger spelling were among the commonly used strategies reported by the teachers, matches with the observations of the researcher (see Table 12).The use of picture cues was an additional finding from the teachers which could also be linked to their continuous observation of deaf students as they read. This finding is consistent with studies by Edwoldt *et al.* (1992) and Strassman (1992) in which deaf students reported to use picture cues. The use of the strategy indicates a deficiency in background knowledge which is complemented by additional information from the pictures. Similarly, the common use of the strategy may be associated with lower level processing skills which are insufficient for effective comprehension. This is especially evident when texts are not accompanied by pictures or illustrations.

Deaf students were also asked to indicate in the questionnaires the learning strategies they used in the pre-reading, during reading, and after reading phases; when comprehension failed; and when they encountered a difficult word. The results are presented in Tables 14, 15, 16, 17 and 18 respectively.

Table 14: Learning Strategies used Before Reading as Reported by Students (n=79)

Strategy	Used f (%)	Not used f (%)
Observing pictures to get a clue about the text	48(60.8)	31(39.2)
Looking at the title and predict the main idea of the text	42(53.2)	37(46.8)
Scanning the text to know its length, main idea and organization	29(36.7)	50(63.3)
Deciding what to read closely and what to ignore	16(20.3)	63(79.7)
Setting the purpose for reading	14(17.7)	65(82.3)

Table 14 shows the pre-reading strategies used by deaf students during reading comprehension. From the table, the most used pre-reading strategies included looking at pictures to get a clue about the text 48(60.8%) and looking at the title to predict the main idea of the text 42(53.2%). The least used pre-reading strategy was setting the purpose for reading 14(17.7%).

The finding that looking at pictures and title to get a clue about the text was the most used pre-reading strategy corresponds with the findings of Marschark, Sapere *et al.* (2004), Schirmer (2003) and Schirmer, Bailey and Lockman (2004). This can be explained by deaf students' dependence on visual information to compensate for the loss of auditory input. Pictures and titles help the students to get the gist of the text but do not guarantee the overall comprehension of a text. Moreover, dependence on the strategy is likely to disorient students especially when a text is not accompanied by a title or a picture. According to Hibbing and Rankin-Erickson (2003), the use of this strategy is associated with poor readers who need confirmation about what they are reading. Consequently, the frequent use of the strategy as

revealed in this study may be associated with less skilled reading which would influence deaf students' achievement in reading comprehension given that most passages in examinations are not accompanied by pictures or titles.

The fact that setting the purpose for reading was the least used strategy denotes that deaf students rarely set purpose for reading. According to Duke and Pearson (2002), effective reading involves setting a purpose before starting to read. This helps in planning how to approach a reading task, the choosing of strategies and knowing what is important to understand and remember from the text. The lack of setting purpose for reading by deaf students therefore portrays their ineffectiveness in approaching a reading task. The implication is that reading is done haphazardly or lacks any value and this notion has an effect on text comprehension.

Table 15: Learning Strategies used During Reading as Reported by Students (n=79)

Strategy	**Used**	**Not used**
	f (%)	**f (%)**
Taking note of key words and ideas	57(72.2)	22(27.8)
Memorising aspects of the text	49(62.0)	30(38.0)
Visualising the information	36(45.6)	43(54.4)
Asking self questions	15(19.0)	64(81.0)

Table 15 indicates the strategies used by deaf students during reading. From the table, the most used learning strategies during reading included taking note of key words and ideas 57(72.2%) and memorizing aspects of the texts 49(62.0%) while least used strategy was asking self questions 15(19.0%).

Taking note of key words and ideas is one of the strategies used by skilled readers. The strategy helps students to understand the core of the text. It also provides a foundation for other strategies such as questioning, visualizing and connecting to prior knowledge. Its use by a majority of the deaf students therefore signifies an understanding of the importance of the strategy in reading comprehension.

The use of memorization on the other hand signifies shallow or lower level processing of information. According to Bloom *et al*. (1956) higher order thinking skills in learning do not include memorization. This means that comprehending a text goes beyond memorizing and it is expected to be critical as reading progresses. The strategy is often associated with beginners or poor readers and considered as a less effective strategy because it is possible to memorize a text without comprehending or thinking about it. For deaf students' the use of the strategy is also likely to put more demand on the working memory which interferes with retention of information as indicated by Schirmer and Williams (2003).

Asking of self questions while reading is a metacognitive strategy which requires students to create questions in their minds and search for possible answers as they read. It helps students remember what they have read. The infrequent use of this strategy among deaf students denotes lack of metacognitive skills during reading which is in accord with the finding by Strassman (1997). It also indicates a lack of active engagement with the text. This would influence the academic achievement in English reading comprehension negatively since deaf students become passive readers who fail to evaluate the text or pay attention to the content.

Table 16: Learning Strategies used After Reading as Reported by Students (n=79)

Strategy	Used f (%)	Not Used f (%)
Determining the main idea	54(68.4)	25(31.6)
Re-reading the text	48(60.8)	31(39.2)
Reflecting on the text	33(41.8)	46(58.2)
Summarising the text	27(34.2)	52(65.8)
Generating questions from the text	18(22.8)	61(77.2)

Table 16 shows the strategies used by students after reading a text. From the table, the most used post- reading strategies were determining the main idea 54(68.4%) and re-reading the text 48(60.8%). Generating questions about the text 18(22.8%) was the least used strategy. These results suggest that most deaf students either determined the main idea or re-read the text after reading.

Determining the main idea and re-reading the text portray an aspect of skilled reading as postulated by Harvey and Goudvis (2000) and Pressley and Hilden (2006). This finding also corresponds with that of Banner and Wang (2011) whose study revealed that both strategies were used by skilled deaf readers. According to Swaffar and Arens (2010), skilled re-reading entails re-reading segments of the text and not the whole text. This was, however, not ascertained by this study despite the regular use of the strategy. The appropriate use of the strategy in reading comprehension was therefore not conclusive.

The failure of most students to generate questions after reading indicates a deficiency in metacognition particularly in the evaluation of the text. This finding concurs with that of Banner and Wang (2011) who found that less skilled deaf readers rarely used metacognitive

strategies. Generating questions about the text is a higher level skill that promotes critical and analytical thinking among students. It also makes the students to monitor their own comprehension since they answer their own questions rather than those posed by the teacher or set in the text. The irregular use of the strategy by deaf students in this study therefore indicates passive reading characterized by low cognitive engagement with the text and low motivation for reading. Consequently, the students are likely to become dependent readers who cannot synthesize new knowledge from the text thereby affecting their achievement in reading comprehension.

Table 17: Learning Strategies Used when Comprehension Failed as Reported by Students (n=79)

Strategy	Used f (%)	Not Used f (%)
Reading slowly and carefully	51(64.6)	28(35.4)
Use prior knowledge about the topic	44(55.7)	35(44.3)
Re-reading the text	37(46.8)	42(53.2)
Translating the text into KSL	28(35.4)	51(64.6)
Continuing to reading	26(32.9)	53(67.1)
Reading aloud	14(17.7)	65(82.3)

Table 17 shows the learning strategies used by deaf students when comprehension failed. From the table, 51(64.6%) of the students reported reading slowly and carefully; 44(55.7%) used prior knowledge on the topic; and 37(46.8%) re- read the text. Among the least used strategies was reading aloud 14 (17.7%). It can therefore be deduced that most deaf students read slowly and carefully or used prior knowledge about the topic when comprehension of a text failed.

Reading slowly and carefully is a fix up strategy that involves paying more attention to aspects of the text including words and sentences. Its use is, however, linked to bottom- up processing where readers decode a text word by word. The regular use of the strategy in this study therefore points out the amount of attention that deaf readers gave to low level processing which is laborious and not sufficient for effective comprehension.

The use of prior knowledge by most deaf students when they did not understand a text portrays an awareness of the significance of prior knowledge in reading comprehension. It also points to the use of a top-down approach in information processing. However, McAnally, Rose, and Quigley (2007) considered the use of prior knowledge by deaf students in reading comprehension as inefficient. This is as a result of lack of a link between language and experience which affects the usable prior knowledge that a deaf student can apply to comprehend a text. The use of the strategy may therefore not guarantee effective reading comprehension.

Table 18: Learning Strategies Used on Encounter of a Difficult Word as Reported by Students (n=79)

Strategy	**Used**	**Not Used**
	f (%)	**f (%)**
Looking up the word in the dictionary	56(70.9)	23(29.1)
Asking a friend	50(63.3)	29(36.7)
Finger spelling the word	41(51.9)	38(48.1)
Asking the teacher	35(44.3)	44(55.7)
Skipping the word	17(21.5)	62(78.5)
Guessing the meaning	11(13.9)	68(86.1)

Table 18 shows the strategies used by deaf students when they encountered a difficult word in a text. From the table, the most used strategy was looking up the word in the dictionary 56 (70.9%). Other strategies indicated by a substantial number of students included asking a friend 50(63.3%) and finger spelling the word 41(51.9 %).The least used strategy was guessing the meaning of the word 11(13.9%).

The use of the dictionary by most students signifies independent application of a fix-up strategy (Duke & Pearson, 2002). Nevertheless, the frequent employment of the strategy indicates a lack of higher level skills such as inferring or guessing of the unknown word from the context (Eskey, 2005). Observations in the classrooms revealed that checking of words from the dictionary led to a slow pace of reading amongst students. Besides that, relating the dictionary meaning with the meaning of the text was a challenge to several deaf students. Some ended up finger spelling words in the dictionary an indication that they might not have understood the dictionary meanings. This suggests that the use of the dictionary by deaf students may be futile and may not guarantee the understanding of the meaning of a word or comprehension of the text.

4.5 The Influence of Deaf Students' Attitude towards Reading on Academic Achievement in English Reading Comprehension

The fourth objective of this study was to establish the influence of attitude towards reading on deaf students' academic achievement in English reading comprehension. The students' attitude was established through a rating scale. Data regarding attitude of deaf students towards reading is presented in Table 19.

Table 19: Attitude of Deaf Students towards Reading (n=79)

	Statements	Mean
1.	As a deaf student I can never be a good reader	3.68
2.	Reading a book is something I like to do often	3.43
3.	People who read a lot are knowledgeable	4.32
4.	Reading becomes boring after a short time	3.61
5.	I think libraries are a great place to spend time	3.66
6.	Reading is for learning but not enjoyment	3.62
7.	Knowing how to read well is not very important	4.13
8.	Reading is difficult for me	2.43
9.	There should be more free reading time in class	4.16
10.	When someone gives me a book for a present, I feel very happy	3.94
11.	If someone discusses an interesting book I look forward to reading it	3.96
12.	I exchange reading materials with my friends	3.92
13.	I only read because it is a must	3.92
14.	I do not enjoy reading texts with a lot of vocabularies	2.48
15.	Short stories are no fun to read	4.13
16.	I love reading texts that are long	2.39
17.	I do not feel confident in participating in class reading sessions	2.71
18.	I am good at reading	2.47
19.	Reading is not important because I don't plan to get a job that requires advanced skills in reading	4.30
20.	I enjoy reading because my teacher encourages me to read	2.43
	OVERALL MEAN	**3.51**

As shown in Table 19, the overall mean of 3.51 indicated that the general attitude of form four deaf students towards reading was positive. The positive attitude towards reading was evident in statements such as: People who read a lot are knowledgeable (Mean=4.32); knowing how to read well is not very important (Mean=4.13); reading is not important

because I do not plan to get a job that requires advanced skills in reading (Mean=4.31); and there should be more free reading time in class (Mean= 4.16). Negative attitudes were nevertheless depicted in reading texts which had a lot of vocabularies (Mean=2.48); and reading texts that were long (Mean =2.39). The students also believed that reading was difficult (Mean=2.43); that they were not good in reading (Mean= 2.47); and did not feel confident in participating in class reading sessions (Mean=2.71). In addition, a lack of encouragement from teachers seemed to bring out negativity towards the enjoyment of reading (Mean= 2.43).

The general positive attitude towards reading contradicts the results of Monreal and Hernandez (2005) which showed that deaf students had an indifferent attitude towards reading. This is a significant finding that defies previous notions of deaf students having negative attitudes towards reading as a result of the challenges they experienced. The positive attitude may be linked to deaf students' understanding of the importance of reading evident in the mean values on the statements related to the importance of reading (see Table 19). Nevertheless, the general positive attitude towards reading may be interpreted as weak and not static in that the students still believed that they were not good in reading and that reading was difficult. They also depicted negative attitudes towards text that were long and had a lot of vocabularies.

A negative attitude towards long texts which had a lot of vocabularies may be associated with deaf students' language difficulties. Reading such texts demands high cognitive engagement in handling the large amounts of information and vocabulary. This strains the working memory thereby rendering reading a laborious and stressful task. Moreover,

figuring out the main ideas in long texts may not be easy for deaf students. Consequently, the students are likely to be apathetic when they encounter long texts or those that have a lot of vocabularies. Their interest may only be to get a superficial impression of the text and not deeper understanding. This affects achievement in comprehension in that less effort is put in comprehending a text due to the formed opinion about long texts or texts that have a lot of vocabularies.

The finding that deaf students had a negative self concept of themselves as good readers is consistent with the results of Ewoldt (1986) and Morgan, Fuchs, Compton, Cordray (2008). The negative self concept denotes a lack of confidence in them as efficient readers exemplified by the negative response on their confidence in participating in class reading sessions (Mean=2.71). It is also an acknowledgement of the difficulties that deaf students experience in reading which makes them shy away or avoid reading in the presence of the teacher and peers to save face. This was evident during classroom observations where students who were confident in reading volunteered to read passages while others shied off even with the teachers' request. A negative self concept implies that deaf students are likely to focus on their inadequacies which interfere with the thought processes, persistence and motivation in reading. This ultimately has a depressing effect on achievement in reading comprehension.

Deaf students were further asked to indicate whether they liked reading or not. The responses were as illustrated in Figure 3.

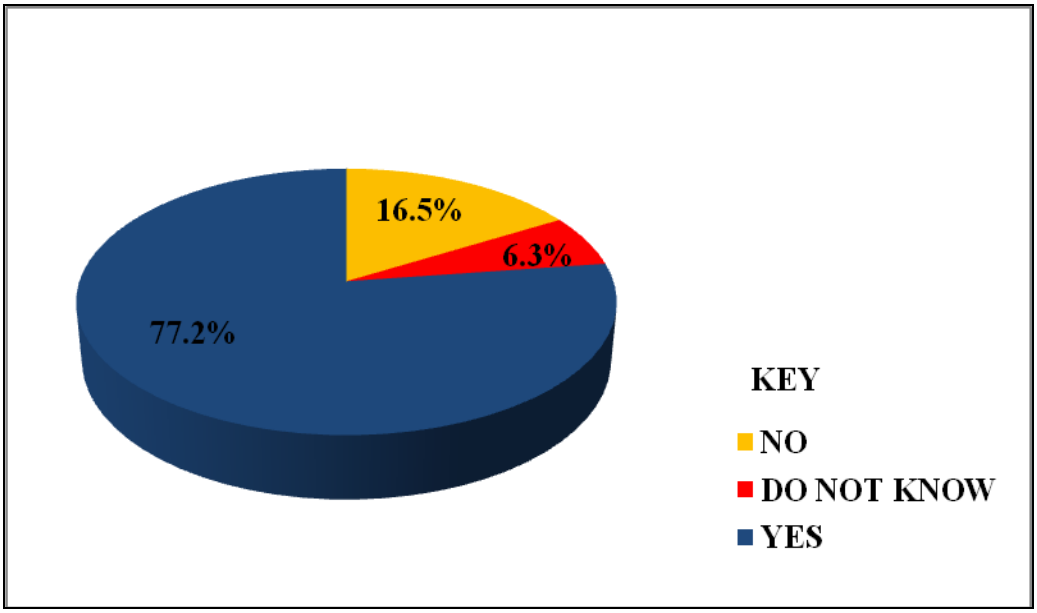


Figure 3: Students' Responses on Liking of Reading (n=79)

Figure 3 illustrates deaf students' responses on the liking of reading. From the figure 61(77.2%) students liked reading, 13(16.5%) of the students did not like reading and 5 (6.3%) of the students did not know whether they liked reading or not. It can therefore be concluded that most deaf students liked reading.

The reasons provided by the 61 (77.2%) deaf students who liked reading included:

i. To pass examinations 34(55.7%).
ii. Important in career development 22(36.1%).
iii. To be updated with new information 17(27.9%).
iv. Reading facilitates understanding of other subjects 13(21.3%).
v. Enhances basic knowledge in various concepts 7(11.5%).
vi. Reading helps me communicate well in English 7(11.5%).
vii. Reading is enjoyable and interesting 6(9.8%).

From the reasons provided, it is evident that most students 34 (55.7%) liked reading because it helped them pass examinations. Other reasons for liking to read included career development 22 (36.1%) and to be updated with new information 17 (27.9%). The least provided reason was because reading is enjoyable and interesting 6 (9.8%).

The reasons provided by the students for liking to read demonstrate their understanding of the importance of reading. However, the fact that comparatively few students liked reading because it was enjoyable and interesting indicates a perception that reading was an academic endeavor and not a pleasurable activity. This concurs with Herzig (2009) who reported that deaf students recognized the importance of reading as an academic and not a leisure activity. This may be attributed to the challenges that deaf students experience in reading making it a difficult rather than a pleasurable activity.

The reasons provided by the 13(16.5%) deaf students who disliked reading included:

i. Reading is difficult 10(76.9%).
ii. Don't understand when I read 9(69.2 %).
iii. Too many vocabularies 8(61.5%).
iv. Very long passages 7(46.2%).
v. No encouragement 5(38.5%).
vi. Always perform poorly in reading comprehension 4(30.8%).
vii. Get bored and tired when reading 2(15.4%).

From the reasons provided, majority of the students 10(76.9%) disliked reading because it was difficult. Other reasons included lack of understanding 9(69.2%), too many vocabularies 8(61.5%) and very long passages 7(46.2%).

The perception that reading is difficult implies that reading is not a delightful activity for deaf students. Explanations regarding this finding may be related to the challenges deaf students go through when reading. Despite having a general positive attitude towards reading, the difficulties deaf students experience in reading might be disheartening them. Chances of avoiding reading especially for pleasure are therefore high. This was noticeable when students were asked to indicate in the questionnaire how much time they spent in reading other materials other than textbooks. The results of this item are as shown in Table 20.

Table 20: Amount of Time Spent in Reading other Materials other than Textbooks in a Day as Reported by Students (n=79)

No. of hours	Frequency	Percentage
Less than an hour	38	48.1
1-2 hours	20	25.3
3-4 hours	9	11.4
More than 4 hours	8	10.1
Never read other materials	4	5.1
Total	**79**	**100**

From Table 20, most students 38(48.1%) reported that they spent less than 1 hour in a day reading other material apart from text books. It can therefore be concluded that deaf students rarely read other material other than textbooks which was an indication of minimal leisure

reading. This may be associated with lack of motivation due to reading difficulties as observed by Chow (2003). However, the possibility of the students' free time being used to complete assignments instead of leisure reading cannot be ruled out given the busy school schedules. Limited amount of reading especially as a leisure activity minimizes the opportunities for deaf students to develop and perfect their language and reading skills. This ultimately affects their academic achievement in reading comprehension negatively.

In establishing the influence of deaf students' attitude towards reading on academic achievement in English reading comprehension, the study first ascertained the achievement of form four deaf students in English reading comprehension in County mock English examinations through document analysis. The results are presented in Table 21.

Table 21: Achievement of Form Four Deaf Students in English Reading Comprehension in 2012 County Mock Examination (n=79)

Score(x/20)	Frequency	Percentage
0-2	46	58.2
3-5	29	36.7
6-8	4	5.1
9-11	0	0.0
12-14	0	0.0
15-17	0	0.0
18-20	0	0.0
Total	**79**	**100**

Table 21 shows achievement of deaf students in English reading comprehension out of 20 marks. From the table, 46(58.2 %) of the students scored 0-2 marks, 29(36.7%) scored 3-5 marks and 4(5.1%) scored 6-8 marks. None of the students scored above 8. These results

prove that the achievement of form four deaf students in English reading comprehension was below average (10) with most students scoring between 0-2 marks out of 20.

A correlation between form four students' attitude towards reading and achievement in reading comprehension in county mock English examinations was further undertaken. Pearson's product moment correlation coefficient (*r*) was used to determine whether the attitude towards reading influenced deaf students' academic achievement in reading comprehension. The results were as shown in Table 22.

Table 22: Bi-variate Correlation between Deaf Students' Achievement in English Reading Comprehension and Attitude towards Reading (n=79)

		Achievement in Reading Comprehension	**Attitude**
Achievement in Reading Comprehension	Pearson Correlation	1	.833**
	Sig. (2-tailed)		.000
	N	79	79
Attitude	Pearson Correlation	.833**	1
	Sig. (2-tailed)	.000	
	N	79	79

**. Correlation is significant at the 0.01 level (2-tailed)

The results displayed in Table 22 indicate that there is a relationship between deaf students' attitude towards reading and achievement in reading comprehension. From the table, the correlation analysis yielded to $r = 0.833$. This was a strong positive relationship and was statistically significant since the significance level value of 0.000 was less than the set significance level 0.05 for the analysis. According to Hopkins (2002), the effect size of a correlation of 0.70- 0.90 is very large. The correlation of $r = 0.833$ established in this study can therefore be considered to have a very large influence. A correlation of $r = 0.833$ further

shows that the shared variance is equivalent to 69.4% (r^2 = 0.694). Rumsey (2009) asserted that where r^2 fell between 0.30 and 0.70, one variable (x) explained the variability in (y) variable. This implies that 69.4% of variance in deaf students' achievement in reading comprehension can be explained by attitude towards reading. The remaining unexplained variance of 30.6% can be attributed to other factors. It can therefore be deduced that deaf students' attitude towards reading influenced their achievement in English reading comprehension.

4.6 The Influence of Knowledge of English Vocabulary and Grammar on Deaf Students' Academic Achievement in Reading Comprehension

Data regarding the influence of knowledge of English vocabulary and grammar on achievement of deaf students in English reading comprehension was obtained through document analysis. The documents analyzed included 2012 form four English Paper 2 county mock marked scripts. This involved analyzing the comprehension and grammar sections of the paper.

4.6.1 The Influence of Knowledge of English Vocabulary on Deaf Students' Academic Achievement on Reading Comprehension

In order to determine the influence of knowledge of English vocabulary on deaf students' achievement in reading comprehension, their achievement in vocabulary was first established. This was done by obtaining form four deaf students' scores in vocabulary questions of the county mock English paper 2 examinations. Data collected was analyzed and presented in Table 23.

Table 23: Achievement of Form Four Deaf Students in Vocabulary (n=79)

Score	Frequency	Percentage
0	71	89.9
1	7	8.8
2	1	1.3
3	0	0.0
4	0	0.0
Total	**79**	**100.0**

Table 23 shows achievement of form four deaf students in vocabulary. From the table, 71 (89.9%) of the students scored 0, 7(89.9%) scored 1, and 1(1.3%) scored 2. None of the students scored 4 which was the maximum achievement. This indicates that most of the form four deaf students scored 0 in vocabulary.

The fact that most deaf students scored 0 in the vocabulary question shows that they could not interpret the meaning of the words as used the passage. It is also an indication of low vocabulary knowledge which coincides with the findings of Marschark and Wauters (2008), Paul (2009) and Rose, McAnally and Quigley (2004). The vocabularies provided were just a sample of the many words used in the passage. It was therefore likely that the learners did not understand other words in the text.

More data was therefore collected on contextual vocabulary knowledge by asking deaf students to underline words that they did not understand in the reading comprehension passages. The passages were different for various schools depending on the county. They were therefore named as passage 1, 2 and 3 respectively. The results are summarized in Tables 24, 25 and 26.

Table 24: Difficult words in Reading Comprehension Passage 1 as Underlined by Students (n=15)

Number of Difficult Words	Frequency	Percentage
0-25	2	13.3
26-50	3	20.0
51-75	3	20.0
Above 75	7	46.7
Total	**15**	**100.0**

Table 24 shows difficult words underlined by students in passage 1 which had a total of 740 words. From the table, most students 7(46.7%) did not know more than 75(10.1%) of the words used in the passage. This meant that the students knew less than 90.0% which was the set threshold for effective comprehension.

Table 25: Difficult words in Reading Comprehension Passage 2 as Underlined by Students (n=36)

Number of Difficult Words	Frequency	Percentage
0-18	3	8.3
19-36	3	8.3
37-54	5	13.9
55-62	6	16.7
Above 62	19	52.8
Total	**36**	**100.0**

Table 25 shows difficult words underlined by students in passage 2 which had a total of 620 words. From the table, most students 19(52.8%) did not know more than 62(10.0%) of the

words used in the passage. This signified that the students knew less than 90.0% of the words which was the set threshold for effective comprehension.

Table 26: Difficult Words in Reading Comprehension Passage 3 as Underlined by Students (n=28)

Number of Difficult Words	Frequency	Percentage
0-24	2	7.1
25-48	3	10.7
49-72	4	14.3
73-96	5	17.9
96 and above	14	50.0
Total	**28**	**100.0**

Table 26 shows difficult words underlined by students in passage 3 which had a total of 960 words. From the table, most students 14(50.0%) did not know more than 96(10.0%) of the words used in the passage. This indicated that the students new less than 90.0% of the words which was the set threshold for effective comprehension.

The findings from Tables 24, 25 and 26 suggest that the contextual knowledge of vocabulary of most deaf students was below the set threshold for effective comprehension. The fact that a total of 40(50.6%) students from all the schools underlined more than 10.0% of the words used in respective passages as difficult further indicates that deaf students did not understand a considerable number of vocabularies which affected their comprehension of the text as a whole. This concurs with the results of Albertini and Mayer (2011) which showed that deaf readers knew less than 90.0% of the vocabulary used in texts. According to Hu and Nation (2000) and Van Zeeland and Schmitt (2012), students need to know at least 95.0% of the

words in a written text for general comprehension. Johns (2009) further asserted that when readers know less than 90.0% of the words in a passage, comprehension drops to 50.0% or less. This was evident in deaf students' below average achievement in English reading comprehension (see Table 21).

The low achievement of deaf students in vocabulary may be attributed to challenges in the acquisition of English language. Key to this is the fact that most deaf students had a negative attitude towards texts with a lot of vocabularies (see Table 11), an indication of their limitations in English vocabulary. The ineffective teaching of vocabulary during reading comprehension lessons as observed and reported by students is also a contributing factor.

4.6.2 The Influence of Knowledge of English Grammar on Deaf Students' Academic Achievement in Reading Comprehension

In establishing the influence of English grammar knowledge on deaf students' achievement in reading comprehension, their achievement in English grammar was first established. Pearson product-moment correlation between deaf students' achievement in comprehension and grammar was then computed and the results are presented in Tables 27 and 28.

Table 27: Achievement of Form Four Deaf Students in Grammar (n=79)

Score(x/15)	Frequency	Percentage
0-3	69	87.3
4-6	10	12.7
7-9	0	0.0
10-12	0	0.0
13-15	0	0.0
Total	**79**	**100.0**

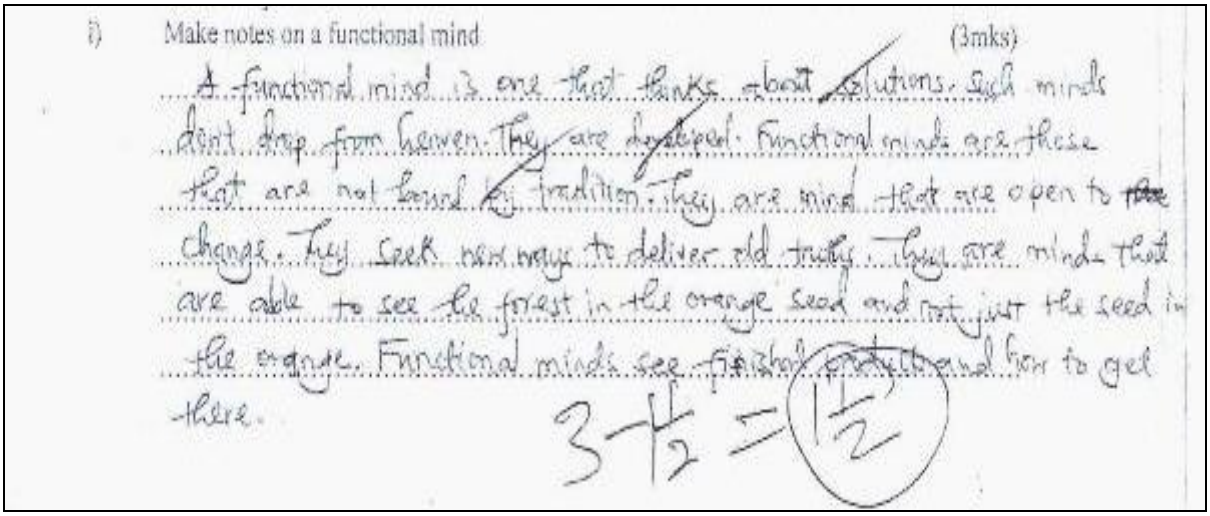
Table 27 shows the achievement of form four deaf students in grammar. From the table 69(87.3%) scored between 0-3 marks and 10(12.7%) between 4-6 marks. None of the students scored above 6. These results prove that the achievement of deaf students in grammar was below average (7.5) with most students scoring between 0-3 marks out of 15.

Among the reading comprehension questions was a question that required the students to rewrite sentences extracted from the text by adding a question tag, changing the tense or using an adverb. An analysis of the students scripts revealed that only 6(7.6%) of the students were able to rewrite sentences as required. Most students either simply copied the questions or left the question blank.

Deaf students' responses in summary writing and note making questions further provided information on their knowledge of English grammar. In summary writing which was tested in passage 3, only 3(10.7%) out of 28 students were able to score the expected five marks. In note making which was tested in all the passages 28(35.4%) students got at least one mark out of three. However, only 7(8.9%) of all the students got the full marks. Direct copying from the passage and leaving blank spaces characterized the responses of most students in

the questions. The following samples of students' scripts and corresponding excerpts provide evidence of direct copying from the passages.

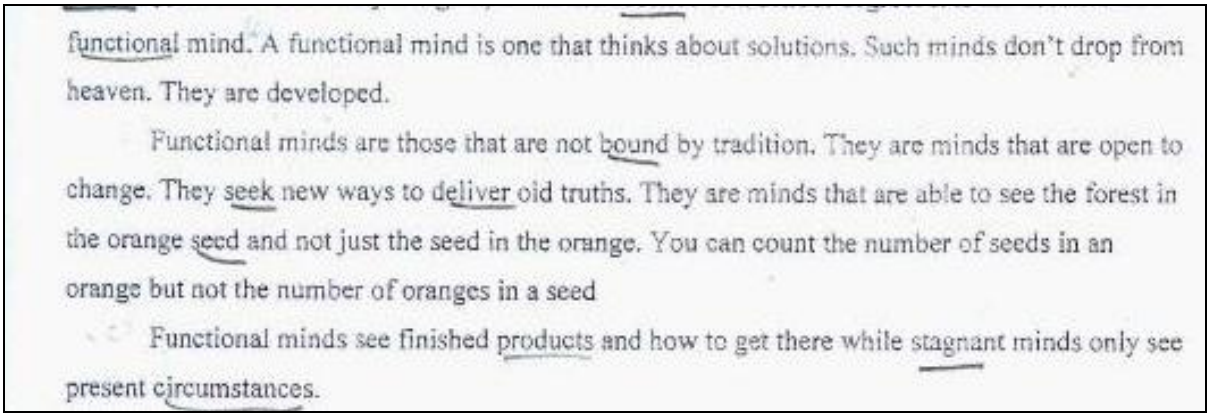
Sample of a students' response in note making


i) Make notes on a functional mind (3mks)

A functional mind is one that thinks about solutions. Such minds dont drop from heaven. They are developed. Functional minds are those that are not bound by tradition. They are mind that are open to change. They seek new ways to deliver old truths. They are minds that are able to see the forest in the orange seed and not just the seed in the orange. Functional minds see finished products and how to get there.

3 + ½ = 1½

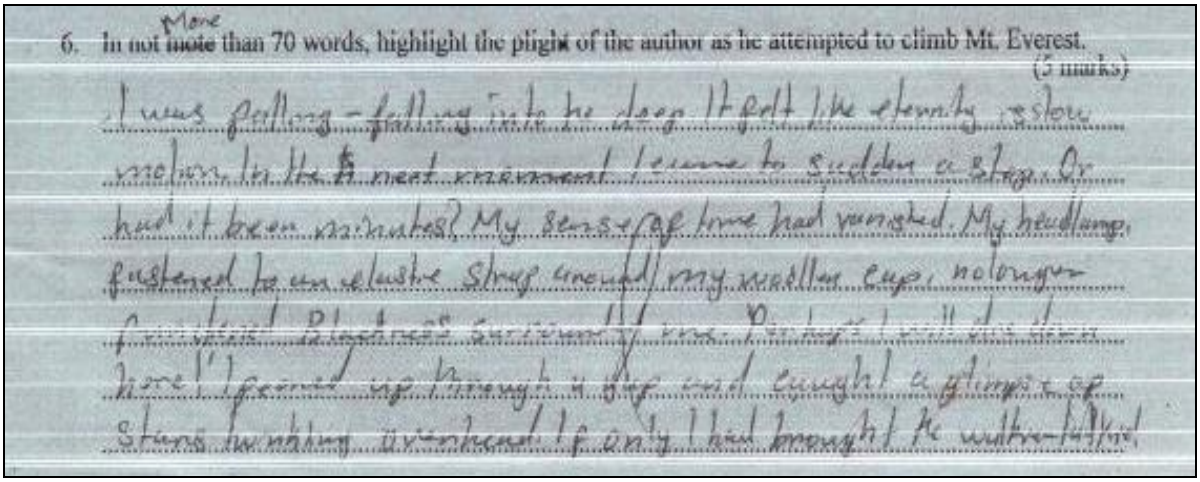
Sample of corresponding excerpt copied by a student in note making


functional mind. A functional mind is one that thinks about solutions. Such minds don't drop from heaven. They are developed.

Functional minds are those that are not bound by tradition. They are minds that are open to change. They seek new ways to deliver old truths. They are minds that are able to see the forest in the orange seed and not just the seed in the orange. You can count the number of seeds in an orange but not the number of oranges in a seed

Functional minds see finished products and how to get there while stagnant minds only see present circumstances.

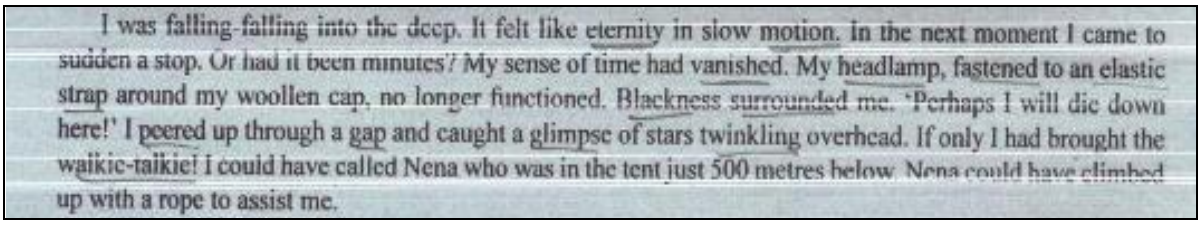
Sample of a students' response in summary writing



6. In not ~~more~~ More than 70 words, highlight the plight of the author as he attempted to climb Mt. Everest. (5 marks)

I was falling - falling into the deep. It felt like eternity in slow motion. In the next moment I came to sudden a stop. Or had it been minutes? My sense of time had vanished. My headlamp, fastened to an elastic strap around my woollen cap, no longer functioned. Blackness surrounded me. 'Perhaps I will die down here!' I peered up through a gap and caught a glimpse of stars twinkling overhead. If only I had brought the waikie-talkie! I could have called Nena who was in the tent just 500 metres below. Nena could have climbed up with a rope to assist me.

Sample of corresponding excerpt copied by a student in summary writing



I was falling-falling into the deep. It felt like eternity in slow motion. In the next moment I came to sudden a stop. Or had it been minutes? My sense of time had vanished. My headlamp, fastened to an elastic strap around my woollen cap, no longer functioned. Blackness surrounded me. 'Perhaps I will die down here!' I peered up through a gap and caught a glimpse of stars twinkling overhead. If only I had brought the waikie-talkie! I could have called Nena who was in the tent just 500 metres below. Nena could have climbed up with a rope to assist me.

The inability of deaf students to rewrite sentences, directly copying from the text and leaving blank spaces depicts challenges in English grammar. This concurs with the study by Ogada (2012) where most deaf students were found to have low level competence in sentence construction. According to Brown and Palinscar (1985), the process of summarisation and note making involves the extraction of the gist and main themes of what is read while integrating the details into a coherent whole. It depends on basic language skills, inferential abilities and knowledge and engagement with the text. The difficulties of deaf students in sentence construction, summarisation and note making therefore point to a deficiency in language skills, identification of main ideas, inference and engagement with the text which affected their achievement in reading comprehension.

Summarisation was one of the concepts reported by teachers as difficult for deaf students during interviews. However, classroom observations revealed that the utilization of teaching strategies such as summarisation and the teaching of story grammar and text texture (see Table 4) were uncommon during English reading comprehension lessons. The challenges of deaf students in sentence construction, summarization and note making can therefore be attributed to a lack of exposure and practice in the skill.

Table 28: Bi-variate Correlation of Achievement of Form Four Deaf Students in English Reading Comprehension against Grammar

		Achievement in Comprehension	**Achievement in Grammar**
Achievement in Comprehension	Pearson Correlation	1	.821**
	Sig. (2-tailed)		.000
	N	79	79
Achievement in Grammar	Pearson Correlation	.821**	1
	Sig. (2-tailed)	.000	
	N	79	79

****. Correlation is significant at the 0.01 level (2-tailed)**

Table 28 illustrates the results of bi-variate correlation of deaf students' achievement in grammar and English reading comprehension. From the table, the correlation analysis yielded to $r = 0.821$. This was a strong positive relationship and was statistically significant since the significance level value of 0.000 was less than the set significance level 0.05 for the analysis. According to Hopkins (2002), the effect size of a correlation of 0.70- 0.90 is very large. The correlation of $r = 0.821$ established in this study can therefore be considered to have a very large influence. A correlation of $r = 0.821$ further shows that the shared

variance is equivalent to 67.4% (r^2= 0.674). Rumsey (2009) asserted that where r^2 fell between 0.30 and 0.70, one variable (x) explained the variability in (y) variable. This meant that 67.4% of variance in achievement in reading comprehension could be explained by achievement in reading comprehension. The remaining unexplained variance of 32.6% can be attributed to other factors. It can therefore be deduced that deaf students' knowledge of English grammar influenced their achievement in reading comprehension.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary of the findings, conclusions and recommendations for this study.

5.2 Summary of Findings

The findings of this study are summarized thematically with reference to the research objectives.

5.2.1 How English Reading Comprehension is taught in Secondary Schools for the Deaf and the Implications on Academic Achievement

In relation to how reading comprehension is taught in secondary schools for the deaf, this study focused on teaching strategies, classroom interaction, language of instruction and the use of teaching and learning resources.

Students' reports showed that questioning 47(59.5%), discussion 36(45.6%), retelling 33(41.8%) and silent reading 27(34.2%) were the frequently used teaching strategies. Classroom observations further revealed that questioning 11(100.0%), silent reading 8(72.7%) and retelling 6(54.5%) were the most used teaching strategies. From the students' reports and observations therefore the commonly used teaching strategies were questioning, silent reading and retelling. Observations however revealed that the strategies were not effectively used. In addition, the common use of only three strategies was considered as insufficient compared to the varied effective teaching strategies recommended by previous studies and provided by the Secondary School English curriculum. This consequently denied

the students opportunities for learning the varied strategies necessary for effective reading comprehension which influenced their academic achievement.

Classroom interaction was found to be dominated by teachers through asking questions 462 (17.5%), giving directions 368(13.9 %) and lecturing 357(13.5%). During teacher talk, the most used communication mode was speech and signing 702(50.4%). The dominance of teachers in the classroom talk limited deaf students' chances of independent thinking, language development and the exercise of already learnt skills which came with genuine classroom interaction. It also discouraged students' participation which would eventually lead to de-motivation for learning.

The languages used in most of the classes observed 8(72.7%) during English reading comprehension lessons were S.E and KSL. Their use was, however, found to be unsatisfactory since keeping them separate was a challenge. In addition, the correct signed English grammar could not be presented. This had an implication on students' proficiency in English grammar which was found to be low.

Through classroom observations, the study established that no other reading resources were used during English reading comprehension lessons except textbooks. Textbooks alone cannot be entirely relied upon in teaching deaf students given their dependence on the visual modality. Overreliance on the text books and minimal use of visual aids therefore limited deaf students' avenues of sourcing extra information which lacked in their background knowledge.

5.2.2 Perspectives of Teachers of English on Reading Comprehension Teaching Strategies and the Implications on Academic Achievement

The study established that teachers of English had a general positive perspective of a mean of 3.56 towards the use of reading comprehension teaching strategies. Negative perspectives were, however, shown on strategies such as summarization (Mean=1.91), the use of KSL (Mean=2.18), the use of dictionaries (Mean=2.00), demonstration of reading strategies (Mean=2.45) and reading aloud (Mean=2.64). Although teachers had a positive perspective towards most of the reading comprehension teaching strategies, only three strategies including questioning, silent reading and retelling were frequently used. This depicted a discrepancy between teachers' perspectives and their actual classroom practice. The constraints for implementation of the strategies included time limitations, motivation and deaf student's proficiency in English.

The study further established that most teachers of English 9(81.8%) did not enjoy teaching English reading comprehension to deaf students. A dislike in the teaching of deaf students implied a negative disposition in preparation for teaching, the choice of teaching strategies, the use of teaching and learning resources and the expectations from students which had a negative implication on students' academic achievement in English reading comprehension.

5.2.3 Learning Strategies Used by Deaf Students in English Reading Comprehension and the Implications on Academic Achievement

The study found that before reading most deaf students reported using strategies such as observing the pictures to get a clue about the text 48(60.8%) and looking at the title to

predict the main idea of the text 42(53.2%). Setting the purpose for reading was rare 14 (17.7%).

During reading, most students reported using strategies such as taking note of key words and ideas 57(72.2%) and memorising aspects of the text 49(62.0%). Classroom observations further revealed that the strategies that were used to a very large extent during reading included finger spelling 7(63.6%), signing 7(63.6%) and pointing at words with fingers 6(54.5%) while reading. After reading, most students determined the main idea 54(68.4%) or re-read the text 48(60.8%).

On encounter of difficult words, most students reported looking up the words in the dictionary 56(70.9%) with minimum guessing 11(13.9%). And when comprehension failed, most students used strategies such as reading slowly and carefully 51(64.6%) and use of prior knowledge 44(55.7%).

Approaching the reading task without setting the purpose; frequent finger spelling and checking of words in the dictionary; and the use of strategies such as pointing words, observing pictures and titles and memorizing, pointed to use of lower level learning strategies and a deficiency in metacognitive skills. This had a negative implication on deaf students' achievement in English reading comprehension.

5.2.4 The Influence of Attitude towards Reading on Deaf Students' Academic Achievement in Reading Comprehension

The general attitude of deaf students towards reading was found to be positive with a mean of 3.51. This was attributed to deaf students' understanding of the value reading in their

lives. The positive attitude was however interpreted as weak and not static. This was as a result of the negative attitudes depicted towards read texts which had a lot of vocabularies (Mean=2.48); and reading texts that were long (Mean=2.39). Also the belief that reading was difficult (Mean=2.43) and that they were not good at reading (Mean=2.47). Consequently, the negative attitudes determined: the amount of time deaf students spent in reading for pleasure; persistence and motivation in reading; and skill levels which had a depressing effect on academic achievement in reading comprehension.

A strong positive relationship which was statistically significant (r = 0.833, p<0.05) was found between deaf students' attitude towards reading and English reading comprehension. The shared variance between the two variable was 69.4% (r^2= 0.694). This meant that 69.4% of deaf students' academic achievement in reading comprehension could be explained by attitude towards reading. Attitude towards reading therefore influenced deaf students' academic achievement in English reading comprehension.

5.2.5 The Influence of Knowledge of English Vocabulary and Grammar on Deaf Students' Academic Achievement on Reading Comprehension

The study established first the achievement of form four deaf students in English reading comprehension, vocabulary and grammar. In English comprehension the achievement was found to be below average (10) with most students 46(58.2 %) scoring 0-2 marks out of 20. None of the students scored above 8.

In vocabulary, most of the form four deaf students 71(89.9%) scored 0 in the vocabulary section of the reading comprehension question. Analysis of the scripts further revealed that most of the students 40(50.6%) knew less than 90.0% of the words used in the passages.

This was interpreted as having a negative influence on achievement in English reading comprehension.

In grammar, the achievement of deaf students was found to be below average (7.5) with most students 69(7.3%) scoring between 0-3 marks out of 15. None of the students scored above 6.

A strong positive relationship which was statistically significant (r = 0.821, p<0.05) was found between deaf students' achievement in grammar and English reading comprehension. The shared variance between the two variables was 67.4% (r^2 = 0.674). This implied that 67.4% of deaf students' academic achievement in English reading comprehension could be explained by knowledge of English grammar. Knowledge of English grammar therefore influenced deaf students' academic achievement in English reading comprehension.

5.3 Conclusions

From the summary of findings, the following conclusions were deduced based on the objectives of this study:

5.3.1 How English Reading Comprehension is taught in Secondary Schools for the deaf and the Implications on Academic Achievement

i. Teaching strategies

The commonly used teaching strategies in English comprehension in secondary schools for the deaf in Kenya were questioning, silent reading and retelling. The use of the three strategies was not effective and had an implication on deaf students' knowledge of English vocabulary and grammar and achievement in reading comprehension.

ii. Nature of Classroom Interaction

Classroom interaction during English reading comprehension lessons in secondary schools for the deaf in Kenya was dominated by teachers' through asking questions. The dominance of teachers implied restricted chances for deaf students to think independently, develop language skills and exercise skills already learnt through genuine classroom interaction.

iii. Language of Instruction

Signed English and KSL were ineffectively used in the teaching of English reading comprehension in Secondary Schools for the deaf in Kenya. This had an implication on deaf students' knowledge of English grammar which influenced their achievement on reading comprehension.

iv. Use of teaching and Learning Resources

Text books were the main resources used in the teaching and learning of English reading comprehension in Secondary Schools for the deaf in Kenya. Given deaf students' reliance on the visual modality, minimal use of visual aids restricted their access to extra information which would otherwise boost their comprehension.

5.3.2 Perspectives of Teachers of English on Reading Comprehension Teaching Strategies and the Implications on Academic achievement

Teachers of English had a positive perspective of mean 3.56 towards reading comprehension teaching strategies but did not enjoy teaching deaf students. A negative perspective was depicted on summarization, the use of K.S.L, demonstration of reading strategies and the use of dictionaries which had implications on the effective use reading strategies among the students.

5.3.3 Learning Strategies Used by Deaf Students in English Reading Comprehension and the Implications on Academic Achievement

i. Before reading

The learning strategies used by deaf students before reading included observing pictures and titles to get a clue about the text.

ii. During reading

The learning strategies used by deaf students during reading included taking note of key words and ideas, memorizing aspects of the text, finger spelling and signing while reading.

iii. After reading

The learning strategies used by deaf students after reading included determining key words and the main idea and re-reading.

iv. When comprehension failed

The learning strategies used by deaf students when comprehension failed included reading slowly and carefully and the use of prior knowledge on the topic.

v. On encounter of difficult words

The learning strategies used by deaf students on encounter of difficult words included looking up words in the dictionary or asking a friend.

The use of most of these strategies implied the use of a bottom up approach, lower level processing and lack of metacognitive skills which had a negative implication on achievement in English reading comprehension.

5.3.4 The Influence of Attitude towards Reading on Deaf Students' Academic Achievement in Reading Comprehension

Deaf students had a weak positive attitude towards reading with a mean of 3.51. The attitude towards reading influenced their academic achievement in English reading comprehension (r=0.833, p<0.05).

5.3.5 The Influence of Knowledge of English Vocabulary and Grammar on Deaf Students' Academic Achievement in Reading Comprehension

Deaf students' knowledge of English vocabulary was insufficient with 71(89.9%) of the students scoring 0 and 40(50.6%) knowing less than 90.0% of the words used in the passages Knowledge of English grammar influenced deaf students' achievement in reading comprehension (r =0.821, p<0.05).

5.4 Recommendations

The following are the recommendations of this study based on the findings:

i. In light of the finding that the teaching strategies used were insufficient, this study recommends that teachers of English be equipped with adequate knowledge, skills and strategies of teaching reading comprehension to deaf students through in-service training. This will ensure awareness of the varied effective teaching strategies and their relevance in improving deaf students' reading comprehension.

ii. Based on the finding that most teaching and learning resources in English reading comprehension were inadequate, this study recommends that the Ministry of Education and other relevant stakeholders provide more textbooks and visual

material such as signed videos, pictures, charts, graphic organizers and computers. Teachers of English and students should also make the most of the available teaching and learning reading resources. This will help in improving deaf students' reading skills and habits and also facilitate effective teaching and learning of reading comprehension.

iii. Considering that time limitation was one of the factors that determined the utilization of various teaching and learning strategies in English reading comprehension, this study recommends that the Ministry of Education and other relevant stakeholders provide more reading opportunities for deaf students. This will ensure that the teachers and students have adequate time for implementation of the necessary reading comprehension strategies.

iv. With regard to the finding that teachers of English had positive perspectives towards reading comprehension teaching strategies but did not enjoy teaching deaf students, there is need for motivation and change of attitude among teachers. This will ensure that teachers appreciate the capabilities of deaf students and design their teaching with the students' needs in mind.

v. Taking into account that deaf students were deficient in strategy usage during reading comprehension, this study recommends explicit teaching and scaffolding of the reading strategies. More emphasis should also be put in the teaching of vocabulary before reading and teaching story grammar and texture. This will ensure that deaf students are conscious of appropriate strategy usage for effective reading comprehension.

vi. In view of the finding that deaf students had a positive attitude towards reading though their reading habits were insufficient, this study recommends that teachers of English motivate them to appreciate and embrace reading as a leisure activity. This help in improving deaf students' frequency, purpose, engagement and skills in reading.

5.5 Suggestions for Further Research

Based on the scope, limitation and findings of this study, the following are the suggestions for further research:

i. The findings of this study showed that vocabulary knowledge influenced deaf students' achievement in reading comprehension. This study, however, focused on contextual knowledge of vocabulary provided in the passages. The depth and breadth of vocabulary knowledge was not addressed. There is need, therefore, to examine the relationship between deaf students' depth and breadth of knowledge of English vocabulary and achievement in reading comprehension.

ii. This study established the learning strategies used by deaf students in reading comprehension. A cause-effect relationship between the strategies and achievement in reading comprehension was, however, not conducted. Based on this limitation, a quasi-experimental approach on the effect of the learning strategies on deaf students' academic achievement in English reading comprehension would be more appropriate for identifying strategies that produced a positive outcome.

iii. The current study established the teaching strategies used in English reading comprehension. A causal-effect relationship between the strategies and achievement in reading comprehension was however not performed. A quasi-experimental approach on the effect of the strategies on deaf students' achievement would therefore shed more light on the most effective teaching strategies.

REFERENCES

Adeyemi, B.A. (2008). Effects of cooperative learning and problem solving strategies on junior secondary school students' achievement in social studies. *Journal of Research in Education Psychology, 16*(3), 691-708.

Archer, A. J. (2004). *Characteristics of an effective teacher of reading in an Elementary school settin*g. Doctorate Dissertation, Louisiana State University. Retrieved from *http://etd.lsu.edu/docs/available/etd-10282004-201637/unrestricted/Archer_dis.pdf.* on March 21, 2014.

Adoyo, P.O. (1995).An investigation of Kenyan Sign Language Development. Unpublished PGD Dissertation, University of Bristol, U.K.

Adoyo, P.O. (2001). Bilingualismus in Kenia. Begründung eines bilingualen Ansatzes in der Erziehung und Bildung Gehörloser. *DAS ZEICHEN* 58, 536-543.

Adoyo, P.O. (2004). *Kenyan Sign Language and Simultaneous Communication: Differential effects on memory and comprehension in deaf children in Kenya*. Kisumu: Lake Publishers & Enterprise Ltd.

Aduwa-Ogiegbaen, S.E. (2006). *Factors affecting quality of English teaching and learning in secondary schools in Nigeri*a. Retrieved from *http://www.world language.com/articles/52.html* on November 12, 2010.

Ahmad, F., & Aziz, J. (2009). Students' perceptions of the teachers' teaching of literature communicating and understanding through the eyes of the audience. *European Journal of Social Sciences, 7*(3), 17-39.

Ahmadi, M. R., Hairul, N. I., & Pourhossein, A. G. (2012). Impacts of learning reading strategy on students' reading comprehension proficiency. *The International Journal of Language Learning and Applied Linguistics World, 1*(1), 78-95.

Albertini, J., & Mayer, C. (2011).Using miscue analysis to assess comprehension in deaf in college readers. *Journal of Deaf Studies and Deaf Education, 16*(1), 35-46.

Alderson, J. C. (2000). *Assessing reading.* Cambridge: Cambridge University Press.

Alexander, R. J. (2000). *Culture and pedagogy: International comparisons in primary education*. Oxford: Blackwell.

Alexander, R. (2004). *Towards dialogic teaching: Rethinking classroom talk*. New York: Dialogos.

Ali, B., Okwaro, R., & Adera, T.A.O. (2003). *Elementary sign language part II.* Nairobi: Kenya Institute of Special Education.

Al-Hilawani, Y. A. (2003). Clinical examination of three methods of teaching reading comprehension to deaf and hard-of-hearing students: From research to classroom applications. *Journal of Deaf Studies and Deaf Education, 8*(2), 146-156.

Alshumaimeri, Y. (2011). The effects of reading method on the comprehension performance of Saudi EFL students. *International Electronic Journal of Elementary Education, 4*(1), 185-195.

Armbruster, B. B., Lehr, F., & Osborn, J. (2003). *Put reading first: The research building blocks for teaching children to read kindergarten through grade three*. Jessup, MD: National Institute for Literacy.

Anastasiou, D., & Griva, E. (2009). Awareness of reading strategy use and reading comprehension among poor and good readers. *Elementary Education Online*, *8*(2), 283-297.

Andala,O. H., Digolo,O., & Kamande, M. (2014). Reliability of mock examinations for prediction of the Kenya Certificate of Secondary Examination (KCSE) results. *IOSR Journal of Research & Method in Education, 4*(1), 28-36.

Anderson, N. J. (1991). Individual differences in strategy use in second language reading and testing. *The Modern Language Journal*, *75*(4), 460-472.

Andrews, J. F. (1988). Deaf children's acquisition of pre-reading skills using the reciprocal teaching procedure. *Exceptional Children*, *54*(4), 349–355.

Andrews, J. F., & Mason, J. M. (1991). Strategy usage among deaf and hearing readers. *Exceptional Children*, *57*(6), 536-543.

Arib, S.E. (2010). An exploration of the teacher's personal constructs: The effects of the English language instructors' majors on their orientations towards teaching reading comprehension. *Journal of Language and Translation*, *1*(1), 29-38.

Athiemoolam, L., & Kibui, A.(2012). An analysis of Kenyan learners' proficiency in English based on reading comprehension and vocabulary. *Journal of NELTA*, *17*(1-2).

Baker, L. (2003). The role of parents in motivating struggling readers. *Reading and Writing Quarterly*, *19* (1), 87-106.

Banner, A., & Wang, Y. (2011). An analysis of the reading strategies used by adult and student deaf readers. *Journal of Deaf Studies and Deaf Education*, *16* (1), 2-23.

Bélanger, N. N., & Rayner, K. (2013). Frequency and predictability effects in eye fixations for skilled and less-skilled deaf readers. *Visual Cognition, 21*(4), 477-497.

Bernhardt, E.B. (1991). *Reading development in a second language.* Norwood, NJ: Ablex.

Berent, G. P. (1988). An assessment of syntactic capabilities. In M. Strong (Ed.), *Language learning and deafness* (pp. 133-161). Cambridge, UK: Cambridge University Pres

Berent, G. P. (2009). The inter language development of deaf and hearing learners of L2 English: Parallelism via minimalism. In W. C. Ritchie & T. K. Bhatia (Eds.), *The new handbook of second language acquisition* (pp. 523-543). Bingley, UK: Emerald Group Publishing.

Best, W. J., & Kahn,V. J.(2006).Research in Education(10th ed.):New Delhi: Prentice- Hall.

Bett, J. (2008). Classroom interaction in English language classes in public Secondary Schools in Kericho Municipality. Unpublished M.Ed Thesis, Maseno University.

Blachowicz, C. L. Z., & Fisher, P. (2000). Vocabulary instruction. In Barr, R., Mosenthal, P., Pearson, P. S. and Kamil, M. (Eds.), *Handbook of reading research, volume III.* White Plains: Longman.

Blair-Larsen, S. M., & Vallance, K.M. (2004). Comprehension instruction in a balanced reading classroom. In S.M. Blair-Larsen & K.A. Williams (Eds.), *The balanced reading program: helping all students achieve success* (pp.37-52). Newark, DE: International Reading Association.

Bloom, B., Englehart, M., Furst, E., Hill, W., & Krathwohl, D. (1956). *Taxonomy of educational objectives: The classification of educational goals. Handbook I: Cognitive domain.* New York, Toronto: Longmans, Green.

Brabbham, E., & Lynch-Brown, C. (2002). Effects of teachers' reading-aloud styles on vocabulary acquisition and comprehension of students in the early elementary grades. *Journal of Educational Psychology, 94*(3), 465-473.

Braun, P. (2010). Taking the time to read aloud. *Science Scope*, *34*(2), 45-49.

Brown, H. D. (2001). *Teaching by Principles: An interactive approach to language pedagogy* (2nd ed.) New York: Longman.

Brown, H. D. (2004). *Language Assessment: Principles and Classroom Practices*. USA: Pearson Education.

Brown, D. H. (2007). *Principles of language learning and teaching*. (5th ed.). Pearson: Longman.

Bryman, A., & Bell, E. (2003). *Business research methods*. UK: Oxford University Press.

Carrell, P. L. (1989). Metacognitive awareness and second language reading. *TESOL Quarterly*, *73*,121-134.

Cazden, C. B. (2001) *Classroom discourse: The language of teaching and learning* (2nd ed.). Portsmouth, NH: Heinemann.

Central Intelligence Agency (November, 2009). *The world fact book-Kenya*. Retrieved from *https//:www.cia.gov/library/.../the-worldfactbook/.../ke.html* on November 25, 2012.

Chi, B. S. (2000). An analysis of reading comprehension of students with hearing impairment. *Journal of Taiwan Education College*, *14*, 155-187.

Chika, P. O. (2012). The extent of students' responses in the classroom. *International Journal of Academic Research in Business and Social Sciences, 2*(1), 22-37.

Chou, Y.C. (2008). Exploring the reflection of teachers' beliefs about reading theories and strategies on their classroom practices. *Feng Chia Journal of Humanities and Social Sciences, 16*, 183-216.

Chow, D. L. (2003). *The reading experience through deaf eyes: A case study of signing deaf high school students*. University of British Columbia, Vancouver. Retrieved from *http:// www.pbs.org/weta/throughdeafeyes/about/transcript.pdf* on June 16, 2010.

Closs, K. E. (n.d). *Teaching reading comprehension to struggling and at-risk readers: strategies that work*. Retrieved from *http://www.readinglady.com/mosaic/tools/TeachingReadingComprehensionto StrugglingReaders-MastersThesisbyEllen.pdf.* on March 22, 2014.

Craig. N., & Collins, L. J. (1970). *Communication patterns in classes for the deaf*. University of Pittsburgh, Pennsylvania. Retrieved from *http:// www.eric.ed.gov/ERICWebPortal/recordDetail?accno=ED034367* on August 14, 2012.

Creswell, J. W.(2009). *Research design: Qualitative, quantitative and mixed methods approaches*. London: Sage Publications.

Cohen, L., Manion, L., & Morrizon, K. P. B. (2000). *Research methods in education.* London: Croomhelm.

Commeyras, M., & DeGroff, L . 1998). Literacy professional perspectives on professional development and pedagogy: A national survey. *Reading Research Quarterly, 33*(4), 434–472.

Cotton, K. (1989). *Classroom questioning*. *Close-up no. 5*. Portland, OR: Northwest Regional Educational Laboratory.

Cummins, J. (1991a). Interdependence of first- and second language proficiency in bilingual children. In E. Bialystok (Eds.), *Language processing in bilingual children*. Cambridge: Cambridge University Press.

Dada, S., & Alant, E. (2002). A comparative study of the attitudes of teachers at special and educationally inclusive schools towards learners with little or no functional speech using communication devices. *South Africa*n *Journal of Education, 22*(3), 213-218.

Davenport, M. R. (2002). *Miscues not mistakes: Reading assessment in the classroom.* Portsmouth: Heinemann.

Dhillon, J. & Wanjiru, J. (2013) Challenges and Strategies for Teachers and Learners of English as a Second Language: The Case of an Urban Primary School in Kenya *International Journal of English Linguistics*, 3(2).

Domin, E. A. (2010). On application of visuals in teaching English: Selected issues. Retrieved from *http://www.publikacje.edu.pl/pdf/8385.pdf.* on February 11, 2012.

Doolittle, P.E., Hicks, D., Triplett, C. F., Nichols, W.D., & Young, C.A. (2006). Reciprocal teaching for reading comprehension in higher education: A strategy for fostering the deeper understanding of texts. *International Journal of Teaching and Learning in Higher Education, 17*(2), 106-118.

Drost, E. A. (2011). Validity and reliability in social science research. *Education Research and Perspectives, 38*(1), 105–123.

Dunlosky, J. Rawson, K. A., Marsh, E. J., Nathan, M.J., & Willingham, D.T. (2013). Improving students' learning with effective learning techniques: promising directions from cognitive and educational psychology. *Psychological Science in the Public Interest, 14*, 4-58.

Duke, N. K., & Pearson, P. D. (2002). Effective practices for developing reading comprehension. In A. E. Farstrup & S. J. Samuels (Eds.), *What research has to say about reading instruction* (3rd ed.) (pp. 205-242). Newark, DE: International Reading Association.

Easterbrooks, S.R. & Baker, S. (2002). Language instruction of students who are deaf and hard of hearing: Multiple pathways. Boston: Allyn & Bacon.

Eken, D. K. (2000). Through the eyes of the learner: Learner observations of teaching and learning. *ELT Journal*, *53*(4), 66-80.

Eskey, D. E. (2005). Reading in a second language. In E. Hinkel (ED.), *Handbook of research in second language teaching and learning*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Ewoldt, C. (1986). What does reading mean? *Perspectives for Teachers of the Hearing Impaired, 4*, 10-13.

Ewoldt, C., Israelite, N., & Dodds, R. (1992). The ability of deaf students to understand text: a comparison of the perceptions of teachers and students. *American Annals of the Deaf*, *137*(4), 351-361.

Flanders, N. A. (1970). *Analyzing teaching behavior*. New York: Addison-Wesley co.

Frantzen, D. (2003). Factors affecting how second language Spanish students deriving meaning from context. *The Modern Language Journal*, *87*, 168–199.

Friend, M., & Bursuck, W. D. (2009). *Including students with special needs: A practical guide for classroom teachers* (5th ed.). Upper Saddle River, NJ: Merrill.

Gall, M. D, Gall, J. P., & Borg, W.R. (2007) (8th ed.). *Educational research: An introduction*. Boston: Pearson International.

Gallaudet Research Institute (2002). *Literacy and deaf students* .Retrieved from *http://gri.gallaudet.edu/Literacy/index.html* on January 10, 2015.

Garner, R., Alexander, P.A., & Hare, V.C. (1991). Reading comprehension failure in children. In B.Y.L Wong (Ed.). *Learning about learning disabilities*. San Diego, CA: Academic Press.

Garrett, J. (2002). Enhancing the attitudes of children toward reading: Implications for teachers and principals. *Reading Improvement, 39*(1)**,** 21-24.

Gathumbi, A.W., & Masembe, S.C. (2005). *Principles and Techniques in Language Teaching: A Text for Teacher Educators, Teachers and Pre-service Teachers*. Nairobi: Jomo Kenyatta Foundation.

Gentry, M., Chinn, K., & Moulton, R. (2005). Effectiveness of multimedia reading materials when used with children who are deaf. *American Annals of the Deaf, 149*(5), 394-403.

Gersten, R., Fuchs, L. S., Williams, J. P., & Baker, S. (2001). Teaching reading comprehension strategies to students with learning disabilities: A review of research. *Review of Educational Research, 71*(2), 279-320.

Gibbs, R. (2001). Authorial intentions in text understanding. *Journal of Discourse Processes, 32,* 73-80.

Gichuba, C., Opatsa, R. Nguchu, R. (2010). *General methods of teaching young children and material development*: Nairobi, Kenya: Longhorn publishers.

Gilbert, D. (2011). *Reading instruction for deaf students. An honors thesis, Ball State University.* Retrieved from *https://cardinalscholar.bsu.edu/bitstream/123456789/196282/1/G55_2012GilbertDevonM.pdf* on March 27, 2014.

Goodman, N. (1972). Seven strictures on similarity. In N. Goodman, *Problems and projects* (pp. 437-447). Indianapolis, IN: Bobbs-Merrill.

Gough, P. B. (1972). One second of reading. In J. F. Kavanagh, & I. G. Mattingly (Eds.), *Language by ear and by eye*. Cambridge, MA: MIT Press.

Gourgey, A. (2001). Metacognition in basic skills instruction. In H. J. Hartman (Ed.), *Metacognition in learning and instruction* (pp. 17–32). Dordrecht. The Netherlands: Kluwer Academic.

Grabe, W. (2004). Research on teaching reading. *Annual Review of Applied Linguistics, 24*, 44- 69.

Grabe,W., & Stoller, F.L. (2002). *Teaching and researching reading*. Harlow: Pearson Education. Longman.

Greenwood, C. R., & Hou, S. (2001). *The classes wide peer tutoring learning management system (CWPT-LMS): Manual for teachers.* Kansas City, KS: Juniper Gardens Children's Project, University of Kansas.

Gripe, J. P. (2006). *Multiple paths to literacy: Assessment and differentiated instruction for diverse learners, K-12.* Upper Saddle River NJ: Pearson Merrill Prentice Hall.

Government of Kenya (2008a). Kenya National Survey on Persons with Disabilities 2008. Nairobi: Government Printer.

Guloba, M.M., Wokadala, J., & Bategeka, L. (2010). *Does teaching methods and availability of teaching resources influence pupil's performance: Evidence from our districts in Uganda. Research Series No. 77. Economic Policy Research Centre.* Retrieved from *http://ageconsearch.umn.edu/bitstream/127537/2/series77.pd* on November 13, 2013.

Gunning, T. G. (2003). *Creating literacy instruction for all children*. USA: Pearson Education, Inc.

Günther, K.B, Hennies, J., & Hintermair, M.(2009). Trends and developments in deaf education in Germany. In D. Moores, M. Miller, (Eds). *Deaf people around the world: Educational, developmental, and social perspectives.* Washington, DC: Gallaudet University Press.

Guthrie, J. T., & Wigfield, A. (2000). Engagement and motivation in reading. Kamil, M. L., Mosenthal, P. B., Pearson, P. D. & Barr, R. (Eds.). Handbook of reading research (Vol. 3). Mahwah, New Jersey: Lawrence Erlbaum Associates, Inc.

Harris, A. J., & Sipay, E. (1990). *How to increase reading ability* (10th ed.). White Plains, NY: Longman.

Hartmann, P., & Blass, L. (2007). *Quest: Reading and writing*. New York, NY. McGraw-Hill.

Harvey, S., & Goudvis, A. (2007). *Strategies that work: Teaching comprehension for understanding and engagement* (2nd ed.). Portland, ME: Stenhouse Publishers.

Heineman-Gosschalk, R.(1999). *The roles of teachers, parents and deaf adults in promoting reading in deaf children.* PhD thesis, University of Bristol.

Herzig, M.P. (2009). *Understanding the motivation of* deaf a*dolescent Latino struggling readers.* Retrieved from *http://escholarship.org/uc/item/1r7825k9* on February 15, 2015.

Hibbing, A. N., & Rankin-Erickson, J. L. (2003). A picture is worth a thousand words: Using visual images to improve comprehension for middle school struggling readers. *The Reading Teacher, 56*(8), 758–770.

Hierbert, E. H., & Reutzel, D. R. (Eds.). (2010). *Revisiting silent reading: New directions for teachers and researchers*. Newark, DE: International Reading association.

Hirsch, E. D. (2003). Reading comprehension requires knowledge of words and the world: Scientific insights into the fourth-grade slump and the nation's stagnant comprehension scores. *American Educator, 27*, 10–29.

Hopkins, G. (1997). *Sustained silent reading. Helps develop independent readers (and writers)*. Retrieved from *http//:www.educationworld.com/a_curr/curr038.shtml* on September 14, 2013.

Hopkins, W. G (2002). *A New view of statistics*. Retrieved from *http://www.sportsci.org/resource/stats/effectmag.html* on March 23, 2015.

Horner, S. L., & Shwery, C. S. (2002). Becoming an engaged self-regulated reader. In S. J. Paper, B. J. Zimmerman, & F. M. Pajares (Eds.), Becoming a self-regulated learner. *Special issue of Theory into Practice*, *41*, 102-109.

Hu, M., & Nation, I.S.P. (2000). Vocabulary density and reading comprehension. *Reading in a Foreign Language, 13*(1), 403–430.

Irokaba, G. (2006). Effectiveness of the application of the principals of ASL/ English bilingual philosophy in the pedagogy in deaf education in Af*rica*. Retrieved from *http://www.pfi.uio.no.konferance/LEA2006/assets/docs/Irokaba-paper.pdf* on June 26, 2011

Jennings, J. H., Caldwell, J., & Lerner, J.W. (2006). *Reading problems assessment and teaching strategies* (5th ed.). Boston: Pearson Education.

Johns, J. (2009). *Basic reading inventory*. Dubuque, IA: Kendall/Hunt.

Johnson, K. E. (1994). The emerging beliefs and instructional practices of pre- service English as a second language. *Teaching & Teacher Education, 10*, 439-452.

Kame'enui, E. J., Carnine, D. W., Dixon, R. C., Simmons, D. C., & Coyne, M. D. (2002). *Effective teaching strategies that accommodate diverse learners* (2nd ed.). Upper Saddle River, NJ: Merrill Prentice Hall.

Kamil, M. L. (2004). Vocabulary and comprehension instruction: Summary and implications of the National Reading Panel findings. In P. McCardle & V. Chabra (Eds.).The voice of evidence in reading research. Baltimore, MD: Paul H. Brookes.

Karabenick, S. A., & Noda, P. C. (2004). Professional development implications of teachers' beliefs and attitude toward limited English proficient students. *Bilingual Research Journal, 28* (1), 55-75.

Kelly L. (1996). The interaction of syntactic competence and vocabulary during reading by deaf students. Journal of Deaf Studies and Deaf Education, *1*(1), 75-90.

Kelly, L. P. (2003). Considerations for designing practice for deaf readers. *Journal of Deaf Studies and Deaf Education, 8*, 171-186.

Kenya Deaf Resource Centre (K.D.R.C) (2009). *Teaching reading to deaf children*. Retrieved from *http://www.kenyadeafnet.org/contact/view/159/348* on August 24, 2010.

Kenya Institute of Education (2004).*Secondary education English syllabus for learners with hearing impairment.* Nairobi: KIE.

Kenya National Bureau of Statistics (2010). *Kenya Population and Housing Census 2009*.Nairobi: Government Printer.

Kenya National Examination Council. (2008). *K.C.S.E Results-2008*.Nairobi: KNEC.

Kenya National Examination Council. (2009). *K.C.S.E Results-2009*. Nairobi: KNEC.

Kenya National Examination Council. (2010). *K.C.S.E Results-2010*. Nairobi: KNEC.

Kenya National Examination Council. (2011). *K.C.S.E Results-2011*. Nairobi: KNEC.

Kenya National Examination Council. (2012). *K.C.S.E Results-2012*. Nairobi: KNEC.

Khonamri, F., & Salimi, M.(2010). The Interplay Between Efl High School Teachers' Beliefs and their Instructional Practices Regarding Reading Strategies. *Novitas-ROYAL (Research on Youth and Language), 4* (1), 96-107.

Kibui, A.W. (2010). The proficiency in English vocabulary in and reading comprehension in Kenyan Secondary School learners. *The Fountain Journal of Faculty of Education, University of Nairobi,* Vol. *4*(1).

Kim, O., & Hupp, S. (2005). Teacher interaction styles and task engagement of elementary students with cognitive disabilities. *Education and Training in Developmental Disabilities, 40*, 293-308.

King, C. M., & Quigley, S. P. (1985). *Reading and deafness*. San Diego: College-Hill Press.

Kintsch, E. (2005). Comprehension theory as a guide for the design of thoughtful questions. *Top Language Disorders, 25*(1), 51–64.

Kipng'etich, G.S. (2012).Analysis of the predictive validity of the mock examination grades to KCSE examination grades in some selected schools in Ainamoi division Kericho district. Unpublished M.Ed thesis, Kenyatta University. Retrieved from *http//:www. ir-library.ku.ac.ke/handle/123456789/2635?show=full* on December 7, 2013.

Kiptui D.K., & Mbugua, Z.K. (2009). In EMSK (2009). *Kenya Journal of Education, Planning, Economics and Management. Vol. 1*. Kisumu: Education Management Society of Kenya.

Kırmızı, F. (2011). The relationship between reading comprehension strategies and reading attitudes. Education 3-13, *39*(3), 289-303. doi:10.1080/03004270903514320

Klauda, S. (2009). The role of parents in adolescents' reading motivation and activity. *Educational Psychology Review, 21,* 325-363.

Klingner, J.K., & Vaughn, S. (1999). Promoting reading comprehension, content learning and English acquisition through Collaborative Strategic Reading (CSR). *The Reading Teacher, 52*(7), 738-747.

Klingner, J.K. (2004). Assessing reading comprehension. *Assessment for Effective Intervention, 29*(4), 59–70.

Kombo, K. D., & Tromp, A. L. D. (2006). *Proposal and thesis writing: An introduction.* Nairobi: Pauline Publications Africa.

Kourea, L., Cartledge, G., & Musti-Rao, S. (2007). Improving the reading skills of urban elementary students through total class peer tutoring. *Remedial and Special Education*, *28*, 95-107.

Kretschmer, R. (1997). Language remediation: New trends in working with hearing impaired children. *Language, Speech, and Hearing Services in the Schools*, *28*, 124-141.

Kush, J. C., Marley, W. W., & Brookhart, S. M. (2005). The temporal-interactive influence of reading on achievement and reading attitude. *Educational Research and Evaluation*, *11*(1), 29-44.

Kuzborska, I. (2011). Links between teachers' beliefs and practices and research on reading. *Reading in a Foreign Language*, *23*(1), 102–128.

Kyle, F. E., & Harris, M. (2006). Concurrent correlates and predictors of reading and spelling achievement in deaf and hearing school children. *Journal of Deaf Studies and Deaf Education*, *11*, 273–288.

Landry, S. H., & Smith, K. E. (2006). The influence of parenting on emerging literacy skills. In D. Dickinson & S. Neuman (Eds.), *Handbook of early literacy research*, 2, 135-148: New York: Guilford Press.

Lane, H., Hoffmeister, R., & Bahan, B. (1996). *A journey into the deaf-world.* San Diego, CA: Dawn Sign Press.

Langer, J. A. (2001). Beating the odds: Teaching middle and high school students to read and write well. *American Educational Research Journal*, *38*(4), 837-880.

Lapp, D., Fisher, D., & Grant, M. (2008). "You can read this text – I''ll show you how": Interactive comprehension instruction. *Journal of Adolescent Literacy*, *51*(5), 372-383.

Lau, K.L. (2006). Reading strategy use between Chinese good readers and poor readers. A think-aloud study. *Journal of Research in Reading*, *29*(4), 383-399.

Lazarus, D. B., & Callahan, T. (2000). Reading attitude expressed with primary schools student with learning disability. *Journal of Reading Psychology*, *21*(4), 271-282.

Lederberg, A. R., & Spencer, P. E. (2001). Vocabulary development of deaf and hard of hearing children. In M. D. Clark, M. Marschark, & M. Karchmer (Eds.). *Context, cognition, and deafness.* Washington, DC: Gallaudet University Press.

Lewis, S. (1998). 'Reading and writing within an oral/aural approach.' In: Gregory, S., Knight, P., Mccracken, W., Powers, S. & Watson, L. (Eds.). *Issues in Deaf Education*. London: David Fulton.

Lipson, M., & Wixson, K. (2003). *Assessment & instruction of reading and writing difficulty: An interactive approach* (3rd ed.). Boston: Allyn & Bacon.

Lozanova, S., & Savtchev, B. (2009).The Deaf Port Project: Analysis of Needs, Constraints, Practices and Challenges to the Deaf and Hearing-Impaired Learners of Languages. Preliminary Research. Retrieved from *http:// www.deafport.eu/Deaf_Port_Preliminary_Research.pdf* on July, 2011.

Liu, J. (2001). *Asian Students' Classroom Communication Patterns in U.S. Universities: An Emic Perspective.* Westport, CT, USA: Greenwood Publishing Group, Inc.

Locke, J. (2005). *Reflection, questioning, writing, and discussing*. Retrieved from *http://www-tc.pbs.org/teacherline/courses/rdla340/docs/rdla340_session5.pdf* on March 25, 2014.

Lockwood, K.S. (2006). *Contemporary reading practice in an urban day school for students who are deaf*. New York University: ProQuest.

Loh, E. K.Y., & Tse, S.K. (2009). The relationship between motivation to read Chinese and English and its impact on the Chinese and English reading performance of Chinese students. *Chinese Education and Society, 42*, 66-90.

Luckner, L. J., & Handley, C.M. (2008). A summary of the reading comprehension research undertaken with students who are deaf or hard of hearing. *American Annals of the Deaf , 153*(1), 6-36.

Luckner, J. L., Sebald, A. M., Cooney, J., Young, J., & Muir, S. G. (2006). An examination of the evidence-based literacy research in deaf education. *American Annals of the Deaf, 150*(5), 443-456.

Ludago, B.T. (2014) Signed Language Proficiency and Reading Comprehension Skill of Deaf Children in Special and Integrated Primary Schools in Addis Ababa. *International Journal of Research (IJR), 1*(7), 729-751.

Maina, E. N., Oracha, P.A., & Indoshi, F.C. (2011). Curriculum factors influencing performance of deaf students in mathematics. *Educational Research, 2*(3), 956-964.

Manning, M. (2002). Visualizing when reading. *Teaching PreK-8*, *32*(8), 89-90.

Manyasi, N.B., & Onchera, O.P. (2013). Instruction of Reading for Nationhood: English Language Teachers' Cognition in Kenya. *Journal of Emerging Trends in Educational Research and Policy Studies (JETERAPS) 4*(5), 698-705.

Marschark, M., Lang, H. G., & Albertini, J. A. (2002). *Educating deaf students: From research to practice*. New York: Oxford University Press.

Marschark, M., Sapere, P., Convertino, C., Seewagen, R., & Maltzen, H. (2004). Comprehension of sign language interpreting: Deciphering a complex task situation. *Sign Language Studies, 4*, 345-368.

Marschark, M., & Wauters, L. (2008). Language comprehension and learning by deaf students. In M. Marschark & P. C. Hauser (Eds.), *Deaf cognition: Foundation and outcomes* (pp. 309–350). New York, NY: Oxford University Press.

Martella, R. C., Nelson, R. J., Morgan, L.R., & Marchand-Martella, E.N. (2013) *Understanding educational research*: New York: Guilford Press.

Marzano, R. J. (2004). *Building background knowledge for academic achievement*. Alexandria, VA: Association for Supervision and Curriculum Development.

Mayer, C., Akamatsu, C. T., & Stewart, D. (2002). A model for effective practice: dialogic inquiry with students who are deaf. *Exceptional Children*, *68*(4), 485-502.

McAnally, L., P. Rose, S., & Quigley, P., S. (2006). *Reading practices with deaf learners* (2nd ed.). Austin, TX: Pro-ed.

McCormick, S. (2007). *Instructing students who have literacy problems.* (5th ed.). Upper Saddle River, New Jersey: Pearson Merrill Prentice Hall.

McDowell, G.R. (2001). A student-centered learning approach to teaching soil mechanics. *International Journal of Engineering Education*, *17*(3), 255-260.

McIntyre, E. (2007). Story discussion in the primary grades: Balancing authenticity and explicit teaching. *Reading Teacher, 60* (7), 610-620.

McMaster, J.C. (1998). “Doing” Literature: Using drama to build literacy. *The Reading Teacher, 51*(7), 574-584.

McNamara, D. S. (Ed.). (2007). *Reading comprehension strategies: Theory, interventions, and technologies*. Mahwah, NJ: Erlbaum.

McNeil, L. (2010). Beyond the products of higher-order questioning: How do teacher and English-language learner perceptions influence practice? *TESOL Journal, 2*, 74-90.

Mellet S. M., & Crowe J.H. (2009). The Relationship between Selected Affective Factors and Achievement in English of Secondary School Students in Zimbabwe. Retrieved from *http://www. uir.Unisa.ac.za/handle/10500/994* on July 5, 2010.

Merriam, S. B. (2001). Qualitative research and case study applications in education. San Francisco: Jossey-Bass.

Meyer, B. J. F., Talbot, A. P., Poon, L. W., & Johnson, M. M. (2001). Effects of structure strategy instruction on text recall in older African American adults. In J. L. Harris, A. Kamhi, & K. Pollock (Eds.), Communication and literacy in African Americans (233-264). Hillsdale, NJ: Erlbaum.

Mihara, K. (2011). Effects of pre-reading strategies on EFL/ESL reading comprehension. *TESL Canada Journal*, *28* (2), 51-73.

Mikulecky, B., & Jeffries, L. (2004). *Reading power*. United States: Pearson, Longman

Miller, D. (2002). Reading with meaning: Teaching comprehension in the primary grades. Portland, ME: Stenhouse.

Miller, P. F. (2000). Syntactic and semantic processing in Hebrew readers with pre-lingual deafness. *American Annals of the Deaf, 145*, 436-451.

Miller P., Kargin T., Guldenoglu I. B., Rathmann C., Kubus O., Hauser P., & Superegon, E. (2012). Factors Distinguishing Skilled and Less Skilled Deaf Readers: Evidence from Four Orthographies. *Journal of Deaf Studies and Deaf Education, 17*, 439-462.

Miller, D., Topping, K., & Thurston, A. (2010). Peer tutoring in reading: The effects of role and organization on two dimensions of self-esteem. *British Journal of Educational Psychology, 80*, 417-433.

Mohammed, N. (2006). *An Exploratory Study of the Interplay between the Teachers' Beliefs, Instructional Practices, and Professional Development*. Published Doctoral Dissertation. University of Auckland. Retrieved from *http:// www.asian-efl-journal.com/Thesis_Naashia.pdf* on December 19, 2011.

Monreal, S. T. & Hernandez, R. S. (2005). Reading levels of Spanish deaf students. *American Annals of the Deaf, 150*(4), 379-387.

Moran Publishers (2011). *Moran secondary school atlas*. Nairobi: Moran East African Publishers.

Morgan, P. L., & Fuchs, D. (2007). Is there a bidirectional relationship between children's reading skills and reading motivation? *Exceptional Children*, *73*(2), 165-183.

Morgan, P., Fuchs, D., Compton, D. L.,Cordray, D. S., & Fuchs, L. S. (2008). Does early reading failure decrease children's reading motivation? *Journal of Learning Disabilities, 41*, 387-404.

Morrison, F.J., Bachman, H. J., & Connor, C.M.(2005) Improving literacy in America: Guidelines from research. New Haven, CT: Yale University Press.

Mugenda, O. N., & Mugenda, A. G. (2003). *Research Methods: Quantitative and Qualitative Approaches.* Nairobi: African Center for Technology Studies Press.

Mukiri, S.R. (2012). *Depth and breadth of vocabulary knowledge and English language reading comprehension among selected standard eight pupils in Meru Central District, Kenya*. Retrieved from *http://ir-library.ku.ac.ke/etd/handle/123456789/2763* on February 28, 2012.

Murphy, P. K., Wilkinson, I. A. G., Soter, A. O., Hennessey, M. N., & Alexander, J. F. (2009). Examining the effects of classroom discussion on students' high-level comprehension of text: A meta-analysis. *Journal of Educational Psychology, 101*, 740-764.

Musselman, C. (2000). How do children who can't hear learn to read an alphabetic script? A review of the literature on reading and deafness. *Journal of Deaf Studies and Deaf Education, 5*, 9-31.

Nagy, W. E., & Scott, J.A. (2000). Vocabulary processes. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.). *Handbook of reading research, volume III*, (pp. 269-284). Mahwah. NJ: Lawrence Erlbaum Associates Publishers.

Nation, K., & Snowling, M. J. (2000). Factors influencing syntactic awareness in normal readers and poor comprehenders. *Applied Psycholinguistics*, 21, 229-241.

National Reading Panel (2000). *Teaching children to read: An evidence based assessment of the scientific research literature on reading and its implications for reading instruction: Reports of the subgroups.* Washington DC: National Institute of Child Health and Human Development Practice. New York: Oxford University Press.

Nganyi, D.O. (2006). *Teaching reading in East African Secondary Schools: Teaching Reading in L2 classroom* .A paper presented during IATEFL Conference Harrogate, UK.

Ng'ong'ah, B.G. (2002). An assessment of university English language teacher education in the light of classroom needs: A case of Maseno University. Unpublished PhD thesis, Maseno University.

Nilsson, N. (2008). A critical analysis of eight informal reading inventories. The Reading Teacher, *61* (7), 526-536.

Njuguna, A. (2006). Effectiveness of district mock examination as a predictor of performance in Kenya Certificate of Secondary Education Examination in Kisumu District. Unpublished M.Ed. Thesis, Maseno University.

Nuttall, C. (2005). *Teaching* reading *skills in a foreign language*. Oxford, UK: Macmillan Education.

Ochwal, A.A. (2008). Communication strategies used by non-specialised teachers of the deaf learners in Nyanza province. Unpublished M.Ed Thesis , Maseno University.

Odhiambo , A. C.(2013). *Relationship between the achievement of form four students in mock examination and Kenya Certificate of Secondary Examination in some schools in Migori District, Kenya.* M.Ed Thesis, Kenyatta University. Retrieved from *http://ir-library.ku.ac.ke/handle/123456789/2606* on March 22, 2014.

Ogada, R. (2012).Challenges of writing English composition among class seven learners with hearing impairment in Nyanza province. Unpublished M.Ed. Thesis, Maseno University.

Ogada, R., Oracha, P., Matu, P. M., & Kochung, E. J. (2012). Strategies Used in Teaching English Composition to Learners with Hearing Impairment in Nyanza province, Kenya. *Journal of Emerging Trends in Educational Research and Policy Studies (JETERAPS*), *3*(5), 638-645.

Ogutu, D. M. (2012). Teachers' instructional behaviours and learners' participation in secondary school English Language classrooms in Nairobi, Kenya. Unpublished M.Ed Thesis, Kenyatta University, Kenya.

O'Malley, J. M., Chamot, A. U., Stewner-Mazanares, G., Russo, R., & Kupper, L. (1985). Learning strategies applications with students of English as a second language. *TESOL Quarterly, 19*(3), 557-584.

Orlova, N. (2009). *Video recording as a stimulus for reflection in pre-Service EFL teacher training*. Retrieved from *http://exchanges.state.gov/englishteaching/forum/archives/docs/09-47-2-f.pdf* on December 20, 2011.

Oyetunji, C.O. (2011). *The effect of reading strategy instruction on L2 teacher trainees performance*. M.A Thesis, University of South Africa. Retrieved from *http://uir.unisa.ac.za/bitstream/handle/10500/7760/dissertation_oyetunji_co.pdf* on March 24, 2014.

Padak, N. D., & Raskinksi, T. V. (Eds.) (2000). *Distinguished educators on reading*. International Reading Association, Inc. 107-117, 209-224.

Padden, C., & Hanson, V. L. (2000). Search for the missing link: The development of skilled reading in deaf children. In K. Emmorey & H. Lane (Eds.), *The signs of language revisited* (pp. 435–447). Mahwah, NJ: Lawrence Erlbaum Associates.

Palinscar, A. S. (2003). Collaborative approaches to comprehension instruction. In A. P. Sweet & A. E. Snow (Eds.), *Rethinking reading comprehension* (pp. 99–114). New York: The Guilford Press.

Pan, Y., & Pan, Y. (2009). The effects of pictures on the reading comprehension of low-proficiency Taiwanese English foreign language college students: An action research study. *Ngoạingữ -Foreign Languages*, *25*, 186-198.

Parault, S. J., & Williams, H.M (2010). Reading Motivation, Reading Amount, and Text Comprehension in Deaf and Hearing Adults. *Journal of Deaf Studies and Deaf Education, 15*(2), 120-135.

Pardo, L. S. (2004). What every teacher needs to know about comprehension. *International Reading Association*, *58*(3), 272-280.

Partin, K., & Gillespie Hendricks, C. (2002). The relationship between positive adolescent attitudes toward reading and home literary environment. *Reading Horizons*, *43*(1), 61- 84.

Paul, P. (2001). *Language and deafness* (3rd ed.). San Diego, CA: Singular.

Paul, P. V., Wang, Y., Trezek, B. J., & Luckner, J. L. (2009). Phonology is necessary, but not sufficient: A rejoinder. *American Annals of the Deaf, 154*, 346-356.

Payne, G., & Payne, J. (2004). *Key concepts in social research*. London: Sage publications

Perfetti, C. A., & Sandak, R. (2000). Reading optimally builds on spoken language: Implications for deaf readers. *Journal of Deaf Studies and Deaf Education*, *5*, 32-50.

Pinnell, G. S. (2002). Good first teaching: Making the critical difference for all students. In H. J. Walberg (Series Ed.) & M. L. Kamil, J. B. Manning & H. J. Walberg (Vol. Eds.), *Research in educational productivity: Successful reading instruction* (pp. 155-182). Greenwich, CT: Information Age Publishing.

Polychroni, F., Koukoura, K., & Anagnostou, I. (2006). Academic self-concept, reading attitude and approaches to learning of children with dyslexia: do they differ from their peers? *European Journal of Special Needs Education, 21*(4), 415-430.

Pontefract, C., & Hardman, F. (2005). The Discourse of Classroom Interaction in Kenyan Primary Schools. *Comparative Education*, *42* (1), 87-106.

Pressley. M. (2002). Metacognition and self-regulated comprehension. In A.E. Farstrup & S.J. Samuels (Eds.), *What Research has to say about reading instruction* (3rd ed.) (pp. 291–309).Newark: International Reading Association.

Pressley, M., & Hilden, K. (2006). Cognitive strategies. In W. Damon, R. M. Lerner, D. Kuhn, & R. Siegler (Eds.), *Handbook of Child Psychology* (Vol. 2, 6th ed., pp. 511-556). New York: Wiley.

Readence, J. E., Moore, E. W., & Rickelman, R. J. (2004). *Pre-reading activities for content area reading and learning* (4th ed.). Newark, DE: International Reading Association.

Republic of Kenya (1988). *Kamunge-Report: Education and manpower training for the next decade and beyond*. Nairobi: Government Printer.

Reutzel, D., & Cooter Jr., R. B. (2004). *Teaching children to read: Putting the pieces together* (4th ed.). Upper Saddle River, NJ: Pearson Education.

Richardson, V., Anders, P., Tidwell, D., & Lloyd, C. (1991). The relationship between teachers' beliefs and practices in reading comprehension instruction. *American Educational Research Journal*, *28*(3), 559-586.

Richeck M. A., List L.,& Lerner J. (1989). *Reading problem: Assessment and remediation.* Englewood Cliff, NJ: Prentice Hall.

Richek, M. (2005). Words are wonderful: Interactive, time-efficient strategies to teach meaning vocabulary. *The Reading Teacher, 58*(5), 414-423.

Rokni, S. J., & Niknaqsh, R. H. (2013). The Effect of Context Clues on EFL Learners' ReadingComprehension. *India International Journal, 3*(6).

Ruddell, R. B., & Unrau, N. J. (Eds.). (2004). *Theoretical models and processes of reading* (5th ed.). Newark, DE: International Reading Association.

Rumelhart, D. E. (1977). *Toward an interactive model of reading*. In S. Dornic (Ed.), Attention and Performance IV. New York, NY: Academic Press.

Rumsey, D. (2009). Statistics II For Dummies. Hoboken, New Jersey: Wiley Publishing Inc.

Ruskey, N. (2011). Increasing Fluency using Repeated Reading (Master's thesis). Retrieved from *http://www2.uwstout.edu/content/lib/thesis/2011/2011ruskeyn.pdf* on June 2, 2014.

Sainsbury, M., & Schagen, I. (2004) Attitudes to reading at ages nine and eleven. *Journal of Research in Reading, 27*, 373-386.

Sandra, B. J. (2005). Language and literacy development in children who are deaf or hearing impaired. *Kappa Delta Pi Record, 41*(2) 68-71.

Saunders, M., Lewis P., & Thornhill, A. (2009).Research Methods for Business Students (5th ed.). New Jersey: Prentice Hall.

Sedita, J. (2005). Effective vocabulary instruction. *Insights on Learning Disabilities, 2*(1), 33-45.

Schelper, D. R. (1995). Reading to deaf children, learning from deaf adults. *Perspectives in Education and Deafness, 13*(4), 4-7.

Schirmer, B. R. (2000). *Language and literacy development in children who are deaf* (2nd ed.). Boston: Allyn and Bacon.

Schirmer, B. (2003). Using verbal protocols to identify reading strategies of students who are deaf. *Journal of Deaf Studies and Deaf Education, 8,* 157-170.

Schirmer, B., Bailey, J., & Lockman, A. (2004). What verbal protocols reveal about the reading strategies of deaf students: A replication study. *American Annals of the Deaf, 149,* 5-16.

Schirmer, B. R., Therrien, W. J., Schaffer, L., & Schirmer, T. N. (2009). Repeated reading as an instructional intervention with deaf readers: Effect on fluency and reading achievement. *Reading Improvement, 46,* 168-177.

Schisler, R., Joseph, L. M., Konrad, M., & Alber-Morgan, S. R. (2010). Comparison of the effectiveness and efficiency among oral and written retellings and passage review as strategies for comprehending text. *Psychology in the Schools, 47,* 135-152.

Schoonen, R., Hulstijn, J., & Bossers, B.(1998). Metacognitive and language-specific knowledge in native and foreign language reading comprehension: An empirical study among Dutch students in grades 6, 8, and 10. *Language Learning, 48,* 71-106.

Sekaran, U. (2003). *Research methods for business: A skill building approach* (4th ed.). New Jersey: John Wiley and Sons.

Siima, S. B. A. (2011). *Teaching of Reading and Writing to Deaf Learners in Primary Schools in Uganda*. University of Oslo, Norway. Retrieved from *https://www.duo.uio.no/bitstream/handle/10852/32261/thesis.pdf?sequence=1* on February 26th, 2015.

Singleton, J., Morgan, D., DiGello, E., Wiles, J., & Rivers, R. (2004). Vocabulary Use by Low, Moderate, and High ASL-Proficient Writers Compared to Hearing ESL and Monolingual Speakers. *Journal of Deaf Studies and Deaf Education*, *9* (1), 86-103

Short, R. A., Kane, M., & Peeling, T. (2000). Retooling the reading lesson: Matching the right tools to the job. *The Reading Teacher*, *54*(3), 284–295.

Slavin, R. (2000). *Educational Psychology*. Boston: Allyn and Bacon.

Snow, C., Sweet, A.P., Alvermann, D. E., Kamil, M.L., & Stricland, D.S. (2002). Formulating a research agenda about reading for understanding. In A.M. Roller (Ed.), *Comprehensive reading instruction across the grade levels: A collection of papers from the reading research 2001 conference* (pp. 88–110). Newark, DE: International Reading Association.

Stanovich, K. E. (1984). The interactive-compensatory model of reading: A confluence of developmental, experimental, and educational psychology. *Remedial and Special Education*, *5*, 11-19.

Steg, L., Buunk, A.P., & Rothengatter, T. (2008). *Applied social psychology: Understanding and managing social problems*. Cambridge, UK: Cambridge University Press.

Strassman, B.K. (1992). Deaf adolescents' metacognitive knowledge about school related reading. *American Annals of the Deaf, 137*(4) 326-330.

Strassman, B. K. (1997). Metacognition and reading in children who are deaf: A review of the research. *Journal of Deaf Studies and Deaf Education, 2*(3), 140–149.

Struart, C., & Thurlow, D.(2000). Making it their own: Pre-service teachers experiences, beliefs, and classroom practices. *Journal of Teacher Education, 51*(2), 113-121.

Stipek, D. J. (2002). *Motivation to learn: From theory to practice* (4th ed.). Needham Heights, MA: Allyn & Bacon.

Swaffar, J., & Arens, K. (2010). *The importance of Rereading*. Retrieved from *http://coerll.utexas.edu/methods/modules/reading/03* on March 24, 2014.

Swanson, H. L., & Howell, M. (2001). Working memory, short-term memory, and speech rate as predictors of children's reading performance at different ages. *Journal of Educational Psychology, 93*, 720–734.

Squires, D., & Bliss, T. (May 2004). Teacher visions: navigating beliefs about literacy learning: teachers can use 'visioning' as a tool to clarify how their beliefs play out as instructional practices. *The Reading Teacher, 57*(8), 756.

Szecsi, T. (2008). Creative drama in preschool curriculum: Teaching strategies implemented in Hungary. *Childhood Education , 85*, 120-124

Tahir, G., Muhammad, N. D., & Mohammed, A.M. (2005). *Improving the quality of nomadic education in Nigeria*. Paris: Association for the Development of Education in Africa.

Tanner, K. (2009). *Approaches to life sciences teaching and learning*. Retrieved from *http://www.lifescied.org/cgi/content/full/8/2/89* on August 26, 2013.

Tatar, S. (2005). Why keep silent? The classroom participation experiences among non-native English speaking students. *Language and Intercultural Communication, 5*, (3 & 4), 284-293.

Tella, J., Indoshi, F. C., & Othuon, L. A. (2010). Relationship between students' perspectives on the Secondary School English curriculum and their academic achievement in Kenya. *Journal of Educational Research, 1*(9), 382-389.

Therrien, W. J. (2004). Fluency and comprehension gains as a result of repeated reading: A meta-analysis. *Remedial and Special Education*. *25*(4), 252-261.

Topping, K. (2005). Trends in peer learning. *Educational Psychology, 25*(6), 631-645.

Traxler, C. B. (2000). The Stanford Achievement Test, 9th Edition: National norming and performance standards for deaf and hard-of-hearing students. *Journal of Deaf Studies and Deaf Education, 5*, 337-348.

Udosen, A. E. (2011).The state of reading instruction in secondary schools in Akwa, Ibom State: Implication for sustainable development. *Journal of Emerging Trends in Educational Research and Policy Studies (JETERAPS), 2*(5), 382-387.

Urian,D.(2000). Drama in education: From theory to "study cases." *Contemporary Theatre Review*, *10*(2), 1-9.

Vacca, R.T. (2002). Making a difference in adolescents school lives: Visible and invisible aspects of content area reading. In A.E. Farstrup & S.J. Samuels (Eds.), *What research has to say about reading instruction* (3rd ed., pp. 184–204). Newark, DE: International Reading Association.

Van Duzer, C. (1999). Reading and the adult English language learner. Washington, D.C.: Clearing house for ESL Literacy Education.

Van Zeeland, H. (2012). L2 vocabulary knowledge in and out of context: Is it the same for reading and listening? *Australian Review of Applied Linguistics*, *36*(1), 52-70.

Van Zeeland, H., & Schmitt, N. (2012). Lexical coverage and L1 and L2 listening comprehension: The same or different from reading comprehension? *Applied Linguistics*, *34*(4), 457-479.

Vaughn, S., Klingner, J. K., & Bryant, D. P. (2001). Collaborative strategic reading as a means to enhance peer-mediated instruction for reading comprehension and content area learning. *Remedial and Special Education, 22*(2), 66-74.

Vaughn, S., & Linan-Thompson, S. (2004). *Research-based methods of reading instruction, grades K-3.* Alexandria, VA: Association for Supervision and Curriculum Development.

Vygotsky, L.S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Wallace, C. (2007). Vocabulary: The knowledge to teaching English language learners to read. *Reading Improvement, 44* (4) 189-198.

Wamae, G. (2002). Linguistic challenges facing the hearing impaired learners in Kenya. Unpublished paper presented at the Department of English and Linguistics, Kenyatta University, Nairobi.

Wangila, M.M. (2011). Factors Influencing Use of Media in Teaching and Learning of English in Secondary Schools in Kakamega district, Kenya. Unplished M.Ed. Thesis, Maseno University.

Wauters, L.N, Van Bon, W.H.J., & Tellings, A.E.J.M. (2006). Reading comprehension of Dutch deaf children. Reading and Writing*: An Interdisciplinary Journal, 19,* 49-76.

Webster A. (1986). Deafness, development and literacy. London: Methuen.

Wiest, L.R. (1998). Using immersion experiences to shake up pre-service teacher's views about cultural differences. *Journal of Teacher Education, 49*(5), 358-365.

Wilbur, R. B. (2000). The use of ASL to support the development of English and literacy. *Journal of Deaf Studies and Deaf Education, 5,* 81-104.

Wigfield, A., & Asher, S. R. (2002). Social and motivational influences on reading. Pearson, P. D. (Ed.). Handbook of reading research. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Wood, D., & Wood, H. (1997). Communicating with children who are Deaf: Pitfalls and possibilities. *Language, Speech, and Hearing Services in Schools, 28*(4), 348-354.

Wood, K. (1998). *Undergraduates' life stories in the deaf education English literacy system: revealing discursive identities with coherence resources*. Washington DC: Georgetown University Doctoral Dissertation.

Woolfolk- Hoy, A.E. (2005). *Educational Psychology* (6th ed.).Boston. Allyn and Bacon.

Woolfolk Hoy, A., Hoy, W. K., & Davis, H. A. (2009). Teachers' Self-Efficacy Beliefs. In K. R. Wentzel & A. Wigfield (Eds.), *Handbook of Motivation at School* (pp. 627–653). NewYork: Routledge.

Wuensch, K. L. (2012). A Brief Introduction to Reliability, Validity, and Scaling. Retrieved from *http://core.ecu.edu/psyc/wuenschk/MV/FA/Reliability-Validity-Scaling.docx* on May 17, 2014.

Yang, Y. (2006). Reading strategies or comprehension monitoring strategies? *Reading Psycholo*gy, *27*, 313-343.

Zabrucky, K., & Commander, N. E. (1993). Rereading to understand: The role of text coherence and reader proficiency. *Contemporary Educational Psychology, 18*, 442-454.

Zhang, L. J. & Annual, S. B. (2008). The role of vocabulary in reading comprehension: The case of secondary school students learning English in Singapore. *RELC Journal, 39* (1), 51-67.

Zipke, M. (2007). The role of metalinguistic awareness in the reading comprehension of sixth and seventh graders. *Reading Psychology*, *28*(4), 375-396.

Zhou, X., & Zhou, Y. (2002). The investigation and analysis of college English teacher talk. *Foreign Language Teaching and Research*, *1*, 59-68.

APPENDIX I: STUDENT QUESTIONNAIRE (SQ)

My name is Everline Nyokabi Maina, a PhD student at Maseno University. I am carrying out a study on **Teaching and Learning of English Reading Comprehension: Implications on Academic Achievement of Deaf Students in Secondary Schools in Kenya**. You have been selected as a respondent in this study because of your role in teaching and learning of reading comprehension. Based on your experience and knowledge please provide your views pertaining to the study. I assure you that the information you provide will only be used for academic purposes and will be treated with utmost confidentiality. Thank you for your anticipated participation in the study.

A: Use of Teaching and Learning Resources

1. Indicate in the following table how often your English teacher uses the following resources in teaching reading comprehension. **(Tick (√) where appropriate)**

Resource	**Very Often**	**Often**	**Sometimes**	**Hardly**	**Never**
Real objects					
Pictures					
Signed videos					
Computer					
Textbooks					
Charts					
Magazines and newspaper extracts					
Other library books					

2. How much time do you spend in reading other material apart from subject text books in a day? **(Tick (√) where appropriate)**

i. Less than an hour ( )
ii. 1-2 hours ( )
iii. 3-4 hours ( )
iv. More than 4 hours ( )
v. Never read other materials ( )

B: Learning Strategies

1. What do you do before reading a text? **(Tick (√) where appropriate)**

	Yes	**No**
i. Setting the purpose for reading	( )	( )
ii. Deciding what to read closely and what to ignore	( )	( )
iii. Look at the title and predict the main idea of the text	( )	( )
iv. Observe pictures to get a clue about the text	( )	( )
v. Scanning the text to know it length, main idea and organization	( )	( )
vi. Other activities ……		

2. What do you do when you come across a difficult word? **(Tick (√) where appropriate)**

	Yes	**No**
i. Guess the meaning	( )	( )
ii. Skip the word	( )	( )
iii. Look it up in the dictionary	( )	( )
iv. Ask a friend	( )	( )
v. Ask the teacher	( )	( )
vi. Fingerspell the word	( )	( )
vii. Other activities ……		

3. What do you do when you don't understand the text? **(Tick (√) where appropriate)**

	Yes	**No**
i. Re-read the text	( )	( )
ii. Continue reading	( )	( )
iii. Translate the text into KSL	( )	( )
iv. Use prior knowledge about the topic	( )	( )
v. Read slowly and carefully	( )	( )
vi. Reading aloud	( )	( )
vii. Other activities ……		

4. What do you do during reading? **(Tick (√) where appropriate)**

	Yes	**No**
i. Memorize aspects of the text to ensure that I remember them	( )	( )
ii. Take notes on key words and ideas	( )	( )
iii. Visualise the information that I read	( )	( )
iv. Ask myself questions as I read	( )	( )
v. Other activities ……		

5. What do you do after reading a text? **(Tick (√) where appropriate)**

	Yes	**No**
i. Reflect on the text	( )	( )
ii. Summarise the text	( )	( )
iii. Determine the main idea	( )	( )
iv. Generate questions from the text	( )	( )
v. Other activities ……		

C. Teaching Strategies

How often does your English teacher employ the following teaching strategies during reading comprehension lessons? **(Tick (√) where appropriate)**

	Strategy	**Very Often**	**Often**	**Sometimes**	**Hardly**	**Never**
1.	Teaching vocabulary					
2.	Teaching story grammar and text structure					
3.	Repeated reading					
4.	Activation of students' background knowledge					
5.	Retelling in K.S.L					
6.	Skimming and scanning					
7.	Dramatisation					
8.	Summarisation					
9.	Reading aloud					
10.	Silent reading					
11.	Group reading					
12.	Questioning					
13.	Use of visual aids					
14.	Peer tutoring					
15.	Demonstration					
16.	Discussion					

D: Students' Attitude towards Reading

1**. Select and tick (√)** the column that best agrees with your opinion towards reading. **Definitely True (DT), True (T), Somewhat True (ST), Not True (NT)** and **Definitely Not True (DNT)** are the choices.

	STATEMENT	DT	T	ST	NT	DNT
1.	As a deaf student I can never be a good reader					
2.	Reading a book is something I like to do often					
3.	People who read a lot are knowledgeable					
4.	Reading becomes boring after a short time.					
5.	I think libraries are a great place to spend time					
6.	Reading is for learning but not enjoyment					
7.	Knowing how to read well is not very important					
8.	Reading is difficult for me					
9.	There should be more free reading time in class.					
10.	When someone gives me a book for a present, I feel very happy					
11.	If someone discusses an interesting book I look forward to reading it					
12.	I exchange reading materials with my friends.					
13.	I only read because it is a must					
14.	I don't like reading texts with a lot of vocabularies					
15.	Short stories are no fun to read					
16.	I love reading texts that are long					
17	I don't feel confident in participating in class reading sessions					
18.	1 am good at reading					
19.	Reading is not important because I don't plan to get a job that requires advanced skills in reading					
20.	I enjoy reading because my teacher encourages me to read					

2. Do you enjoy reading? **(Tick (√) where appropriate)**

i. Yes ( ) ii. No ( ) iii. Don't know ( )

Provide reasons for your answer

……

……

……

……

3. What are your suggestions for improving the teaching and learning of reading comprehension to deaf students?

……

……

……

……

APPENDIX II: TEACHERS OF ENGLISH QUESTIONNAIRE (TEQ)

My name is Everline Nyokabi Maina, a PhD student at Maseno University. I am carrying out a study on **Teaching and Learning of English Reading Comprehension: Implications on Academic Achievement of Deaf Students in Secondary Schools in Kenya**. You have been selected as a respondent in this study because of your role in teaching and learning of reading comprehension. Based on your experience and knowledge please provide your views pertaining to the study. I assure you that the information you provide will only be used for academic purposes and will be treated with utmost confidentiality. Thank you for your anticipated participation in the study.

A. Deaf students' Learning Strategies in English Reading Comprehension

Select and tick (√) the column that best agrees with your opinion on the frequency of use of the following strategies by deaf students in your class during English reading comprehension. Very Frequently (**VF**), Frequently (**FU)**, Sometimes **(S)** Hardly (**H**) and Never (**N)** are the choices.

	STRATEGY	**VF**	**FU**	**S**	**H**	**N**
1.	Silent reading					
2.	Signing while reading					
3.	Translating information into Kenyan Sign Language					
4.	Re-reading					
5.	Reading ahead					
6.	Guessing meaning of words					
7.	Use of background knowledge					
8.	Asking someone					
9.	Self questioning					
10.	Use of picture cues					
11.	Use of the title to predict					
12.	Use of the dictionary					
13.	Finger spelling unknown words					
14.	Use of mental imagery					
15.	Note taking					
16.	Memorising aspects of the text					
17.	Signing while reading					
18.	Varying the reading rate					
19.	Skimming/scanning					
20.	Summarisation					

B: Teachers' Perspectives on English Reading Comprehension Strategies

1. **Select and tick (√)** the column that best agrees with your perspective the following teaching strategies in English reading comprehension. **Definitely True (DT), True (T), Somewhat True (ST), Not True (DT)** and **Definitely Not True (DNT)** are the choices

2**.** Do you enjoy teaching English reading comprehension to deaf students? (**Tick (√) where appropriate)**

	STRATEGY	**DT**	**T**	**ST**	**NT**	**DNT**
1.	Teaching of vocabulary found in the text to deaf students takes too much of the lesson time					
2.	Teaching English grammar during reading comprehension boosts deaf students' proficiency in English.					
3.	Use of repeated reading is irrelevant to deaf students					
4.	Activating deaf students' knowledge about a topic enhances their comprehension					
5.	Deaf students understand best when a text is retold in Kenyan Sign Language					
6.	Understanding the title of the text helps to deaf students to predict about the text					
7.	Skimming and scanning help deaf students to figure out the key words and ideas in the text					
8.	Translating the text into Kenya Sign Language distorts meaning					
9.	Dramatisation doesn't add value to deaf students' reading comprehension					
10.	Summarisation is difficult for deaf students					
11.	Reading aloud interferes with deaf students' ability to follow the story					
12.	Silent reading saves time when teaching reading comprehension to deaf students					
13.	Group reading helps deaf students to share ideas					
14.	Use of dictionaries doesn't improve the reading comprehension among deaf students					
15.	Questioning during reading helps in checking deaf students' comprehension					
16.	Use of visual aids does not enhance deaf students' reading comprehension					
17.	Deaf students can never learn how locate important information in a text through scanning					
18.	Deaf students understand best when their peers explain to them reading comprehension passages					
19.	Demonstration of reading comprehension strategies makes no difference to deaf students					
20.	Discussion encourages deaf students to participate during reading comprehension lessons					

i. Yes ( ) ii. No ( ) iii. Don't Know ( )

Provide reasons for your answer

……

……

……

……..

C. Teaching and Learning Resources

Rate the adequacy of the following reading resources at your school **(Tick (√) where appropriate)**

Resource	**Very Adequate**	**Adequate**	**Inadequate**	**Not Available**	**Don't Know**
English text books					
Novels					
Story books					
Signed videos					
Visual aids (e.g Charts, and pictures)					
Newspapers					
Magazines					
Computers					
English text books					

APPENDIX III: TEACHERS OF ENGLISH INTERVIEW SCHEDULE (TEIS)

1. Which strategies do you prefer in teaching reading comprehension to deaf students? Why?
2. What concepts do deaf students find hard in English reading comprehension?
3. Comment on the reading habits of deaf students in your class that influence their comprehension in English.
4. What are your suggestions for improving the teaching and learning of English reading comprehension to deaf students?

APPENDIX IV: LESSON OBSERVATION SCHEDULE (LOS)

A. ENGLISH READING COMPREHENSION TEACHING STRATEGIES

A.	Strategy	Reading Stage when used				Rating				
		PR	DR	PR		O	WD	S	NS	NU
1.	Teaching vocabulary									
2.	Teaching story grammar and text structure									
3.	Repeated reading									
4.	Activation of students' background knowledge									
5.	Retelling									
6.	Skimming and scanning									
7.	Dramatisation									
8.	Summarisation									
9.	Reading aloud									
10.	Silent reading									
11.	Group reading									
12.	Questioning									
13.	Use of visual aids									
14.	Peer tutoring									
15.	Demonstration									
16.	Discussion									
B.	**Language of Instruction**									
1.	Signed English and Kenyan Sign Language									
2.	Signed English only									
3.	Kenyan Sign Language only									

Key: Outstanding **(O)** Well Demonstrated **(WD)** Satisfactory **(S)** Not Satisfactory **(NS**) Not used at All **(NU)** Pre-reading **(PR)** During Reading **(DR)** Post reading **(PR)**

B. DEAF STUDENTS' LEARNING STRATEGIES IN ENGLISH READING COMPREHENSION

	STRATEGY	**Used to a Very Large Extent**	**Used to a Large Extent**	**Used to a Small Extent**	**Used to a Very Small Extent**	**Not used at all**
1.	Finger spelling					
2.	Signing while reading					
3.	Asking a friend					
4.	Use of the dictionary					
5.	Asking the teacher					
6.	Note taking					
7.	Peer reading					
8.	Pointing at words with fingers or pen					
9.	Silent reading					
10.	Re-reading					

C. NATURE OF CLASSROOM INTERRACTION

No.	Episode	No.	Episode	No.	Episode	No.	Episode
(1)	— — — —	(26)	— — — —	(51)	— — — —	(76)	— — — —
(2)	— — — —	(27)	— — — —	(52)	— — — —	(77)	— — — —
(3)	— — — —	(28)	— — — —	(53)	— — — —	(78)	— — — —
(4)	— — — —	(29)	— — — —	(54)	— — — —	(79)	— — — —
(5)	— — — —	(30)	— — — —	(55)	— — — —	(80)	— — — —
(6)	— — — —	(31)	— — — —	(56)	— — — —	(81)	— — — —
(7)	— — — —	(32)	— — — —	(57)	— — — —	(82)	— — — —
(8)	— — — —	(33)	— — — —	(58)	— — — —	(83)	— — — —
(9)	— — — —	(34)	— — — —	(59)	— — — —	(84)	— — — —
(10)	— — — —	(35)	— — — —	(60)	— — — —	(85)	— — — —
(11)	— — — —	(36)	— — — —	(61)	— — — —	(86)	— — — —
(12)	— — — —	(37)	— — — —	(62)	— — — —	(87)	— — — —
(13)	— — — —	(38)	— — — —	(63)	— — — —	(88)	— — — —
(14)	— — — —	(39)	— — — —	(64)	— — — —	(89)	— — — —
(15)	— — — —	(40)	— — — —	(65)	— — — —	(90)	— — — —
(16)	— — — —	(41)	— — — —	(66)	— — — —	(91)	— — — —
(17)	— — — —	(42)	— — — —	(67)	— — — —	(92)	— — — —
(18)	— — — —	(43)	— — — —	(68)	— — — —	(93)	— — — —
(19)	— — — —	(44)	— — — —	(69)	— — — —	(94)	— — — —
(20)	— — — —	(45)	— — — —	(70)	— — — —	(95)	— — — —
(21)	— — — —	(46)	— — — —	(71)	— — — —	(96)	— — — —
(22)	— — — —	(47)	— — — —	(72)	— — — —	(97)	— — — —
(23)	— — — —	(48)	— — — —	(73)	— — — —	(98)	— — — —
(24)	— — — —	(49)	— — — —	(74)	— — — —	(99)	— — — —
(25)	— — — —	(50)	— — — —	(75)	— — — —	(100)	— — — —

APPENDIX V: Adapted Craig and Collins (1970) Interaction Category System for Communicative Interaction in Classrooms for the Deaf

Teacher talk	**Response**	1. *Accepts feeling.* Accepts and clarifies an attitude or the feeling tone of a pupil in a nonthreatening manner. Feelings may be positive or negative. Predicting and recalling feelings are included. 2. *Praises or encourages.* Praises or encourages pupil action or behavior. Jokes that release tension, but not at the expense of another individual; nodding head or saying "Um hm?" or "go on" are included. 3. *Accepts or uses ideas of pupils.* Clarifying, building, or developing ideas suggested by a pupil. Teacher extensions of pupil ideas are included but as the teacher brings more of his own ideas into play, shift to category five.
		4. *Asks questions*. Asking a question about content or procedure, based on teacher ideas, with the intent that a pupil will answer.
	Initiation	5. *Lecturing*. Giving facts or opinions about content or procedures; expressing his own ideas, giving his own explanation, or citing an authority other than a pupil. 6. *Giving directions*. Directions, commands, or orders to which a pupil is expected to comply. 7. *Criticizing or justifying authority*. Statements intended to change pupil behavior from non-acceptable to acceptable pattern; bawling someone out; stating why the teacher is doing what he is doing; extreme self-reference.
Pupil talk	**Response**	8. *Pupil-talk-response*. Talk by pupils in response to teacher. Teacher initiates the contact or solicits pupil statement or structures the situation. Freedom to express own ideas is limited.
		9. *Pupil-talk-initiation*. Talk by pupils which they

	Initiation	initiate. Expressing own ideas; initiating a new topic; freedom to develop opinions and a line of thoughtful questions; going beyond the existing structure.
Silence		10. *Silence or confusion*. Pauses, short periods of silence and periods of confusion in which communication cannot be understood by the observer.
Teacher and Student talk		11. *Communication modes*: Combined (C), Finger spelling (F), Manual (M), Speech (S), Non- manual signals (N), Gesture (G), Written (W), Evasive action(E)

APPENDIX VI: DOCUMENT ANALYSIS GUIDE (DAG)

Student	Achievement in English Reading Comprehension	Achievement in Vocabulary	Achievement in Grammar
1.			
2.			
3.			
4.			
5.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			

APPENDIX VII: ANALYSIS OF PERSPECTIVES OF TEACHERS OF ENGLISH ON READING COMPREHENSION TEACHING STRATEGIES (n=11)

	STATEMENTS	DT %	T %	ST %	NT %	DNT %
1.	Teaching of vocabulary in the text to deaf students takes too much of the lesson time	1(9.1)	2(18.2)	0(0.0)	3(27.3)	5(45.4)
2.	Teaching story grammar and texture boosts deaf students' reading comprehension	5(45.4)	4(36.4)	1(9.1)	1(9.1)	0(0.0)
3.	Use of repeated reading is irrelevant to deaf students	2(18.2)	1(9.1)	1(9.1)	3(27.3)	4(36.4)
4.	Activating deaf students' knowledge about a topic enhances their comprehension	5(45.5)	5(45.5)	0(0.0)	1(9.1)	0(0.0)
5.	Deaf students understand best when a text is retold in Kenyan Sign Language	6(54.5)	5(45.4)	0(0.0)	0(0.0)	0(0.0)
6.	Understanding the title of the text helps to deaf students to predict about the text	5(45.4)	3(27.3)	1(9.1)	2(18.2)	0(0.0)
7.	Skimming and scanning helps deaf students to figure out the key words and ideas in the text	6(54.5)	2(18.2)	1(9.1)	1(9.1)	1(9.1)
8.	Use of K.S.L during English reading comprehension distorts meaning	6(54.5)	2(18.2)	0(0.0)	1(9.1)	2(18.2)
9.	Dramatization doesn't add value to deaf students' reading comprehension	2(18.2)	4(36.4)	0(0.0)	0(0.0)	5(45.4)
10.	Summarizing is difficult for deaf students	5(45.4)	4(36.4)	0(0.0)	2(18.2)	0(0.0)
11.	Reading aloud interferes with deaf students' ability to follow the story	4(36.4)	3(27.3)	0(0.0)	1(9.1)	3(27.3)
12.	Silent reading saves time when teaching reading comprehension to deaf students	6(54.5)	1(9.1)	0(0.0)	2(18.2)	2(18.2)
13.	Group reading helps deaf students to share ideas	5(45.4)	4(36.4)	0(0.0)	1(9.1)	1(9.1)
14	Use of dictionaries doesn't improve deaf students' reading comprehension	4(36.4)	4(36.4)	2(18.2)	1(9.1)	0(0.0)
15.	Questioning during reading helps in checking deaf students' comprehension	5(45.4)	3(27.3)	1(9.1)	2(18.2)	0(0.0)
16.	Use of visual aids doesn't enhance deaf students' reading comprehension	0(0.0)	0(0.0)	1(9.1)	4(36.4)	6(54.5)
17.	Deaf students can never learn how locate important information in a text through scanning	2(18.2)	0(0.0)	0(0.0)	4(36.4)	5(45.4)
18.	Deaf students understand best when their peers explain to them reading comprehension passages	6(54.5)	2(18.2)	0(0.0)	2(18.2)	1(9.1)
19.	Demonstration of reading comprehension strategies makes no difference to deaf students	5(54.5)	2(18.2)	0(0.0)	2(18.2)	2(18.2)
20.	Discussion encourages deaf students to participate during reading comprehension lessons	4(36.4)	4(36.4)	1(9.1)	1(9.1)	1(9.1)

APPENDIX VIII: ANALYSIS OF FORM FOUR DEAF STUDENTS' ATTITUDE TOWARDS READING (n=79)

	STATEMENT	DT	T	ST	NT	DNT
1.	As a deaf students I can never be a good reader	12(15.2)	10(12.7)	2(2.5)	22(27.8)	33(41.8)
2.	Reading a book is something I like to do often	27(34.2)	18(22.8)	6(7.6)	18(22.8)	10(12.7)
3.	People who read a lot are knowledgeable	36(45.6)	38(48.1)	0(0.0)	4(5.1)	1(1.3)
4.	Reading becomes boring after a short time.	6(7.6)	12(15.2)	10(12.7)	30(38.0)	21(26.6)
5.	I think libraries are a great place to spend time	27(34.2)	27(34.2)	2(2.5)	17(21.5)	6(7.6)
6.	Reading is for learning but not enjoyment	8(10.1)	16(20.2)	4(5.1)	21(26.6)	30(38.0)
7.	Knowing how to read well is not very important	4(5.1)	12(15.2)	5(6.3)	7(8.9)	51(64.6)
8.	Reading is difficult for me	23(29.1)	28(35.4)	4(5.1)	19(24.1)	5(6.3)
9.	There should be more free reading time in class.	47(59.5)	16(20.3)	3(3.8)	8(10.1)	5(6.3)
10.	When someone gives me a book for a present, I feel very happy	33(41.8)	26(32.9)	4(5.1)	14(17.7)	2(2.5)
11.	When someone discusses an interesting book I look forward to reading it	33(41.8)	26(32.9)	6(7.6)	12(15.2)	2(2.5)
12.	I exchange reading materials with my friends.	33(41.8)	26(32.9)	3(3.8)	15(19.0)	2(2.5)
13.	I only read because it is a must	5(6.3)	10(12.7)	6(7.6)	23(29.1)	35(44.3)
14.	I don't like reading texts with a lot of vocabularies	22(27.8)	29(36.7)	5(6.3)	14(17.7)	9(11.4)
15.	Short stories are no fun to read	1(1.3)	10(12.7)	0(0.0)	35(44.3)	33(41.8)
16.	I love reading texts that are long	12(15.2)	6(7.6)	2(2.5)	40(50.6)	19(24.1)
17.	I don't feel confident in participating in class reading sessions	19(24.1)	25(31.6)	7(8.9)	17(21.5)	11(13.9)
18.	1 am good at reading	7(8.9)	14(17.7)	5(6.3)	36(45.6)	17(21.5)
19.	Reading is not important because I don't plan to get a job that requires advanced skills in reading	0(0.0)	6(7.6)	1(1.3)	35(44.3)	37(46.8)
20	I enjoy reading because my teacher encourages me to read	3(3.8)	18(22.8)	4(5.1)	39(49.4)	15(19.0)

Key: **DT**-Definitely True, **T**-True, **ST**- Somewhat True, **NT**- Not True, **DNT**-Definitely Not True

APPENDIX IX : SAMPLE 1 OF STUDENTS' ENGLISH READING COMPREHENSION SCRIPT

1. COMPREHENSION.

Read the passage below and then answer the questions that follow.

As morning lit up the mountain Tibetans call Qomolangma, I was able to recognise every jagged formation along the northeast ridge. Two years earlier I had stood atop Mount Everest with Peter Habeler, on the 1978 Austrian Everest expedition. That was a typical large-scale effort-we had been aided by Sherpa porters up to the South Col at 8,000 metres.

This time there were no porters. No fellow climbers. No bottled oxygen. No radio. I was attempting the greatest challenge, to me, in mountaineering-to climb the highest mountain on earth completely on my own. In mid-July Nena and I moved up to 6,000 metres and established High Base Camp. From here, in the 5 a.m darkness, on the 18th of August, 1980, I set out on my greatest adventure. Minutes later, it almost ended in disaster. I was crossing a snowbridge over a crevasse. Suddenly it went, crumbling into powder and chunks of ice.

I was falling-falling into the deep. It felt like eternity in slow motion. In the next moment I came to sudden a stop. Or had it been minutes? My sense of time had vanished. My headlamp, fastened to an elastic strap around my woollen cap, no longer functioned. Blackness surrounded me. 'Perhaps I will die down here!' I peered up through a gap and caught a glimpse of stars twinkling overhead. If only I had brought the waikie-taikie! I could have called Nena who was in the tent just 500 metres below. Nena could have climbed up with a rope to assist me.

Survival instincts surfaced. I quickly sought escape from this icy prison. With an ice-axe in one hand and ski pole in the other, I managed to get back to firm ground. The first rays of the sun were brushing the top of the North Col as I worked my way up the remaining 50 metres. I glanced at my watch. It was just 7 a.m. Around 9 a.m the altimetre indicated 7,360 metres. 'Making good time', I thought, as I climbed over the rolls and bulges. Now and then I would push through pockets of ankle-deep snow. Gusts of wind began to sap my energy. At 7,500 metres, I could feel myself slowing considerably. I must not become exhausted, I told myself. The next two days would be far more strenuous.

Under the weight of my 15-kilo rucksack, I now found difficulty in breathing. Every dozen steps or so, I would stop and gasp for breath. My mind was drifting. The intervals between rest pauses became shorter and shorter. I would sit down, and then find it nearly impossible to rise again. Somehow I kept going. It seemed that there was somebody behind me giving me the needed courage. Step by step, I pushed myself onward till I reached 7,800 metres.

I found a spot to my liking and trod down the snow until its surface was firm. I sat to unpack my rucksack, looking down to the camp I had left at five that morning. I had difficulty pitching the tent. The wind, gusting to perhaps 80 kilometres, kept heaving it into the air. At last I secured it with the ski poles, the ice-axe, spread the finger-thick polyurethane mat on the floor and crept inside. I lay listening to the wind. I should have begun cooking but couldn't bring myself to do it. So, I shoved dried meat, cheese and bread into my mouth. Just those small movements were exhausting. 'I must begin the cooking,' I told myself. I needed to drink at least four litres of water a day; to dehydrate would be fatal. I opened the flap enough to scoop some snow with the lid of my pot. In that instant the flame of my gas stove blew out. 'It will be a bad night,' I thought as I relit it.

The morning sun on August 19 lit my tent and began melting the frost on the inner walls. Slowly I packed. I decided to leave behind two cans of sardines, a gas, cartridge and half the soups and teas to lessen the torture of my load. I knew I had to reach the top on the following day. At three in the afternoon I checked my altimetre. It read only 8,220 metres. I was frustrated by my progress. Worn out, I wanted desperately to find a resting site. But I could find none. One hour later, on a snow-covered ledge, I managed to pitch my tent. I kept thinking, 'What if the fog did not lift by morning? Should I wait? No, that was senseless.' By the day after tomorrow I would be so weak that I could never advance towards the peak. Tomorrow I had either to go up or go down. There was no other choice.

The morning of August 20 was clear but clouds were closing in. I took my camera and my ice-axe. Everything else I left in the tent. The climb to the peak was physically taxing but not too difficult. I climbed on hands and knees like a four-legged animal, sluggish and apathetic. Finally, I stood just below the peak. The fog was thick and I could hardly orient myself. The next three hours seemed to pass without notice. I climbed instinctively, not consciously. The clouds opened for brief moments, giving fleeting glimpses of the peak against the blue sky. Suddenly I saw the aluminium tripod! There it was-proof that I had reached the summit. The Chinese had anchored it at the highest point in 1975 to make exact measurements.

I sat there like a stone. I had spent every bit of strength to get there. I was empty of feeling. For the second time I had reached the highest point on earth.

1. ". . . was able to recognise . . ." why was the landscape familiar to the author? (1 mark)

I sat there like a stone

2. According to the passage, why was the author compelled to climb Mt. Everest the second time? (2 marks)

Minutes later, I almost ended in despair.

3. In note form write down the evidence there is to show that the author was getting weak. (3 marks)

- I was falling - falling onto the deep
- It felt like eternity in slow motion
- In the next moment, I came to a sudden a stop

4. Rewrite the following sentences as instructed.

i) I had difficulty pitching the tents (Add a question tag) (1 mark)

Why, had difficulty pitching the tents?

ii) My leadlamp, fastened to an elastic strap around my wollen cap, no longer functioned. (Rewrite the sentence using a past participle.) (1 mark)

My leadlamp, fastening to an elastic strap around my wollen cap no longer functioning

5. Why did the author leave behind some of his luggage. (1 mark)

6. In not ~~more~~ More than 70 words, highlight the plight of the author as he attempted to climb Mt. Everest. (5 marks)

I was falling - falling into the deep. It felt like eternity in slow motion. In the next moment I came to a sudden a stop. Or had it been minutes? My sense of time had vanished. My headlamp, fastened to an elastic strap around my woollen cap, no longer [illegible] More I opened up through a gap and caught a glimpse of stone [illegible] If only I had brought the [illegible]

I could have called Nema who was in the tent just 500 metres below. Nema could have climbed up with a rope to assist me

7. What was the author's feelings towards the whole expedition? (2 marks)

8. Give the meaning of the following words / phrases as used in the passage.

i) Apathetic meaning meaningless and distance.

ii) keep heaving it meaning action.

iii)Exhausted meaning exit or shout.

APPENDIX X: SAMPLE 2 OF STUDENTS' ENGLISH READING COMPREHENSION SCRIPT

Q1. **Read the passage below and then answer the questions that follow**

Illiteracy, unlike what many imagine, is not the absence of a school degree. It is the absence of a functional mind. A functional mind is one that thinks about solutions. Such minds don't drop from heaven. They are developed.

Functional minds are those that are not bound by tradition. They are minds that are open to change. They seek new ways to deliver old truths. They are minds that are able to see the forest in the orange seed and not just the seed in the orange. You can count the number of seeds in an orange but not the number of oranges in a seed

Functional minds see finished products and how to get there while stagnant minds only see present circumstances.

True leadership is the ability to see finished products and inspire people to do what it takes to get there. Leadership is in the function and not in the title. Leadership is not determined by the largeness of the office but by the largeness of the occupant's mind

America has had 43 past presidents. Whenever I do advanced leadership training. I ask my audience to name all the past American presidents that they can remember. Some names always stand out. No one ever forgets to mention Abraham Lincoln for instance.

In all, people normally remember an average of five past American presidents out of 43. It demonstrates the fact that holding an office is not what makes you remembered. What leaves a mark in other people is the impact of your mind on the world.

If you are not presidential in our thinking, you can carry the title of president but you will be a mere office holder.This goes for any office.

Years ago when Andrew Young was the mayor of Atlanta in the US, many people worldwide knew there was a place called Atlanta, which had a mayor called Andrew Young.

Think of companies that 'years after the death of their founders, are still thriving and employing people. How many people will you employ or **impact** when you have left the world? Will your mind outlive you?

Before the scramble for high offices. there should first be a scramble for the development of functional minds.

We need to move to a place as a people where we begin to celebrate 'intellectual celebrities among our youth. When companies motivate them and support the innovation of their minds, then we may be on the way to something better than what we have today'

The recognition of intellectual celebrity is the **spark** that will inspire a new generation to find value in reading. We will have planted the seeds that esteem education and not just

schooling. As the seeds grow, the desire to educate oneself by reading will become a culture and not a duty.

A lot of our present day school curriculum is outdated in its delivery. It produces school leavers who hate books because of their experience in school. 'They have no desire to continue reading after school. Their schooling jeopardized their education and this result in the stagnation of their minds

Just think of the number of highly educated people who struggle today with things for which numerous books have been written. The solution to many a problem lies on the shelves of bookstores or library.

You need to get to a point where you ask yourself, "am I merely schooled or am I actually educated

To be schooled and educated is the desire of all. Ideas rule the world. The quality of ideas will be shaped by the quality of the mind, the quality of life of a people will rise or fall to the functional level of their mind. Indeed the mind is a terrible thing to waste.

a) According to the passage, what is illiteracy? (2mks)

Illiteracy is the ability that mind engage, is not the absence of a school degree.

b) What does it mean to be presidential in one's thinking? (2mks)

This is the presidential in our thinking you can carry the title of president but you will be a mere office holder that goes for any office.

c) Explain the difference between a functional mind and a stagnant mind (2mks)

Functional mind is the one that thinks about solution while stagnant mind only see present circumstances. This is the functional mind are developed therefore the stagnant mind is the dont have from heaven.

d) Why are some leaders remembered long after they leave office? (2mks)

This is because people are normally remember an average of five past American presidents out of 43. It demonstrates the fact that holding an office is not what makes you remembered what leaves a mark in other people is the impact of your mind on the world.

e) Why do school leavers hate books? (2mks)

This is because of their experince in school. They have no desire to

continue reading after school.

f) According to the passage, what does an outdated curriculum do to a generation? (2mks)

A lot of our present day school curriculum is outdated in its delivery. It is the products school leavers who hate books because of their experience in school. Their jeopardized their education and this result in the stagnation of their mind.

g) Re-write the following sentence in the present simple tense (2mks)

(i) Years ago when Andrew Young was the mayor of Atlanta in the US, many people World wide knew that there was a place called Atlanta which had a mayor called Andrew Young

They are think of companies that pieces after the death of their founders are still thriving and employing people.

(ii) Indeed the mind is a terrible thing to waste (Add a question tag) (2mks)

Terrible thing to waste is indeed the mind?

h) Give one situation which the author gives to many problems affecting the world (2mks)

They are just think of the number of highly educated people who struggle today with thing for which numerous books have been written.

i) Make notes on a functional mind (3mks)

A functional mind is one that thinks about solutions. Such minds don't drop from heaven. They are developed. Functional minds are those that are not bound by tradition. They are mind that are open to change. They seek new ways to deliver old truths. They are minds that are able to see the forest in the orange seed and not just the seed in the orange. Functional minds see [illegible] and how to get there.

3 + ½ = 1½

j) Explain the meaning of the following words as used in the passage (2mks)

i) Spark

It is the recognition of intellectual celebrity to inspire a new

5½

generation to find value in reading.

ii) Impact

~~[illegible]~~ It will you employ or impact when you have left the world? will your mind outlive you?

APPENDIX XI: SAMPLE 3 OF STUDENTS' ENGLISH READING COMPREHENSION SCRIPT

Read the passage below and answer the questions that follow.

Modern vegetarianism is more than a diet. It has become part of a value system that influences a variety of attitudes and behaviour changes.

Vegetarianism is slowly becoming an accepted way of living. Yet even with the increased acceptance of vegetarian diets, few people know what informs the choice of vegetarian diets. Few of those opposed to vegetarianism have tried to learn about the vegetarian way of life, or understand that vegetarian diets can be healthy.

Trained health professionals are also often skeptical about how healthy a vegetarian diet is. An objective look reveals the properly planned vegetarian diets and the life-style of vegetarians can be very good for one's health. Vegetarians are generally health conscious, and often avoid alcohol, tobacco and illicit drugs. They also engage in regular physical activity.

World wide, vegetarians are in hundreds of millions. For most of them, vegetarianism is not a choice. Some live on vegetarian diets because animal products are scarce or too expensive. For others it is a strict religious belief, handed down for generations. These people may not necessarily appreciate the health benefits of being vegetarian; they have no choice in the matter.

Where food security is not a problem people tend to adopt a vegetarian lifestyle to avoid inflicting pain on animals, to preserve the environment or as part of a weight or cholesterol lowering diet.

There is no one fixed vegetarian diet and there are no fixed rules. People who consider themselves vegetarians range from those who eat all foods except red meat, to those who exclude all animal sources, including honey. By proper definition a person is a vegetarian if they do not eat meat. The definition does not include meat products like eggs, milk, cheese, butter, ghee and so on. There are different categories of vegetarians. The first is far vegetarians who only exclude red meat in their diet. Quasi vegetarian or semi vegetarian diets generally exclude beef, pork and poultry but include only dairy foods, eggs and plant foods. Lacto ovo- vegetarians' diet include fish, eggs and plant foods. Lacto vegetarians, however, exclude eggs in the diet. Vegans are the strictest vegetarians as they only plant foods. In addition, they avoid clothes made from wool, leather or silk.

Long standing vegetarian ***dietary re-gimes*** that are practiced in countries like India and China have been tested over time, and found to be adequate in essential nutrients. On the other hand, highly restrictive vegetarian diets are likely to be inadequate and lead to health problems. This is especially true for pregnant women, growing children and the elderly.

Compared to our usual diet and life style, vegetarianism is associated with a lower risk of heart disease, stroke and hypertension, type II diabetes, chronic bronchitis, gallstones and colon cancer. Vegetarians rarely become obese or develop high blood cholesterol levels. The exception of course in people who use butter and ghee for cooking. These products lead to obesity and elevated cholesterol levels.

Because vegetarian diets exclude one or more types of foods, it is important that the food included provide sufficient calories and the assortment and quantity of nutrients needed for health. Vegetarian diets that fail to provide all the necessary nutrients do not sustain health. Diets that include few or no animal products may be low in sources of complete proteins, vitamin B12, Vitamin D, Calcium and Zinc. With appropriate food selection, this potential nutrient inadequacies can be prevented. *funation*

Animal products such as meat, eggs and milk provide all of the nine essential amino acids in sufficient amounts and are thus considered complete proteins. Complete proteins are essential in the diet because each essential amino acid is useful to build and repair broken and worn out cells. Essential amino acids consumed in food are not stored and so a fresh supply is required everyday. Vegetarians who do not consume animal products must combine plant foods to yield complete proteins.

Vitamins B12 is of concern to vegetarian, because it is only available in animal products. Consumption of foods fortified with vitamin B12 supplements can be used to prevent deficiency.

Vitamin D is obtained primarily from the sun and from milk. Vegetarians who do not have adequate exposure to the sun need to take vitamin D supplement or food fortified with vitamin D.

Vegetarians who exclude milk from the diet need to increase their intake of good plant sources of Calcium. High intake of Soya products such as beans and tofu appear to promote bone mass deposition and protect against development of osteoporosis.

Questions

a) According to the passage, what are the **three** reasons that lead to vegetarianism? (marks)

Vegetarians are generally health conscious and often avoid alcohol, tobacco and illicit drugs. They also engage in regular physical activity. Avoid inflicting pain on animals.

An objective study reveals that proteins, cholesterol levels, vegetarian diets and the life-style of vegetarians can be very good for one's health.

b) What are the different categories of vegetarians mentioned in this passage? (3 marks)

Lacto vegetarians' diet include fish, eggs and plant foods.

Strict vegetarians as they only plant foods.

Quasi or semi vegetarians diets generally ~~exclude fish, eggs and plant foods~~ beef, pork and poultry.

c) Vegetarians rarely become obese or develop high blood cholesterols levels (Begin: Rarely ...) (1 mark)

Rarely vegetarians become obese or develop high blood Cholesteral levels? Rarely do vegetarians become obese or develop high Cholesteral levels.

d) State the kinds of ailments that would result from failure to use vegetarian diet. (3 marks)

Diets that include few or no animal products may be low in Sources of Complete proteins, Vitamin B12, Vitamin D, Calcium and Zinc.

Stroke
Diabetes
Heart disease
Colon cancer
Gallstones
chronic bronchitis.

English 101/2

e) Make notes on the sources of Vitamin B 12 (3 marks)

Vitamin B12 is of concern to vegetarian because it is only available in animal products such as meat, egg and milk. Consumption of food ~~can~~ fortified with vitamin B12 supplements can be used to ~~[illegible]~~ prevent deficiency.

f) Explain the meaning of the following words and phrases as used in the passage (4 marks)

i) Dietary regimes

Finding to be adequate in essential nutrients.
Vegetarian control / management

ii) Fortified

Having the supplement or food.
surrounded.

iii) Deposition

High intake of soya product such as bean
Accumulation.

iv) Exposure

Not having adequate
stay in the sun.

g) Explain the irony behind vegetarianism as brought out in this passage. (3 marks)

This is especially true for pregnant woman, growing children and the elderly.
Few of these opposed to vegetarianism have tried to learn more about vegetarian way of life or understand that vegetarian diets can be healthy.

APPENDIX XII: MAP OF KENYA SHOWING RESEARCH COUNTIES

Key: 1- Siaya County **2**-Nyeri County **3**-Kakamega County **4**- Migori County

Source*: Moran Publishers (2011). Moran Secondary School Atlas. Nairobi: Moran East African Publishers.*

APPENDIX XIII: LETTER OF INTRODUCTION

MASENO UNIVERSITY
FACULTY OF EDUCATION
DEPARTMENT OF SPECIAL NEEDS EDUCATION

Tel: +254 (057) 351622/20, 351008, 351011,
Fax: +254 057- 351221,351462,351153
E-mail www.maseno.ac.ke

Private Bag,
MASENO
Kenya

30th August, 2012

TO WHOM IT MAY CONCERN

RE: PERMISSION TO CONDUCT RESEARCH: EVERLINE NYOKABI MAINA – PG/PHD/00060/2010

The above named is a PhD candidate at Maseno University in the Department of Special Needs Education. Her research topic is *"Teaching and Learning of English Reading Comprehension in Secondary Schools for the Deaf in Kenya: Implications on Academic Achievement.*

Kindly accord her necessary assistance in her research.

Thank you.

Dr. Peter Oracha
Chairman, Special Needs Education

APPENDIX XIV: AUTHORISATION LETTER 1

MINISTRY OF EDUCATION SCIENCE & TECHNOLOGY
STATE DEPARTMENT OF EDUCATION

E-Mail –centralpde@gmail.com
Telephone: Nyeri (061) 2030619
When replying please quote

REPUBLIC OF KENYA

OFFICE OF THE COUNTY
DIRECTOR OF EDUCATION
P.O. Box 80 - 10100,
NYERI

CDE/NYI/GEN/23/VOL.I/78

13th September, 2012

The Principal ,
Rev. Muhoro Secondary School,
P.O. Box 278,
MUKURWEINI.

RE: PERMISSION TO CONDUCT RESEARCH
EVERLINE NYOKABI MAINA – PG/PHD/00060/2010

The above named is a PhD candidate at Maseno University, The Department of Special Needs Education.

Authority is hereby given to her to conduct the said research in your school on the topic ***"TEACHING AND LEARNING OF ENGLISH READING COMPREHENSIVE IN SECONDARY SCHOOLS FOR THE DEAF IN KENYA: IMPLICATIONS ON ACADEMIC ACHIEVEMENT"***

Please accord her the necessary action.

MBWIGA S, KIREMA
FOR: COUNTY DIRECTOR OF EDUCATION
NYERI COUNTY

APPENDIX XV: AUTHORISATION LETTER 2

MINISTRY OF EDUCATION, SCIENCE & TECHNOLOGY

Telegram:.....
Email: deomumias@gmail.com
When replying please quote

DISTRICT EDUCATION OFFICE,
MUMIAS DISTRICT
P. O. BOX 352 - 50102,
MUMIAS.

STATE DEPARTMENT OF EDUCATION

MMS/EDU/P.NO /5/3

DATE: 7th September, 2012

The Principal,
St. Angela School Vocational School
Mumias

Dear Madam,

RE: RESEARCH

EVERLINE NYOKABI MAINA – PG/PHD/00060/2010

The above named is a PhD student at **Maseno University in** department of Special Needs Education. She is permitted to carry out research on **'Teaching and learning of English reading comprehension in secondary schools for the Deaf in Kenya: Implications on Academic Achievement.**

Kindly accord her the necessary assistance in order to accomplish the research.

DISTRICT EDUCATION OFFICER
MUMIAS DISTRICT
P.O. Box 352,
MUMIAS - 50102

Mukabi Thomas
DISTRICT EDUCATION OFFICER
MUMIAS DISTRICT.