SIGN LANGUAGE AND ENGLISH LANGUAGE USE:
EXAMINATION PERFORMANCE IMPLICATIONS FOR DEAF
STUDENTS AT KUJA SECONDARY SCHOOL, MIGORI
COUNTY, KENYA

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KENYATTA UNIVERSITY

AUGUST, 2014
DECLARATION

I Joyce A. Raga, hereby declare that this thesis is my original work and has not been presented for a degree in any other university.

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DEDICATION

I dedicate this work to my late father, Festus Raga and my mother, whose wisdom, encouragement and endless financial support have helped me reach this level of achievement. Great regard to my husband Philip Odero, children Johnpaul, Christine, Cyprian, Paschal and Constance, for their prayers, patience and emotional support throughout the trying period of my study.
ACKNOWLEDGEMENT

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Special thanks and appreciations go to Prof. Karugu and prof. mukuria, for having read and positively criticized this work to achieve the required standard. May I equally extend similar gratitudes to departmental chairperson, Dr. Mary Runo, who inspired in me a sense of quality and meaningful commitment to the success of my study.

I further recognize Anne (secretary, Special Education Department) and the entire staff of Kuja Secondary for HI, especially the Principal, Deputy Principal, subject teachers and students, for their support during data collection. Lastly, I honour and thank my mother, Lornah Raga, husband Philip Odero, my children: Johnpaul, Christine, Cyprian, Paschal and Constance, for their prayers, patience, encouragement and financial support at the time of study.
# TABLE OF CONTENT

DECLARATION .................................................................................................................. ii
DEDICATION .................................................................................................................... iii
ACKNOWLEDGEMENT .................................................................................................... iv
TABLE OF CONTENT ...................................................................................................... v
LIST OF TABLES ............................................................................................................... viii
LIST OF FIGURES ........................................................................................................... ix
ABBREVIATIONS AND ACRONYMS ............................................................................... x
ABSTRACT ....................................................................................................................... xi

CHAPTER ONE: INTRODUCTION .................................................................................... 1
1.1 Background to study .................................................................................................. 1
1.2 Statement of the Problem ......................................................................................... 4
1.2.1 Purpose of the Study ......................................................................................... 4
1.3 Objectives of the Study ............................................................................................ 5
1.4 Research Questions .................................................................................................. 5
1.5 Significance of the Study .......................................................................................... 6
1.6 Scope of the Study .................................................................................................... 7
1.6.1 Limitations ......................................................................................................... 7
1.6.2 Delimitation of the Study .................................................................................. 7
1.7 Assumptions for the Study ....................................................................................... 8
1.8 Theoretical Framework ............................................................................................. 8
1.9 Conceptual Framework of the Study ........................................................................ 9
1.10 Operational Definition of Terms ........................................................................... 12

CHAPTER TWO: REVIEW OF RELATED LITERATURE .................................................... 14
2.0 Introduction ............................................................................................................... 14
2.1 Grammatical Discrepancies between KSL and English ........................................ 14
2.2 Instructional Strategies used during KCSE examination preparation ..................... 18
2.3 Resources used During Instructions and Practices for KCSE Examination .......... 23
2.3.1 Human Resources .............................................................................................. 23
2.3.2 Materials Resources .......................................................................................... 24
2.4 Summary .................................................................................................................. 25
CHAPTER THREE: RESEARCH METHODOLOGY ........................................... 27
3.0 Introduction ......................................................................................... 27
3.1 Research Design ................................................................................ 27
3.1.1 Variables ....................................................................................... 28
3.1.2 Dependent Variable ....................................................................... 29
3.1.3 Independent Variables ................................................................. 29
3.2 Study Locale ....................................................................................... 29
3.3 Sampling Technique ......................................................................... 30
3.4.1 Sample Size .................................................................................. 31
3.5 Research Instruments ....................................................................... 32
3.5.2 Document Analysis ....................................................................... 32
3.5.3 Interviews ..................................................................................... 33
3.6 Pilot Study ......................................................................................... 33
3.6.1 Validity ......................................................................................... 34
3.6.2 Reliability ..................................................................................... 34
3.7 Data Collection Techniques ............................................................... 35
3.8 Data Analysis ..................................................................................... 35
3.9 Logistical and Ethical Considerations .............................................. 38

CHAPTER FOUR: RESULTS AND DISCUSSIONS ..................................... 39
4.0 Introduction ....................................................................................... 39
4.1 Demographic Information of the School .......................................... 39
4.2 Data analysis and presentation on Objective One ............................ 42
4.2.1 Language discrepancies experienced by Teachers in subjects areas 43
4.2.2 Language grammatical discrepancies experienced by Teachers ..... 45
4.2.3 Students’ grammatical writing pattern in subject areas ................ 48
4.2.4 Students’ experiences of Languages discrepancies ..................... 49
4.2.4.1 Data analysis and presentation on objective Two ..................... 51
4.2.4.2 Instructional strategies used in Geography Teaching ................ 52
4.2.4.3 Instructional strategies in English language ............................. 53
4.3 Instructional resources in classrooms for HI .................................... 55
4.3.1 Conditions of instructional resources in classrooms for HI .......... 60
CHAPTER FIVE:: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS 61

5.0 Introduction...........................................................................................................61
5.1 Summary of the Findings.......................................................................................61
5.2 Grammatical discrepancies between KSL and English .......................................61
5.3 Instructional Strategies for learners with HI..........................................................61
5.4 Instructional Resources Used to Address the Language Discrepancies ...............62
5.5 Conclusion ..............................................................................................................62
5.6 Recommendations ...............................................................................................63

REFERENCES .............................................................................................................66

APPENDICES .............................................................................................................74
Appendix I: Questionnaire for the Principal ..............................................................74
Appendix II: Interview Scheduled for the Principal .....................................................75
Appendix III: Interview Schedule for the Teachers.....................................................77
Appendix IV: Interview Schedule for the Students .....................................................79
Appendix V: Observation Schedule for Instruction and Learning Environment .........80
Appendix VI: Adapted KCSE Examination English paper 1 (2011) .........................81
Appendix VII: Sample Work of Students ..................................................................82
Appendix VIII: Sample Work of Students ..................................................................83
Appendix IX: Map Showing Position of Kuja Secondary School For HI .................84
Appendix X: Research Authorization Letter ..............................................................85
Appendix XI: Research Permit ...................................................................................86
LIST OF TABLES

Table 3.1: Target population and Sample size ................................................................. 32
Table 4.1: Number of students in form 4 ........................................................................ 40
Table 4.2: Teaching Staff by Gender at Kuja School ......................................................... 40
Table 4.3: Mean Grade Performance Trend in KCSE examination over the years at Kuja Secondary School for the Deaf (1999-2010) ................................................................. 41
LIST OF FIGURES

Figure 1.1: Relationship between Independent and Dependent variables and how they influence KSL medium of Instruction and English on performance of students with HI in examination................................................................. 10

Figure 4.1: Mean Performance in English and Geography (2006-2010).......................... 42

Figure 4.2: Sample of student’s written script................................................................. 44
**ABBREVIATIONS AND ACRONYMS**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>ASL</td>
<td>American Sign Language</td>
</tr>
<tr>
<td>HI</td>
<td>Hearing Impairment</td>
</tr>
<tr>
<td>HL</td>
<td>Hearing Loss</td>
</tr>
<tr>
<td>KIE</td>
<td>Kenya Institute of Education</td>
</tr>
<tr>
<td>KNEC</td>
<td>Kenya National Examination Council</td>
</tr>
<tr>
<td>KSDC</td>
<td>Kenya Society for the Deaf Children</td>
</tr>
<tr>
<td>KSL</td>
<td>Kenyan Sign Language</td>
</tr>
<tr>
<td>KSLRP</td>
<td>Kenya Sign Language Research Project</td>
</tr>
<tr>
<td>SOV</td>
<td>Subject + Object + Verb</td>
</tr>
<tr>
<td>SL</td>
<td>Sign Language</td>
</tr>
<tr>
<td>SNE</td>
<td>Special Needs Education</td>
</tr>
<tr>
<td>SSB</td>
<td>Sony Sugar Belt</td>
</tr>
<tr>
<td>TIQET</td>
<td>Totally Integrated Quality Education and Training</td>
</tr>
</tbody>
</table>
ABSTRACT

The study investigated the problem on poor performance by students with Hearing Impairment (HI) in Kenya Certificate of Secondary Education (KCSE) examination. Efforts had been employed such as the use of Kenyan Sign Language (KSL) as medium of instruction alongside English, the language of setting and writing examination. However, switching code from KSL to English by students with HI presented a problem during examination preparation and that continued to contribute to poor performance of students with HI in KCSE examination respectively. The problem of switching code from KSL to English on KCSE examination by students with HI had not been imperially investigated. This study investigated the impact of language switching code from KSL to English on students with HI in KCSE examination. The study was based on Noam Chomsky’s theory of language which describes language as a structure in the human mind and predicts the grammaticality of any given utterances. The study was carried out at Kuja mixed and Boarding Secondary School for the Deaf, Migori County in Nyanza Province, Kenya. The researcher employed qualitative case study design which involved in-depth investigation of the problem at hand. The researcher used triangular method of data collection named detailed interviews, participatory observations and document analysis. Participants for the study were drawn through purposive sampling. Target population of the study was 190 students and 22 teachers. A sample of 16 respondents participated in the study; 1 Principal, 5 teachers and 10 students. Data were analyzed by breaking and recording grammatical pattern of signed language and written KSL in smaller subheadings and was compared with English pattern in a note form. The study helped to explain the fact that students with HI perform poorly in KCSE examination due to KSL and English use in national examinations. However, the students with HI have learnt to survive through application of regional signs observed and learnt from parents, peers, teachers and the recommended texts. The study concluded that failure to implement the use of KSL during instruction as well as examination writing would continue to cause examination performance implications for students with HI in KCSE. The study recommends that KCSE examination content be written in KSL and ensure adequate interpretation of examination language for students with HI, to improve performance in KCSE examination.
CHAPTER ONE

INTRODUCTION

1.1 Background to study
In this chapter, the background to the study discusses the theoretical and conceptual frameworks guiding the study. In addition, the chapter covers the purpose, objectives and the significance of the study.

Education is a prerequisite for achieving national development. The success of education can be guaranteed for students through access to relevant, quality education and training opportunities to all Kenyan children (Republic of Kenya, 2005). In line with this the government has demonstrated its commitment to quality education by developing education policy that meets the demands of both local and international development goals. For example, the Kenya Government, through the Sessional Paper No. 1 of 2005 “A policy Framework for Education, Training and Research” has focused attention on education that is intended to meet the challenges of Kenyan children, especially taking into consideration the cultural and linguistic needs of the diverse Kenyan communities. This policy framework has borrowed heavily from Koech’s Report (1999) on education, referred to as the “Totally Integrated Quality Education and Training (TIQET)”. The policy implementers have also incorporated ideas from the Task Force report and recommendations of educational services that cater for individuals with Special Educational Needs (SEN) (Kochung, 2003).

Language educations in Sub-Saharan African countries such as Nigeria, South Africa, Tanzania and Kenya have laid greater emphasis on the use of foreign languages in their education systems. The use of English language has, to a large extent,
contributed to the poor performance of students in national examinations (Brock-Utne & Hopson, 2005). Emphasis on the use of English for education in Africa historical originated during the colonial period of Europe’s scramble for power in Africa. In Kenya, speaking English is regarded as high social status and avenue to white collar jobs. (Momanyi, 2009) points out that however, English being the official spoken language and medium of instruction for education in Kenya did not consider other native communities, who require Sign Language (SL) as a means of communication, interaction and instruction in their education system (Ongechi & Ongechi, 2002). However, as the challenges in educating deaf students become a reality, SL has been recognized and mediated as the language of the Deaf Community in Africa that has grammatical structure distinct from spoken English and Kiswahili.

Kenya Sign Language (KSL) was developed from a complex spatial grammatical structure related to size, shape and position of things in relation to objects in space (Gargiulo, 2006). KSL has a complex grammar which was adopted from American Sign Language (ASL) by most Sub-Saharan African countries, namely; Tanzania, Uganda and Kenya, hence its significant difference from the spoken language such as Kiswahili and English. It is a language of the deaf community in Kenya that was adopted by Kenya Institute of Education (KIE, 2004), to be the medium of instruction, in the schools for the deaf, and later on as an examinable subject. This was hoped to enhance academic performance of students with deafness at secondary school level (KIE, 2008).

The terms “deaf” and “hearing impairment” (HI) may be used interchangeably to describe the health condition of hearing. The condition of a degree of severe Hearing
Loss (HL), that may not allow sufficient hearing ability to support linguistic processing information through hearing with or without amplification, without special instruction to support academics ranges from 91dB and above (Quigley, 1999).?

The language was developed to enable learners with HI acquire relevant linguistic information processing for education and interaction purposes. However, it is important to note that, KSL as in American, French and British Sign Language, have the same grammatical structure and rules as that of other native spoken languages like Mother Tongue and Kiswahili. KSL was thought would be viable in providing relevant and appropriate education services to students with HI in secondary education system (Friend, 2009).

It KSL was advocated for as a national language of instruction alongside English language to facilitate educational activities of students with HI (Ndurumo, 2009). Despite the efforts to improve the academic standards of students with HI, performance is still dismal (Bunyasi, 2010). Lewis (2009) in the article report of Kenya National Examinations Council (KNEC, 2009), reveals some language discrepancies used in the educational activities of students with HI. Table 1.1 illustrates how learners with HI performed in KCSE examinations at Kuja Secondary from 2005-2010.

**Table 1.1: Mean grade performance in the sample subjects of KCSE examination results for the last five years**

<table>
<thead>
<tr>
<th>Variables</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSL</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>7.95</td>
</tr>
<tr>
<td>English</td>
<td>1.5</td>
<td>2.5</td>
<td>2.4</td>
<td>3.5</td>
<td>3.05</td>
</tr>
<tr>
<td>Geog.</td>
<td>1.43</td>
<td>2.89</td>
<td>1.96</td>
<td>2.46</td>
<td>1.38</td>
</tr>
<tr>
<td>CRE</td>
<td>1.75</td>
<td>4.8</td>
<td>5.8</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>
Table 1.1 which was obtained by the researcher from the school administration shows mean grade performance of students with HI in KCSE previous examination results for the last five years. It shows mean scores in sampled subjects since the year 2006 to 2010. Take for example; English score was 1.5 in 2006, 2.5 in 2007, 2.4 in 2008, and 3.5 in 2009 and 3.05 in 2010. That means, there was steady improvement in English performance. Some adjustments were done in English content where articulation of sound discriminating of words were removed and replaced by KSL illustrated pictures as shown in appendix VI. The table also displays performance in sampled subjects before KSL was introduced as an examinable subject and in the year 2010, after KSL was implemented as an examinable subject as well as medium of instruction. However, table 1.1, indicted higher mean scores in KSL as compared to mean scores in other sampled subjects such as Geography and CRE, even though KSL appears for the first time. Geography and CRE were sampled as social and bulky subjects in contents, which require a comprehensive explanation when responding from texts to written texts during examinations. The researcher carried out investigation to determine whether they contributed to poor performance in KCSE.

1.2 Statement of the Problem
The medium of instruction for learners with HI in Kenyan schools is Kenyan Sign Language although the national examination is set and done in English language. Switching between KSL to English during examinations is likely to present a challenge to learners with HI during examination and may contribute to poor performance. Yet this practice is followed even though learners with HI perform dismally in national examinations. The effect of language switching during examinations has not been empirically investigated in spite of learners with HI being
likely to experience examination challenges. This study investigated the discrepancies that impact on students with HI when switching code from KSL to English during national examinations. This is important as the discrepancies may have an adverse effect on performance of students with HI in national examinations.

1.2.1 Purpose of the Study
The purpose of this study was resulted to when students with HI switch from KSL to English during examinations with a view to establishing the discrepancies on students’ performance in national examinations.

1.3 Objectives of the Study
The study focused on the following objectives:

i) To establish language discrepancies between KSL and English on performance of students with HI in KCSE examination.

ii) To determine the instructional strategies that teachers used to harmonize the language discrepancies when preparing students with HI for KCSE examinations.

iii) To establish instructional resources teachers used in addressing the language discrepancies during preparation for KCSE examination.

1.4 Research Questions
The study was guided by the following research questions:

i) What were the language discrepancies between KSL and English that affected performance of students with HI in KCSE examination?

ii) How did teacher’s’ instructional strategies facilitate students’ language discrepancies between KSL and English when preparing students with HI for KCSE examination?
iii) What instructional resources did teachers use to address the language discrepancies during practice for KCSE examination by students with HI?

1.5 Significance of the Study
Significant of the study is for the knowledge and in-depth understanding of the existing discrepancies between KSL and English that lowers performance of students with HI in KCSE examinations. These discrepancies have been left to persist even as it is clear that they are likely to contribute to under performance of students with HI in written examinations in Kenya. The data generated from the study may assist teachers and implementers to come up with appropriate language use and strategies that may be used to facilitate and enhance performance of students with HI in KCSE examination. The study findings may also be used to create a fair competitive environment for students with HI in academic performance. The study is hoped to give scholarly contribution towards highlighted language discrepancies that requires harmonization to bridge the gap to improve performance of students with HI in KCSE examination.

It may also serve as a source for creating awareness between the students, teachers and communities to appreciate the needs of students with HI and provide them with appropriate language and specialized instructional strategies and resources, that may enable them to perform effectively in written examinations. The findings may further be used by the government to find the need to invest greatly in education for students with HI, by influencing future training of teachers in specialized skill areas, to effectively and relevantly use KSL and English to prepare students with HI for written examinations. This study also exposed educational injustices faced by students with HI during National Examinations.
1.6 Scope of the Study
The study was restricted to establishing issues related to language discrepancies between KSL and English on KCSE examination performance by students with HI, at secondary schools in Kenya. The study also captured instructional strategies and resources used by teachers and students with HI during preparation for KCSE examination. The study singled out only Kuja Secondary School for the HI in Migori County, Nyanza Province, Kenya to represent all the schools for HI in Kenya. That was because the school was gender-balanced with both students with HI and teachers from all over the country, who are likely to provide relevant, adequate and reliable information that represented the province.

1.6.1 Limitations
Limitations of the study ranged from lack of adequate response by the respondents who were not willing to release certain information due to communication problem. Sampling procedure was not adequately arrived at as was expected, due to lack of gender balance in form 4R. The administration was also in releasing certain information due to some security reasons and confidentiality, especial from the previous KCSE results. Inadequate availability of finance was also a limitation in the study. Another impediment was limited language for self-expression by some students.

1.6.2 Delimitation of the Study
Delimitation of the study ranged from adequate response by some of the respondents such as administrator who was fully willing to release the information required. Availability of gender balance with adequate provision of appropriate information by one of the form four classes; 4B also boosted the study.
1.7 Assumptions for the Study
i) Students with HI perform below average in KCSE examination due to the discrepancies encountered between KSL as a medium of instruction and English as a medium of examination during written examination practice.

ii) Majority of teachers in secondary schools for students with HI are not adequately equipped with specialized KSL skills, to provide appropriate instructions strategies by simultaneously using KSL and English to students with HI for KCSE written examinations.

iii) The study assumed that due inadequate provision of specialized modern technological instructional resources to secondary schools for students with HI, performance in KCSE examination is always dismal.

1.8 Theoretical Framework
The theoretical framework of the study was based on Noam Chomsky (1995), which hypothesizes language as a Child construct rules of structure of grammar in the mind. It makes a complete model of the inner language pattern and predicts the grammatical order of a given utterance. This theory of Noam Chomsky (1995) was based on a modern theory of language that explains the relationship between grammatical structures in different languages and their different uses for examination performance. (That is to predict whether or not the language structures developed for a particular language utterance, would sound correct to the speaker and the listener). The grammatical structures of KSL and English work differently as based upon the constituents’ structure rather than the communicative structure. This theory is a categorical grammar approach that attributes to the language sentence structure, constructed by a rule that combines a noun phrase and verb phrase (S-NPVP). Noam
Chomsky’s theory has drawn further support from research on theories exploring the cultural nature of human development, which explains the integration of individuals in socio-cultural and historical context that mediates for a constructive meaningful world according to (Rogoff, 2003).

1.9 Conceptual Framework of the Study
An attempt was made to investigate the possible instructional and practicing strategies, to bridge the discrepancies between KSL and English as languages of instruction and examination in developing conceptual framework of this study.

Figure 1.1 exhibits the major variables in the conceptual framework which encompasses the discrepancies and possible pattern that influence performance of students with HI in KCSE examination as shown.
Figure 1.1: Relationship between Independent and Dependent variables: KSL medium of Instruction and English and their influence on performance of students with HI in KSCE examination

Source: Researcher’s own Adaptation

The researcher’s own adapted conceptual model shown in Figure 1.1 portrays the influence of grammatical discrepancies between KSL and English; independent variables on performance of students with HI. Discrepancies between languages of instruction and examination exhibit difficulties during instruction by teachers and practicing skills of students with HI when preparing for KCSE examination.
Some of the pedagogical attributes such as harmonization of grammatical discrepancies between KSL and English may create unbiased instructional and examination environment. That may as well create improved performance in curriculum subjects, hence improved performance in KCSE examinations. Harmonization of the discrepancies in language codes and structure between KSL and English with flexibility are the independent variables. Teachers’ instructional strategies and resources are also the independent variables. Improved Receptive and Expressive skills as well as performance in KCSE examination by students with HI are the dependent variables. Modified instructional and examination strategies and environment as shown by arrows, may improve performance of students with HI in KCSE examination. Similarly, use of modified/ modern technological devices, professionally qualified teachers and KSL Interpreters during examination practice, were the independent variables which may lead to improved examination performance which is the dependent variable. Finally, the grammatical discrepancies; dependent variables between KSL and English may interact with intervening variables; language policy, socializing strategies, school instructional environment and curriculum subjects were independent variable that could improve receptive and expressive performance of students with HI for better performance in KCSE examination. All these variables interact with each other as shown by arrows to influence the behavior over the dependent variables which are the outcome performance of students with HI in KCSE examinations, hence need for investigation.
1.10 Operational Definition of Terms

**Code switching:** This is the transfer of language codes with different grammatical structures and flow from one language to another.

**Discrepancies:** These are difficulties encountered when using more than one language at the same time and have different grammatical structures. The difficulties are experienced in both receptive and expressive signing and spoken language. Problems are also encountered during written examinations which may to a halt or slowness during instruction and learning practice. This may be due to differences between grammatical structures of KSL and English used for instruction and written examination.

**Glossed:** This is the way KSL as a subject is written in capital letters by students with HI.

**Instruction:** These are skills or methods applied by professionally qualified personnel such as teachers, to impart knowledge, skills and attitude to learners.

**Language discrepancies:** These are difficulties experienced between the use of languages with different grammatical structures: KSL (language of instruction) and English (language of examination), which are simultaneously used for examination performance in the schools for students with hearing impairment.

**Language of examination:** This refers to English which is used as the language to facilitate academic activities and examinations across the curriculum in Kenya.
**Language of instruction:** This is the signed system of language used in the schools of students with HI as a medium of instruction and interaction, during instruction and learning practice by teachers and students with HI.

**Performance:** This is the outcome variable realized in examination performance by students with HI.

**Strategies:** Carefully planned actions during instruction and learning practice to deal with discrepancies of languages between KSL and English for KCSE examination performance, by students with HI.
CHAPTER TWO
REVIEW OF RELATED LITERATURE

2.0 Introduction
In this chapter, the researcher discusses related literature on issues of language discrepancies and language policies in relation to decisions about language of instruction and examination. The literature is organized according to selected themes capturing the variables formulated from the research study questions. Highlights have also been provided on literature existing globally, Africa and in Kenya on language instruction for students with HI.

2.1 Grammatical Discrepancies between KSL and English
In most parts of African the use of foreign languages in teaching has generally contributed negatively to students’ academic performance in national examinations. (KIE, 2004) pointed out that poor performance of students in African schools will continue as long as English is the medium of instruction in classrooms. A study in Tanzania supported the use of home language in ensuring effective education system as pointed out by Brock-Urtne (2007) reviewed by Ng’asike (2010). According to Ngugi (1986), emphasis on English language use was as a result of the colonial language policy that declared English the official language to be used in all important government sectors including education, when Kenya attained self-rule in 1963.

The Ministry of Education took several steps in line with language policy survey mounted by Kenya Education Commission in 1964, to establish the interest of her citizens about language policy implementation, especially in relation to mother tongue, English and Kiswahili, for educational activities (Ongechi, 2005). With regard
to language use, Kiswahili was most preferred for the purpose of national and regional unity, while English was to be used for instructional purposes in the curriculum. Mother tongue was to be used in lower primary classes. This linguistic situation became a frustrating experience to learners with HI, who require visual means of signed system of communication in the education. Policy-makers recommended persuaded a triangle approach of mother tongue, English and Kiswahili, in regard to the development of curriculum without special regard to sign language (KNEC, 2009).

On one hand, Kiswahili was supported as the official language for communication in public schools by the Ministry of Education; while on the other hand, it was criticized as localization of language in secondary schools (KIE, 2004). English and Kiswahili were most preferred over SL for instructional purposes irrespective of its users, resulting in steady deterioration of the education sector in the developing countries due to neglect of cultural language instruction (Ng’asike, 2010).

Several policy changes were later made, recommending the development of KSL as a medium of instruction for students with HI. However, English continued to be used in the education development policy of language in Kenya (KSDC, 2000). KSL structure is different from English structure, as the spoken language and as the medium of instruction, following the influences upon which majority of early educators in SL for students with HI got their background training.

The challenge is that in KSL grammatical structure, context and principles are not embedded in English grammar pattern (KIE, 2008). It uses visually transmitted pattern of manual communication, body language and lip movement to receive and
express meaning simultaneously, with combined shapes, orientation, and movement of arm and facial expression (Yule, 1995) which is not found in English grammar that is used as the language of examination in Kenya even for students with HI.

Grammatical structure of English is different from KSL in that, it is designed in both modern and traditional terms derived from Latin and Germanic origin, making it different from KSL grammar origin. KSL grammar origin is designed according to shapes of objects in the space, concepts formation, policies and principles formulated by indigenous ideology of the region. This causes discrepancies between KSL and English which may have a bearing on performance of students with HI in KCSE examinations (Obanya, 1980). Since each language would be addressed upon the influence of its origin, their uses on written examination performance would also be influenced by original design (KIE, 2008). Despite the efforts made by teachers to raise the academic standards of HI learners in secondary education, performance in KCSE examination is still dismal (KIE, 2004; 2008).

Bunyasi (2010) conducted a study on “Relationship between Self-esteem and Academic Achievement of Girls with HI”. The study purposively sampled fifty-three girls with HI from two schools in Central and Western provinces respectively, as the only secondary schools with HI that provided an academic secondary curriculum in the country. The data was collected using three types of questionnaires. One was an adaptation from Rosenberg’s self-esteem scale which inquires about the feelings, motivations, attitudes, accomplishments and experiences of individuals. Her research findings revealed dismal academic performance of girls with HI despite high self-esteem rating and teachers’ lack of proficiency in KSL. The study is different from
the current study which focuses on the grammatical discrepancies between KSL and English that interfere with teachers’ skills of instruction and students’ receptive and expressive ability to participate in activities that enable them to prepare for KCSE examination.

Kamonya (2008) carried out a study on factors hindering teaching and learning activities for students with HI at secondary school level. The study sampled eighty-seven respondents out of one hundred and ninety target population. The study adopted a diagnostic descriptive design, where the findings revealed that most teachers were not conversant with KSL, while students preferred KSL for interaction purposes outside classroom situation. The study findings by Kamonya (2008) concur with Bunyasi (2010). Okombo (1994), however argues that KSL sentence structure directly follows that of most of African native language, hence the difference from that in English grammar.

For example, KSL structure follows language pattern: Subject + Object + Verb (S+O+V), which is written in capital letter known as “glossed “. Glossed is the way KSL as a subject is written in capital letters, which is distinct from English written language pattern. English is written in small letter as in ‘where are you going?’ which is also the normal pattern of examination writing. Wamae (2003), also points out that KSL has grammatical flow with sentence structure different from English. Wamae (2003) further argues that, KSL sentence structure is written in capital letters and ignores axillaries that form the basis of writing in English language grammar pattern.
KSL subject pattern – Subject + Verb + Object (SVO) written in capital letters, distinct from written language pattern in English which may not be applicable to KCSE written examination for example:

KSL; PEOPLE GREET HOW, MILK CAT DRINK (S + O + V),
ENGLISH - How do people greet?
A cat drank the milk.

Gaulla (1991) and Yule (1995), argue that persons for whom English is a second language may naturally transfer the sound influences from their mother tongue to new form of speech, as in the grammatical differences between KSL and English. KSL is the mother tongue language of children with HI in the deaf community. It is also the medium of both interaction and instruction between students with HI in the community and at school. The grammatical pattern of KSL therefore follows that of any other mother tongue language pattern of every community, hence distortion the in grammatical pattern of English. Akatch (1991) examined grammatical pattern in English and the effects in English subject, which did not include the effects on all the examinable subjects. Okombo (1994), in his study of attitudinal issues in evolution of language community observed negative attitude of teachers, towards the use of two languages regarding KSL. However, KIE (2004), notes of language should be maintained to promote consistency in both receptive and expressive language pattern.

2.2 Instructional Strategies used during KCSE Examination Preparation
These are the methods used by teachers in preparing students with HI for KCSE examinations. Students with HI are exposed to a number of strategies that are meant to get them ready for written KCSE examination. These strategies included;
harmonization of language discrepancies that were used to bridge the gaps between KSL and English language. It also involved switching from one language to another with flexibility, generation and explanation of language-related concepts by use of modern technological devices (Brock-Utne & Hopsons, 2005). It may also include students practising activities of listening to receive for encoding/comprehension and reading/interpret in writing/signing to decode for expressive skills (McCarty, 2009).

Various studies have been carried out to establish strategies employed by teachers in providing education services to students with HI during instruction and examination. Instructional strategies require techniques that encompass the four basic skills of language; listening, speaking, reading and writing. These strategies of using four basic skills of language does not follow similar language pattern for both KSL and English. Kenyan Sign Language has visual and manual system of language pattern, and English follows the spoken language pattern during instructional practice.

Grammatical structure in KSL misses out listening and spoken language skills as it lacks discrimination of sounds through articulation, of the language skills used during receptive and expressive language. All the four basic language skills are not utilized fully during instruction and learning practicing of students with HI. KSL, being the medium of instruction in schools of students with HI encompasses three basic language skills of listening, reading and writing.

Rogoff (2003), challenging the development of language policy in Kenya, argues that there is mutual relationship between individual development and culture. This means that even the deaf culture, visual and manual means of communication should be
considered in developing language policy for instruction, education curriculum and for examination purposes.

Ngasike (2010), in the study of Turkana Children in Social Cultural practices and Science Curriculum and Instruction in Kenya, emphasized the use of mother tongue and cultural experiences to enhance understanding of science during instruction. The study reveals very active participation and better examination performance by learners when instructed and given examination in mother tongue. The study in Ng’asike (2010) concurs with Brock-Urtne (2007), in Tanzania where Kiswahili is the mother tongue and language of instruction and examination. Teaching was organized and carried out using two different languages; Kiswahili and English. It was to compare teaching of science while using Kiswahili and English in secondary schools in Tanzania, to determine the most appropriate language for examination. The finding revealed that students who did examination in Kiswahili performed better than those who did in English according to Brock-Urtne (2007).

Previous studies conducted by various researchers revealed various instructional techniques employed in the education of students with HI to overcome academic constraints. Mukangu (2008) conducted a study on teaching methods, learning resource and utilization strategies by teachers and learners to identify instructional resources and their pedagogical constraints to teaching social studies at Kerugoya School for Learners with HI. The study targeted a population of 160 respondents and sample size of 88 respondents.

His study finding revealed the use of prompting questions and answers, discussion and demonstration as the most preferred techniques by teachers when responding to
practically signed concepts. Students were later asked to do the same in turn. The study further revealed that techniques such as project work, guest speakers and field trips were the least preferred due to lack of adequate facilities and resources, funds, confidence in using SL interpreters and time for syllabus coverage.

Okombo (2008) also conducted a study on the effectiveness of the assessment strategies used on students with HI for examination performance. The findings revealed doubts about the effective of assessment strategies that both teachers and students required in KSL skill for academic purposes. It also points out the complicated use of language after school depending on the grammatical mismatch in KSL and English. Adoyo (2004), in the study on techniques used by teachers to teach students with HI in schools of students with HI, revealed incompetence in the use of KSL to deliver quality education services. Bunyasi (2010) also carried out a study to establish teachers’ competence by using KSL when teaching students with HI at secondary school level. The findings revealed teachers’ incompetence in handling subjects by use of KSL, hence low performance. Whereas, the current study investigated about the discrepancies between the use of KSL and English, since both languages are simultaneously used for examination purposes. The current study revealed about discrepancies between simultaneous use of KSL and English by students with HI, hence lowered examination performance.

Ivanda (2010) conducted a study on effects of Captioned Television on instruction of learners with HI at Karen Technical Training Institute for the Deaf (KTTID) in Nairobi. The study targeted a population of 204 respondents and sample size of 78 respondents; teachers, learners and media. The researcher used purposive sampling
The findings indicated instruction strategy of captioning which involves reading as an essential skill for understanding captions and by extension and comprehending the script of the programmes. It also revealed the skill of reading process that involves an applicable knowledge base, memory process and linguistic adequacy with a word based language. The study further revealed the required skill of spoken language in KSL, English and Kiswahili for mastery to conceptualize knowledge and memory constraints for literacy (Skutnab, 2001). The caption content was the most preferred as an effective strategy for communicating the desired information. The study revealed the caption techniques of teaching which mainly involved applicable knowledge base, memory process and linguistics. The current study revealed discrepancies between KSL and English which may not allow captioned strategy as the most preferred in the previous study, as it involved speech which does not work well between the use of KSL and English during instruction.

Levit (1985) also explored some of the educational opportunities offered concurrently with advance technological devices such as computers, video-tapes, phones and so on during instruction. The findings indicated the danger faced by teachers of the deaf during instruction by not being able to incorporate these advances into their daily routine. That training given to teachers did not effectively prepare them to work with the new generation of special adaptive instructional materials.

Adoyo, (2002) in the study of Emergent approaches towards the use of signs of bilingualism for the education of the deaf in Kenya, indicated the need for bilingualism approaches, which involves the use of every means of communication to enhance education of students with HI as it was required in the current study.
2.3 Resources used During Instructions and Practices for KCSE Examination

There are two broad categories of resources which were being used during instruction and learning practice by students with HI for examination purposes according to the related literature. The resources are both human and material categorized; human support staff and visual aids/assistive advance technological devices used during, before and after instruction and learning practices, for examination performance.

2.3.1 Human Resources

Human resources, such as teachers, Sign Language Interpreters (SLI), auxiliary/support staff, teacher aides, Physiotherapists, psychotherapists and Speech therapists and so on, are the human resource support. Lack of adequacy in any one area of these resources will interfere with performance during instruction and learning practise, hence inadequate preparation by students with HI for KCSE examination.

Bunyasi (2010) carried out a study which reveals insufficient training skills and qualification by teachers of students with HI as part of human resource in two schools of two provinces. One school in Central Province reveals one teacher with masters’ degree in education, fourteen with bachelor of education and three with diploma in Special Needs in Education and only one untrained teacher, out of twenty teachers. This means that there was not enough human resource support in most schools of students with HI, to give instructions according to the learning demands of students with HI. It also revealed that teachers lack sufficient training skills to manage instructional strategies in the schools of students with HI for KCSE examination performance, as confirmed in the current study.
2.3.2 Materials Resources

Material resources include instructional resources such as modern technological devices such as electronic communication system, closed circuit televisions and induction system which may be applied in the examination situation. The resources could help in reinforcement of concept understanding during instruction and examination activities (Scherer, 2002).

Material resources such as Visual aids/reallia (computer, video-recording), were used together with human resource to support instruction and learning practice. The resources were used by observing and manipulating support materials/aides and devices as well as interpretation of information through a well and carefully designed programme, as that of Social Cognitive Theory of self efficacy (Pajasre, 2002). This programme was used as a framework to explain how people acquire and maintain certain behaviour patterns, through human and material resource support. Both human and material supports were applied during the type of instructional strategies to provide this framework for effective implementation and evaluation of the programmes (Bandura, 1997).

Research conducted by Mukangu (2008) reveals that textbooks, atlases, wall maps of the world and teacher improvised aids are the most commonly used material resources as teaching and learning aides during instruction in schools of students with HI. Mukangi (2008) carried out a study on the use of Videos in teaching the deaf. The study findings revealed that deaf students who were exposed to Video Clips showed more confidence and independence than those who were not. This shows that resources of this nature (video clips) play more important role in instructing the deaf learners as they practise and prepared for examinations.
Okombo (2008) in Kenyan Sign Language Research Project (KSLRP), observes a range of resources for use in schools for students with HI and maintains that resources can be developed in various categories for use with KSL. The study points out that these resources would provide effective means of instructing learners with HI together with the use of KSL, through various opportunities of learning practice.

The following were some of the categories in which KSL was developed to provide opportunities for instruction and learning practice, depending on the appropriate function of each category. Some of the categories through which KSL was developed for specific function are: a) medium of instruction, b) Subject, c) Means of providing stories for enjoyment in KSL through video recording, d) reference resources such as maps, charts, KSL textbooks and illustrated dictionaries. The study also indicates that instruction and learning practice of this nature provides opportunities for learning the concepts appropriately depending on each category. This means of categorization provided minimal chances of confusing and mixing information during instruction and learning practice. On the other hand instruction and learning practise of this nature provided opportunities to improvise for some of the resources which could not be adequately available as required. The finding conforms with Bunyasi (2010) who observed and established inadequacy of assistive devices in Kenyan schools for learners with HI due to lack of spare parts.

2.4 Summary
The literature review focused on the studies which were related to the current study on the Discrepancies between KSL and English, instructional strategies and resources on performance of students with HI in KCSE examination. The aim of the literature
review was to pursue the evidences that would be critical in arguing out the existing discrepancies between KSL and English, on performance of students with HI in KCSE examination. The literature pursued the argument based on the framework of cultural language to be used for instruction as well as examination performance. The argument about literature review is on persistent poor performance of students with HI in national examinations long as English continues to dominate the process of instruction and examination. Poor performances of students with HI in KCSE examination are equally language-based discrepancies that exist between KSL and English Brock-Urtne (2000).

Both language of instruction and examination reflects the thinking of language policy-makers based on both modern and traditional Latin and Germanic origin, which is different from KSL grammar origin, base on cultural objects and shapes on space (KIE, 2004 & 2008). The reviewed literature indicated poor performance by students with HI due to language congruent between KSL and English in KCSE examination.
CHAPTER THREE
RESEARCH METHODOLOGY

3.0 Introduction
This chapter describes the research methodology that was used in study. The study variables are presented in the chapter as well as the location of the study and the target population. The chapter has used qualitative research design. It has also discussed procedures for sampling and sample size together with data collection methods and instruments. The procedures for selecting the area for pilot study are provided. Validity, reliability and data analysis are addressed and finally logistical and ethical considerations are outlined.

3.1 Research Design
The researcher used qualitative case study design. This design involved multidisciplinary data collection procedures focusing on the Kuja secondary school for the HI. Naturalistic observation was used when collecting data (Orodho, 2005). The naturalistic observation focused on establishing the discrepancies that compromised performance of students with HI during actual instruction and learning situation. The researcher spent forty minutes long in every class that was sampled for observation in classroom instruction. Teachers and students were also interviewed at Kuja mixed Secondary School for students with HI.

The choice of research design enabled the researcher to discover how independent variables: KSL and English discrepancies and outcome (improved performance) variable: dependent variables interacted, together with intervening variables to affect performance of students with HI in KCSE examination. The research questions that guided the study were
1) In what ways do grammatical discrepancies between KSL and English affect performance of students with HI in KCSE examination?

2) How do teachers employ instructional strategies to facilitate code-switching from KSL to English during student’s preparation for KCSE examination?

3) Which are the instructional resources employed to address the language discrepancies between KSL and English during instruction and practice of students with HI, for KCSE examination?

The study targeted all students with HI, teachers and the Principal of Kuja Secondary School for the HI. The target population of 207, 16 participated in the study. 190 students were targeted but only 10 students were sampled from form four. They were the ones who understood the complexity of using KSL and English for instruction and examination practise involved. 16 teachers were also targeted but only 5 who were teaching the sampled subjects were selected and the Principal who was sampled to provide necessary school administrative information. Documents of previous KCSE examination results from the school records and student’s progress records of work were also analyzed.

3.1.1 Variables

A variable is a concept that stands for a variation within a group of objects of study with the characteristics, showing variability or variation of value or trait in an observation (Orodho, 2009). It can further be classified as independent or dependent variable, depending on the function they serve in the experiment.
3.1.2 Dependent Variable
These are the predictor variations which are the outcome variables established as a result of manipulated and measured independent variables (Trochim, 2002). In this study, Instructional strategies; test construction/ administration, assessment/ evaluation and grading techniques. Finally, improved performance of students with HI in KCSE examinations were the outcome dependent variables.

3.1.3 Independent Variables
These are the variables that are manipulated, controlled and measured under conditions of dependent variables. For example; in this study, the independent variables were the language discrepancies between KSL and English.

3.2 Study Locale
The study was conducted in Kuja, which is a Mixed Secondary School, for the Deaf established in 1989 in Migori County of Nyanza Province, Kenya. Following the scarcity of secondary schools for the deaf in Kenya, it was deemed necessary to start an institution of such kind at the sited location. This was so due to economic viability of the location, contributed by Sony Sugar Belt (SSB). The school was selected among the secondary schools for the deaf in Kenya to be a representative of the required target and sample population of respondents in terms of gender, accessibility and a mixed secondary school for the HI. The study targeted all students with HI, teachers and the Principal of Kuja Secondary School for the Deaf. The total enrolment in the school was 190 students. The school had 16 teachers with 30 BoM members and 26 non-teaching staff. A total population of 207 was targeted, but only 16 participants responded to the study. Performance ability of students with HI in both receptive and expressive language in KSL and English as well as examinable subjects
were also targeted. A total of 54 students with HI in form four Blue (B) and Red (R) were targeted.

3.3 Sampling Technique
Purposive sampling technique was employed at Kuja Secondary School for the Deaf in Migori County, to sample the participants who were knowledgeable enough to give the information which the researcher wanted to find out in a study. As it comprised population of students with HI who’s medium of instruction was KSL and English for writing examination, were also purposively sampled for the study. The principal was also purposively sampled to provide necessary rich information for the study since he was the administrator, actively involved in management, disbursement and purchase of the resources for facilitation and monitoring of quality provision of academic services in the schools of students with HI.

In the school, purposive sampling technique was used to sample all the form four boys and girls. The class was divided into two streams; form 4B and 4R. The researcher took two hours interacting with the students from each class to come up with students who could understand the language of the subject matter. 12 students from 4B and 8 from 4R were select. The researcher further sampled 5 students each from every form four class to come up with 10 students as the required sample for the study. The researcher sampled 2 girls with 3 boys from 4B and 3 girls with 2 boys from 4R by writing 5 “Yes” and 5 “No” secret ballot papers for each of the selected girls and boys to pick. All the yes responses were sampled for the study, while no responses were left out, making a total sampled population of 10 form four students. The researcher considered gender equity and the students who were able receive and express themselves well in KSL and English simultaneously to give the information
required for the study. 5 teachers who were teaching KSL, English, CRE, Geography and KSL/Chemistry were also sampled as the teachers of the examinable subject to participated in the study. Each subject was sampled according to its relationship with KCSE examination as in KSL and English that were simultaneously used for instruction and writing examination. CRE was sampled as social and best performed subject and Geography as social and worst performed subject as well as subjects which requires comprehensive explanation of writing during examination. That was to find out what contributed to that performance in KCSE examination. Chemistry was also sampled as a science subject with persistent poor performance and bulky in content. That was also to determine the cause to the discrepancies in at least a science subject that requires comprehensive response to answering written examinations respectively. It was hoped that the selected sample would provide adequate data for the study; that focused on the language discrepancies between KSL and English that may affect performance of students with HI during instructional learning when preparing for KCSE examination.

3.4.1 Sample Size
Gay (1996) proposes that 10 per cent of accessible population is adequate to serve as a sample. This comprised a sample population of 16 respondents as indicated in table 3.1.
### Table 3.1: Target population and Sample size

<table>
<thead>
<tr>
<th>Subject</th>
<th>Target Population</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Principal</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Teachers</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Students</td>
<td>86</td>
<td>104</td>
</tr>
<tr>
<td>Total</td>
<td>96</td>
<td>111</td>
</tr>
</tbody>
</table>

3.5 Research Instruments

The research instruments developed for the study were three: interviews, observations and documents analysis. The choice of the instruments was necessary since the study was a case study design that required detailed information from a natural classroom setting. The researcher constructed research instruments that involved in-depth investigation to the problem that ensured credibility of the findings. The researcher also did content analysis of examination scripts, teacher’s professional records, syllabuses and textbooks. This method is a combination type of data collection used to avoid response and information biasness, ensures validity, reliability and information accuracy, since all the sample population are given equal chance of response to the questions in the questionnaire independently (Oppenheim, 1992). There was another self-made questionnaire to seek for bio-data of the subjects and other school attributes.

3.5.2 Document Analysis

The researcher also looked at the syllabuses, the textbooks, teacher’s professional records and resources, examination scripts and previous KCSE examination results
from the school records of the last five years and also went through samples of local examination scripts of students to find out how much they get prepared before they write their KCSE examination.

3.5.3 Interviews
During the interview, the researcher adapted interview technique from Wolcott (1988) and Seidman’s (20045) focusing on interviewing methods related to human nature in the fieldwork practice. The researcher opted for a participant’s longer time interview and repeat with different participant at different times to ensure effective understanding of the complex nature of the discrepancies between KSL and English, teacher’s instruction and students practicing strategies and resources used. The researchers involved in-depth investigation that focused on their receptive and expressive skills of signing, writing and question/answering techniques during KCSE examination preparation. The interview was done face-to-face, although the principal and the teachers had very busy schedules.

3.6 Pilot Study
The study was pretested at ST. Angelas Mumias Secondary Vocational School for the Deaf Girls, which is a mixed institution for both academics and vocational training activities before embarking on the main study. Robson (1993) points out that piloting helps in ensuring the confidence, appropriateness of the item construction, reliability, validity and obstacles that may affect the actual useful data collection. It ensured appropriate use of ethical language in both questionnaires and observation schedule. 10 students from form four were sampled and participated in the pilot study. The data was collected, analyzed and the findings were used to guide the researcher in
adjusting the research instruments whenever it was necessary. In summary, the pilot study helped to evaluate validity and reliability of the research instruments.

3.6.1 Validity
The content validity was assessed by carrying out a pilot study to check whether the instrument measured what it was designed to measure and ascertain the trustworthiness and credibility of the measuring instrument. The researcher adapted the techniques proposed by Creswell and Miller (2000) in the article “determining validity in qualitative inquiry,” to make necessary improvement for accurate information feedback. The researcher ensured validity of the instrument by revisiting the data and making necessary adjustments as soon as possible before releasing the interviewee when everything was fresh. A note book of recording narratives while still with the respondent was used to ensure validity by probing the participant to ask for more details or seek clarification of data information that was not clear. It was easier to record and analyze the data immediately as the researcher was working with the principal, teachers and students who were always within reach in the school. Content of research instruments was further subjected to scrutiny through evaluation by experts in the department of special education. The feedback was incorporated the instrument to ensure validity of the data.

3.6.2 Reliability
The researcher ensured possible multiple method that conform to each other in the process to ensure reliability and validity of the test item (Creswell & Miller, 2000; Orodho, 2005; Gibbs, 2007; Hatch, 2007). Reliability was estimated by administering test re-test method. Triangulation method was used to ensure accuracy and
consistency of the data through interview, document analysis, observation of classroom environment, instruction and learning process and the resources used.

3.7 Data Collection Techniques
Primary data were collected by the researcher herself, with the assistance of subject teachers. The researcher personally visited the school in advance as a familiarization exercise and introduced the purpose and nature of the study to the school authorities. The researcher scheduled the appropriate appointments with the school administration authorities with regard to school schedules. The most appropriate times were fixed to administer research questions through interviews, observations and document analysis with the sampled respondents beginning with the principal, individual students and teachers. Finally the researcher conducted face-to-face interview by use of guiding and prompting questions from observation schedule. A detailed observation was conducted through observation of instruction and learning process in the classroom environment. When interacting with teachers and students in a classroom natural setting, the researcher acted as participant-observer by taking part in the classroom as learning went on. The researcher took part as a participant-observer with a small note book to record the observation information from respondents on how the students responded and teachers intervention to ascertain the behavior during active participation and response of the respondents towards language discrepancies.

3.8 Data Analysis
The data was collected through observations, interviews and document analyzed by observing the signed word sounds and sentences, listening to oral aural sounds and writing styles contributed by the participants in the study. The researcher recorded down the findings made during instruction and learning process. The Data which was
recorded was analyzed by breaking down the contents for investigation into smaller manageable units, recorded the contributions from the participants in a note book. The details of the data collected were recorded and made a comparison between languages patterns; signs and sentences flow of the signed and spoken content when put in a written form by the students.

A comparative column of grammatical discrepancies between KSL and English was drawn to edit and ascertain maximum response, accuracy and completeness. The researcher reflected on the observation and interview results from teachers and students each time when the data were fresh in mind and recorded down in the note book respectively. There was a note book of study investigation to record the entire exercise. The distinct discrepancies of code switching from KSL to English, signing and speaking word sounds simultaneously at the same time were recorded in a note book for comparison. The teacher had to stop for a reasonable length of time to demonstrate a concept on chalk-board by writing which did not apply in the case of students with the hearing ability, hence time consuming. The data were analyzed by comparing the grammatical pattern of English and KSL written work. For example, in “Oral Literature” which was described in English subject by use of sign language pattern as “a beautiful woman with a beautiful but on a high land is looked upon from a distance”? “WOMAN GOOD HOUSE HIGH LAND” Metaphorically, it may change the meaning when written in KSL, since it was written the way KSL is signed. English; “my handsome son died and I was left barren”. In KSL; SON GOOD DEAD, MOTHER NOTHING”. The researcher used this to analyze and record down discrepancies of language limitations in KSL vocabularies to answer questions correctly. The method employed acted as researcher’s journal for capturing some of
the themes and categories of important coding information. The diary of interview and observations collected were kept. This means that the data collected was precisely recorded and explained in refined words, considering the relevance of the theme. However, the clear sense of analyzing data came after a careful study and finalizing coding process of transcribing all the data. The transcript collected from the students formed the basis of themes, initiated at the preliminary stages of data analysis in the field.

The researcher ensured detailed recorded observations in the classroom, interviews with teachers and students which were transcribed bit by bit, in steps until at the end of the study; most of the interviews were transcribed. The researcher had her own computer where all the transcriptions were done and completed most of them in time for analysis. Data was analyzed by flexible coding system of incorporating descriptive codes and analytic categories. Observation in the classroom was coded as descriptive as well as analytic explanations of instructional and learning strategies. Sometimes different teachers were interviewed on the same theme to ensure clarification of facts or challenges for accuracy.

Each data was analyzed by checking key themes emerging from the interviews, and then placing item into categories to develop a written narrative of the themes that addressed the research questions. The researcher’s final methodological framework and fieldwork ensured availability of the required tools to access the analyzed data leading to the findings described and discussed in the next chapters of this thesis.
3.9 Logistical and Ethical Considerations
The research permit was given by the National Council of Science and Technology through permission and clearance by the university to collect data in the field. The researcher also sought permission from the principal of the target school for appropriate time to collect data. Subjects must be informed of the nature of research in an understandable language. The information from the research is kept under confidentiality and will be destroyed by burning after five years to assure students of the ethical aspect.
CHAPTER FOUR
RESULTS AND DISCUSSIONS

4.0 Introduction
The study was conducted at Kuja secondary school for the HI, in Migori County, Kenya to identify discrepancies between Kenya Sign Language (KSL) and English on examination performance of students with HI. The study addressed the answers to research questions regarding grammatical discrepancies between KSL and English; instructional strategies that teachers use to harmonize language discrepancies when preparing students with HI for examinations and instructional resources teachers use in addressing deaf students’ language discrepancies to prepare them for KCSE national examination. The findings of the study are presented beginning with demographic information about the school, grammatical discrepancies between KSL and English, instructional strategies and the chapter ends with the narratives of the resources used during preparation for KCSE examination. Participants in the study included the principal, teachers and the students. Interviews were conducted by use of interview schedules. Observations were carried out in the classroom instruction and learning practice, where teachers were interacting with the students. In addition, observations also covered teacher’s instructional strategies, use of resources and finally, analysis of the document including syllabuses, textbooks and teacher professional records.

4.1 Demographic Information of the School
The information regarding demographic data of the school was summarized and presented according to the following variables: number of students in form four, number of teachers in the school, teachers professional qualification, overall school
performance over the last five years, performance mean score of boys and girls in the school and subject performance in KCSE.

**Table 4.1: Number of students in form 4**

<table>
<thead>
<tr>
<th>Students in form 4</th>
<th>4B</th>
<th>4R</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of students in form 4</td>
<td>26</td>
<td>26</td>
<td>52</td>
</tr>
<tr>
<td>No. of sampled students in form 4</td>
<td>5</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Male</td>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Female</td>
<td>2</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

As observed from the table a total of 10 students from the two classes (4B and 4R) participated in the study.

**Table 4.2: Teaching Staff by Gender at Kuja School**

<table>
<thead>
<tr>
<th>Employer of teachers</th>
<th>TSC</th>
<th>BoM</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>6</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>Female</td>
<td>6</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>4</td>
<td>16</td>
</tr>
</tbody>
</table>

The table 4.2 indicated the total number of staff for both female male teachers. The expected number of staff including BoM was 20 while the school had only a total of 16 teachers employed either by TSC or BoM. The school was seriously understaffed by 4 teachers. Only one-eighth of the teachers had training in HI while the rest of the teachers had general degrees or special education degrees in other areas of special needs education. However, the teachers had at least a short in-service course in the Area of HI.

- **Data Analysis and Presentation with respect to Objective One**

Objective one was intended to find out the language discrepancies between KSL and English on performance of students with HI in KCSE examination. The table 4.3
presented the analysis of the mean grade performance trend in KCSE over the years from 1999-2010. The analysis of the findings was as follows:

**Table 4.3: Mean Grade Performance Trend in KCSE examination over the years at Kuja Secondary School for the Deaf (1999-2010)**

<table>
<thead>
<tr>
<th>Year</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean grade</td>
<td>3.27</td>
<td>2.90</td>
<td>3.00</td>
<td>2.73</td>
<td>2.14</td>
<td>2.00</td>
<td>2.18</td>
<td>1.50</td>
<td>2.65</td>
<td>3.12</td>
<td>3.89</td>
<td>3.5</td>
</tr>
</tbody>
</table>

*Sources: Documents of Previous school records of KCSE over the years*

Table 4.3 shows the school mean grade performance trend since 1999 – 2010. Fair performance was only realized in 1999 at a mean grade of 3.27 with a drop from 2000-2006, then a steady increase from 2007-2010, although a slight drop was realized in 2010 according to the previous results issued by the school administration.

Performance trend in English and Geography over the years showed a significant drop out. Performance in English improved while performance in Geography dropped. This is because adjustments were made in some parts of English examination contents that were dealing with sound articulation and discrimination. Students were not able to articulate and listen to word sounds and discriminate the rhyming word sounds such as cow, how, down, town girl, hurl and so on according to the language demands of students with HI. The findings also revealed adjustments done in English examination, as shown in KCSE English paper 1, code 101/1HI (Functional skills) which has illustrated pictures with rhyming word signs which was not done for geography. This was evidenced in the English paper done in Oct. /Nov. 2011 in the previous year where students were expected to respond to questions by identifying words with similar signs and illustrated pictures instead of sound articulation and
Data analysis on objective one with respect to finding out mean grade performance in English and Geography by students with HI in the year 2006-2010, as shown on figure 4.1. The analysis of the findings was as follows:

**Figure 4.1: Mean Performance in English and Geography (2006-2010)**

![](chart.png)

**4.2 Data analysis and presentation on Objective One**

Objective one was intended to find out grammatical discrepancies between medium of instruction (KSL) and language of examination (English) on performance of student with HI in KCSE examination.

The analysis of the findings are as follows; Language discrepancies experienced by teachers in subject areas, language grammatical discrepancies experienced by teachers, student’s grammatical writing pattern in subject areas and student’s experiences on language discrepancies between KSL and English contributed to low performance of students with HI in KCSE examination.
4.2.1 Language Discrepancies Experienced by Teachers in Subjects Areas

The study sought to establish the language discrepancies during the teaching of the sampled subjects (See appendix III). The findings showed that a majority of teachers reported that most subjects like CRE, Geography and English are usually responded to in KSL structure by students with HI instead of using English; the language for writing national examination. Other teachers also reported that most students’ written works were influenced by mixed KSL grammar instead of English, which led to students to miss out the intended meaning of concepts that might have contributed to lower performance in KCSE examination.

The findings confirm with the report in (KIE, 2008 and Brock-Utne, 2000) that, poor performance of students in national examinations will persist as long as English is the medium of writing examination. The information obtained from Geography and KSL teachers further revealed that students sometimes altered the original meaning of concepts signed in KSL when interpreting to English written concepts, hence lowering performance. Similarly, the findings concur with that of Brock-Urtne (2007) in Ng’asike (2010) that, home language is most necessary in ensuring effective and meaningful education system.

The following is an example of a sentence addressed in English which its meaning might have been altered by use of KSL grammar;

Eng: I will come today.
KSL: TODAY ME COME//
Eng: I love sleeping.
KSL: SLEEP ME LOVE//
The sentences in KSL shows directly interpreted meaning, to mother tongue grammar, which is not the required structure for writing examination in KCSE. In this case, students had to look up, observe what was signed before receiving the information to encode and assimilate meaning of concept in the subject to decode and express in written script. Students therefore, wrote what they saw and conceptualized through sign structure instead of spoken sound English structure.

A teacher reported that geography subject was rigid and bulky in terms of content therefore, it was not easy to cover geography syllabus within the stipulated period while simultaneously teaching KSL and English to learners with HI. This finding conform with McCarty (2009) that, English; the language of examination was designed in both modern and traditional terms of Latin and Germanic origin, as opposed to KSL which was designed in the traditional shapes of objects in space. Their simultaneous use therefore interfered with the smooth flow of writing examination hence, lowered performance of students with HI. Figure 4.2 shows the challenges deaf children face in writing English during examinations.

**Figure 4.2: Sample of student’s written script**
A careful look at the passage shows that the grammar is incorrect according to the accepted English standard. However, according KSL, the writing is acceptable and correct.

4.2.2 Language Grammatical Discrepancies Experienced by Teachers
The study sought to establish some of the grammatical discrepancies experienced between KSL and English by teachers of students with HI, through observation during examination practice. The result revealed that KSL has limited vocabularies that exhibited communication difficulties by use of unfamiliar words and sentences during examination writing, thus interfering with examination writing language pattern.

Teachers used both signed and spoken sentence structures when interacting with students, whereas students only responded through visual manual language and written sentence structures. They interpreted the signed text and written text even in other subjects directly to KSL structure the way it appeared and conceptualized in students’ mind, without considering the required grammatical structure.

The findings of the study support KIE, (2008) that English grammar conveys acoustic sound pattern used for writing examination, which is not applicable in KSL that conveys visual and gestural language pattern. The study further revealed that, teachers had to read what was written in English text first, and then change the written text to signed text structure. Later on, the teacher interpreted the written text from English written structure to signed question and then back to the required English written structure, while students used KSL structure to practice for examination. Teachers and students used KSL structure during practice for examination. Students tended to capture in their memory the structure of KSL pattern, the way they used it daily for
instruction and interaction purposes. During KCSE examination practice, students occasionally mixed their written work with English language structure and KSL structure the way KSL was used and perceived during interaction. This discrepancy therefore ended up distorting the meaning of student’s written work, hence lowered performance. The findings were evidenced during actual instruction and learning process, carried out from the observation by the researcher as they interacted with both teachers and students in the school. The study conform with McCarty, (2009) that grammar discrepancies between languages can be harmonized through explanation of language-related concepts of listening to receive for comprehension and reading/writing for expressive written examination.

The findings showed that grammatical flow of words and sentence structures in KSL and English, to compare and record their congruence when writing KCSE examination was a challenge. KSL had visual and manually transmitted structure of words and sentences which did not form auxiliary verbs, prefixes and suffixes that exist in English grammar structure.

The findings of the study supports Akatch (1991) who examined KSL structure and found that it has no prefixes, suffixes and has limited vocabularies that do not exist in English structure, yet the standard required language for examination writing was in English grammar. The findings supports the observation made by Okombo (1994) and Adoyo (2004) that, KSL has its own grammatical structure that follows visual and manual language pattern as opposed to acoustically formed sound language pattern in English.
Findings from analysis of students’ written work, and compared with writings in the textbooks, syllabuses and teachers’ professional records of work to establish students’ written language ability and syllabus coverage revealed that spellings in KSL and English written notes were different. Many students’ written notes were glossed (written in capital letters), as it appears in KSL written text books.

The findings concur with Wamae (2003) who argued that, KSL sentence structure is written in capital letters that ignores the basic grammatical structure in English which is necessary for written examination. The students’ written notes were repeatedly done in KSL that has limited vocabularies even in other subjects, instead of using rich English vocabulary for writing examination. The data obtained contradict the findings by Rogoff (2003) in the view to challenge the development of language policy in Kenya that consider cultural language to develop individual language ability. However, the findings supports Okombo (1994) that, KSL grammatical structure directly follows that of most African native language; as opposed to grammar structure in English.

Students’ written work in most of the subjects did not follow the same sentence structures as in the students’ and teachers’ text books. The findings also supports Yule (1995) that, KSL uses visually transmitted and manual pattern of communication through body language, lip movement and facial expression for simultaneous receptive and expressive skills instead of English spoken language grammar. The finding further conforms with (KIE, 2003) that KSL grammatical structure; context and principles are not embedded in English grammar that conveys acoustic sound as shown;

Eng: Where are you going?
KSL: YOU GO WHERE
Eng: Banana is very sweet.
KSL: BANANA SWEET SWEET//

The result obtained from observation and analysis of the documents in the students’ written scripts, further revealed that KSL had the unique grammatical such features interfered with performance in curriculum subjects for KCSE written examination that had to be addressed in English grammatical pattern;

Example;

English: My Mother cooked Ugali S+V+O;
KSL: UGALI MOTHER COOK FINISH// O+S+V

KSL is also glossed (written in capital letters) with unique features of punctuations in written work. This include; / to mean comma, // for full stop and a line with question mark on top for investigative words such as; ? WHICH, WHERE, WHAT, and HOW, which is not required in English language of examination except during KSL written examination. A sample of students’ written script dated 7/8/ 2012 shows see appendix viii B.

4.2.3 Students’ grammatical writing pattern in subject areas
To further examine the challenges deaf learners were facing, teachers were asked to state their views on how student’s writing pattern affect their performance in KCSE examination. The instrument negates the general view of teachers about students’ writing pattern that compromised performance in various subjects.

The study revealed that students mix signs in answering questions using KSL grammatical structure, especially in English subject as indicated in the following sample scripts. The following shows a sample student’s work on; “The Importance of Conserving Forest”; I had been you problem food animals and people can be dying
“but tree.....” Though not written in glossed letters but portrays a mixture of both KSL and English grammatical structure to address topics instead of English, which is the required grammar structure for writing examination, hence lowered performance.

KSL was used to give instructions but in writing notes, English was used. Therefore, KSL grammar had a lot of influence on students’ written work for every written subject instead of English. During Signing, speaking, reading, interpreting and writing in KSL and English at the same time, students usually got confused and lost track and meaning with lengthy words. They therefore sometimes even miss out concepts and answer questions irrelevantly or wrongly. They normally wrote sentences according to what they observed and conceptualized in their memory perception from visual formation of patterns which was during instruction in every subject, no matter the outcome meaning of the information. For example, a statement in CRE quoted in English grammatical structure; “save me Lord”, a student used KSL grammatical structure; “Lord save”, while another one wrote; “Lord me save” which already distorted the meaning, reported the CRE teacher.

4.2.4 Students’ experiences of Languages discrepancies
Students in the study were asked to state their views on how frequent they were exposed to local examinations before writing KCSE examination and the strategies employed to minimize the existing discrepancies that ensured adequate preparation for the examination. The findings indicated that simultaneous use of two languages with different complex grammatical structure impedes effective and meaningful language use during instruction and learning practice for adequate examination writing. The students also reported that it was hard to write sentences in spoken English grammar without mixing with visual structures of grammatical signs, in any
written examination attempted and even in KCSE examination. The finding support Okombo (1994) who argued that grammatical structure in KSL flows parallel to English grammar, thus creating a clear indication of distortion of meaning in written text from every subject.

The Majority of students reported that they did many examinations which were locally prepared by their teachers such as; “Head Start”, which was teacher made tests. Those were to test their knowledge ability on the previous concepts covered to allow preparation for the next tasks, immediately they were back from holidays. There were some indications of students being intensively exposed to local examination exercises instead of joint tests or examinations. The joint tests or examinations could extensively be used to expose and challenge students to stiff competitive practice for future KCSE examination.

Some teachers even felt nervous and uncomfortable during instruction and learning exercise as a consequence of being incompetent in fluent signing skills and limited vocabulary in KSL. Due to such limitations, teacher could just formulate his/her/ own sign and use it according to each subject context. The situation caused confusion later, both to students and teachers, on which sign to apply and stick to during examination writing practice. The findings support Bunyasi (2010) who found out that a majority of teachers were incompetent in fluent KSL signing skills for most schools of students with HI, thus, affecting their performance. Similarly, this finding agrees with Okombo (1994) in the study of attitudinal issues in evolution of language community which established negative attitude of teachers towards use of two languages at the same time in schools. KSL has limited vocabulary with similar words used in almost every
subject that sometimes altered the intended meaning of a text. Majority of teachers as well as students therefore, felt demoralized, nervous, frustrated and as a thwarted efforts when they signed, but failed to reflect the intended meaning of what was signed during instruction and learning practice. The finding agrees with Wamae (2003) who asserts that discrepancies in performance are due to various aspects of language structures with complex discourse. This is also as a result of grammar mismatch in KSL and English when it comes to written examination according to the current study.

4.2.4.1 Data Analysis and Presentation on Objective Two

Objective Two was intended to find out instructional strategies teachers used to harmonize language discrepancies when preparing students with HI for examination. The analysis of the findings were as follows; instructional strategies through KSL as medium of instruction and as a subject, instructional strategies used in Geography teaching and instructional strategies used in English language teaching. The study sought to find out reasons why KSL was introduced in the schools of students with HI as medium of instruction as well as a subject. The results which were obtained through the interview with KSL subject teacher revealed that “Kiswahili was interfering with performance of students with HI in KCSE examination by having the same signs as in KSL” but ways of writing their spelling was different. That interfered with the language grammar pattern during examination writing, reported KSL teacher”.

“KSL was therefore introduced to replace Kiswahili as one of the strategies to improve performance of students with HI in KCSE examination,” reported the
teacher. A question was also asked to establish as to whether KSL was achieving its intended objective or not, after being introduced as a subject and doing away with Kiswahili. The results revealed reasonable achievement, following the improved performance in KSL subject column as a proof. The findings confirm with Ng’asike (2010) that, many students who performed well in examination used cultural language to answer questions in other subjects instead of English, due to cultural language influence. Cultural language is the mother tongue language of the local community “Should KSL equally be replaced with English language as a strategy to facilitate national examination in the schools of students with HI, positive improvement would therefore be eminent in performance of national examination, reported the teacher”.

4.2.4.2 Instructional Strategies used in Geography Teaching
The researcher agreed with the geography teacher about the procedure to carry out investigation through classroom observation. The teacher introduced the researcher and the research assistant, to the students. The main focus of observation was on various aspects of language discrepancies and how often the teacher used students’ everyday knowledge and experience to deliver points. Another focus was to determine how possible it was to switch from signed notes to reading notes and from reading notes to written notes.

It was revealed that the teacher could explain a concept for even more than twenty minutes before students could get even a meaning. After a number of attempts was when only one or two students managed to respond positively to the subject matter. The teacher wrote on the chalk board, speech read and signed to explain the concept while a good number of students already looked tired, frustrated and unconcerned.
The teacher used questioning techniques as a strategy to motivate and prompt student’s to participate in learning practice in vain.

As the lesson progressed, most students answered questions using different SL, which was neither uniform nor conforming to the subject context. Finally, a few students would come on chalk board either to answer questions irrelevantly or correctly but by use of cultural SL, while some nervously gave correct answers using wrong language structure formation. The rest of the students remained quiet, dull, frustrated and unmotivated. Teachers and students as well indicated very minimal achievements with the use of strategies respectively.

4.2.4.3 Instructional Strategies in English language
The teacher and students were faced with various challenges of getting the correct signs for the majority of words in English. The basic required language skills of listening, speaking, reading and writing, were carefully avoided. That was to avoid articulation of word sounds which discriminate between the rhyming sounds such as “how, cow, bow and recorded the result in a note book to determine proper use of language pattern. It was found out that some skills like listening attention and speaking were very poor. The finding supports Rogoff (2003) in Ng’asike (2010), that use of cultural language may improve examination performance of African students when used properly.

The researcher observed various skills which were adjusted in topic content such as instructional strategies while using both spoken and signed language pattern. Spoken language pattern was to test for listening skill of sound discrimination. It tested for the rhyme sounds as in “depot, report and debut. The findings revealed concept formation
through demonstration, where the teacher constructed a complete sentence in English grammar structure and wrote the sentence on the chalkboard to show the correct grammatical pattern formation in written text.

An example:

Teacher: I am going to Nairobi tomorrow.
A student: Me Nairobi tomorrow.

The teacher understood their level of communication and allowed them to continue as a strategy to let learning continued. The situation could not be accepted in a competitive examination environment for national examination. “For discussion, dramatization, question and answer, were used as appropriate strategies for instruction and learning practices that tested understanding of students in the content covered and improved performance in KCSE examination, reported the teacher”.

Students were significantly using KSL to respond to questions during the lesson only when the teacher interpreted the concept using KSL, but when asked to carry on with the exercise independently, they suddenly withdrew from participating in writing. The findings revealed that they changed their faces to show lack of interest in written work. They appeared nervous and less interested towards activities dealing with writing. The findings support Kamonya (2008), who revealed that the differences in grammatical structures in KSL and English were some of the factors that hindered teaching and learning activities, hence effective performance of students with HI at secondary school level.

In most cases students copied or duplicated exact words from textbook notes or wrote questions the way they appeared in texts. The findings conform with Bunyasi (2010),
that teachers’ professional incompetence in handling students with HI, lowers their academic performance. The researcher made a follow-up activity at the end of the lesson by discussing the outcome of the lesson. The teacher reported that Students hated writing independently without someone to read and interpret for them English, as they observed keenly to write. The fear of being marked wrong on completion of the written work interfered with their motivation and active participation throughout the lesson.

The Majority of teachers used standard testing techniques required by KNEC regulations when preparing students for KCSE examination. Similar standard testing techniques were used for evaluation/grading of students with HI as it was done to regular students without any adjustments, considering their auditory challenge in academics. Instructional strategies on how to carry out examination exercises were ordinarily done without extra means for reinforcement such as KSL interpreters or Video tapes, to further interpret and explain concepts to students with HI during instruction and learning practice. Examination exercises, grading and scores were generally done based on KNEC regulations, as it was to students with hearing ability. Although some little topic content adjustments were done during local testing at the school level, but was not applicable in KCSE examination, based on KNEC regulations. Some simple adjustments such as explanation and clarification of topic contents were done during instruction and learning practice, which did not apply in KCSE examination period.

4.3 Instructional Resources in Classrooms for HI
Data analysis and presentation on objective Three was intended to find out instructional resources teachers used in addressing language discrepancies of the
students with HI, during national examination. The findings established the resources used by teachers when addressing the language discrepancies between KSL and English during instruction and learning practice. The analysis of the findings were as follows; instructional resources in classrooms for HI and condition of instructional resources in classrooms for HI.

The analysis of the findings were as follows:

- “The school provided inefficient and inadequate equipment and materials, such as video-tapes, tape-recorders, computer (desk-tops), atlases, old books which were the only available resources for instruction and learning practice. They were not even in good conditions due to lack of spare parts for maintenances, reported the Principal”. The findings support those of Bunyasi (2010), who found that, most of the available resources used in the schools of students with HI were old, out-dated and inadequate and had no spare parts for repair.

- There were no special procedures in place to obtain specific specialized instructional resources. The majority of parents/guardians of students with HI were not willing to contribute towards the purchase of the resources. According to the report by the Principal, most parents of students with HI still believed in the notion of money or resources wastage in buying modern learning facilities or resources for students with HI, as people who were unable. Although some were supplied by the government, which were not being used regularly for fear of being mishandled by the students. While some were the majority of the old stock which was not in good condition.
• Similarly, the findings revealed that teachers frequently used charts, pictures and dramatization and, once in a while, used real objects, showing different features to reinforce understanding and support their auditory grammatical challenges.

• The government contribution was also reported to be limited to a specific amount of funds contributed to all government special schools. The findings showed a few recently provided computers used by students only during computer lesson. The available computers were also limited in number, to be adequate for all students in form four classes. Very few students therefore got the opportunity to access them practically.

• KSL interpreters and teacher aid services were also not provided for during instruction and learning practice for examination.

A report from the CRE teacher revealed that, only a few materials, like charts and text books, which could not even fit the number of students in form four were available. The findings from the Geography teacher further revealed availability of resources which were old, inferior and inadequate charts, pictures and models, which could no longer meet the current competitive learning and examination demand of students with HI, during KCSE examination. The findings support Bunyasi’s (2010), that available resources in the Kenyan schools for the learners with HI are inadequate and unmaintained, such that assistive devices, lack spare parts that could be used to repair and maintain them.

A report from English teacher revealed that, current academic demand is generally competitive that it equally requires a world of modern and advanced visual technological devices such as; closed induction circuit system video-tapes to
demonstrate and reinforce students’ visual and manual system. “These should be done during instruction, learning and examination practice”.

KSL teacher said that KSL as a subject required powerful and advanced technological instructional resources and assistive devices, which were both audio-visual in nature. They should involve much on practical work to hasten understanding of abstract ideas and concept reinforcement. KSL Interpreters should be available for interpretation services during instruction and learning practice in written examination.

The findings support Scherer (2002), in the report by KIE that teachers used both human and material resources such as Visual support materials (computer, video-tapes/recorder) for students to practically observe and manipulate when instruction and learning practice was in progress. They further indicated that charts, pictures and models were the commonly used resources after an idea was explained to students and later introduced them to usefully and effectively reinforce concepts. Pictures and models gave true idea of what the teacher addressed, though still delivered very abstract ideas with little meaning about the intended objective.

The findings support Mukangu (2008) who found that textbooks, atlases and global wall maps are the most commonly used resources during instruction in schools of students with HI. It therefore seems too common to motivate students any more. Similarly, the findings revealed that some resources used in classes during instruction and learning practice exercises for dramatization purposes, on the account of the topic being handled, to improve performance affected by KSL were insufficient. The findings also support the report in Kenyan Sign Language Research Project (KSLRP) by Okombo (2008), who carried out observations on a range of resources which could
be used in the schools of students with HI. He posits that, resources could be developed in different categories as; medium of instruction, subject providing stories in KSL through video recording and reference resources, depending on current trend of technological advancement on electronic devices.

The findings further revealed that reference textbooks for different subjects were not enough for instruction and examination practice. The findings support Mukangu (2008), on the study of teaching methods, resource utilization by teachers and learners for identification of pedagogical constraints to teaching social studies without even SL interpreters.

The findings by Chemistry as well as KSL teacher revealed that students with HI performed better in practical oriented subjects, which involved a lot of practically manipulated materials and resources. More student enjoyed attending to Chemistry lessons than to KSL since they took most of their Chemistry lessons in the Lab, where they got the chance to manipulate the available materials and resources in turn. Although not all the students got the opportunity to manipulate the laboratory materials personally each time they visited the laboratory to practically observe and drew conclusions on what each of them observed. Another report from the Chemistry teacher revealed that, there was a recently constructed Science Laboratory which was not spacious enough to accommodate all the candidate students at the same time comfortably. Laboratory materials and resources were also inadequate in number to cater for all the students at the same time. Therefore, following the time-table schedule for instruction and learning practice in every subject, some students could go without practically manipulating the laboratory materials, especially the students who
are ever slow. KSL textbooks were glossed (written in capital letters) as a subject therefore, students’ written scripts were in most cases influenced by language structure of KSL, which was a mixture of capital letters as well as their medium of instruction and interaction.)

4.3.1 Conditions of Instructional Resources in Classrooms for HI
The study sought to establish conditions of the available resources and how they were used by teachers and students with HI during KCSE examination preparation. Information obtained from the observation revealed that ordinary and out-dated resources were used during instruction and learning practice. Similarly, most of the resources used were ordinary reference textbook. They were also too few in numbers to meet the individual students’ demand for every subject per class.

The available SL dictionaries had contradicting illustrations of signed pattern while the reference textbooks appeared new as if rarely used by the students. Most of the available KSL dictionaries also seemed very dynamic to students in that they kept changing sign patterns. This contributed a lot to lowered performance during instruction and learning practice.
CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction
This chapter is about the summary of the findings, conclusions and recommendations of the study and areas of further research. The study was based on the following objectives.

i. To analysis of the grammatical discrepancies between KSL and English and how they affect performance of students with HI in KCSE examination.

ii. To find out strategies teachers used to facilitate students’ code switching of languages from KSL to English.

iii. To find out resources teachers used to address language discrepancies of students with HI, during national examination.

5.1 Summary of the Findings
The summary of the findings are presented following the objectives and research questions.

5.2 Grammatical Discrepancies between KSL and English
The findings revealed that the two languages created challenges in teachers and students due to discrepancies resulting when they are used simultaneous in instruction and learning and during examinations in subject areas of the curriculum.

5.3 Instructional Strategies for Learners with HI
The study found that teachers used traditional teaching approaches in classrooms of HI. There were no reported unique teaching approaches that focus on the needs of learners with HI which address the language discrepancies, especially with respect to harmonizing English and KSL. Report from the interview with the students revealed
that teachers mostly used visually signed sentences in a spoken language pattern and write words and sentences to students which do not reflect the actual signed words during instruction.

5.4 Instructional Resources Used to Address the Language Discrepancies
Responses from the interview with teachers and observation schedule also revealed two categories of resources of human and material resources, which are SL interpreters and assistive technological devices. Teachers pointed out the available resources as were inadequate out-dated electronic visual aids/realia (computer, video-recording) and cooperative team teaching by colleagues who are more knowledgeable than others.

5.5 Conclusion
The findings of this study demonstrated the use of KSL grammatical pattern as a rich source of academic knowledge in the schools of students with HI during instruction and written examination practice that stimulate their interest in examination performance. The study noted the language policy makers as emphasizing English as the national medium of instruction and examination, which mainly disadvantaged students with HI’s performance in national examinations. The findings noted a more benefitting academic approach of using hands-on experiences, based on KSL for both instruction and examination preparation, with the use of modern technological devices.

The study also concludes that inadequate staffing of professional and technically trained teachers in schools of students with HI impeded performance in KCSE examination. The workload demanded adequate staffing of teachers in terms of
professional qualification/ human resource to encourage syllabus coverage. Provision of instructional and learning resources were noted to be serious for effective KCSE examination preparation by students with HI, hence the need by the government to provide the necessary adequate resources to sufficiently facilitate examination practice at secondary school level. KCSE examination setting, marking and grading of students with HI, should be done by professionally qualified teachers from special secondary school colleges for students with HI.

5.6 Recommendations

(a) Based on the findings on the research objective one which found out the grammatical discrepancies between KSL and English, the following recommendations were presented for teachers, Parents, Policy makers and further research.

(i) Teachers were recommended to use language pattern, instructional strategies and resources that are in line with KSL grammatical pattern during instruction and learning practice by students with HI and written examination. (ii) Parents should also be aware of the discrepancies between KSL and English, instructional strategies and resources to provide necessary and relevant required support for instruction and learning practice both at school and at home. (iii) Policy makers should as well be aware of grammatical discrepancies between KSL and English, limited vocabulary in KSL and simultaneous use of signed and spoken language pattern for written examination, by students with HI.

(b) Research findings based on objective two intended to determine instructional strategies used to harmonize discrepancies during instruction and learning practice. Researcher recommended the following; (i) teachers to use instructional strategies that involved a lot of fieldwork and project activities and does not require a
comprehensive use of words to explain concepts. (ii) Parents should support the students both at school and at home to engage on instruction and learning practice that involved hands-on experiences of deaf language pattern. (iii) Policy makers were also recommended for, to develop a language policy that recommended the use of KSL pattern for instruction and written examination, students with HI.

(c) Research objective three was intended to find out instructional resources teachers used to harmonize the discrepancies between KSL and English. The findings established old out-dated and unmaintained resources. Researcher recommended for; (i) teachers to use advanced and modified technological material and human resources, such as ICTs simulations/computers, photographs and realia during instruction and learning practice. (ii) Parents to support and encourage students at school and at home to participate in learning activities that involved the use of modern and advanced technological devices and (iii) Policy makers to recommend for modified modern resources, use of sign-language interpreters and KSL pattern during instruction and written examination by students with HI, whereas subject content remains the same as that of the hearing counterparts, to benefit them more in future.

(d) Recommendations for Further Research

- The research grammatical discrepancies between KSL and English on performance of students with HI during instruction and learning practice. The discrepancies established were in grammatical structures between KSL: sign language system and English: spoken language, limited vocabulary in KSL and signed spoken and writing practice. Another study can be conducted to investigate the level at which a hearing loss has a bearing on both receptive and expressive performance students with HI.
• This study covered an in-depth investigation of the problem in one secondary school for students with HI. Another study can be done in different secondary schools in the country, while using KSL for both instruction and examination writing.

• Another study can be done where instructions and examination writing is conducted by professionally and technically trained teachers and KSL interpreters, as well as the use of modern technological devices. While another, done by use of old strategies as a comparative study.
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71


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APPENDIX I

QUESTIONNAIRE FOR THE PRINCIPAL

This questionnaire is to help the researcher gather information for the purpose stated for all instruments.

SECTION A

Background information about personal and the school
Please respond as appropriate as possible.

1. How long have you been in the school as a Principal?

2. How frequent are examination class subject teachers transferred from school?

3. (a) What strategies outside classroom academics are there allocated to promote medium of instruction (KSL) and language of examination (English) for KCSE preparations?

   (a) How regular are the strategies applied to promote active practice for KCSE performance?

   (b) How effective are the strategies used?

Section B

1. What strategies are there available in the school to manage the existing discrepancies between KSL and English towards examination performances?

2. What instructional strategies do you offer as a school to students with HI during practice for KCSE examination writing?

3. Mention some of the available instructional and learning resources used while preparing for KCSE examinations.

4. Are there any teacher AID services provided during the process of KCSE examination practice?

5. What modalities do you use to afford the available resources for KCSE examination practice in the school?
APPENDIX II

INTERVIEW SCHEDULED FOR THE PRINCIPAL

1. How many students are there in form four?
   Blue?________
   Red?________

2. How many were girls and boys in both form four classes?

3. How many are female and male teachers in the school?

4. (a) How many teachers are specifically assigned to teach the KCSE examination classes?
   Blue?________?
   Red?________?

   (b) what criteria are there to assign teachers for KCSE examination classes?

5. How many students have joined higher learning institution since 2006-2010?

6. What was the performance of the students with HI since 2006-2010?

7. What are the professional qualifications of teachers teaching form four classes?
   -
   -
   -
   -
8. What was the mean score of Girls and Boys during the following years?

<table>
<thead>
<tr>
<th></th>
<th>Girls</th>
<th>Boys</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>2007</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>2008</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>2009</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>2010</td>
<td>______</td>
<td>______</td>
</tr>
</tbody>
</table>

**Mean score**

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>KSL</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
</tr>
<tr>
<td>English</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
</tr>
<tr>
<td>Geography</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
</tr>
<tr>
<td>C.R.E</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
</tr>
</tbody>
</table>
APPENDIX III
INTERVIEW SCHEDULE FOR THE TEACHERS

The questionnaire is specifically meant for the academic purposes stated for all the instruments. The information will be confidential.

The questionnaire

Section A: Personal information

1. What are some of the confronting challenges to you as a teacher of students with HI in an examination class?

2. What are your experiences in teaching students with HI in an examination class?

3. What challenges do you face in your teaching subjects?

4. Are there any discrepancies between KSL and English which you feel compromise performance of other strategies which are not adopted?

5. What might have led to the introduction of KSL in school of the students with HI?

6. Is it adequate achieving its intended objective in your opinion? Kindly explain in response

7. What strategies do you employ outside KSL during instruction the following?

   (i) Testing techniques? -----------------------------------------------

   (ii) Test administration techniques? -------------------------------

   (iii) Evaluation/grading techniques? -------------------------------
8. Which resources do you normally apply in support to the students with HI during instruction?

9. How are they used?

10. Are you effective in your opinion?

11. Based on your teaching experience of students with HI and other examinable subject?

12. In your opinion is there an effort to narrow the gap between KSL and English in education?

13. How has KSL improved the performance of learners with HI?

14. What strategies do you employ (within/outside KSL) to help improve performance affected by KSL?

14. What are the likely discrepancies that students with HI experience in the medium of instruction and medium of testing during examinations?
APPENDIX IV
INTERVIEW SCHEDULE FOR THE STUDENTS

1. Which language do you use during classroom learning? ---------------

2. Which language do teachers use during classroom learning? ---------------

3. How often do you have assignments/local examinations before getting ready to write KCSE examination?

4. Do you think the current use of KSL as a medium of instruction adequately achieving its objective in KCSE examination performance? Explain

5. Do you find problem doing exam in English?

6. Do you have problems learning English?

7. What challenges do you encounter during examination writing?

8. Which is your favorite subject and Why?

9. What are some of the instructional resources used during examination time and your perception about them in terms of achievement of the intended objectives?

10. What in your view will you tell teachers to help them teach you better to improve in KCSE examination performance?
# APPENDIX V

## OBSERVATION SCHEDULE FOR INSTRUCTION AND LEARNING ENVIRONMENT

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Name of school</td>
</tr>
<tr>
<td>2</td>
<td>Form</td>
</tr>
<tr>
<td>3</td>
<td>Subjects</td>
</tr>
<tr>
<td>4</td>
<td>Number of students in the class</td>
</tr>
<tr>
<td>5</td>
<td>Classroom environment (Lighting Seating Plan)</td>
</tr>
<tr>
<td>6</td>
<td>Instructional strategies</td>
</tr>
<tr>
<td>7</td>
<td>Testing strategies</td>
</tr>
<tr>
<td>8</td>
<td>Assessment and evaluation strategies</td>
</tr>
<tr>
<td>9</td>
<td>Grading techniques</td>
</tr>
<tr>
<td>10</td>
<td>Instructional resources used</td>
</tr>
<tr>
<td>11</td>
<td>Testing resources</td>
</tr>
<tr>
<td>12</td>
<td>Student participation and activities noted during instruction and answering questions</td>
</tr>
<tr>
<td>13</td>
<td>Use of KSL during instruction and examination</td>
</tr>
<tr>
<td>14</td>
<td>Comments on any other significant observation</td>
</tr>
</tbody>
</table>
APPENDIX VI
Adapted KCSE Examination English paper 1 (2011)

(e) For each of the signs below, provide two words represented by the sign.

(i) ..................................................

(ii) ..................................................

(iii) ..................................................

(iv) ..................................................

(v) ..................................................

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2013(MMXIII) KCSE (1102)
ENGLISH
HEARING IMPAIRED
Paper 1
APPENDIX VII

Appendices A: Sample Work of Students

**ENGLISH**

In properly formed sentence write a composition on:

The Importance of Conserving Forests

I should you the keeping of forest to place. There are could not cut of the tree beginning for it. Continuing a tree large to the cutting more been selling of timber or medicine books. I was a good conserving forest at the timber began tree seed to go home. I would that because I had that beauty of the tree do not but than desert dry began be without forest.

Come rain from hungry of people.

I had been you the problem food animals, and people can one die but tree do not dry explaining & crop because I has seen toxic you all forest must be keeping helping of people. Forest & give buy & carpenter more than that & plants be same with with case other.

There are making wood for building table, fire, chair etc. Also I was a begin of observing & keeping planting & crop till a good to place. These are you care forestry to other and to place, our classroom at forest & for the school in the beauty was them important of forest in Kikuyu, Kenya. I would you their forest in care can be you work good other.
APPENDIX VIII
Appendices B: Sample Work of Students

PIC T URE S T ORY  O B S E R V E / S T O R Y  S I G N

DA T E ON E  D OG  L I V E  T H E R E /  D O G  H U N G R Y  A L T O T  E AT
H U N G R Y  A L T O T  A L T O T  /  D OG  D E C I D E  D O  W H A T  /  F I R S T  D OG  W A L K
G A T E  S T I L L  /  B U T  D OG  T H O R N  L E G  B R E A K  D OG  S O U N D
B R E A K /  D OG  S E E  H EN  F O U R  W H E R E /

APPENDIX IX

MAP SHOWING POSITION OF KUJA SECONDARY SCHOOL FOR HI

Source: http://www.nia.or.ke/nta-reports/citizen-report-cards/central-province
APPENDIX X

RESEARCH AUTHORIZATION LETTER

[Image of the RESEARCH AUTHORIZATION LETTER]

85
APPENDIX XI
RESEARCH PERMIT

THIS IS TO CERTIFY THAT:

Prof./Dr./Mr./Mrs./Miss/Institution
Joyce Auma Paga
(address) Kenyatta University
P.O.Box 43844-00100, Nairobi

has been permitted to conduct research in
Location
Rongo
District
Nyanza
Province

on the topic: Discrepancies between medium of instruction on examination performance of deaf students in Kuja Secondary, Migori County, Kenya.

Research Permit No: NCST/RCD/14/012/684
Date of Issue: 13th June, 2012
For received: KSH. 1,000

For a period ending: 31st August, 2012.

Applicant’s Signature

Secretary National Council for Science & Technology

CONDITIONS

1. You must report to the District Commissioner and the District Education Officer of the area before embarking on your research. Failure to do so may lead to the cancellation of your permit.

2. Government Officers will not be interviewed without prior appointment.

3. No questionnaire will be used unless it has been approved.

4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.

5. You are required to submit at least two (2)/four (4) bound copies of your final report for Kenyans and non-Kenyans respectively.

6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice.

GPK605563mt10/2011

(CONDITIONS—see back page)