

**IMPLICATIONS OF SIGN LANGUAGE SYSTEMS ON ACADEMIC  
PERFORMANCE IN ENGLISH FOR LEARNERS WITH HEARING IMPAIRMENT  
IN SPECIAL SECONDARY SCHOOLS IN KENYA**

**BY**

**GREGORY JUMAH NYONGESA**

**A THESIS SUBMITTED TO THE BOARD OF POSTGRADUATE STUDIES IN  
FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF  
DOCTOR OF PHILOSOPHY IN SPECIAL NEEDS EDUCATION OF JARAMOGI  
ODINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY.**

**© 2024**

## DECLARATION AND APPROVAL

### Declaration by the Candidate

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

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Gregory Jumah Nyongesa**

**E462/4215/2020**

### Declaration by Supervisors

This Thesis has been submitted with our approval as University Supervisors

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Prof. Charles Makori Omoke**

Department of Special Needs Education and Early Childhood Development

School of Education, Humanities and Social Sciences

Jaramogi Oginga Odinga University of Science and Technology

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Dr. Cleophas Owino Owiko**

Department of Special Needs Education and Early Childhood Development

School of Education, Humanities and Social Sciences

Jaramogi Oginga Odinga University of Science and Technology

## **DEDICATION**

I dedicate this Thesis to: MY LORD JESUS CHRIST, My dear wife Caroline Waithera Jumah and my precious son Asher Zawadi Jumah, My Mum Rose and my Dad Protas, my brothers Fidelis, Kasianou, Andrew, Sisters Tylence, Elizabeth, Hellen and Sarah.

**GOD is able to do exceedingly and abundantly; and above all, what we think and pray.  
(Ephesians 3:20)**

## **ACKNOWLEDGEMENT**

I give glory to THE LORD GOD ALMIGHTY in the name of our LORD JESUS CHRIST for the good health, strength, hope. Wisdom and knowledge. In any research work, there is need for a lot of devotion and dedication by the researcher so as to reach the targeted goal. It is obvious, the researcher cannot manage it alone but has to collaborate, consult with and rely on the services, guidance and expertise of others. To this end, an acknowledgement is worth. I am greatly indebted to the undersigned for their various assistance and contributions in this process of writing this thesis. I wish to thank my university supervisors Prof. Charles Omoke Makori and Dr. Cleophas Owino, for patiently scrutinizing this work from the onset to its final production, I owe them respect.

Much appreciation goes to the principals, Deputy Principals, teachers of English Language and form three students at St. Kizito's Girls' Special Secondary School for the HI, ACK Ematundu Boys Special Secondary for the Hearing Impaired, St. Bridgit's Akoreet Special Secondary School for the HI and Vocational Centre, St. Claire Ebukuya Secondary School for the HI, Kuja Special Secondary for the HI, Gianchere Special Secondary School for the HI and Fr. Ouderaa Special Secondary School for the HI.

I am grateful to the University members of the faculty who read and scrutinized my initial drafts. To this end, I am highly indebted to the services of Dr. Ruth Otienoh, Prof. Emily Ondondo, Prof. Michael Okwara and all the members of faculty of the School of Education, Humanities and Social Sciences of Jaramogi Oginga Odinga University of Science and Technology for their humble and fruitful encouragement and advice which helped to bring this study to its fulfillment. I am also indebted to all the respondents who participated in this work, without their positive attitude and contribution towards the study; the valuable data used for analysis leading to interpretation to get the findings would not have been obtained.

Thanks also go to my family, spearheaded by my parents -Father Protas Nyongesa and Mum-Rose Nyongesa, together with my brothers and sisters- Fidelis, Kasiano, Tylence, Elizabeth, Hellen, Sarah, the last born Andrew and my in-laws for their support during the entire process and in particular during the time of data collection and analysis when I had to leave home as early as 3AM and come back as late as 11PM. I also thank my uncle Charles Uluma who kept on encouraging me even when it seemed challenging.

I cannot forget all my friends who encouraged me to keep up with the task at all times, my wife Carol- always praying with me silently. Finally, I cannot forget the Students fellowship of JOOUST Repentance and Holiness Ministry, you all stood with me at all times. Thank you once again, May The good GOD continue raising this fellowship always. Thank you all for helping me to pursue my dreams....!!!

**With GOD, all things are possible (Isaiah 30)**

## ABSTRACT

Students with Hearing Impairment (HI) face challenges in the process of learning. These students have continued to perform below average in Kenya Certificate of Secondary Education (KCSE). Explanations regarding this performance have pointed to Sign language systems of instructions, proficiency of learners with HI in English, teaching and learning strategies as well as perspectives of the learners with HI and the Special Educators towards the sign systems that are used. This study examined the sign language systems used during English lessons and their implications on academic performance of students with HI. The objectives of the study were to: Examine the sign language systems used for instruction, determine the perspectives of teachers of English (ToE) and learners with HI towards the sign systems, Establish the influence of students with HI proficiency in Sign systems on academic performance in English and find out the teaching and learning strategies employed during English lessons and their implications on academic performance. The study adopted multiple case study design within a qualitative approach. The study was conducted in four special secondary schools for learners with HI in Nyanza region of Kenya with a sample size of 48 participants which included; 33 form 3 students, 7 ToE, 4 Curriculum Support Officers and 4 Principals. Purposive sampling technique was used to select four schools while saturated sampling technique was used to select 7 ToE. Stratified sampling was used to select 33 Form 3 students. The study employed in-depth interview schedules, focus group discussions, Classroom Observations and a document analysis guide as the research tools. University Supervisors validated research instruments. Thematic analysis was employed for data analysis based on the themes that emerged. The findings indicated that three sign systems; Signed Exact English (SEE), Signed English (SE) and Kenyan Sign Language (KSL) are used during English lessons. Every school and ToE decide which system to use. There is no policy for sign language systems. Sign system used during instruction has a direct impact on the performance of learners in English. The study also established that many ToE prefer to use SEE during English lessons. Students with HI prefer KSL to SEE. It was also established that Students with HI are proficient in KSL than SEE and that they comprehend content faster when taught in KSL than in SEE. However, KSL affects them in writing English exams. There was consensus that SEE is the appropriate sign system to be used during English lessons since it helps the students with HI in writing English Exams although KSL makes them comprehend content faster than SEE. Pre-lingual learners are more proficient in KSL than SEE and SE. The post-lingual students are more proficient in SEE as compared to KSL. Students with HI who are proficient in SEE perform well in English as compared to KSL. The students with HI who are post-lingual have better vocabulary than the pre-lingual. KSL knowledge by learners with HI cannot help them pass English. Methods used for instruction include; note taking, questioning technique, incorporation of ICT, Use of visual aids, dramatization, group discussions, lecturing, singing, use of peer tutoring and team teaching. Group discussion and peer tutoring are the preferred approaches. The study recommends; a policy to have SEE used for teaching English, KSL be offered as a teaching subject in Universities for Bachelor's degree in Special needs Education, English lessons be scheduled in the morning, syllabus for students with HI be modified to suit the needs and interests of the learners, Concepts that are abstract to student with HI be removed from the syllabus, Students with HI be provided with dramatized set books in signs, ToEs to focus on learner centered methods, the learners be exposed story books, newspapers, group discussions and peer tutoring.

## **Table of Contents**

<b>DECLARATION AND APPROVAL</b> .....	<b>ii</b>
<b>DEDICATION</b> .....	<b>iii</b>
<b>ACKNOWLEDGEMENT</b> .....	<b>iv</b>
<b>ABSTRACT</b> .....	<b>v</b>
<b>LIST OF TABLES</b> .....	<b>xi</b>
<b>LIST OF FIGURES</b> .....	<b>xii</b>
<b>ABBREVIATIONS &amp; ACRONYMS</b> .....	<b>xv</b>
<b>CHAPTER ONE</b> .....	<b>1</b>
1.1. Background to the Study .....	1
1.2. Statement of the Problem .....	22
1.3. Purpose of the Study.....	23
1.4. Objectives of the Study .....	23
1.5. Research Questions .....	24
1.6. Significance of the Study.....	24
1.7. Assumptions of the Study.....	25
1.8. Scope of the Study .....	25
1.9. Limitations of the Study .....	25
1.10. Theoretical Framework .....	26
1.11. Conceptual Framework .....	28
1.12. Operational Definitions of Terms.....	30
<b>CHAPTER TWO</b> .....	<b>32</b>
<b>LITERATURE REVIEW</b> .....	<b>32</b>
2.0. Introduction .....	32
2.1. Sign Language Systems used for instruction in special secondary schools for learners with HI .....	32
2.2. Perspectives of Special Needs Educators regarding Sign Language Systems .....	44
2.3. Perspectives of Students with Hearing Impairment towards Sign Language Systems .....	49
2.4. Influence of Students with HI Proficiency in Sign Language Systems on Academic performance in English .....	57
2.5. Teaching and learning strategies employed during English lessons .....	71
2.6. Summary on literature review and Gaps .....	80
<b>CHAPTER THREE</b> .....	<b>82</b>
<b>METHODOLOGY</b> .....	<b>82</b>
3.0. Introduction .....	82
3.1. Research Design .....	82
3.2. Location of the Study .....	84

3.3. Target Population .....	84
3.4. Sampling Techniques and Sample Size .....	85
<b>3.4.1. Sampling Techniques</b> .....	85
<b>3.4.2. Sample Size</b> .....	87
3.5. Research Instruments.....	88
<b>3.5.1. Interview schedules</b> .....	89
<b>3.5.2. Form Three Students’ Focus Group Discussion Guide (FTS-FGDG)</b> .....	90
<b>3.5.3. Document Analysis Guide (DAG)</b> .....	92
<b>3.5.4. Form three Observation schedules and Field Notes (FTOSFN)</b> .....	93
3.6. Validity of the Research Instruments .....	94
3.7. Reliability of the Research Instruments.....	94
<b>3.7.1. Credibility</b> .....	94
<b>3.7.2. Transferability</b> .....	95
<b>3.7.3. Dependability</b> .....	95
<b>3.7.4. Conformability</b> .....	95
3.8. Data Collection Procedures .....	96
3.9. Data Analysis .....	96
3.10. Logistical and Ethical Considerations .....	99
<b>CHAPTER FOUR .....</b>	<b>101</b>
<b>DATA ANALYSIS, INTERPRETATION OF FINDINGS AND DISCUSSIONS.....</b>	<b>101</b>
4.1. Introduction .....	101
4.2. Response to the instruments .....	101
4.3. Demographic information .....	102
4.4. Sign Systems used for instruction in Special Secondary Schools for the Deaf and their Implications on Academic performance in English .....	103
<b>4.4.1. Sign Language Systems used during English lessons</b> .....	103
<b>4.4.2. Impact of the sign systems on performance of learners in English</b> .....	112
<b>4.4.3. Extent to which teachers use KSL/SEE/SE during English lessons</b> .....	123
<b>4.4.4. Policy that guide which sign system should be used during English lessons</b> .....	127
<b>4.4.5. Impact of the differences between KSL and English on acquisition of English Skills</b> .....	134
4.5. Perspectives of Special Needs Educators on the Application of Sign Systems used in Classroom and their Implication on Academic Performance in English.....	145
<b>4.5.1. Opinion of teachers of English towards Sign Systems used during Instruction of English lessons</b> .....	145
<b>4.5.2. Impact of Sign Systems used during English lessons on the working of the teachers</b> .....	149
<b>4.5.3. Sign System Challenges that teachers face when teaching English lessons</b> .....	152
<b>4.5.4. Position of School Management regarding sign system</b> .....	160

4.5.5. Teachers' understanding of signs made by students during English lessons .....	161
4.6. Perspectives of Students with Hearing Impairment on Application of Sign Systems and their Implications on Academic Performance in English. ....	165
4.6.1. Sign system preferred by the students with hearing impairment during English lessons. ....	165
4.6.2. Reading Habits of the students with HI and their comprehension in English .....	169
4.6.3. Excitement of learners with HI to attend English Lessons .....	173
4.6.4. Challenges that learners with HI face in class during English regarding sign systems .....	175
4.7. Students with HI Proficiency in Sign Systems and the Implications on Academic Performance in English .	176
4.7.1. Proficiency of learners with HI in using KSL, SEE and SE .....	177
4.7.2. Relationship between proficiency in KSL/SEE and performance in English. ....	183
4.7.3. Use of vocabulary by learners with HI when writing English .....	191
4.7.4. Implications of the differences between SEE and KSL on content delivery during English lessons.	198
4.7.5. Comparison between the KSL dictionary and English dictionary usage during English lessons. .	201
4.7.6. Learner's understanding of signs made by the teachers during English lessons and examinations	204
4.7.7. Implications of knowledge in KSL on English performance .....	208
4.8. Teaching and Learning Strategies employed in teaching English and the implications on Academic performance.....	209
4.8.1. Strategies that teachers use in teaching English .....	209
4.8.2. Effectiveness of the strategies used in teaching English .....	218
4.8.3. Relationship between the sign system and the method used .....	226
4.8.4. Concepts that are hard to teach/learn for the deaf in English .....	227
<b>CHAPTER FIVE .....</b>	<b>235</b>
<b>SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS.....</b>	<b>235</b>
5.1. Introduction .....	235
5.2. Summary of Findings .....	235
5.2.1. Sign Systems used for instruction in Special Secondary Schools for the Deaf and their Implications on Academic performance in English .....	235
5.2.2. Perspectives of Special Needs Educators on the Application of Sign Systems used in Classroom and their Implication on Academic Performance in English .....	236
5.2.3. Perspectives of Students with Hearing Impairment on Application of Sign Systems and their Implications on Academic Performance in English. ....	238
5.2.4. Deaf Students' Proficiency in Sign Systems and the Implications on Academic Performance in English .....	239
5.2.5. Teaching and Learning Strategies employed in teaching English and the implications on Academic performance.....	241
5.3. Conclusions .....	242
5.3.1. Sign Systems used for instruction in Special Secondary Schools for the Deaf and their Implications on Academic performance in English .....	242

5.3.2. Perspectives of Special Needs Educators on the Application of Sign Systems used in Classroom and their Implication on Academic Performance in English .....	243
5.3.3. Perspectives of Students with Hearing Impairment on Application of Sign Systems and their Implications on Academic Performance in English. ....	243
5.3.4. Deaf Students' Proficiency in Sign Systems and the Implications on Academic Performance in English .....	243
5.3.5. Teaching and Learning Strategies employed in teaching English and the implications on Academic performance.....	244
5.4. Recommendations .....	244
5.4.1. Sign Language Systems used for instruction in Special Secondary Schools for learners with HI and their Implications on Academic performance in English.....	244
5.4.2. Perspectives of Special Needs Educators on the Application of Sign Systems used in Classroom and their Implication on Academic Performance in English .....	245
5.4.3. Perspectives of Students with Hearing Impairment on Application of Sign Systems and their Implications on Academic Performance in English.....	245
5.4.4. Deaf Students' Proficiency in Sign Systems and the Implications on Academic Performance in English .....	245
5.4.5. Teaching and Learning Strategies employed in teaching English and the implications on Academic performance.....	246
5.5. Suggestions for further research.....	246
<b>REFERENCES .....</b>	<b>247</b>
<b>APPENDICES.....</b>	<b>277</b>
APPENDIX I: INTERVIEW SCHEDULE FOR THE PRINCIPALS .....	277
APPENDIX II: INTERVIEW SCHEDULE FOR TEACHERS OF ENGLISH .....	279
APPENDIX III: INTERVIEW SCHEDULE FOR CURRICULUM SUPPORT OFFICERS .....	282
APPENDIX IV: FOCUS GROUP DISCUSSIONS FOR FORM THREE STUDENTS .....	284
APPENDIX V: DOCUMENT ANALYSIS GUIDE.....	286
APPENDIX VI: FORM THREE CLASS OBSERVATION SCHEDULE AND FIELD NOTES (FTOSFN).....	287
APPENDIX VII: INTRODUCTION LETTER.....	290
APPENDIX VIII: LETTER OF PERMISSION .....	291
APPENDIX IX: RESEARCH DESCRIPTION .....	292
APPENDIX X: CONSENT FORM.....	293
APPENDIX XI: CONSENT FORM FOR AUDIO TAPE RECORDING .....	294
APPENDIX XII: CONSENT TO INVOLVE FORM 3 STUDENTS .....	295
APPENDIX XIII: SKETCH MAP OF NYANZA REGION- KENYA .....	296
APPENDIX XIV: DISTRIBUTION OF PEOPLE WITH HI BY RESIDENCE IN NYANZA REGION COUNTIES .....	297
APPENDIX XV: BOARD OF POSTGRADUATE AUTHORIZATION LETTER.....	298

APPENDIX XVI: ETHICAL REVIEW COMMITTEE AUTHORIZATION .....299  
APPENDIX XVII:RESEARCH LICENSE.....300  
APPENDIX XVIII: PUBLICATIONS -1 .....301  
APPENDIX XIX: PUBLICATIONS -2 .....302  
APPENDIX XX: PUBLICATIONS -3 .....303

## LIST OF TABLES

Table 1.1: KCSE Mean Score of Special Secondary Schools for the HI in English and KSL for the Years 2021, 2020, 2019, 2018 and 2017-----	16
Table 1.2. Performance of Form 4 learners with HI in various sections of the English Paper in various Sub County Joint Evaluation Tests, in the year 2022-----	19
Table 1.3. Performance of Form 3 learners with HI in various sections of the English Paper in Sub County Joint Evaluation Tests, in the year 2022-----	20
Table 1.4. English Results of 3 schools of learners with Visual Impairment for the KCSE examinations administered in 2021, 20202 and 2019-----	21
Table 2.1. Common Mode used as reported by Head Teachers -----	43
Table 2.2. Possible Indications in Attitudes Shown by Respondents Toward Malaysian Sign Language and People with HI-----	52
Table 2.3:A comparison of learners with Hearing Impairment and the hearing learners in their ability to understand printed words in percentages -----	69
Table 3.1: Target population of the study-----	85
Table 3.2: Sample size for the study -----	88
Table 3.3 A sample of interview excerpts, themes and codes -----	98

## LIST OF FIGURES

Figure 1.1. Interaction of Selected Sign Systems Variables that have Implications on Students with HI Performance in English-----	29
Figure 2.1. Pictorial representations of the grammar being taught in one of the schools for the HI in Grade 1 and 2 in Zambia-----	36
Figure 4.1a A Lesson Observation Guide showing sign systems used in class -----	108
Figure 4.1b A Lesson Observation Guide showing sign systems used in class -----	108
Figure 4.1c A Lesson Observation Guide showing sign systems used in class -----	108
Figure 4.2 A section of Minutes of the Languages Department Meeting -----	118
Figure 4.3a A Sample of Form Three Examination Test -----	119
Figure 4.3b A sample of a Form 3 an imaginative Composition by a form 3 student with HI-120	
Figure 4.4. A section of Lesson Observation Guide showing sign systems used by students in responding to questions -----	121
Figure 4.5 A Lesson Observation Guide showing ToE Switching from one sign system to another -----	125
Figure 4.6 A Lesson Observation Guide showing Learners response -----	130
Figure 4.7 A Form Three Students’ test results on Tenses -----	136
Figure 4.8 A Form Three Students’ test results on Vocabularies -----	138
Figure 4.9 A Form Three Students’ test results in KSL on Fingerspelling-----	139
Figure 4.10 A Form Three test on Rewriting Sentences using given words -----	140
Figure 4.11 A section of Form Three Student English Notebook-----	142
Figure 4.12 A Form Three test on Sentence Punctuation-----	142
Figure 4.13a. A Lesson Observation Guide showing sign systems used by ToE-----	147
Figure 4.13b. A Lesson Observation Guide showing sign systems used by ToE-----	148
Figure 4.14. A Section of Form Three Student Notebook-----	156
Figure 4.15a. A Lesson Observation Guide showing sign systems used by ToE-----	157
Figure 4.15b. A Lesson Observation Guide showing sign systems used by ToE-----	157
Figure 4.16a. A Section of Minutes of Languages Department -----	158
Figure 4.16b. A Section of Minutes of Languages Department -----	159
Figure 4.16c. A Section of Minutes of Languages Department -----	159

Figure 4.17. A Section of Lesson Observation Schedule .....	164
Figure 4.18. A Section of Lesson Observation Schedule .....	168
Figure 4.19. A Section of Minutes of Languages Department .....	172
Figure 4.20. A Section of Lesson Observation Schedule .....	181
Figure 4.21 A Form Three student English Notebook .....	182
Figure 4.22 A Section of a test on a set book attempted by a pre-lingual learner with HI-----	186
Figure 4.23 A Section of a test on Functional Writing attempted by a pre-lingual Form 3 learner with HI-----	187
Figure 4.24a. Cover page of Form 1 English Text Book for the HI-----	194
Figure 4.24b. Cover page of Form 3 English Text Book for the HI-----	194
Figure 4.25. A Section of Form 3 English Text Book for the HI .....	194
Figure 4.26a. A Section of Form 3 English Text Book for the HI .....	195
Figure 4.26b. A Section of Form 3 English Text Book for the HI .....	195
Figure 4.27. A Section of English Syllabus for Learners with HI for Form 3-----	196
Figure 4.28. A Section of Teachers Notes for English for Form 3-----	197
Figure 4.29. A Section of test of Form three student with HI .....	199
Figure 4.30. A Section of test of Form three student with HI .....	200
Figure 4.31. A Section of KSL Dictionary .....	203
Figure 4.32. A Section of English Dictionary .....	203
Figure 4.33. A Section of Lesson Observation Guide .....	205
Figure 4.34. A Lesson Observation Guide on how students use Group Work-----	212
Figure 4.35. A Lesson Observation Guide on how students use Group Work-----	213
Figure 4.36. A Section of Minutes of Languages Department Meeting on Team Teaching ----	214
Figure 4.37a. A Lesson Plan for Form Three English-----	215
Figure 4.37b. A Lesson Plan for Form Three English-----	215
Figure 4.38. A letter by Drama Club organizing to stage a play of the River and the Source--	216
Figure 4.39. A Section of an English Test attempted by a form 3 student with HI .....	220
Figure 4.40. A Section of an English Test attempted by a form 3 student with HI .....	221
Figure 4.41. A form three English Scheme of work-----	224
Figure 4.42. A Section of form three English Scheme of work-----	224

Figure 4.43. A Section of a form three Learner’s response on a test on Riddles -----	230
Figure 4.44. A Section of a form three Learner’s response on a test on Comprehension-----	231
Figure 4.45a. A Section of a form three Learner’s response on question on a set text on The Blossoms of the Savannah-----	232
Figure 4.45b. A Section of a form three Learner’s response on question on a set text on The Blossoms of the Savannah-----	232
Figure 4.46. A Section of a form three Learner’s response on question on a set text on The Fathers of Nation-----	233

## ABBREVIATIONS & ACRONYMS

### ABBREVIATIONS

CLIL-	Content and Language Integrated Learning
DHH-	Deaf and Hard of Hearing
ECDE	Early Childhood Development and Education
GoK-	Government of Kenya
HI-	Hearing Impairment/ Impaired
ICT	Information, Communication and Technology
KICD-	Kenya Institute of Curriculum Development
KSL-	Kenyan Sign Language
MoE-	Ministry of Education
PWD-	Person(s) with Disabilities
SEN-	Special Educational Needs
SNE-	Special Needs Education
UN-	United Nations
ASL –	American Sign Language
BSL –	British Sign Language
CSL –	Chinese Sign Language
FSL –	French Sign Language
HL –	Hearing Loss
KSDC –	Kenya Society for Deaf Children
OSV--	Object Subject Verb
SE –	Signed English
SEE -	Signed Exact English
SL –	Sign Language
SOV-	Subject Object Verb
SVO-	Subject Verb Object
TC-	Total Communication
ToE	Teacher of English

KNAD-	Kenya National Association of the Deaf
KCSE	Kenya Certificate of Secondary Examinations
KCPE	Kenya Certificate of Primary Examinations

## **ACRONYMS**

ASHA	American Speech – Language Hearing Association
EARC-	Educational Assessment & Research Center
IDEA-	Individuals with Disabilities Education Act
KNUT-	Kenya National Union of Teachers
KISE-	Kenya Institute of Special Education
MoEST-	Ministry of Education Science and Technology
TPAD-	Teacher Performance Appraisal Document
UNESCO-	United Nations Education, Social and Cultural Organization

# CHAPTER ONE

## INTRODUCTION

### 1.1. Background to the Study

The role that language plays in the society is very important. It creates ties, hence facilitating unified social actions (Diamond, 2014). There are various functions that language is endowed with, the basic function being communication. Fafunwa (1990) asserts that language is a product that is integrated in the community and it develops as the needs of the community and culture increases. This is also true with the reduction in complexion. In essence, language is the pointer of the progress of the society, and the society grows and develops together with language. Mother tongue can be used as a channel through which knowledge is imparted in both formal and non-formal settings. According to Fagerberg-Diallo (2006), the language(s) used at the community level when used in reading and writing will trigger learning and improve the academic performance of learners.

Language continues to develop throughout life as the individual interacts with others who share the same language. First, it is used as a tool for Communication. Though communication is defined variously, this study adopts the definition by Bloom and Lahey (2007) who view it as the process where information, ideas and experiences are exchanged. The exchange takes place between different participants through spoken, written or signed media. The spoken and written languages have the power that enables people to communicate in diverse ways such as through letters or e-mail to friends and relatives from regions far apart, through the phone, or through television where we can have live coverage as if we were at the center of the events (Akmajian, Demers, Farmer, & Hamish, 2001). Ogutu (2004) asserts that the use of language in whatever mode or system is a major vehicle to effective communication which leads to success in education.

Language is a tool for learning. It is a vehicle of thought hence plays a critical role in the thinking and learning process. Different types of learning are dependent on the individuals' mastery of language (Ogutu, 2004). However, for someone who has not mastered English

language, then language will be used to ask for clarification of ideas to develop concepts or information that is unclear and also to find out more about things that they have observed. Language is also used as a tool for social interaction. It is evidenced in the definition of language as a socially shared code for communication among human beings (Fagerberg-Diallo, 2006). Language is used for interaction with others in order to maintain personal relationships (Akmajian et al, 2001). Through language, people are able to express their feelings to others hence build social relationships, discuss or share ideas with others, present or argue their points of view out in order to convince others to look at things from their own perspective, for example during debates people share experiences with others by describing what they have seen. It is therefore imperative that language plays a major role in the education of all people, especially the children (Ogutu, 2004)

The United Nations Convention on the Rights of the Child (UNCRC-1989) espouses the rights of children with hearing impairment as all other children despite their communication barriers. This document is a legally-binding international agreement setting out the civil, political, economic, social-cultural rights of every child, regardless of their race, religion or abilities. These rights encompass the right to access all basic necessities including education . It is however noted that lack of effective communication hinders them from being able to express their views and receive the same attention that children without hearing impairment receive. This is an experience they encounter at home, in school and in the wider community at large (MacCracken & Sutherland, 2013)

Learning takes place at different levels. However, hearing provides a basis for almost all kinds of learning an individual is subjected to. A child is expected to respond to sound stimuli after some weeks from the date of birth. However, for this to happen, the child's auditory system must be well developed. Children with well-functioning auditory perception usually respond to the voices of parents and also identify them. This is made possible through auditory discrimination. The effectiveness of learning is only made possible when all the five senses a human being has are fully integrated. In this, hearing is no exception. According to Akmajian et al. (2001), early

discrimination of and response to sound stimuli recorded by the child marks very important characteristics of early development of the auditory system that makes parents cheerful.

Moore (2001) perceives early indicator of hearing loss as when a child expresses inability to hear and discriminate sound sensations and is therefore unable to respond to sound cues. Consequently, this would exert a number of challenges on their learning. At this stage, terms such as: hard of hearing, deaf or hearing-impaired are used to describe a child with a hearing loss (Moore, 2001). Generally, the society sees more challenges that such children are likely to face than achievements even when they are sent to school. According to Martin (2001) most parents opt for sending learners with hearing loss to boarding schools as a relief so that they are out of their sight. Generally, most homes have a predominantly speaking environment, otherwise there can be no proper communication at home for learners with hearing impairment. Because of this situation, many children with HI dread going back home during school holidays. The situation sharply contrasts with that in schools for the hearing students where children always look forward to closing school and going back home. The apparently unusual behaviour of the children with HI is attributable to the fear of going back home where there is a communication vacuum, making the school environment, where they sign with other children with HI, much better for them (Okwaro & Bakari, 2003). This attitude of the society towards children with hearing impairment makes such children grow up with minimal exposure that further makes them exhibit peculiar developmental patterns like inattention, failure to complete given tasks and other memory related issues. Indeed, it can be surmised that members of the community subject majority of children with hearing loss to underperformance in terms of academic achievements (Moore, 2001).

According to Kirk (2007) loss of hearing can be mild, moderate, severe or profound depending on the cause, seriousness and the age of onset. The skill of hearing is very important in the concepts of abstractions and mental representations which inform reasoning skills that directly affect academic performance. Children with hearing impairment do not have the capacity to associate sound and object. This greatly affects them since it is an important cognitive process that leads to limitation in the way they process their learning. Learning, for learners with Hearing

Impairment (HI), does not take place holistically since they do not have all elements of communication. While the other learners have the elements of sound, learners with HI depend majorly on the use of sight which poses constraints to their academic progression.

Children with hearing impairment usually prefer being referred to as deaf to hearing impaired. In a situation where a child who may be having some ability to use oral language and embrace it, the HI peers may reject them. Their justification is that they perceive this as a rejection of their own culture where they are supposed to use sign language (Kirk, 2007). The effects of this will automatically be felt in the academic performance of the learner with HI since the learner needs to interact and socialize with the peers adequately (Vygotsky, 1978).

Spoken language is the predominant mode of communication. In this case, other forms of communication, including sign language are marginal since the majority do not use it, nor do they know it. One main reason that makes sign language marginal is that it is a visual gestural system and mainly used by the HI who are a minority group. A HI person therefore cannot make use of the vocal - auditory channel used by the majority for communication. Sign Language, thus, offers the HI a communication alternative to the verbal-auditory channel that is inaccessible to them. Based on this, Article 21 of the Salamanca Framework for Action (1994), states that owing to the particular communication needs of learners with hearing impairments, their education may be more suitably provided in special schools or classes and units in mainstream schools. Sign language is the mode of communication that is used in these institutions. However, this was not adopted at the same time in all countries. In addition, lack of universality of signs is also an issue in education of the HI.

Sign language originated from France by Abbe Charles de L'Eppe who is regarded as the father of sign language. de L'Eppe started the initiative of using sign language in the 16<sup>th</sup> century. This came as a result of his interaction with HI people who were using signs to communicate. Charles took an initiative of refining these signs and later adopted them to become sign language. The sign language that was used in France was then formalized and spread to United States of America and other parts of Europe as well. Since then, there has been many myths and

misconceptions regarding sign language but the deaf community across the world embrace it to the core (Padden & Carol 2003). In the field of education, sign language dates back to when HI people started using it to communicate among themselves. However, the documented use of sign language is traced to classical Greece society when Socrates [469-359 BC], in his book, Levinson shows how important Greeks thought of the value of Sign language. St. Augustine also made a reference to Sign Language as a mode of communication used to reach HI people for Christ.

Natural sign languages are clearly very similar to natural spoken languages in many significant ways. Sign languages are conventional communication systems that arise spontaneously in all deaf communities. They are acquired during childhood through normal exposure without instruction. (Okwaro & Bakari, 2003:7). Every country has its own sign language. This is due to the fact that signs are generated from the community and therefore the difference in the cultures lead to variations in signs. As a result, each country has its own sign language. Okombo and Akach (1997) assert that people within a country share more or less the same experiences and thus the process of abstraction (i.e. giving meanings to signs) among them tends to be similar. This leads to the situation where there exist national sign languages such as Kenyan Sign Language (KSL), British Sign Language (BSL), Ugandan Sign Language (USL), American Sign Language (ASL) among others. This leads to the creation of a deaf culture within the dominant hearing culture and like all co-cultures, they form a community (within their respective nations) partly by exclusion (from the hearing culture) and partly by congregating together. They thus form a community of signers (users of SL) who are also members of the Deaf culture.

Historically, sign systems dates back to the mid-20th century in the United States of America when some educators of the Hearing Impaired came up with an idea of making English visible by representing the spoken word in the sign form. This gave rise to Sign Systems. Richard Paget (1951) was one of the earliest educators who developed such a system. He called it the “Systematic Sign Language” and published an account of it in 1951. Paget (1951) first proposed that a sign is representation of English word and therefore signs should be ordered in the same way that English words are ordered. About a decade after the formal publication or a description of the Systematic Sign Language, another educator- David Antony, began working with

individuals with Hearing Impairment in Michigan with the same ideas and goals. Antony, devised a system called Seeing Essential English (SEE-I), which sought to represent the sound, spelling and meaning of parts of English words, more specifically, word roots, prefixes and suffixes. This was not so much different from what Paget (1951) had developed. Disagreements concerning the rules of the system resulted in a second sign system named Signing Exact English (SEE-II). This system was developed by Gerilee Gustason, Pftzig and Zawalkov in 1972. SEE-II was best characterized as an attempt to limit SEE I, in order to prevent the system from becoming so distant from American Sign Language (ASL) that it was rendered unintelligible to ASL signers. In 1983 Harry Bornstein and Karen Saul near developed another system, "Signed English (SE)" This system was specifically for use by and with pre-school and elementary level hearing impaired children in United States of America. In this system, gestures or signs are used to represent the meaning of words. There is an ongoing discussion on the effectiveness of sign systems in the education of the HI. Ruth (2018), posits that teachers of learners with hearing impairment should endeavor to expose learners to different sign systems of the tense for irregular verbs and use of continuous tense markers by use of Signed English (SE), Signed Exact English (SEE), plural and singular markers in written English.

In the Kenyan Context, there are three sign systems which are in use by the various practicing stakeholders. These sign systems are not only used in special schools for learners with hearing impairment but also outside the institutions of learning. These systems include Signed Exact English (SEE), Signed English (SE) and Kenyan Sign Language (KSL). Fingerspelling is integrated in all the three systems. SEE, just like all other sign languages, is a manual form of communication. Its vocabularies are in English and the word order used is same as that of English. Besides, its syntax (sentence structure) is in the form of English language. One unique thing with this sign system is that the signs are superimposed on words in English sentences but suffixes such as "-s" and "-ing" are indicated by finger spelling. The second sign systems which is Signed English uses sign words and sign markers and in each case, each sign stands for an English word and the arrangement of the signs are in exact adherence to the English sentence order. Signed English uses fourteen markers. Majorly, the sign markers indicate plural or singular tenses or show possession for an object. In this system, some words are left out. Word

classes like articles, interjections and prepositions are not signed. The suffixes in English therefore are often dropped enabling the signer to speak easily while signing and to keep pace with spoken English (KIE, 2002). It is based upon signs drawn from sign language, for example KSL and expanded with words, affixes, tense markings and endings to give a clear and complete visual representation of English for educational purpose. Fingerspelling through the use of manual alphabet, on the other hand represents letters of the alphabet using the fingers in the form of handshapes. This is integrated in all the three sign systems, especially in a case where there is no known sign for a given word. In fingerspelling, each letter of the alphabet is represented by its own handshape. There are two types of manual alphabets; one handed manual alphabet and two-handed manual alphabet (Okwaro & Bakari, 2003). Some countries like England, Australia and New Zealand use two-handed manual alphabet while the one-handed system is used in Kenya, United States, Ireland, Singapore, the Philippines among others. In South Africa both one- and two-handed alphabets are used. The last sign system is Kenyan Sign Language. The researcher adopted the definition of KSL as mother tongue to the deaf community in Kenya as given by KIE (2014). Kenyan Sign Language is a language used by the hearing impaired in Kenya (Adoyo, 2004). KIE (2002) defines KSL as a visual-gestural language used by HI persons in Kenya. Kenyan Sign Language is a language that uses manual symbols to represent ideas and concepts. It is independent of any spoken language (KIE, 2004). Its sentence features and grammatical rules are different from any other language. Information in KSL is written by glossing in any form that is understood and is acceptable to a given deaf community. In most cases KSL is glossed in English, this is simply because English is the official medium of instruction from upper primary to higher level of education system in Kenya. Kenyan Sign Language is not random. According to Kenya National Association of the Deaf (KNAD-2001), there are certain orders that can be used while others cannot. The most used being: SVO, SOV and OSV (S= SUBJECT, V= VERB O=OBJECT). The OSV sign order seem to be the most preferred in KSL. According to Zambian National Association of the Deaf - ZNAD (2001), sign language largely follows the sentence structure of Object Subject Verb (OSV). For example, "The girl is kicking the ball" maybe written as BALL/GIRL KICK. Glossing in KSL is the writing of spoken words in capital letters. Glossed sentences are

punctuated by using a slash (/) for a comma and double slash (//) to denote a full stop (KIE, 2004)

Example: KSL: IF INTERPRETER THERE / ME GO //

English: I will go if there is an interpreter. (KIE, 2004)

A glossed sentence has its meaning enhanced by using non-manual features and facial expressions. These are critical aspects in sentence formation because they give more meaning by showing the mood of the speaker. English grammar is divided into morphology, which describes the formation of words and their meanings and then syntax, which describes the construction of meaningful phrases, clauses, and sentences out of words.

According to KIE (2014), KSL is the sign language regarded as the mother tongue to the deaf community in Kenya. Martin (2001) further asserts that the same applies to all other countries, such that the national sign language of each of the respective countries will form the mother tongue of the deaf in each of the countries. The development of KSL was heavily based on the grammatical structure of size, shape and position of things. This was also connected to objects in space (Gargiulo, 2006). As in most of the African countries' sign languages, the grammar of KSL was borrowed from ASL. The adoption of KSL to be the medium of instruction, in the schools for the HI, and later on as an examinable subject was hoped to enhance academic performance of students with deafness at secondary school level (KIE, 2008). However, there is a debate as to whether this system is serving the purpose for which it was intended.

Sign languages that are used in English-speaking countries are not uniform (Gravel & O'Gara, 2003). In the Arab Countries, Arab Federation of the Deaf, which promotes the understanding of Arabic sign language, developed a uniform sign language for Arabic countries. In 2001, the Federation approved the Unified Sign Language Dictionary to enable the entire Arabic deaf community to use Arabic sign language (Alamri, 2017).

In Kenya, documentations regarding HI people started in the year 1958 when the Kenya Society for Deaf children was established (Ndurumo, 1986). By then, the official language of instruction that was being used was oral. However, the students had the audacity to use sign language

outside classroom. As time went by, there arose the need to use sign language in schools for the HI and by 1981, the MoE proposed a program that saw the separation of schools for the HI into two groups to cater for oral/aural (oralists) and sign language (manualists). A proposal by Dr. Ndurumo (1986) to the Hearing-Impaired Subject Panel of Kenya Institute of Education (now Kenya Institute of Curriculum Development) saw the acknowledgement of the need to have a specific sign system for instruction in special schools for the HI, which led to official adoption and acceptance of sign language as a medium of instruction in 1988. However, this came along with its own challenges especially on how to have the same implemented in schools. A number of concerns were raised including lack or shortage of KSL books and too basic vocabulary used by the HI which proved inadequate for instructional purposes. The vocabulary was consisting of numbers, pronouns, towns and other concrete based signs (Ndurumo, 2008).

There has been a record number of efforts and measures that have been undertaken by various stakeholders to promote Kenyan Sign language as a medium of instruction in schools for academic purposes. However, a number of Special Needs Educators within the schools for the HI have had contrary opinions on the use of KSL. While some schools hold that instructions given to the teachers and students with hearing impairment should strictly use Signed Exact English during teaching and learning, some hold that KSL is better placed to be used as a system (Adoyo, 2004). There is an ongoing debate among various scholars on the sign system that should be used in the classroom for learners with hearing impairment for academic purposes. Adoyo (2004) maintains that KSL is the most easily understood sign system by the HI while those who hold on to SEE critique KSL indicating that it is a mother tongue hence cannot be used for instruction in other learning areas especially for academic competency and performance. They also say that using KSL will deny the Learners with hearing impairment competition in the training opportunities and the job market since they will be seen as having done a completely different examination (Hallowell & Silverman, 2008).

Kenya has experienced a record number of special schools which have been established all over the country to cater for learners with disabilities. The hearing-impaired learner is a beneficiary of this and has seen Kenyan Sign Language (KSL) gain legal recognition (Constitution of Kenya

2010). The curriculum body in Kenya in the year 2004 (KIE currently KICD) in concurrence with Adoyo (2004) suggested that teachers of English should consider using KSL when teaching English to learners with HI. Wamae (2002) further asserts that it is logical to use KSL as a language of instruction in the classes for learners with HI. Adoyo (2004) further argues that KSL is easier for learners with HI as it enables them to understand and recall concepts. However, the questions on how KSL is helping learners with HI to comprehend concepts, write competently, undertake fluent and complex composition in Standard English in classes are still glaring (Wamae, 2002).

The language policy in Kenya was first developed and informed during the colonial era following the invasion and annexation of the African continent by European powers (Nabea, 2009). However, after then, there has been a number of commissions (Ominde 1964; Gachathi 1976; Mackay 1980 among others) which were instituted to inform the language policy but only a few recommendations made by such commissions were put in practice. Gachathi (1976) recommended that the language used in the catchment area be used for instruction up to Grade 4 then English takes over as a medium of instruction from Grade 4. As a result, English was considered as the official language of communication and was seen as more advanced compared to the native languages. This gave English language a higher status symbol to anyone who learnt it hence they began abominating the peasant majority thereby becoming alienated from the values of their native language (Nabea, 2009).

A number of scholars contend that the language used during classroom instruction always influence the eventual performance of students (Guloba, Wokadala & Bategeka, 2010). In the case of the learners with hearing impairment, the sign system (which is the language of instruction) used for classroom instruction also plays a role in determining the comprehension level. Sign language systems in the education of the learners with HI facilitate interaction among the students themselves, the teachers as well as other members of the school community where learning takes place. Adoyo (2004) and Irokaba (2006) contend that learners with HI perform below average as a result of the sign systems that are used during classroom instruction.

The use of sign systems has received little or no attention among the commissions formed in Kenya yet it is often among the issues on the table when it comes to the special schools for the HI. There is therefore no known clear-cut policy on the use of KSL as the MT of the deaf in Kenya. The only document is The Kenya Sign Language Bill of 2021 which was published in the Kenya Gazette Supplement number 25 of 8<sup>th</sup> March, 2021 and passed by the Senate of Kenya with amendments on 11<sup>th</sup> January, 2022. The Bill was received in the National Assembly on 2<sup>nd</sup> February, 2022, but is yet to be assented to. In the Kenya Sign Language Bill of 2021, there is no clear information on which sign language system(s) should be used during classroom instruction.

Spoken language and sign language are different. While the policy in place gives clear and distinct guidelines regarding the spoken language of instruction to be used in schools, it is still very silent on the part of the sign systems that should be used during instruction in special secondary schools for the HI in Kenya, especially for English lessons, considering that KSL uses English words and the learners with HI do not take Kiswahili as a learning subject.

Very few hearing people (including the policy makers) are aware of the differences that exist between English and KSL thus the impact that KSL has on the English as a subject and on comprehension of other subjects which are examined in English. In the language policy, the statement which directs that “language used in the catchment area is used as a language of instruction in the lower grades and English takes over as a medium of instruction from Grade 4” emanates from people who are in the era where language was seen as equivalent to speech. This does not necessarily apply to learners with HI. Majority of HI learners are born in an environment where the language of the catchment area is spoken. That is, the parents and immediate family members are hearing people hence they use spoken language in communication. What happens to them when they reach Grade 4, where again a spoken language is supposed to take over? These are some of the issues that are yet to be addressed in as far as the education of the deaf is concerned, hence the gist of this study.

Mitchell (2008) raises the concern of the significantly poorer reading comprehension, literacy skills, and overall depressed academic performance among learners with HI when compared to

their hearing peers. Further, Allen (1994) reports that more than half of the students with HI in United States were reading below the fourth-grade level at the time of their high school graduation and that only 7–10% of deaf high school graduates were reading at the seventh-grade level or above (Cawthon, 2004).

Studies undertaken by Rose, McAnally and Quigley (2004); Marschark and Wauters (2008); and Paul, Wang, Trezek and Luckner (2009) all point at a low vocabulary knowledge by students with HI. Factors such as less exposure to words in the environment because of hearing loss and weak reading abilities are associated with this limitation in vocabulary acquisition. This agrees with studies undertaken by Lederberg and Spencer (2001) and Musselman (2000) who linked low vocabulary knowledge by learners with HI to delay in building their level of vocabulary knowledge; smaller lexicons (human mental dictionary), reduced rates of new words acquisition and narrow range of contexts as well as difficulty in understanding multiple word meanings, for instance, man as a noun and also a verb.

According to KICD (2004) the teachers of English are to devise strategies that will make learning of English interesting. The curriculum further projects these strategies to include dramatization, role play, sign reading, summarizing, use of the dictionary, silent reading, note making, group discussions, book reports, skimming and scanning. However, the curriculum does not specify which sign system teachers are supposed to deploy as they make use of these strategies. Students with HI have continued to perform below average in English hence the need for this study.

Kenyan Sign Language as a subject was first introduced into school curriculum after the Geneva Conference of 2008. KSL replaced Kiswahili as a second language for learners with HI (Geneva Conference, 2008), yet not much improvement has been observed in the way learners with HI perform especially in English. According to the English syllabus objectives, by the end of form four, a student with HI is expected to: read and understand a range of texts; enjoy reading literary and non-literary material; demonstrate awareness of contemporary issues and acquire a long-life interest in reading. These are some of the major areas in the English subject. In addition, the student should be able to apply reading comprehension skills such as recall, analysis, synthesis,

summary and note making (KICD 2013). In Kenya, however, learners with HI still complete school when they can barely read, write, or undertake comprehension and grammatical tasks effectively. A number of studies have connected the low performance to inappropriate sign system of instruction as the key issue (Adoyo, 2001; Maina, Oracha & Indoshi, 2011). Maina (2018) in a different study also associates the deficiency in English with the poor performance in Social Studies. Studies undertaken by Simeonsson and Rosenthal (2001) indicated that learners with HI display more serious problems in reading English language in general. This deficit in reading is closely associated with the failure or below average performance by learners with HI especially in English (Polloway, Patton & Serna, 2008). The deficit contributes to loss of self-confidence and self-esteem among learners with hearing impairment.

A study conducted by Otieno (2010) showed that lack of proficiency in English exhibited by learners with HI lowers their general performance in academics especially in the subjects whose language of instruction and examination is English. Owino (2018) concurs and adds that proficiency in English determines the performance of learners with HI in mathematics. This is due to the fact that English is a service skill. It is therefore used in teaching and examining all subjects in secondary schools for learners with HI other than KSL. Ogada (2014) agrees with Otieno (2010) by observing that hearing impairment primes to meager language development. Ogada (2014) espouses the critical role played by language in a child's literacy learning. 90% of children with HI are born from hearing parents (Ogada, 2014). This means that majority of Children with HI are with scores low on literacy test whether the language was spoken or signed until they start school leading to delay in language development.

Students with HI always experience a lot of challenges in learning English. Lucas (2001) states that learners with HI whose first language is sign language experience challenges in writing English composition since sign languages are not written languages. According to Moses and Mohamad (2019) English language writing has always been a challenge for second language students to master. Moreover, writing has always been a major difficulty faced by students in English language learning. Furthermore, teachers of English language in most schools are faced with the challenge of developing students' ability in writing. Misbah, Mohamad, Yunus and

Ya'acob (2017) posit that lack of vocabulary has caused the students to face challenges in acquiring writing skills. Afrin (2016) also adds that students have the habit of spelling according to their pronunciation and this leads to wrong spelling. The results from Marschark, Sapere, Convertino, Seewagen and Maltzen (2004) also point to low level of awareness by the HI students on their capability to undertake reading comprehension than their hearing peers.

The sign systems that special needs educators use for their students are determined by their beliefs, perspectives and decisions (Woolfolk Hoy, Hoy & Davis, 2009). Dada and Atlanta (2002) add that the sign systems used by the special needs educators is not only associated with teaching practices but also with the features displayed by students such as special educational needs. A study conducted by Siima (2011) indicate that special needs Educators supposed learners with HI as slow learners and this prejudiced their acquaintance and use of approaches in teaching reading and writing. Another study by Ludago (2014) opine that most special needs educators for learners with HI in Ethiopia were not spirited and psychologically ready to do their duties as expected. The current study employed self-reports and observations to compare teachers' perspectives towards sign systems and their actual classroom practices.

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

An integrated approach is adopted in the teaching of English where four skills are taught namely listening, speaking, reading and writing. Bunyasi (2010) points out the efforts that have been put in place to improve the academic standards of the students with HI. However, this has not been realized as performance is still depressing. In the article report of Kenya National Examinations Council (KNEC, 2009), Lewis (2009) discloses some language divergences used in the educational activities of students with HI.

In Kenya Certificate of Secondary Education examinations, students with hearing impairment perform below average. (KNEC; 2021, 2020, 2019, 2018 and 2017). This can be confirmed in Table 1.1 which shows the mean scores in English versus KSL for A, B, C, D, E and F secondary schools for the HI in Kenya for the 5 years, that is, 2017 to 2021

**Table 1.1: Kenyan Secondary Schools for the HI K.C.S.E. English and KSL Mean Scores for the Years 2021, 2020, 2019, 2018 and 2017**

Year	2017		2018		2019		2020		2021	
Subject/School	ENG	KSL	ENG	KSL	ENG	KSL	ENG	KSL	ENG	KSL
A	3.0	8.0	2.4	8.6	2.9	9.7	4.1	9.6	3.8	10.8
B	-	-	2.1	8.7	2.0	6.4	2.2	5.6	2.6	8.9
C	2.4	9.7	2.3	8.7	2.4	6.8	3.0	8.9	2.3	8.2
D	1.7	7.93	2.2	8.7	1.8	5.8	2.1	5.6	2.8	8.9
E	-	-	-	-	-	-	2.5	7.5	2.0	7.6
F	1.41	7.9	1.67	8.6	1.47	4.37	1.49	7.6	2.42	6.5
<b>MEAN SCORE</b>	<b>2.4</b>	<b>8.5</b>	<b>2.3</b>	<b>8.7</b>	<b>2.3</b>	<b>7.2</b>	<b>2.8</b>	<b>7.4</b>	<b>2.7</b>	<b>8.9</b>

*Source: County Directors of Education (Siaya, Busia, Migori, Bomet, Vihiga, Nandi)- 2022*

**NB:** *School B had not registered KCSE candidates before the year 2018  
School E had not registered KCSE candidates before the year 2020*

**KEY:**

ENG- English, KSL- Kenyan Signed Language,

Special secondary schools for the HI have been posting a below average record in the results of English in Kenya Certificate of Secondary Education examinations. This is depicted in table 1.1. In the years 2017, 2018, 2019, 2020 and 2021 out of the mean of 12, students registered mean scores of 2.4, 2.3, 2.3, 2.8 and 2.7 respectively. All these grades were D Minus (D-) (K.N.E.C. results, 2017- 2021). In the KNEC grading system, these results are regarded below average and may not enable the students to pursue courses that are popularly regarded as competitive and marketable. Even if the affirmative action is considered, learners with HI who score such grades may not get admission in higher institutions of learning like teachers' training colleges. The reason for this low performance is suspected to be associated with the sign system used in the classroom.

In Kenya, English final national examination at secondary school consists of three papers. These are: English Paper One (101/1) which is marked out of 60 and tests on functional skills, cloze test and oral skills. Paper Two (101/2) which is marked out of 80. It tests on comprehension, literary appreciation and grammar. Paper Three (101/3) is marked out of 60, tests creative and imaginative writing and essays based on set texts. In relation to the total marks from the three papers, reading comprehension accounts for 105 marks, which represents 52.5%, writing accounts for 40 marks, which represents 20%, grammar accounts for 25 marks which represents 12.5% and finally, receptive and expressive skills together with oral skills accounts for 30 marks which represents 15%". It is clear that reading comprehension carries the highest percentage, but this does not lower the value of the other sections tested. Given that reading and comprehension are also needed in other subject areas where the HI too are examined, then this may have an influence on HI students' academic performance in English. Apart from the first three highest skills in English, that is, Reading Comprehension, writing and receptive and expressive skills being important skills in English, they are also service skills in other subjects written in English. There is no doubt therefore, English as a subject has an influence on the overall academic performance of HI students.

A spot check on the performance in the specific areas also showed that the learners with hearing impairment face challenges across the sections that are examined in the English paper. This is

evident in Table 1.2 and 1.3 which show English results of Form 4 and Form 3 sub county joint examinations that were conducted in the year 2022.

**Table 1.2. Performance of Form 4 learners with hearing impairment in various sections of the English Paper in various Sub County Joint Evaluation Tests, in the year 2022**

Skill Area/ School	Reading comprehension			Grammar		Writing		Expressive, Receptive and Oral Skills
	Section	Compre hension	Literary Appreciation	Essays from Set Texts (2)	Grammar	Cloze Test	Functional Writing	
<b>Maximum Score</b>	25	40	40	15	10	20	20	30
<b>A</b>	6.17	3.5	2.3	7.17	5.0	6.83	3.5	5.0
<b>B</b>	2.5	1.83	1.73	2.67	1.83	2.83	2.67	1.83
<b>C</b>	3.83	3.17	3.17	2.33	2.5	2.8	3.1	2.5
<b>D</b>	3.33	0.5	2.33	2.67	0.33	5.33	3.33	3.67
<b>E</b>	5.8	3.25	1.7	1.2	2.2	4.2	2.8	8.4
<b>F</b>	4.0	1.145	1.36	0.00	1.43	4.0	2.0	3.72
<b>Average</b>	4.405	2.233	2.098	2.67	2.215	4.332	2.9	4.187

*Source: County Directors of Education (Siaya, Busia, Migori, Bomet, Vihiga, Nandi)- 2022*

**Table 1.3. Performance of Form 3 learners with hearing impairment in various sections of the English Paper in Sub County Joint Evaluation Tests, in the year 2022**

Skill Area/ School	Reading comprehension			Grammar		Writing		Expressive, Receptive and Oral Skills
	Section	Compre hension	Literary Appreciation	Essays from Set Texts (2)	Grammar	Cloze Test	Functional Writing	
<b>Maximum Score</b>	25	40	40	15	10	20	20	30
<b>A</b>	3.5	2.0	1.92	5.3	1.2	3.33	3.3	2.0
<b>B</b>	6.17	3.5	5.0	7.1	2.1	6.83	3.5	5.1
<b>C</b>	6.1	2.67	5.2	8.4	2.6	4.2	2.8	8.4
<b>D</b>	4.0	1.15	1.36	0.00	1.43	4.0	2.0	3.72
<b>E</b>	6.3	3.3	3.1	8.1	2.2	4.5	4.4	6.8
<b>Average</b>	5.214	2.523	3.316	5.78	1.906	4.572	3.2	5.204

*Source: County Directors of Education (Siaya, Busia, Migori, Bomet, Vihiga, Nandi)- 2022*

From tables 1.2 and 1.3, it can be clearly seen that learners with HI perform below average in all English skill areas. In reading comprehension which accounts for 52.2% of all marks in English paper, form 4 students with HI have an average of 2.912 out of the possible 105 while form 3 have an average of 3.684. In writing skill too, the learners with HI have below average performance with form 4 having 3.616 while Form 3 have 3.886. The low performance across the skill areas in the sub county joint examinations may not be so much different from what may be witnessed in the National Examinations as shown in Table 1.1.

While learners with HI seem to be grappling with below average performance in English, learners with visual impairment seem to be performing averagely in the same subject. This raises further questions on the cause of the low performance among the learners with HI. Table 1.4 shows the performance of three schools for learners with visual impairment for the KCSE examinations administered in 2021, 2020 and 2019

**Table 1.4. English Results of 3 schools of learners with Visual Impairment in the KCSE examinations administered in 2021, 2020 and 2019**

School/Year	2019	2020	2021
A	3.00	5.12	6.15
B	3.00	3.750	4.278
C	5.05	6.38	6.738
<b>AVERAGE</b>	<b>3.68</b>	<b>5.083</b>	<b>5.722</b>

*Source: County Directors of Education (Siaya, Bungoma and Kisumu)- 2022*

From Table 1.1 and 1.4, it can be seen that in the year 2021, the schools for the HI in the lake region had an average mean score of 2.7 in English while the schools for learners with Visual Impairment had average of 5.722. In the year 2020, learners with HI had average of 2.8 while learners with Visual Impairment had an average of 5.083 and in 2019, the learners with HI had 2.3 while the ones with Visual Impairment had 3.68. This raises many questions on what could be the cause of the major difference in performance between the two categories of learners with disabilities. It is noted that while learners with Visual Impairment are taught using speech, learners with HI are taught in sign language. However, given that they are both examined in English, it was in the interest of the researcher to find out whether the sign systems used have any impact on the performance of learners with HI in English. There are no known studies which have been undertaken on the sign systems used in the teaching and learning of English and the specific sections being tested among deaf students in Kenya.

## **1.2. Statement of the Problem**

Students with hearing impairment are confronted with various challenges in handling their academic work as a result of their state of having hearing loss. This usually affects their academic performance. Reading comprehension, writing, receptive and expressive skills and grammar all account to a high percentage of marks in English. Given that the students with HI have below average results in these areas, it may affect their overall performance given that English as a subject, presents service skills that facilitates understanding of all subjects written in English. According to English syllabus objectives, by the end of form four, a student with HI is expected to: read and understand a range of texts; enjoy reading literary and non-literary materials; demonstrate awareness of contemporary issues and acquire a long-life interest in reading, apply reading comprehension skills such as recall, analysis, synthesis, summary and note making just like their hearing peers . In Kenya, however, learners with HI still complete school when they have not achieved the curriculum objectives. Studies have connected the low performance to inappropriate sign language systems of instruction. Their academic performance is also expected to merge their hearing peers; but this is not the case.

This study was therefore necessary to investigate the sign language systems used in classrooms in special secondary schools for learners with Hearing Impairment and their implications on academic performance in English.

### **1.3. Purpose of the Study**

The purpose of this study was to analyze the sign systems used in classrooms in special secondary schools for learners with Hearing Impairment and their implications on academic performance in English.

### **1.4. Objectives of the Study**

The study was guided by the following research objectives

- i. To **examine** the sign language systems used for instruction in special secondary schools for the HI and their implications on academic performance in English
- ii. To **determine** the perspectives of Special Needs Educators on the application of Sign Systems and their implications on academic performance in English
- iii. To **Establish** the perspectives of HI students towards Sign Systems as used in the classroom and their implications on academic performance in English
- iv. To **establish** the influence of HI students' proficiency in Sign Language Systems on Academic performance in English
- v. To **assess** the teaching and learning strategies employed in teaching and Learning English in special schools for the HI and their implications on academic performance

### **1.5. Research Questions**

This study was guided by the following research questions:

- i. What are the sign systems used for instruction in special secondary schools for learners with HI and their implications to academic performance in English?
- ii. How do the Special Needs Educators perceive Sign Systems in teaching English to the HI?
- iii. How do learners with HI perceive Sign Systems as used in the classroom?
- iv. How does deaf students' proficiency in sign systems influence Academic performance in English?
- v. What implications do the strategies that teachers of English use in class while teaching have on academic performance?

### **1.6. Significance of the Study**

The social aspects, interests and needs of learners with hearing impairment ought to be understood hence necessary measures should be taken to help them improve in their academic performance and enable them compete effectively with their hearing colleagues. This would be important and necessary since they go through the same education system. Special Needs Educators would also be able to make decisions regarding the best sign systems to be used with the purpose of strengthening performance in English. KICD and other policy makers would be able to get important feedback regarding the curriculum that learners with HI are taken through hence they may reach the consensus of reviewing curriculum so that they recommend the best sign systems to be used in teaching English to learners with HI. Finally, this study led to generation of a body of new knowledge that would better the understanding of the linguistic needs of learners with hearing impairment.

## **1.7. Assumptions of the Study**

The study was conducted under the assumptions that:

- i. Every teacher who goes to class to teach uses a particular sign system recommended for teaching English to learners with HI
- ii. English as a subject is offered in all special secondary schools for the learners with HI in Kenya.
- iii. All teachers in special secondary schools for the HI are trained to teach English to students with HI.
- iv. KCSE examinations are usually accurate measure of students with HI academic performance in English
- v. The research instruments would generate accurate data for the study

## **1.8. Scope of the Study**

This study entailed the sign systems used in classroom teaching and their influence on HI students' performance in English in special secondary schools in Kenya. The study was carried out in 4 secondary schools for the HI in Nyanza Region. The variables that were considered in this study included sign systems used, perspectives of special educators as well as HI students towards sign systems used, role of KSL towards the academic performance in English and the teaching and learning strategies used in teaching English to the students with HI. The study was guided by a case study design within a qualitative approach.

## **1.9. Limitations of the Study**

This study was limited by inadequate response by the participants due to communication problems especially in case of different signs (regional signs). The researcher consulted with the respondents in order to harmonize their signs. Some students had limited language to express themselves, for example, those who had joined schools for the HI in form three after acquiring deafness when they were in form two in regular schools. To counter this limitation,

the researcher integrated local signs in cases where the learners appeared lost most of which are used at home; this was doubled up with writing. In cases of post lingual deafness as well as for the students who had residual hearing, the researcher spoke loudly facing the students so that they could benefit from the little hearing they were left with and at the same time lip read. Other limitations were suspicion, lack of interest and unwillingness of some respondents to give certain information. The researcher visited the schools of study prior in order to familiarize and establish a rapport with the respondents by having an interactive session with them. The researcher also wrote a good introductory covering letter explaining the reasons for the research, its importance and why the respondents had been selected. The researcher also obtained informed consent and assured respondents that all information would be confidential.

#### **1.10. Theoretical Framework**

The study was conducted with the understanding that underachievement and low performance characterize the learning of English by students who are HI in secondary schools. This study was guided by Lev Vygotsky's Social Constructivism Theory established in 1978. This is a learning theory which was developed by a Russian psychologist Lev Vygotsky. This theory asserts that human beings are active participants in the creation of their own knowledge (Schreiber & Valle, 2013). According to Vygotsky, the social and cultural settings have a greater role that they play in learning as compared to the learning that takes place within an individual. (Schreiber & Valle, 2013). Johnson and Bradbury (2015) assert that social constructivism theory relies more on small groups, for instance, students learn primarily through interactions with their peers, teachers, and parents, whereas teachers stimulate and facilitate conversation through harnessing the natural flow of conversation in the classroom (Powell & Kalina, 2009). Social constructivism suggests that successful teaching and learning is heavily dependent on interpersonal interaction and discussion, with the primary focus on the students' understanding of the discussion (Prawat, 1992).

This theory urges teachers of English to apply appropriate pedagogical strategies so as to improve the performance in the subject among the children with hearing-impairment. Teaching English in the HI child's Zone of Proximal Development (ZPD) (Christmas, Kudzai & Josiah,

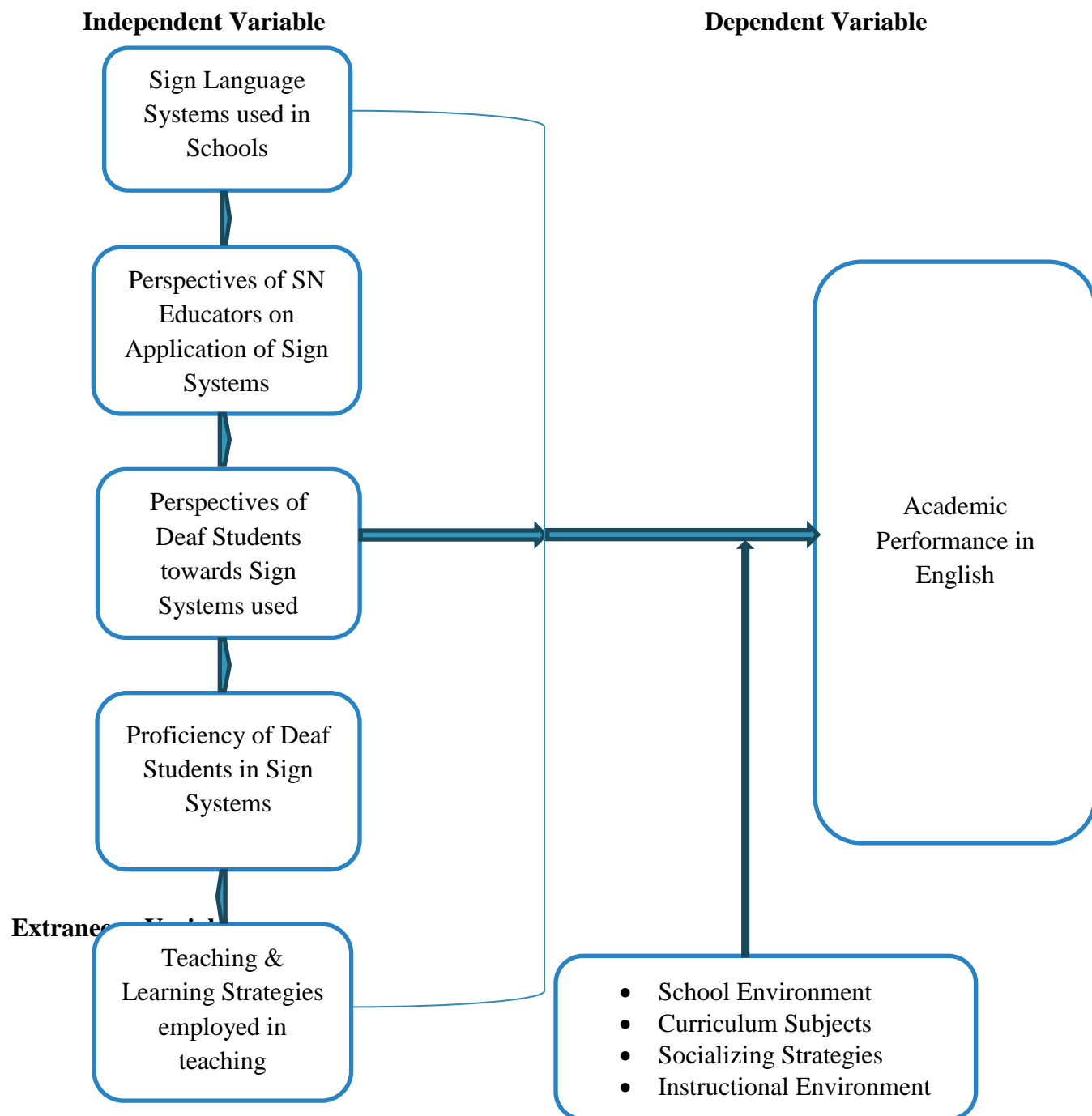
2012) is viewed as one way of improving performance. Christmas *et.al* (2012), remark that the ZPD, if appropriately applied could improve English teaching and learning in the schools. The significance of the ZPD is that it enables penetration into the causal-dynamic and genetic connections determining the process of mental development(Chaiklin, 2003; Obhukova & Korepanova, 2009).

Vygotsky, according to Christmas *et.al* (2012) conceives the Zone of Proximal Development as very key for learning to take place in class. This zone means the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or collaboration of more capable peers is reduced (Murray & Aroyo, 2002). The principal argument here is that, in learning and performance, especially in English, there are problems that a child with HI can do by themselves pegged on their level of development. But there are others that they can do only through guidance and/or assistance from skillful adults or collaborative assistance from capable peers and teachers. This theory, for instance, alerts the teachers of English on what should be taught, tested and examined at every level of education-primary, secondary and tertiary. That children can perform well in what they have been taught well, what they have learnt well and able to understand. It goes further to imply that students need assistance and guidance to learn and perform more advanced tasks beyond what they already know. Vygotsky (1978) posits that the Zone of Proximal Development is the current or actual level of development of the learner and the next level attainable through the use of mediating semiotic and environmental tools by capable adults or peer facilitation.

This theory can be applied in the classroom during English lessons for learners with HI by letting the students be the protagonists of their own learning. Teachers of English should Design activities in which they are not in front of the class all the time, that is, they ask more questions than answering. They should establish activities and games that stimulate the pupils' zone of proximal development, structure the activities according to levels of difficulty during the learning process, bet for a collaborative rather than an individual work and implement playful activities that facilitate social interaction

### **1.11. Conceptual Framework**

The study was conceptualized as shown in Figure 1.1. The figure presents an interaction of sign language system variables that have implications on HI students' performance in English. It can be viewed that performance in English is an interactive process that involves the sign system used, HI students' attitude towards the sign system used, the perspective of the special educator, the knowledge of the HI learner in the sign system used and the implementation of the teaching and instructional strategies used. During the learning of English in class, language serves as an intermediary by facilitating the interaction of the teacher, the text and the student. High proficiency in sign systems between the teacher and the student will lead to a successful interaction which will automatically lead to high performance. Also, the perception of the teacher and the students' attitude towards the sign system(s) being used has implications on the performance. The teacher has to appreciate the role that sign language systems play during instruction. This will ensure optimal utilization of the learners' capacity.



**Figure 1.1: A Conceptual Framework showing the Interaction of Selected Sign Systems Variables that have Implications on HI Students' Performance in English**  
**Source; Researcher- 2022**

A student with HI has various skills, knowledge and abilities that they use while learning in class. The student also has a number of approaches and strategies which they use to learn

different content and process different levels of information. The students, however, still need the relevant skills, knowledge, attitudes and strategies for learning and acquisition if the content will still be difficult for them to acquire in class.

Consequently, special needs educators have a role in nurturing the unique variables that a HI student brings to English subject. The teacher has the duty to plan and provide the kinds of tasks, materials and teaching using the sign systems that will facilitate optimum performance in the subject. The sign language systems, the perception of the students and teachers on the sign system as well as the strategies that teachers use all contribute to the outcome. A teacher of English who has positive attitude towards the sign system will be eager to prepare lesson presentations as well as have high expectations towards their students. The teacher will as well then employ suitable approaches and strategies. This will eventually lead to a high performance in English. In order to control the extraneous variables, the researcher identified them and measured them. These variables were also controlled by ensuring that only the targeted participants were involved in the study.

### **1.12. Operational Definitions of Terms**

**Academic Performance:** A student's total score in English

**Attitude:** Feeling of a student with Hearing impairment about use of sign systems and performance in English.

**Deaf:** Any person whose hearing loss is so severe and is not able to learn in a class through spoken language but through sign language and manual communication.

**Hard-of hearing:** This is the hearing impairment which is mild or moderate. They can learn through spoken language but with the provision and use of hearing aids and other modifications.

**Hearing-impairment:** A full range of hearing loss from mild to profound and interferes with

the process of hearing. It may also interfere with the process of communication in the classroom situation. This then requires specialized skills for one to deal with such a person.

**Perspectives:** These are views, opinions and beliefs held by teachers of English regarding use of sign systems and performance in English.

**Post-lingual** A student with HI who developed the hearing loss after the acquisition of speech and language

**Pre-lingual** A student with HI who either was born deaf or lost hearing early in childhood before acquiring language

**Special Needs Educator:** Specialist trained teacher who specifically teach learners with Hearing Impairment.

**The hearing-impaired:** A person with any form of hearing loss from mild to profound and includes the hard-of-hearing and the deaf. His/her mode of communication interferes with the process of learning and therefore, it may require whoever is communicating with them to use specialized skills and approaches. This includes the use of sign language.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0. Introduction**

The contents in this chapter are on empirical studies related to the Sign systems used in Special Schools for Learners with HI. The review is conceptualized under the themes of the study and focuses mainly on Sign systems, Perspectives of Special Educators and students with HI towards sign systems, HI students' Proficiency in sign systems and the teaching and learning strategies employed during teaching the HI and their implications on the academic performance in English.

#### **2.1. Sign Language Systems used for instruction in special secondary schools for learners with HI**

The language of instructions that is used during classroom instruction plays a great role towards the understanding of learning. Van and Lamberti (2004) argue that when a learner goes to school and instruction is given in a language other than their mother tongue (language of the catchment area), they are disadvantaged academically. Jacobs (2005) also supports this assertion by saying that children who are taught in a second language are denied immediate access to content.

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

Kembo-Sure and Ogechi (2009) document the failure of the prevailing English focused ideology to facilitate learning in science and mathematics. Even in schools where the local language was supposedly the medium of instruction through Grade 3, English was used heavily in the early grades. They further argue that the transition from mother tongue medium to English medium is premature. They add that this arrangement denies children the opportunity

to develop cognitive and intellectual skills in their first language, which they can later transfer to English.

Marcath (2021) argued that American Sign Language (ASL) has its own grammar and syntax and that it omits many features present in English. Marcath further gives an instance of things such as subject-verb agreement and distinction between subject, object and possessive pronouns which don't exist in ASL thus students tend to drop them when it comes to writing English. Marcath adds that, like many foreign-language speakers, Deaf or Hard of Hearing (DHH) students must be explicitly taught complicated grammar rules that are picked up passively by children who are exposed to English. According to Marcath, ASL has a much smaller vocabulary than English therefore, it recycles words for instance, the sign for 'car' is the same as the sign for 'drive'. Moreover, ASL uses phrases where English might use a single word. These linguistic differences make the DHH students to make the same mistakes when writing and use shorter, less complex sentences (Marcath, 2021).

Mubarak (2021) conducted an exploratory study on styles of inclusive communication with Deaf Students in Inclusive Schools in Saudi University Faculty in Saudi Arabia. The study was a single case design which is a key qualitative technique for exploring inclusive styles of communication with deaf people. The study involved 10 faculty members who were engaged in semi-structured interviews with open-ended questions. Participants were purposively sampled. Data was analyzed using data codes applied to the text in accordance with the content analysis method. The results indicated that majority of the faculty members (80%) used Saudi Arabian Sign Language in their instruction. Arabic Sign language was the most common approach chosen by the informants because it was the preferred style of communication for the deaf. While this study used the university faculty members whose language usage is fully developed, the current study incorporated deaf students whose linguistic capability was still low hence a difference in the outcome. The current study focused on the sign language systems used in the classroom during instruction of English lessons while Mubarak (2021) focused on communication in inclusive settings. The current study also utilized the teachers of English and the Principals who could have provided additional information which the university faculty

members may not. In addition, the current study focused on Teachers of English, which is a language, while Mubarak study involved general teachers. While teaching a language, the language of instruction (sign system of instruction), has a role to play as compared to other subjects where focus would be more on content than language. Hence the involvement of language as a subject of study could have led to difference in the results. In terms of economic development, Saudi Arabia is more developed than Kenya. The different levels of economic operations could influence the level of investment in the education sector hence a difference in the perceptions of the special needs educators

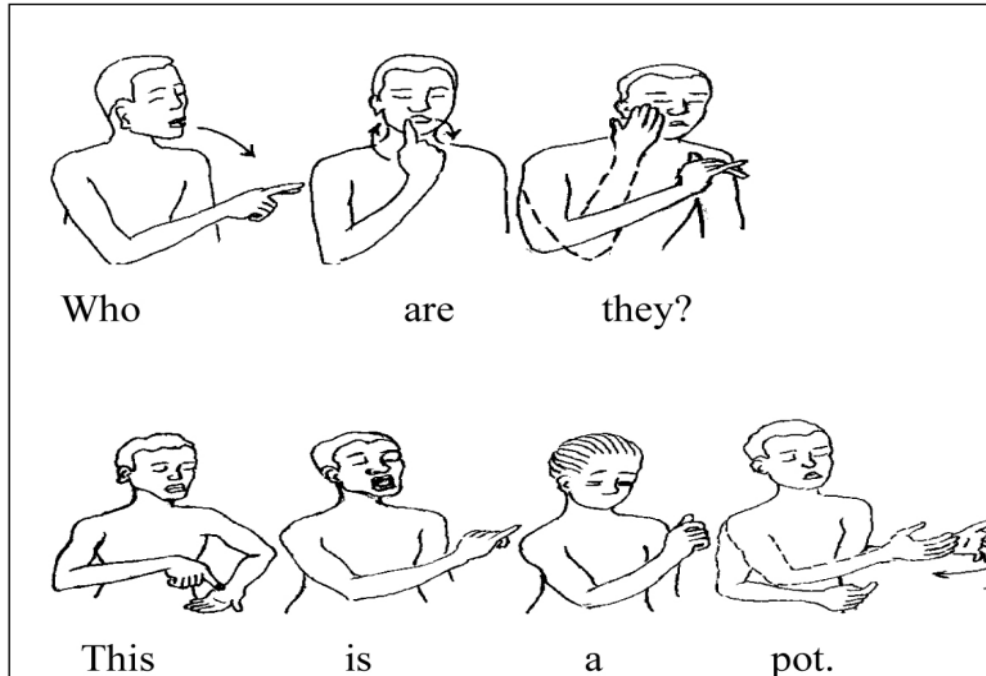
In Cameroon, Dissake and Atindogbe (2017) conducted an ethnographic study where they focused on the education of the deaf and Language-Based Curriculum in the Buea School for the Deaf (BSD). The study took three months, where classroom observations were made and teachers were interviewed. The focus was on Form 3, 4, and 5 students who were getting prepared to write the Cameroon General Certificate of Education for Ordinary Level. The results showed that late acquisition of Cameroonian Sign Language (CSL) affects the learning of spoken languages (reading and writing) by deaf students. The results also indicated that most teachers in BSD use CSL despite the fact that they are hearing. During the classroom interaction, all explanations and interactions are done in CSL. Spoken language comes into the picture only in its writing form. For example, in order for the pupils to take notes for further revisions at home, the teachers summarized the lessons in the English language on the board for student to copy. While this was an ethnographic study, the current study employed case study design. The current study also only focused on Form three students unlike Dissake and Atindogbe who utilized Form 3, 4 and Form 5 students. The Senior Grade students would have a more developed linguistic capacity hence may have different outcomes. Both Cameroon and Kenya are lower middle-income economies. Therefore, this led to different results.

Demissie (2011) examined sign language use as medium of instruction in primary classes of Mekanissa School for the Deaf in Addis Ababa, Ethiopia. The study employed a case study research technique. Data was collected through 20 classroom observations, individual interviews with 7 teachers, 10 students, 10 parents and 3 officials as well as several document analyses. The data was examined and presented based on their themes in detail following

narrative analysis method to achieve the purposes. The results indicated that the Deaf communication approach dominantly employed in primary classes of Mekanissa School for the Deaf is Simultaneous Communication which is considered as the best method by the teachers. Signed Amharic (Manual Codes for Amharic) is the principal Medium of Instruction, while written and spoken Amharic served in few classroom activities. Simultaneous Communication is same as Signed Exact Spoken Language (Zapien, 1998; Reagan, 2008). While Demissie (2011) focused in Primary schools, the current study focused on secondary schools for learners with HI and utilized focused group discussion as well as interviewee schedules. This led to collection of more robust data. The current study also engaged secondary school students whose linguistic functioning is more developed than primary ones hence led to different results.

In Zambia, a situational analysis was conducted by Wakumelo and Manyando (2013) on the use of sign language in the Education of the Deaf focused on Magwero and St. Joseph's Schools for the Deaf. This was an in-depth case study that employed qualitative approach. Purposive sampling was used to sample and target two residential schools. In this study, purpose sampling was used to select the teachers while the procedure of simple random sampling was used to sample the students.

Data was collected using focus group discussions and questionnaires for teachers and interviews for students. Document analysis guide was also used. The study indicated that the only sign language text book was at Magwero School for the Deaf, whose title was Language workbook for hearing impaired children was focused on teaching children the language structure or rules of English and not sign language. It contains statements based on English grammar such as shown in figure 2.1



*Figure 2.1. A section of the grammar being taught in one of the schools for the deaf in Grade 1 and 2 in Zambia.*

The analysis of the sign language books showed that the presentation of the statements in the books is in both sign as well as print. However, there is no teaching of sign language grammar and syntactic rules. The focus of the teacher is only to teach sign language vocabulary. However, for English, grammar is taught. Teachers were also asked about the signing system they were using: 60 per cent of the respondents reported that they used both signed English and sign language; 14 per cent revealed that they exclusively used signed English; and 12 per cent of the respondents said they used Zambian sign language exclusively. There was also an indication where the teachers switched from Zambian Sign Language to Sign English and vice versa. This was due to the fact that the teachers noted the ability of the students with HI to follow signing regardless of the signing system that they were using. When they were asked why they used both Zambian Sign Language and Signed English, some teachers responded that several concepts being taught in class cannot be effectively explained in one sign system. So, this made it necessary for them to switch from one sign system to another. Wakumelo and Manyando (2013) notes how one teacher explained: For understanding purposes, we use Zambian Sign language

and for the sake of children passing examinations we use signed Exact English. However, Owu-Ewie (2006) differs with this practice of the teachers. He asserts that the use of both Zambian sign language and signed Exact English is beneficial, but if not handled properly, it may be detrimental to the development of literacy for the Deaf. Experts in bilingual Deaf education emphasize the need to gain mastery in one language before learning the second language. While Wakumelo and Manyando (2013) sampled the students and teachers in their study, the current study involved all the teachers of English and all the form 3 students. Teachers were also interviewed individually hence could have led to finer details unlike the group discussions. The study was also undertaken in special secondary schools for learners with HI unlike Wakumelo and Manyando (2013) who analyzed the case in Primary schools. Zambia and Kenya, are both lower middle-income economies hence it enabled comparison between the two countries. The current study also enabled a comparison on the grammar that is taught in special secondary schools for learners with HI in Kenya. In addition, the current study focused on English as a subject. The involvement of the Teachers of English could have provided detailed information regarding the sign systems used.

At the coastal region of Kenya, Dubeck, Jukes and Okello (2012) undertook a study on literacy instruction in 24 lower primary schools. The study was qualitative in nature. It was noted that the dominant languages of instruction were Swahili and English. However, neither of these languages adequately served the pupils in communicating (Dubeck et al, 2012). During this study, it was noted that the teachers were aware of the national policy that promoted the mother tongue, however there was no recognition that teachers gave to the local languages. Two explanations were cited as being the possible reasons for this. One was that there was a high level of linguistic heterogeneity in some classes, which made it impossible for teachers to make use of the local languages. Another explanation was that, the teachers who were involved in the study were not the native speakers of the language. Despite the fact that teachers were in the know of the national policy which stated the need for mother tongue to be promoted, local languages were however, not recognized as languages of instruction. This could be associated to the heterogeneous nature of the languages used in classrooms during instruction and partly because the teachers themselves often did not speak the local language. Teachers also cited the

challenge of teaching materials. It was challenging to get the teaching and learning materials in the local languages. This then turned out to be a serious hindrance to using those languages. It was also noted that English was the preferred medium of instruction. However, teachers reported, most students generally read better and participated more in Swahili than in English” (ibid., p. 63). Whereas Dubeck et al (2012) focused on the literacy instruction in primary regular schools, the current study focused on secondary schools. The languages of instruction that were analyzed included English and Kiswahili. Sign Systems in this study are closely related to English since Signed Exact English uses the same syntax (Sentence structure) as English. It was of interest, therefore to the researcher to establish the sign systems that teachers employ in the special schools for the deaf. Dubeck et al (2012) study also was undertaken in a region where there was language heterogeneity and most of the teachers did not speak the local language, but in the current study, both the teachers and the learners with hearing impairment have the knowledge of sign language. However, the degree may vary on various sign systems. It was of interest to the researcher to find out whether the findings of Dubeck et al (2012) would be related in any way to the current study.

Graham and Van Ginkel (2014) carried out a quantitative study on the extent to which the words per minute (WPM) reading benchmark is appropriate in languages other than English, the language in which the benchmark was originally developed. WPM and comprehension testing of 300 children from two Kenyan language communities, Sabaot and Pokomo, as well as English-speaking children in Britain and Dutch-speaking children in the Netherlands, indicated that similar comprehension scores occurred among diverse WPM rates. Graham and Van Ginkel (2004) argue that the WPM benchmark is not a reliable comparative measure of reading development, since linguistic and orthographic features can differ considerably and are likely to influence the reading acquisition process. While this was a comparative study undertaken in Kenya and British primary schools, the current study was undertaken only in secondary schools in Kenya. The difference in the level of schools of the students involved in the study was an area of interest. While Graham and Van Ginkel (2014) established that WPM is the same in other languages other the original language, it was of interest to find out if the sign systems used in Special Secondary Schools for the deaf also have any effect on the reading comprehension of the

learners in English. While Graham and Van Ginkel (2014) employed a pure quantitative approach, the current study adopted a pure qualitative approach. The difference in the data collection approaches used brought a difference in the results.

A study undertaken by Ochieng (2016) in Ndhiwa sub county, Kenya, which involved analyzing the influence of mother tongue on the performance of English in KCPE where the researcher's interest was on the factors that make transition from mother tongue to second language difficult. The use of English as a second language and how it can be improved was also analyzed. The major findings and contributions of this research to education were analyzed. The current study analyzed data thematically. The instruments for data collection in the current study involved conducting interviews, focus group discussions and classroom observations. The current study attempted to fill the gap in Schools for learners with HI

Kilanya (2016) conducted a study at Esageri Special School for the deaf in Kenya where the interaction between Kenyan Sign language and how it affects the acquisition of English was the focus of the study. Both approaches of qualitative and quantitative methods were used in the study. Purposive and stratified simple random sampling techniques were used to obtain a sample of 35 people who included the school Principal, teachers and pupils. Collection of data was done using questionnaires, observation checklist and interview guide and data analysis was done descriptively using Statistical Package for Social Sciences (SPSS). From this study, it was noted that grammar structure in KSL is totally different from that of English language. It was further noted that although KSL was introduced in special schools for the deaf, its introduction had not boosted learning as was anticipated. The current study however included principals, teachers of English and form three students as its informants therefore collecting richer data. In addition, the current study utilized saturated sampling technique. Nevertheless, the current study was purely qualitative thus data was collected through focus group discussions in addition to interviews, observations and document analysis Guides. This enabled the researcher to collect very detailed data. Data for the current study was analyzed thematically.

Irokaba (2006) noted that since Simultaneous Communication (SC) is the “official method” of instruction in most African countries there is the danger of the deaf child's limited knowledge in

the second language, disrupting comprehension. This was evident in a survey by Adoyo (1995) in twelve schools for the deaf in Western Kenya where almost 95.0% of teachers were finding it difficult to use SC effectively. The survey also found out that there was confusion between KSL and SC as teachers didn't know the difference between the two. Adoyo (2004) and Ochwal (2008) further ascertained that SC was characterized by omissions, mismatches and distortion of information. These shortcomings had a great impact on what was communicated to the learners leading to communication difficulties such as distortion and unintelligibility of the message. From the studies by Adoyo (2004) and Ochwal (2008), it is evident that SC is commonly used by teachers of the deaf regardless of its weakness. The use of the same in teaching English reading comprehension in secondary schools for the deaf has however not been ascertained by existing studies despite its negative influence on students' academic performance. The results indicated the language of instruction used by teachers of English during reading comprehension. S.E and KSL were used in most classes 8(72.7%), which was, however, not satisfactory. S.E alone was used in 2(18.2%) of the classes and its use was also not satisfactory. KSL alone was used in 2(18.2%) of the class and its use was outstanding. It can therefore be concluded that S.E and KSL were the languages used during English reading comprehension lessons. However, their use was not effective.

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

1.

**Teacher said:** Now yesterday I told you to read a story.  
**Teacher signed:** NOW YESTERDAY I TELL YOU READ STORY, THERE THERE TRUE?

2. **Teacher said:** Same story there is something that brings problem making people to suffer a lot.  
**Teacher signed:** SAME STORY THERE SOMETHING THAT BRING PROBLEM MAKE PEOPLE TO SUFFER A LOT
3. **Teacher said:** Have you met a person before who is as proud as the hare.  
**Teacher signed:** YOU MEET BEFORE PERSON PROUD SAME HARE
4. **Teacher said:** Who is stuck on the way?  
**Teacher signed:** STUCK WAY
5. **Teacher said:** So we have heard the story from that boy  
**Teacher signed:** WE HEAR STORY
6. **Teacher said:** She used a place next to the gate that had an opening  
**Teacher signed:** USED PLACE NEXT GATE OPENING

In example 1, the teacher starts accurately in S.E.E English but ends up in KSL while in example 2, the teacher starts in KSL and ends in English with omissions of suffixes such as “-ing” in the word “making”. Example 3 is characterized by the teacher speaking in English but signing in KSL. The rest of the examples, that is 4, 5 and 6 indicate omissions of some words with teachers signing what they thought would convey the equivalent meaning. The ineffective use of S.E.E by the teachers might be attributed to speed differentials when speech and signs are used concurrently which forced the teachers to omit signing some words in order to synchronize the two. It might also be as a result of inadequate signing skills.

Ogada, Oracha, Matu & Tyeng'o (2012) analyzed languages used during classroom instruction of composition writing among learners with HI. The study was undertaken in the former Nyanza province of Kenya which targeted class seven students and teachers who teach in class 7. The total sample was 68 who included 64 students and 4 teachers of English who were arrived at through saturated sampling. The instruments used during data collection included questionnaires, document analysis guides and lesson observation schedules. Face validity was confirmed by the experts in the faculty at Maseno University when they confirmed the research instruments. On the other hand, reliability of the study was established through a pilot study. The pilot study involved 10% of the population who did not form part of the study. Analysis for qualitative data was through descriptive statistics such as percentages and graphs while Qualitative data was transcribed, organized into emerging themes and reported. The results is study indicated that languages used in teaching and learning English composition included; English, Kiswahili, Kenyan Sign Language and signed modes such as signed English. While this study focused on composition alone, the current study analyzed English as a subject in general hence more detailed data could have been obtained. The current study filled the gap in the special secondary schools for learners with HI. The use of unstructured interviews in the current study gave the researcher an opportunity to have an in-depth analysis of the sign systems that are used.

Kerubo (2017) investigated the mode(s) of communication the teachers of English employ for effective teaching of the subject of English in Kisii County, Kenya. The study sought to find out the communication approaches and also problems faced, it assessed the main approach through which communication takes place in a class of learners with HI. Descriptive survey design was used. The outcomes were as presented in Table 2.1

**Table 2.1: Communication Mode Used as reported by Head teachers.**

	<b>Gianchere</b>	<b>Kerina</b>
Main mode of communication	Kenya Sign Language	Kenya Sign Language
Its effectiveness	No	Yes
Difficulties when teaching	Yes	Yes

**Source: Kerubo (2017)**

From the findings, it is imperative that the main mode of communication was Kenya Sign Language in both schools. On the question of whether the mode was effective when used during English lessons the head teachers differed since 1 representing 50% found it effective while the other ineffective, the latter ascertained that there was need to have a lot of teaching Aids. Manual modes of communication affected reading and writing skills in English language negatively since at times there was need to finger spell for clarity of manual signs. Finally, both the head teachers representing 100% concurred that there was difficulty in teaching learners with hearing impairments. Both head teachers representing 100% revealed that in order to ensure that all teachers acquired the knowledge of sign language, they were given extra time in team teaching, guaranteed freedom to enroll for further studies during holidays and also those who had less skills had to learn from the skilled staff. They both concurred that there was a shortage of skilled personnel in the school and this had led to incompetence in English learning and poor performances among pupils. The results further showed indicated that 5(45.5%) teachers agreed that all the specified modes of instruction were commonly used in teaching of English, 2(18.2%) ascertained manually coded English, 2(18.2%) were of the opinion that signing exact English was the commonly used mode, 1 (9.1%) teacher disclosed that finger spelling was common while 1 (9.1%) opined of speech reading. Kerubo (2017) analyzed the mode of communication in primary schools for the HI while current study focused on secondary schools for the HI. This could have filled the gap in the secondary schools for the HI. The current study also involved learners unlike Kerubo (2017) who only engaged teachers. The involvement of students in the current study could have led to generation of more data as far their sign systems are concerned.

In summary, the above studies have highlighted the various use of sign systems and other forms of language provisions used in classroom instruction and the implication it has on the academic performance. However, limited studies have been undertaken to establish the sign systems that are applied in classroom teaching in the special secondary schools for the deaf and neither has the most effective sign system to use while teaching English lessons been established.

## **2.2. Perspectives of Special Needs Educators regarding Sign Language Systems**

In order to understand how teachers, approach their work, it is necessary to understand their guiding beliefs and principles (Arib, 2010). Like all human beings, teachers make decisions on their teaching practices based on their beliefs (Stuart & Thurlow, 2000; Squires & Bliss, 2004). These decisions and actions have significant impact on the learning experiences provided for students and their behavior (Wiest, 1998). According to Johnson (1994), teachers' beliefs influence their perception and judgment and play a role in how information on teaching is translated into classroom practices. Karabenick and Noda (2004) indicated that teacher beliefs were significant because they affected their motivation to engage with students, which in turn translated into higher student motivation and performance.

According to Burns, Matthews and Nolan-Conroy (2001) the attitude that the students and teachers have on language plays a great role on their education. In addition, depending on the attitude that the speakers of a particular language have will determine whether they can use that language for teaching and learning. In this case, the most important part is the attitude which teachers and students have towards a given language. Burns, Matthews and Nolan-Conroy gives more weight to the teachers since they can determine certain language to use in education settings.

Burns, Matthews and Nolan-Conroy (2001) further assert that for the teachers of students with hearing impairment, majority of them have unconstructive attitude towards sign language. As a result of this, they tend to use inappropriate language in schools. Majority of learners with hearing impairment, at the time of entering school, they usually do not have a specific language

(Burns, Matthews and Nolan-Conroy, 2001). If they cannot find efficient teachers who have positive attitude towards the language to train them with the language, they usually build up poor sign language proficiency. Incapability to express their ideas properly usually leads the students to develop a negative attitude towards sign language, thinking it is unqualified of expressing abstract ideas (ibid).

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

A study done by Gregory (2016) focused on perspectives of teachers on whether to use students' first language or the target language in United States. In this study, data from over 100 foreign language teachers, predominantly those in the K-12 sector, were collected through a survey in order to measure how teachers manage the phenomenon of language choice. In order to establish the relationships among teachers in general and within subgroups of participants, the analysis of the findings was done descriptively, categorically and inferentially. The results from the study indicated that teachers due to the belief they had that target language must be used for academic purposes, they had more challenges using it. Findings indicate that teachers felt using the target language was more of a challenge for academic purposes because of their belief that they should be conducted in the target language (TL). While Gregory (2016) used focused on language teachers alone, the current study also involved principals and students with HI. This could have led to collection of more data. The current study also used qualitative approach which gave more robust data as compared to Gregory (2016) who relied on survey. The current study also was conducted in Kenya unlike Gregory (2016) whose study was conducted in United

States of America (USA). USA being an upper economy country while Kenya is a lower middle economy country, the level of investment in education in the two countries is not the same hence there could be difference in the results presents. Teachers also noted that they experienced more difficulties completing academic tasks in the target language since it involved a greater quantity of speech functions. Additionally, it was noted that student attitudes, motivation, and proficiency as well as their own attitudes, motivation, and proficiency influenced teachers more. However, for some other groups, there was a high-level use of the target language of up to 90% when teachers focused more on their own proficiency, motivation, training and experience. Furthermore, it was found that promoting the target language effectively equated with incorporating many strategies that supported TL goals. The most prevalent techniques found for promoting TL use were preparing for making input comprehensible, giving praise and recognition, and explaining its importance at the beginning of the year. The current study filled the gap by engaging students, curriculum support officers and principals. The current study also used interview schedules, focus group discussions and observation schedules. These led to collection of rich data hence could lead to a difference in the results. The current study was conducted in Kenyan secondary schools for the deaf. Kenya is a lower middle-income economy country as compared to USA which is a first world developed country, hence may lead to different results.

Papademetriou (2019) conducted an exploratory study on how teachers perceive Content and Language Integrated Learning (CLIL) and Content Based Instruction (CBI) in the context of a private language school in Britain. The four teachers of English who were involved in the study outlined their beliefs and conceptualizations and reflect on the impact of CLIL on their students by means of qualitative inquiry. They also provided their insights about the differences between CLIL and conventional EFL approaches as well as the factors that would motivate them to use these approaches. Findings suggested that teachers have a positive attitude towards the approach and are motivated to apply CLIL, mainly because it appears to increase students' motivation and class interaction. However, they appear to be unsure of whether there is a clear development of linguistic competences and knowledge of grammar which would allow them to sit for Language exams. The current study filled the gap in the special secondary schools for the deaf which are

government institutions. The study also involved students, curriculum support officers and principals hence more data was collected. Britain is a first world country which may have more investment in the Education sector. This could have led to different outcomes.

The study undertaken by Schwartz, Mor-Sommerfeld, & Leikin (2010) explored “the patterns in coping with increasing cultural, linguistic and instructional concerns, through in-depth interview sessions with two majority-language teachers at two Russian-Hebrew kindergartens. Both teachers had Hebrew as their first language. They had undergone academic training where they learned Russian. The study employed an ethnographic approach, which includes observation, semi-structured interviews, and life histories. Observations were conducted in the kindergarten classes, which is used to formulate the researchers’ ideas for the interview session. The data collected were analyzed using discourse analysis and critical discourse analysis. The researchers analyzed the teachers’ approach to minority language children, at concrete and behavioral level where the concrete level encompasses the visible and tangible elements of ethnic culture which may uncover certain behavioral patterns and the behavioral and symbolic level where the behavior and language reflects the value and belief and values respectively. The finding concluded that the teachers implied that the ability to understand cultural meaning and to accept it, as well as its diversity within Israeli society, is different. Three cases discussed the attitude teachers have adopted towards minority languages and their speakers. Such attitudes that the teachers constructed are either based on their own views and personal experiences or based on the experience they gained from the teacher. While this study employed an ethnographic approach, the current study employed a multiple case study design which leads to an in-depth analysis. The learners used in this study were in the kindergarten schools while in the current study, secondary school students were involved. These led to different results.

Owuor, (2008) carried out a study on teacher’s attitudes and their effects on academic performance of hearing-impaired learners. The study was carried out in selected regular primary schools in the division to represent all schools in Rangwe division in Homabay district, Kenya. The schools were stratified. Questionnaires were used to collect primary data from teachers and pupils. The findings were presented using bar graphs and pie charts and the results revealed that

the teachers had a negative attitude towards the hearing impaired which impacted on their performance. The current study used saturated sampling method to determine the sample size which comprised Principals, teachers of English, Curriculum support officers for SNE and learners with HI which attempted to fill the knowledge gap. Further, the current study collected data through interviews, focus group discussions, document analysis and classroom observation schedules which could have provided very detailed data. The current study also attempted to fill the gap in Special Secondary schools.

Muguna (2011) conducted a study on how preschool children with HI perceive learning. The study adopted a descriptive research design. The target population of the study was 36 respondents. The researcher used questionnaires, Interviews, Observations and focus group discussions to collect data. The main findings of the study were that sign language has a great effect on performance of learners with HI in the school. The study also found out that sign language technique was widely used as a learning resource in the school and that it affects performance of learners with HI to a great extent. On the other hand, the current study focused on students with HI in secondary schools and also involved teachers of English, Curriculum support officers for Special Needs as well as principals. This could have led to generation of more data hence different results. Students in Secondary school are linguistically developed than the ones in primary school hence their contribution could have led to generation of new data.

Omutrani (2012) conducted a study on Factors Affecting KCPE Performance of Learners with Hearing Impairments in Special Schools in Selected Counties, Kenya. The study was conducted in four selected counties in Nyanza Region. The study engaged students in classes 7 and 8 as well as their teachers and headteachers. Purposive sampling was used to arrive at the sample size. The instruments for data collection which were used included questionnaires that were administered to the headteachers, interview schedules which were administered to the teachers as well as for class seven and eight students. Data analysis was done quantitatively and qualitatively. The results from the study indicated that 16% of Teachers preferred to use KSL. On the other hand, 80% of the same teachers acknowledged that KSL has a positive influence on academic performance while 20% argued that KSL has a negative influence on the academic

performance. 65% of the teachers associated poor performance with inadequate signs for vocabularies while 88% attributed poor performance among the deaf with teachers' poor knowledge of signs. What came out from the study was that a number of teachers and headteachers are not conversant with the sign language. This, in essence contributes to the low performance in KCPE. While Omutsani (2012) conducted the study in primary special schools for the deaf, the current study attempted to fill the gap in secondary schools. Omutsani (2012) also used a mixed method approach whilst the current study utilized pure qualitative approach which could have led to generation of more detailed data as participants were engaged directly by the researcher. In the current study, data was analyzed thematically where each statement of the responded was considered unlike Omutsani (2012) who analyzed data using inferential statistics. This could have led to different interpretation hence difference in results.

### **2.3. Perspectives of Students with Hearing Impairment towards Sign Language Systems**

People usually have an attitude, either positive or negative, about languages. They may feel one language is expressive and prestigious and the other as immature and has low-status (Burns, Matthews and Nolan-Conroy, 2001). However, from a linguistic point of view, all languages or language varieties are equal in serving the speakers of the language. The attitudes people develop are results of social judgments that manifested the social status of the speakers (Romaine, 1989). Since language attitudes are complex psychological entities, they can influence language use and the choices of a person in different domains.

Research conducted at Gallaudet University shows that the students in the university associated using particular sign systems with the status of the users and have developed certain language attitudes following that. As the study indicated, American Sign Language (ASL) users are taken as less educated Deaf and the Deaf who use Manually Coded English or Signed English are considered as highly educated (Kannapell, 1989 Cited in Burns, Matthews and Nolan-Conroy, 2001). Another study done in Ireland also can be evidence for such an attitude among Deaf students (McDonnell, 1992 cited in Burns, Matthews and Nolan-Conroy, 2001). Students there

placed great importance on the acquisitions of oral language skills and 75% of the students preferred placements in classes that employ oral languages as the only medium. As mentioned in the study, many students think that signing has a negative impact on spoken language learning, though there was a considerable difference between the views of the profoundly Deaf and hard of hearing students. However, these views were reflected with regard to using sign language for education. In other communications, sign language is prevalent among the Deaf students. As Burns, Matthews and Nolan-Conroy (2001) suggest by referring different research findings, there is a need for radical change in language practices at schools for the Deaf. They also recommend shifting people's attitude and beliefs towards the Deaf and their language

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

In a study conducted by Kannapell (2011), which examined Deaf college students' attitudes towards ASL and English using self-reports on their linguistic/communication skills when being interviewed. Their teachers were also examined for their language attitude with some modifications using the matched-guise techniques. The purpose was to find out if teachers were covert/overt in their usage of ASL and SEE. The issue of such attitudes was raised because of the two assumptions that Deaf people are monolingual in English and is expected to be adaptive of mainstream American culture and society. The enculturation process was to happen in the education where Deaf children are placed so that they can be trained to be appropriate citizens in society. The teacher who acted as an agent of change in the education system is often the one that the students will meet on a daily basis. The attitude expected is often implemented in the classroom therefore students are expected to be good and loyal American citizens. Such attitudes have such influence on the students' choice of the preferred language and identity.

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

Chong (2014) analyzed the view of the deaf towards Malaysian Sign Language, and attitude towards Malaysia's Deaf community. This study utilized a mixed method study design by describing the participants' past cultural experience and their contemporary language perspective, especially the ones who attended Malaysian schools in the latter half of the 20<sup>th</sup> century. This study used purposive sampling technique. Thirty respondents were selected to participate in the study. Participants were recruited in the Deaf community through personal connections. Diversity, gender and ethnicity were taken into consideration to ensure equality and fairness. The findings indicated that students with HI in Malaysia prefer Malay and English than Malaysian Sign language. The students with HI rarely showed affinity for BIM. Often, they saw Malaysian Sign language as a system to communicate in Malay through signs and fingerspelling and a tool to help them learn Malay. Results also indicated that for English, American Sign Language (ASL) or Sign Exactly English (SEE) would be used. While Chong (2014) focused on deaf Malaysians, the current study got its participants from learning institutions, that is, students with HI, Teachers of English, Curriculum Support Officers for Special Needs as well as principals of secondary schools for learners with HI. The difference in

the participants lead to more data hence difference in results and generation of new body of knowledge. The current study also employed pure qualitative approach unlike Chong (2014) who used mixed methods approach. This enabled the current study to have an individual personal interaction with all the participants hence detailed data could have been collected. Malaysia is an upper middle income economy while Kenya is a lower middle income economy. Malaysia may have different policies and investment in education which could lead to different perception by different stakeholders hence different results.

Chong (2014) analyzed the view of the deaf towards Malaysian Sign Language, and attitude towards Malaysia’s Deaf community. Their views are presented as in Table 2.2

**Table 2.2. Possible Indications in Attitudes Shown by Respondents Toward Malaysian Sign Language and Deaf People**

Emerging themes	Frequency
Attitude towards Malaysian Sign Language	
▪ Believe Malaysian Sign Language will be the right choice for Education	12
▪ In favor of using Malaysian Sign Language for Communication	16
▪ In favor of using Signed Malay	1
Attitude towards Deaf people	
▪ Like meeting Deaf people	8

*Source: Chong (2014)*

Chong (2014) indicated that there were no any signs of resistance shown by Deaf Malaysians toward Malaysian Sign Language or Malaysia’s Deaf community. It is further illustrated that 12, 89% of respondents showed their desire to preserve Malaysian Sign Language despite the respondents’ uncertainty about the status of Malaysian Sign Language in Malaysia. Generally, the respondents appeared to hold some good attitude towards Malaysian Sign Language that they consider it to be of good use in all forms of education. Sixteen respondents agreed that

instead of Total Communication, Malaysian Sign Language is more effective in social interactions indicating a high 70% positive response.

In their study on reading levels of deaf Spanish students, Monreal and Hernandez (2005) found that at the end of primary school (mean age 13 years), the students had reading levels similar to or lower than the reading levels of hearing students at the onset of primary school education (mean age 7 years). In addition, the students had an indifferent attitude towards reading. This study, however, was done in elementary schools where reading was done in Spanish and not English. Similarly, Morgan, Fuchs, Compton, Cordray, and Fuchs (2008) established that first-grade hearing children who experienced early and consistent reading failure had lower levels of reading motivation, saw themselves as less competent readers, and had more negative attitudes towards reading than children who experienced early success in reading. This study nonetheless did not involve secondary school deaf students. The current study filled the gap by involving secondary school learners and by involving sign language systems and not just reading in general. Spain is an upper economy country as compared to Kenya, which is a lower middle economy country that is still developing. The Government of Spain may have more investment in the Education Sector hence the outcome may be different.

Biricik and Ozkan (2012) wrote a descriptive paper on identifying learners' attitude in terms of motivation through three aspects: the teacher's attitude towards the students, the suitability of the activities and the classroom atmosphere. In their study, the researchers observed the demotivation and motivation the language learner has displayed in class and recorded their observation on appropriate strategies used to keep the children motivated. The study which was done in Turkey, took place in two classrooms with about 22 students each. The study focused on English being taught as a second language to Turkish students. The data were collected from their observation notes, video recordings, interviews and questionnaires. The findings showed that the teaching techniques for developing motivation are significantly important for language acquisition, which includes creative use of the learner's native language in order to make them understand what is being taught. The current study used qualitative approach which could have provided an a more in-depth analysis of the sign systems used in classroom teaching during

English lessons. The current also engaged teachers, curriculum support officers as well as principals of special schools for learners with HI. This could have led to collection of additional and more detailed data hence could different results. Turkey is an upper middle economy country unlike Kenya which is a lower middle economy country. The two states may have different level of investment in education sector and policies regarding education systems hence may lead to different results.

A study undertaken by Borjian and Padilla (2010) that involved the eighteen teachers of English in Guanajuato, Mexico. The questionnaire was used to collect the responses regarding their attitude towards the educational system in the US, i.e., how effective American teachers were in supporting immigrant students, providing advice for American teachers, and the motivation of Mexican students in learning English. Interviews were conducted in order to extract more detailed information. The responses to the questionnaire and the interview were not only based on their professional opinions but also on their experiences as English students. More than half the teachers have experienced, some time or another, how it was as students of English in a school in the United States. Findings disclosed that there is a need for teachers in the US to help more their students becoming proficient in English in order to succeed in academics. While Borjian and Padilla (2010) engaged only the teachers, the current study involved students with HI, the curriculum support Officers for SNE, principals as well as teachers of English. More participants involved could have provided more data hence a variation in the results. The current study also involved documents analysis, focus group discussions and lesson observations which led to an individual interaction with the participants hence more robust data was collected. The current study The results from the current study would fill the gap in a country- Kenya which do not necessarily experience migrants. The current study also breached the gap in the special schools for the deaf.

In Viet Nam, Thu (2019) conducted a study on using metaphor in EFL classroom to enhance writing skills. The study involved 30 English major students at Hanoi Law University who were put in a control and experimental groups to observe the effectiveness of using metaphor in writing. The study used two questions that were put in a Likert – scale to measure the attitude of the students towards using metaphor in writing. The results revealed that “learners who had done

metaphors through songs scored higher than those who had not received any instruction on metaphors. Thu (2019) focused on university students only while the current study engaged students with HI in special secondary schools. The current study also involved a sample from CSOs for SNE, Principals, Teachers of English and form three students. The current study utilized focus group discussions, in-depth interview schedules, document analysis guide and class observations for collection of primary data. These instruments could have led to collection of more robust data, hence different results. Viet Nam is an upper middle income economy while Kenya is a lower middle income economy. These could lead different levels of investment in the education sector and policies regarding educational practices. The stakeholders' interpretation could be varied hence varied results.

Andrews and Rusher (2010) studied the barriers that have impeded bilingualism from being placed in effect for Deaf children. The study established that bilingual education is not an option for Deaf children, but a necessity. In reality, Deaf children could not live with just signing skill. They will need to acquire at least two languages at school, which is sign language and spoken language, which allows them to survive in the Deaf community and mainstream society. According to the study, many teachers are obsessed about the myth that Deaf children will never learn English if they are allowed to use sign language in class. The second prejudice is that Deaf children will be not able to be fluent in two languages, which is not always true as there are many societies where there are children fluent in at least two languages, depending on how efficient the education is. Thirdly, the terminology used in bilingual education for Deaf children has been obstructed because the terminologies used in linguistics and bilingualism are not clearly understood. Lastly, language assessment on Deaf bilinguals has not been appropriately evaluated, especially when language assessments should be measured based on the two languages the children acquired instead of one language alone. The study further assumed that Deaf children, as emerging bimodal-bilingual users, are not as fluent as the Deaf adults who are in pursuit of higher education. Ninety per cent of Deaf

children are born to hearing parents who have forced their children to acquire two languages at the same time at school where sign and spoken languages are available for them. In most cases, these parents know little or nothing about sign language. Andrews and Rusher (2010) have extended the evidence with four case studies to examine the effect of purpose-driven instructional techniques in which the teacher strategically changes from ASL to English print for purposes of teaching vocabulary, comprehension and reading. The results suggested that certain codeswitching strategies support English vocabulary learning and reading comprehension. They have emphasized that the teacher of the Deaf does not necessarily need to be fluent in sign language and spoken language as long as they understand how to employ code-switching techniques in the classroom.

Omutrani (2012) conducted a study on factors affecting KCPE performance of learners with hearing impairments in Special Schools in Selected Counties, Kenya. The study was conducted in four selected counties in Nyanza Region. The study employed ex-post facto research design and focused on special school teachers, headmaster and classes 7-8 pupils. Purposive sampling was used to select the four special schools, teachers and pupils. Data was collected using three main instruments: head teachers' questionnaires, teacher's interviews and questionnaires, and interview for class seven-eight pupils. Data from field was coded numerically and analyzed both qualitatively and quantitatively. Qualitative analysis involved making inferences from the teachers' and head teachers' responses from the open-ended question, interviews and lesson observation scheduled using thematic approach. Quantitative analysis made use of Statistical Package for Social Science (SPSS) to give descriptive statistics such as percentages, frequencies and tabulations. One-way Analysis of Variance (ANOVA) was used to determine significant factor affecting KCPE performance of learners with hearing impairments. The results showed that 43% of learners preferred teachers to use mainly Kenyan sign language when teaching. While this study was conducted in special primary schools, the current study filled the gap in

special secondary schools. The current study also involved the use of focus group discussions with the students hence collected more detailed data.

#### **2.4. Influence of Students with HI Proficiency in Sign Language Systems on Academic performance in English**

Vocabulary knowledge has been identified as a significant predictor of reading comprehension in hearing students (Wallace, 2007; Zhang & Annual, 2008) and in deaf students (Kyle & Harris, 2006). Vocabulary experts assert that students need to know at least 95.0% of the words in a written or spoken text for general comprehension (Hu & Nation, 2000; Van Zeeland & Schmitt, 2012). Others like Hirsch (2003) and Sedita (2005) contend that adequate reading comprehension depends on a readers' knowledge of at least 90.0% of the words in a text. Readers who do not recognize at least 90.0% of the words not only have difficulty in comprehending a text but also miss out on the opportunity to learn new words (Sedita, 2005). According to Johns (2009), when readers know less than 90.0% of the words in a passage, comprehension drops to 50.0% or less. This is particularly true for deaf readers (Albertini & Mayer, 2011). The current study however, considered knowledge and ability to use a given sign language system as the threshold for proficiency in the sign system.

Analyses of the English grammatical knowledge of deaf students has shown delays in virtually every aspect of English syntax (Berent, 2009). Musselman (2000) stated that deafness usually results in limited spoken language abilities and poor knowledge of the syntax of the spoken language. Consequently, explanations for the impoverished reading comprehension skills of deaf readers presuppose that they often lack adequate syntactic knowledge to sustain the integration of correctly recognized written words into broader ideas at the sentence level (Miller, 2000). According to Miller, Kargin, Guldenoglu, Rathmann, Kubus, Hauser & Superegon (2012) failure of reading comprehension among the deaf appears to arise from reliance on a reading strategy that skips the processing of sentence structure as a vital source of information, as well as reliance on insufficiently developed or deviant syntactic knowledge for the processing of text meaning.

A number of studies by Quiney and Colleagues (in Paul, 2001) focused on the performances of deaf students on nine major English syntactic structures on the sentential level that is negation, conjunction, question formation, pronominalizing, verbs, complementation, relativization, disjunction and alternation. The students were found to have specific difficulties with verb inflectional processes and auxiliaries, embedded structures such as relative clauses and sentences that did not adhere to a subject-verb-object interpretation. With respect to processing and knowledge issues, Quigley and Colleagues (in Paul, 2001) indicated that syntactic difficulties were due to lack of knowledge of the major syntactic constructions which appear frequently in written materials. Despite the detailed findings of this study on the syntactic structures that deaf students had difficulties in, the influence of the same on performance in English performance was not addressed which the current study aimed at establishing.

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

Crume, Lederberg and Schick(2021) conducted a study on Language and Reading Comprehension Abilities of Elementary School-Aged Deaf Children in USA. The study tested 32 deaf children between third and sixth grade to assess their capacity to use ASL or English-like signing in nine different languages and reading tasks. The results found that there was no significant difference in the deaf children's ability to comprehend narratives in ASL compared to when they are told in English-like signing. Additionally, language abilities in ASL and English-like signing were strongly related to each other and to reading. Reading was also strongly related to fingerspelling. Our results suggest that there may be a role in literacy instruction for English-like signing as a supplement to ASL in deaf bilingual schools. The USA is an upper economy

country whilst Kenya is a lower middle economy country. The USA could have more investment in the education hence could have led to different results.

Hrastinski & Wilbur (2016) conducted a study on academic achievement of deaf and hard of hearing students in an ASL/English bilingual program in Croatia whose aim was to determine the effects of ASL proficiency on reading comprehension skills and academic achievement of 85 deaf or hard-of-hearing signing students. Two subgroups, differing in ASL proficiency, were compared on the Northwest Evaluation Association Measures of Academic Progress and the reading comprehension subtest of the Stanford Achievement Test, 10th edition. One-way analyses of variance (ANOVAs) were carried out to examine differences between the two proficiency level groups on MAP Reading, Language Use, and Mathematics total scores. In this study, reading comprehension subtest scores from the SAT- 10, a commonly used assessment in reading and literacy studies, was used. In this standardized test, students were presented with a variety of passages (fiction and informational texts) that were read independently, followed by multiple choice questions. Students attending 6th–11th grade at a deaf school were obtained; however, only 118 of them had relevant sets of data for this project. Regression analyses were carried out to predict reading comprehension and academic outcomes. The findings suggested that students highly proficient in ASL outperformed their less proficient peers in nationally standardized measures of reading comprehension, English language use, and mathematics. Moreover, a regression model consisting of 5 predictors including variables regarding education, hearing devices, and secondary disabilities as well as ASL proficiency and home language showed that ASL proficiency was the single variable significantly predicting results on all outcome measures. The current study filled the gap by involving teachers, principals and curriculum support officers. The current study also was undertaken in a lower middle economy country which lead to different results.

Kyle and Harris (2006) established a relationship between vocabulary and reading ability among 7-8-year-old deaf students. The study employed the productive vocabulary measure in which the students were asked to give the correct name of an object. A regression analysis further indicated that productive vocabulary was the strongest predictor for sentence

comprehension. However, the study involved deaf children whose vocabulary was still developing. The use of productive vocabulary therefore seemed suitable bearing in mind that they were emergent readers. On the contrary, the current study considered the proficiency in sign systems and how they impact on academic performance in English. The present study also filled the gap on the students in secondary schools whose linguistic capacity and use is more developed than the 7-8-year-old deaf students. The difference in the age bracket led to different results.

Wang and Geva (2003) conducted a study in the United States concerning spelling performance of Chinese children using English as a second language. The study compared lexical and visual-orthographic processing in the spelling performance of 30 Cantonese Chinese children who are using English as a Second Language (ESL) to that of 33 native English-speaking (L1) children. The results of the study showed Chinese ESL children have poorer performance in spelling to dictation of pseudo-words than L1 children. The study further revealed that Chinese ESL children outperformed their L1 counterparts in a confrontation spelling task of orthographically legitimate and illegitimate letter strings. Whereas Wang and Geva (2003) compared two different native speakers of language, the current study sought to establish the proficiency of learners with HI who are non-native speakers of English in sign systems. The results from the current study may differ from the finding of Wang and Geva (2003) since it will involve a range of informants with different responsibilities, that is, Principals, curriculum support officers for SNE, teachers and learners. Therefore, it could fill the knowledge gap. Whereas Wang and Geva (2003) collected data through written test, the current study collected its data through focus group discussion guides, observations schedules, document analysis and in-depth interviews. America being an upper economy country, may have more investment in the education sector than Kenya which is a lower middle economy country. This could lead to different findings.

Waluyo and Panmei (2021) analyzed the relationship between English proficiency and academic achievement in Thailand. The analysis involved the data of 2,150 students studying six different English courses from various academic majors. The results revealed significant correlations and strong predictive powers of students' grades in English courses on their GPAs across a year of

study and proficiency. The findings sustain the argument that although various factors affect students' academic achievement, English proficiency seems to have predictive power. Nowadays English-medium instruction (EMI) has attracted a myriad of interests from universities in non-English-speaking countries. Thailand is an upper economy country. Kenya is a lower middle economy. The difference in the economic status of the two countries could have led to different results.

Dodd (2016) analyzed how first language affects acquisition of English literacy. This was a comparative study that involved the analysis of performance of 40 university students from The People's Republic of China, Hong Kong, Vietnam and Australia. A series of tasks that assessed phonological awareness reading and spelling skills in English were administered. The results from the study indicated that the Hong Kong students (with non-alphabetic first language literacy) had limited phonological awareness compared to those students with alphabetic first language literacy. The reading and spelling tasks showed no differences between the groups on real word processing. The results supported the hypothesis that people learning English as a second language (ESL) transfer their literacy processing skills from their first language to English. Whereas the informants in the study by Dodd (2016) study constituted university students, the current study could fill the gap in secondary schools for the HI. In addition, the study by Dodd (2016) had a limited sample as compared to the current study which had more participants. This could have led to collection of more data hence leading to different results. Dodd (2016) engaged students from different countries (China, Hong Kong, Vietnam and Australia) whereas the current study only involved students with HI from secondary schools in Kenya only. The current study could have filled the knowledge gap by involving principals, teachers of English, curriculum support officers for SNE and learners with HI in the study. Dodd (2016) was also concerned with the effects of written language on acquisition of English literacy while the current study was based on the implication of deaf learners' proficiency in sign systems (which is not a written language) on English performance.

Dev & Sura (2016) analyzed the relationship between English Language proficiency, self-esteem, and academic achievement of the students in Abu Dhabi University (ADU). The

variables were analyzed using 't' test, chi-square and Pearson's product moment correlation. In addition, Self-rating scale, Self-esteem inventory and Language proficiency tests were used to measure the variables. The data were collected from 200 male and female students from Abu Dhabi University. The study could not find out any positive relationship among the variables. It is also revealed that language fluency (IELTS) has no direct impact on the ADU students' self-esteem scores and academic achievement (GPA).

A study conducted by Fender (2008) to establish how spelling knowledge relates with the development and acquisition of reading skills was very important. Participants in this study involved two separate groups. The total number involved was 37 participants who included 21 intermediate-level ESL learners in English for Academic Purposes (EAP) program and 16 intermediate-level Arab learners of English as a second language (ESL). The knowledge in spelling was tested via a spelling assignment. In addition, general language processing and comprehension skills of the two groups was assessed through a Standardized reading and listening exercises. The findings showed that the Arab and non-Arab ESL students were not significantly different in listening comprehension; however, the Arab students scored significantly lower on the spelling assessment and the reading comprehension test. Spelling difficulty involved multi-syllabic words that included spelling patterns across syllables such as customer, bottle, success and derivational spellings like decision, knowledge, responsible. The current study sampled secondary school learners in addition to Principals and Teachers of English thus filling the knowledge gap. The current study collected data through interviews, focus group discussions, document analysis and lesson observations which provided in-depth information. While Fender (2008) established how spelling knowledge relates with the development and acquisition of reading skills, the current study focused on proficiency in signs systems and performance in English performance.

A study conducted in Switzerland by Niederberger and Prinz (2005) which involved 39 deaf students aged between 8 and 17 indicated that linguistic competencies are necessary to support the learning of written language. The study also indicated that written language can be developed through a natural sign language, either as an alternative or complement to language

skills developed orally. This shows the need to instruct students who are deaf in sign language which is supported by UNESCO (2003a) which espouses that mother tongue is a means of improving education quality by building on the knowledge and experiences of the learners and teachers. Therefore, if learners with HI are competent in KSL, they can equally be competent in the language of English. This study thus sought to determine if the learners with HI are competent in KSL and English. While Niederberger and Prinz (2005) involved students with HI alone, the present study engaged also teachers of English, principals and CSOs SNE. The increased number of participants led to collection of more data hence could have led to different results. The study by Niederberger and Prinz (2005) was conducted in Switzerland which in an upper middle income economy whilst Kenya is a lower middle income economy. This led to different results since the two states may have different investments in education sector hence the stakeholders could have had divergent views regarding various educational practices.

Hasan and Akhand (2014) conducted a study in Bangladeshi on EFL students' English language proficiency and their academic achievement. the correlation between English Language proficiency and academic achievement was delved into in this study, and a significant connection was found between Language proficiency and cumulative grade point averages which indicated academic achievement. Bangladeshi is an upper middle economy country while Kenya is a lower middle economy country. The two countries have different level of investment in the Education sector which could lead to different results.

A study conducted by Sahragard, Baharloo, Ali and Soozandehfar (2011) titled; A Closer Look at the Relationship between Academic Achievement and Language Proficiency among Iranian EFL Students which intended to find out the relationship between Iranian college students' language proficiency and their academic achievement. 151 female and male college students majoring in English Literature at Shiraz University participated in the study. The analysis of the data obtained from the sample revealed that there is a significant positive relationship between language proficiency and academic achievement. Moreover, the results of the independent t-test indicated that male and female participants did not differ significantly with regard to their language proficiency and academic achievement. In addition, one-way ANOVA which was run

to determine the impact of academic level on each of the variables under study revealed that seniors outperformed the other levels on their language proficiency. Besides, the findings indicated that juniors significantly differ from the other three groups in terms of their academic achievement.

Kamla-Raj (2014) analyzed challenges faced by learners with HI in acquiring English writing skills a concern for the Language Skills of South African Learners and their Teachers. The participants in the study were teachers. The results of this research revealed that the language proficiency of teachers affect the language proficiency of learners. The present study sampled Principals, teachers of English and learners. This helped in filling the knowledge gap. Considering that South Africa is an upper middle economy as compared to Kenya which is a lower middle economy, its level of investment in the education sector may be higher therefore could have influenced the challenges experienced.

Kodiango and Syomwene (2016) conducted a study on challenges faced by the hearing-impaired learners in composition writing and in answering comprehension questions in English language lessons. The study utilized descriptive survey design within a mixed method approach and sampled 3 head teachers, 8 teachers and 39 learners. The head teachers were sampled through purposive sampling technique while simple random and census sampling were used to sample teachers and students. Data was collected using questionnaires, structured interviews and tests. Quantitative data was analyzed through descriptive statistics while qualitative data was analyzed thematically. The results showed that learners with HI faced challenges in composition writing and in answering comprehension questions in English language lessons. The current study employed a multiple case study design within a qualitative approach and sampled respondents through saturation. Data in the current study was very detailed since it was collected through interviews, focus group discussions, observation schedules and document analysis. This led to different results.

Dissake & Atindogbe (2017) undertook an ethnographic study on Deaf education and Language-Based Curriculum in the Buea School for the Deaf- Cameroon. The study took three months, where classroom observations were made and teachers were interviewed. The focus was on Form 3, 4,

and 5 students who were getting prepared to write the Cameroon General Certificate of Education for Ordinary Level. The results showed that late acquisition of Cameroon Sign Language affects the learning of spoken languages (reading and writing) by deaf students. It was observed that 81% of Form 3, 4, and 5 students who had a relatively good language competency in Cameroon Sign language, had a good competency in English and French, the official languages of Cameroon. Early learning of SL benefits cognitive and memory development, overall socio-educational performance, and reading and writing by providing a complete language base. Both Kenya and Cameroon are lower middle economy countries. Therefore, it was of interest for the researcher to find out if the same outcomes will be realized.

Demissie (2011) examined sign language use as medium of instruction in primary classes of Mekanissa School for the Deaf in Addis Ababa, Ethiopia. The study employed a case study research technique. The data collected through 20 classroom observations, individual interviews with 7 teachers, 10 students, 10 parents and 3 officials as well as several document analyses. Those data were examined and presented based on their themes in detail following narrative analysis method to achieve the purposes. The results indicated that both the teachers and the students exhibited incompetency to make use of the signed language in the classes besides their unconvinced attitude to utilize the natural sign language as capable instrument of education. The classrooms and their facilities were also found to be unsuitable to sign medium.

Ludago (2014) investigated the signed language proficiency and reading comprehension skill of 8<sup>th</sup> grade deaf children in special and integrated primary schools in Addis Ababa City Administration. The study used mixed research methods to collect diverse types of data. The study contained administering Signed Amharic and English proficiency task and reading comprehension task, questionnaire, classroom observation and interviews. For quantitative data collection (n = 76) deaf participants were involved. A total of 20 participants were involved in the qualitative part of the study. The participant included teachers of the deaf, deaf students and school principals. The finding revealed that in teaching and learning process, limitation of sign language is prevalent problem of signing and reading. This shows that the schools are not linguistically rich to facilitate sign language acquisition for deaf learners. Furthermore, the

finding of the study revealed that the contribution of Signed English and Amharic in the development of natural sign language for deaf children were unsatisfactory. The results also indicated that special schools for deaf learners performed better in sign language proficiency and reading comprehension than those of the integrated schools. Besides, the findings revealed that the high sign language proficiency group achieved a higher mean score than low proficiency group. This revealed that deaf students with high sign language proficiency could understand written materials better than low proficiency groups. This shows that sign language proficiency plays a role in understanding written literacy and English subject by extension. The teachers' interview also confirmed that children with better sign language skills could easily understand written texts. Ludago (2014) further observed that limitation in vocabulary knowledge was a major challenge in reading comprehension as reported by Ethiopian eight grade deaf students. Ogada (2012) further established that deaf students had challenges in the choice and range of vocabulary used in composition writing which influenced their achievement. Both studies were, nevertheless, done in primary schools and not secondary schools for the deaf. Moreover, Ogada (2012) study did not address vocabulary knowledge in English reading comprehension. One outstanding fact is that KSL, the language that deaf students understand best does not have sign equivalents for all the words used in English. This implies that the students might not be familiar with some of the words used in English which is likely to affect their comprehension. The present study therefore aimed at establishing the influence of proficiency in sign systems on deaf students' academic performance in English. Ludago (2014) further revealed that understanding the grammar of Amharic and English languages was a major problem that affected the reading comprehension of eighth grade deaf students in Addis Ababa. On the other hand, Ogada (2012) asserted that the use of Kenyan Sign Language by deaf students had implications on the use of English syntax in composition writing. The study revealed that most deaf students had low level competence in sentence construction. It also emerged that most sentences were written in KSL which affected the level of coherence. This study, however, did not establish whether the knowledge of English syntax also had an implication on performance in English reading comprehension. The present study therefore aimed at determining the influence of knowledge of sign systems on deaf students' academic performance in English.

Addow, Abubakar and Abukar (2013) investigated the relationship between English language proficiency ( as measured by the English language GPA the student obtains from his/her secondary school ) and academic achievement ( as measured by the student's GPA from the examination in the first semester ) of undergraduate students in Somalia. Sample size of 100 students was selected from SIMAD University students, especially faculty of business and accountancy final year students. Both primary and secondary data was used in order to answer research questions. Questionnaire and content analysis were used as research instruments. It was identified that there are other factors, other than English language proficiency, that affect students' academic performance, the results revealed that English language proficiency has insignificant positive relation with their academic achievement and that there is an insignificant impact of English language proficiency on student' academic achievement.

In East Africa, Athiemoolam and Kibui (2012) found that low proficiency in vocabulary affected secondary school students' achievement in reading comprehension. Mukiri (2012) in a study on the depth and breadth of vocabulary knowledge and English language reading comprehension among selected standard eight pupils in Meru Central District further established that there was a positive significant relationship between depth and breadth of vocabulary knowledge and reading comprehension although depth of vocabulary knowledge had a slightly higher relationship. These studies, however, involved hearing students and did not consider contextual knowledge of vocabulary of secondary school deaf students. The current study therefore filled the gap by involving deaf students in special secondary schools.

A study by Ndurumo (1993) showed that a number of developmental areas in children are affected by hearing impairment. These areas include; language, speech, intelligence, educational achievements and psychological development. As a result of this, it is important to note that the educators and curriculum developers ought to put into consideration the needs and interests of the learners with HI when preparing a curriculum. A part from this, another major challenge that children with HI are faced with is the issue of language development (Ndurumo, 1993). This is an important area since difficulties in it affects other areas of hearing since language is crucial in learning all subjects of the school curriculum.

Aura, Venville and Marais I (2016) investigated the relationship between Kenyan Sign Language (KSL) and English literacy skills. The study employed a correlational survey strategy. Sixty upper primary deaf students from four residential schools for the hearing impaired participated in the tests that evaluated their KSL proficiency and English literacy skills. KSL skills were tested using an adapted American Sign Language Proficiency Assessment tool while the English literacy skills were evaluated using a combination of five selected sub-tests of the Test of Reading Comprehension-Fourth Edition-TORC 4 and the Test of Written Language-Fourth Edition-TOWL 4. Additional data were collected from participants' audiograms and a questionnaire completed by parents. Data were analyzed using the Statistical Package for the Social Sciences (SPSS) computer software package. A significant positive correlation was found between participants' proficiency in KSL and their English literacy scores. While Aura, Venville and Marais (2016) employed a correlational survey strategy, the current study employed case study within qualitative approach. This led to collection of more robust data from the participants.

Walter (2003) compared the abilities of hearing and hearing-impaired children in understanding printed English words and found that the hearing impaired performed at a level far below that of hearing children as shown in Table 2.3.

**Table 2.3: A comparison of learners with Hearing Impairment and the hearing learners in their ability to understand printed words in percentages**

Age	Group	2000 words	5000 words	10,000 words	20,000 words
10 years	With H.I	32	29	21	22
	Without H.I	85	73	61	44
11 years	With H.I	40	29	23	23
	Without H.I	92	80	69	50
12 years	With H.I	39	28	22	22
	Without H.I	99	85	76	57
13 years	With H.I	59	38	27	23
	Without H.I	95	90	82	69
14 years	With H.I	62	46	34	30
	Without H.I	97	95	89	71

*Source: Walter (2003)*

From Table 2.3, comparison shows that learners with HI are not as competitive as their hearing counterparts in their ability to comprehend printed words. This would automatically be reflected in their ability to write and answer comprehension questions. Learners with hearing impairment would experience more difficulties in answering comprehension questions as well as in writing. There is a very high connection between hearing the language being spoken and learning the rules of that language. If this is missing, then the need to have special instruction rises. The impact of this can be better be appreciated when one considers that the children with regular hearing will usually have acquired all the basic structures of that language, that is a vocabulary of up to 700 words by the time they are three years. According to Special Education Guide (2013-2016), hearing students are different from their hearing impaired counterparts in that hearing children acquire language by hearing it and then producing it. However, children with HI on the other hand either do not hear it or else they may hear it in such a distorted way as to make learning it impossible. This impedes their understanding hence affecting their undertaking

in assignments and examinations in English as a subject. One common thing among children with hearing impairment is limited speech and reading skills. In educational setting, the hearing impaired students will depend on the service of a certified sign language interpreter, who will have to translate the spoken information to sign language and then vocalize in English what the hearing-impaired person wishes to say.

In analyzing deaf learners' English literacy in Kenya, Ndung'u (2013) specifically focused on reading for comprehension and writing for communication competences in deaf learners. This was a survey where five schools for learner with HI that are found in the Central part of Kenya were involved in the survey. Purposive sampling was used to select eight (8) learners with HI from each of the school. The total number of respondents was forty (40). Written composition and written exercises were given to the learners so as to test their communication and reading of passages. The learners were subjected to the questions which had been derived from the passages so as to test their reading comprehension. The results from the study showed that the learners with HI at standard four cannot read for comprehension or write for communication. The current study provided more rich data by engaging the principals, Curriculum Support Officers and teachers of English. the present study also used a qualitative approach which provide a provide for the researcher to have a one-on-one interaction with participants hence more robust data could have been collected hence leading to different results.

Kerubo (2017) investigated communication means that teachers of English employed in class during lessons. Descriptive survey design was used. This study was based on the analysis of social development theory by Lev Vygotsky. The study outlined the basis of sign language competence and its influence on reading and writing skills in English, the responses were as follows;

Head teachers said *'As learners write the sign language, teachers can understand the weakness of students and assist them accordingly'*.

English Language teachers pointed out, *'Through participation, pairing and observation, as the first language, it will influence the reading and writing in English, it enables learners to*

*sign, read and participate in answering questions, it is easier for them to relate the signs to English'.*

The current made use of focus group discussions and classroom observation which could have led to generation of richer data that could have led to different results. The involvement of the curriculum Support officers for SNE could have also led to generation of more data unlike the study by Kerubo (2017).

According to Marshchark (2007), deaf children who use signs from infancy are academically, linguistically and socially superior. The study is in line with studies conducted by Marchshark (2001), who pointed out those children with HI who learn manual signs at early childhood development centers (ECD), show better academic achievement and social adjustment during the school years and superior gains in English literacy.

## **2.5. Teaching and learning strategies employed during English lessons**

Teaching strategies refer to organized techniques intended to achieve a discrete learner outcome (Slavin, 2000). On the other hand, learning strategies are techniques, principles, or rules that enable a student to solve problems and complete tasks independently (Friend & Bursuck, 2009). Effective teaching and learning demand for the implementation of many strategies and skills to accommodate the needs and learning styles for each individual student in the classroom (Archer, 2004). Most of the strategies that have been found to be effective to hearing students can be modified to meet the needs of deaf students in the best way (Gilbert, 2011).

The education of people with disabilities requires special attention and the use of teaching and learning strategies that can be adapted to every particular disability (Leandro & Andrés, 2017)

According to Mckeown (2011) a strategy is what shapes the future and the means of utilizing the available opportunities so as to get the desirable ends. On the other hand, Kvint (2009) maintains that a strategy is a system whereby a doctrine is developed through designing, formulating and developing a long-term plan which has to be faithfully followed. According to Mahmoud (2017),

fast and good learning outcomes are directly related to the teaching strategies that are employed during instruction. Mahmoud (2017) further recommends the need for the instructors to ensure there is continual improvement and updating of teaching strategies

Brent (2009) in his study conducted in America, sought to investigate and analyze operative teaching practices and paraphernalia for deaf and hard of hearing (d/hh) grown-up migrants in ASL and English bilingual and bi-cultural college curricula. In the study, the study sample was including the researcher and two students making a total of three. The study adopted the participatory action research method where data was collected through observations, teacher and learner reflections and external evaluator interview with learners. The findings of the study indicated that multiple opportunities to learn about language in peer to peer conversations and direct conversations with the teacher using ASL were critical to effective teaching approaches and tools, bilingual materials were critical to support learners' acquisition of ASL and English and that they should be incorporated at all times throughout their education since there was a significant relationship between ASL skill and English literacy. Whereas Brent (2009) adopted the participatory action research method, the current study adopted a case study within a qualitative research approach which enabled the researcher to explore more on the topic. In addition, the current study had a wider scope of 48 participants which could have enabled the researcher to obtain richer data. The current study fills the gap in special secondary schools for the deaf in Kenya.

In a study on reading experience through deaf eyes- a case study of two deaf high school students, Chow (2003) found that the students preferred reading the text themselves before they asked for help. The students used a combination of English and American Sign Language (ASL) in building comprehension, decoding words, monitoring and repairing comprehension. Finger spelling was used to hold text when they did not understand the meaning of a word or phrase while mental pictures were used in translation of information read into ASL. The students reported to refer to a personal bank of English vocabulary and background knowledge combined with contextual clues such as text structure to draw appropriate meaning from the text. Self-

questioning was used to check comprehension while the varying of the reading rate, looking back, re-reading or reading ahead were used as fix-it strategies.

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

Riwayatningsih (2019) conducted a study in Indonesia to find out whether the use of questions as a teaching method probes students' critical thinking in their writing process. The study used a sample of 38 students from the English department and has been involved in argumentative writing class in University degree. The respondents were assigned into a mix method on a quasi-experimental study involving pretest - posttest with some features of semi structured interview to know their level of satisfaction from the gained score. The results showed that the use of questions helps students to think critically hence meaningful learning. It also facilitates connectivity and coherence which leads to writing sentences with a good flow. Further questioning, enhances meaningful communicative language in the writing process. The study used quasi- experimental design and a sample of 38 university students. The current study used a multiple case study design and sampled Secondary school students in form 3 in addition to Principals, Curriculum Support Officers and teachers of English. While Riwayatningsih (2019) used semi structured interview, the current study employed the use of interviews, focus group discussions, document analysis and observation schedules for data collection. This could have enriched the information gathered. Whereas Riwayatningsih (2019) study was based on the use of questions as a teaching method, the current study analyzed quite a number of methods and strategies employed in class during the instruction English as subject when teaching learners with HI.

In Indonesia, Situmorang (2021) conducted a study on how students perceive the use of group work in class during English lessons. A total of fifty (50) students who made up the sample of the study through purposive sampling technique. In the same study, cross-sectional survey design was employed and collection of data done through the use of questionnaires. Data was analyzed using descriptive analysis technique. The findings of the study showed that group work had a positive impact on students, attitudes and enlarged their commitment to completing assignments. However, the current study employed purposive, stratified and saturated sampling techniques and multiple case study design. Data for the current study was collected using interviews, focus group discussions, observation schedules and document analysis which might have given rich and detailed data. Indonesia, being a developed country, hence could have more percentage of the GDP directed to the Education sector. With more resources directed to the sector, it would of the interest to the research to establish if this could have brought about any difference in the results.

In Colombia, Flórez-Aristizábal, Leandro and Cano, Sandra and Collazos, César and Solano, Andrés and Slegers, Karin (2017) conducted a systematic literature review in order to find what researchers have done to apply Collaborative or Cooperative Learning in the education of deaf children and also what kind of emerging technologies are used to enhance collaborative environments. The study reviewed a total of 229 studies from 7 different databases. The findings of the study revealed that that Collaborative Learning has been used along with different kinds of technology among HI learners and had positive outcomes like improving skills in sign language, literacy and communication. The study used secondary data and did not collect primary data. The current study utilized primary data from special secondary schools for the deaf. In addition, Principals, teachers of English, Curriculum Support Officers and form three students were interviewed which led to collection of robust data. The current study collected data through interviews, focus group discussions, document analysis and observation schedules which provided very detailed information.

Li and Vandermensbrugge (2011) did a study in Australia to investigate the effects of group work on a group of 38 international research students. 38 students of Australian university were

sampled and data collected through classroom observation, questionnaires and focus group discussions. The findings of the study revealed that group work helped international students to start their writing process, it motivated them to develop their writing skills, increased their self-confidence as writers and supported them through their writing. Whilst Li and Vandermensbrugge (2011) focused on international university students, the current study focused on Form three secondary school students with HI. Form three Secondary schools students with HI have a lower linguistic capability as compared to university students and therefore may have a different opinion as far the methodologies are used. The present study employed a pure qualitative approach which enabled the researcher to have a personal encounter with the participants. This could have led to collection of more detailed data. The current study also involved a wider scope hence more data. The current study fills the gap in special secondary schools for the HI and further fills the knowledge gap by sampling the principals, teachers, Curriculum Support Officers for SNE and the form three learners with HI.

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

Ikonta and Maduekwe (2012) explored reading approaches for improving comprehensive and summary writing proficiency among high school students in Lagos, Nigeria. The study

employed the Solomon Four quasi-experimental control group research design. The study used cluster random sampling technique to come up with a sample of 240 students and 50 teachers from the four randomly selected schools in Ifako-Ijaiye, Lagos. The instruments for data collection included structured questionnaires, and reading passages. Descriptive and inferential tools were used to scrutinize data collected. The study findings indicated that “the use of reading strategies impacted positively on students’ reading and summary writing ability. The current study adopted the case study design which could have given very detailed data. The current study utilized saturated sampling techniques. The current study could have filled the knowledge gap by involving Principals, teachers, and learners. Moreover, the current study collected data through interviews, focus group discussions, and document analysis and observation schedule. These enabled the researcher to collect in-depth data. Finally, the current study analyzed data thematically.

Caddy (2015) sought to determine approaches for coaching reading to English First Additional Language (EFAL) beginners in grade 2 in South Africa. The study espoused a qualitative research using the case study design. The sample of the study encompassed grade 2 teachers from three former model 1-c schools in Gauteng province. Data was collected using focus group discussions, lesson observation and one-on-one interviews. The results indicated that teachers made use of a balanced literacy program in their classrooms but also emphasized the development of English comprehension and vocabulary among English First Additional Language (EFAL) learners; teachers adapted their strategies to provide support for the learners by adjusting their pace of teaching and providing much needed individual attention during group guided reading session especially for learners whose English reading development and academic performance had been negatively impacted by overcrowding, lack of parental support and poverty. Contrary to the above study whose participants constituted only teachers, the current study filled the knowledge gap by including Principals, Curriculum Support Officers and form three students. Results from the current study could have filled the gap in special secondary schools for the deaf. South Africa is an upper middle income economy and therefore may have more GDP directed to education which may lead to different results as compared to Kenya which is a lower middle income economy country.

A study was conducted by Choshi (2015) where application of teaching strategies in grade 12 English Second Language (ESL) classrooms in Mankweng circuit, Limpopo Province-South Africa was examined. An exploratory research design was employed. The study established that the Department of Basic Education has not come up with any specific teaching strategies. Teachers are therefore innovative on their own ways and they come up with approaches that suit the lesson and the type of learners. It was also established that when teachers use different approaches, performance of English improve. The study recommended teachers to apply various strategies since they greatly contribute to the learners understanding of the subject. The current study employed a qualitative approach which will enable the researcher to assess the more on the teaching and learning strategies employed in teaching English and the implications on academic achievement. In addition, the current study will adopt a multiple case study research design which will enable the researcher to have an in-depth study of the problem. South Africa is more developed as compared to Kenya, this may have an impact on the level of investment in the education sector, hence may result in different outcomes.

An exploratory study was conducted by Namirembe, Mkama & Kilave (2015) which focused on how innovative teaching practices are utilized in teaching of the deaf and hard of hearing (d/hh) students in inclusive secondary schools in Tanzania. In the study, a quasi-experiment design was employed and involved 10 d/hh students and 39 hearing students of Form II in one secondary school in Tabora region. The study was done in three subjects: Kiswahili, History and Geography. Data was analyzed using ANOVA one-way analysis. The findings from the study indicated that pre-teaching and re-teaching led to a significant difference in the academic achievement of the d/hh and hearing in Geography but not in History and Kiswahili. The results also revealed the need for the teachers to use visual aids such as photos, films for the students to get background information and develop schema and vocabulary related to content subject. The current study employed case study design within a qualitative approach which helped to ensure that all the participants are effectively involved to provide very detailed data which were analyzed thematically. In addition, whilst Namirembe, Mkama & Kilave (2015) focused on Kiswahili, Geography and History, the current study fills the gap in English subject. The current

study also fills the knowledge gap by engaging principals, Teachers of English and form three students with hearing impairment.

Namukoa (2014) using a descriptive survey design explored practices of Kenyan teachers in teaching science literacy. The study involved 26 science teachers on an online and 15 teachers on a focus group interview. From the findings of the study, it was noted that the best practices and strategies for science literacy instruction are known to teachers. However, these strategies are not fully implemented during classroom instruction. Contrary to the above study the current study adopted a multiple case study design that will provide detailed data. The current study engaged Principals, Curriculum Support Officers, teachers of English and form three learners with hearing impairment thereby filling the knowledge gap. Whilst Namukoa (2014) explored strategies for teaching science, the current study focused on English. The current study also collected data using interviews, focus group discussion, observation schedules and document analysis which provided very rich data.

A study was conducted in Kenya by Mutai (2012) on coaching approaches used by English Language instructors in Eldoret Metropolis. The study employed a mixed methods research design. A total of 180 students from six secondary schools within Eldoret Municipality, form three English teachers, heads of the selected schools and education officials in the district formed the sample for the study. The study utilized both probability and non-probability sampling techniques including purposive and stratified random sampling. Data was collected through questionnaires, interviews, documentary data and non-participant observation. The study employed both qualitative and quantitative data analyses. From the study it was realized that the commonly used methods by teachers in their teaching are lecture and group discussions. Drama, debating and role plays are superficially utilized. The current study adopted case study design within a qualitative approach. Saturated, Purposive and stratified sampling techniques were used to sample its participants. Furthermore, the current study fills the gap in special secondary schools for the HI. Data in the current study was collected through focus group discussions in addition to interviews, observation schedules and document analysis which provided in-depth data.

Chabari and Awori (2017) investigated the approaches used in coaching written English language to learners with HI in Njia special school in Meru county, Kenya. The study utilized descriptive survey research design. The respondents for the study were 5 English language teachers, 8 learners with HI and 1 head teacher. Collection of data was undertaken through the use of interview schedules, focus group discussions and administration of questionnaires. Data analysis was done through descriptive statistics for Quantitative aspect while qualitative data was presented in narrative form. Results from the study revealed that teachers were not so sure of which strategies and projects that could be used to improve writing among learners with HI. While Chabari and Awori (2017) employed descriptive survey design, the current study utilized a multiple case study design which provided more detailed data. The current study also filled the knowledge gap involving Principals, CSO -SNE, Teachers of English and form 3 students.

Wandera (2012) conducted a study on effectiveness of teaching methods in English language on acquisition of English language skills in public secondary schools in Nairobi county, Kenya. The objectives sought to find out the various teaching methods used in English language, the effectiveness of the lecture methods on acquisition of English language skills; the role of role play as a teaching method in promoting acquisition of English language skills and the effectiveness of questions and answer methods on acquisitions of English language skills. Data was collected using three instruments; questionnaires, observation schedule and interviews. It was established that each of the methods enhances acquisition of the English language skills. The four skills in English namely: writing, listening, reading and speaking form the core of the English language. The effectiveness of each of the method used in promoting the acquisition of one or all of the skills was evaluated. It was evident that each of the method imparted on students some skill. Lecture method was found effective in promoting listening and writing skills. Role play highly imparted on students speaking skills, while questions and answer instilled on students a mix of listening and speaking skills. It was evident that writing and speaking skills were effectively acquired during the questions and answer method. The study established that integration of all methods is effective on acquisition of the various language skills. Each of the methods complements the other in the acquisition of the various skills. The various methods used during the English lessons are highly effective in promoting acquisition of

English language skills. The current study filled the gap in special secondary schools for the deaf. The use of focus group discussions and in-depth interview provided a rich data. In addition, the current study involved curriculum support officers for Special needs hence varied and wider data was collected.

Oyier (2019) investigate the extent to which the selected factors influenced deaf students performance in English composition in secondary schools in Kenya. Descriptive and Correlational research designs were used in this study. The study was done in five secondary schools for the Deaf. Target population was 5 principals, 9 teachers and 142 Deaf students. Saturated sampling technique was used to select 4 Principals, 8 teachers and 127 students. Data collection tools were Questionnaires, interview and observation schedules. Reliability of the instruments was ascertained through test re-test through a pilot study on one of the schools which was not part of the study. A coefficient of 0.75 indicated reliability of the student questionnaire and document analysis Guide. The study established that teaching and learning strategies had positive influence on performance from moderate to a very large extent. The current study adopted a multiple case study design and data was collected through interview schedules, focus group discussions, document analysis guide and classroom observation. This led to collection of rich data. The current study involved curriculum support officers for special needs who added additional data unlike the study by Oyier (2019)

## **2.6. Summary on literature review and Gaps**

The teaching of English in secondary schools for the deaf in Kenya adopts an integrated approach where the four language skills, that is, listening, speaking, reading and writing are taught in a concurrent manner. Consequently, the curriculum does not explicitly stipulate the Sign Systems and teaching and learning strategies that ought to be used in classroom instruction for deaf students. However, it indirectly implies strategies such as silent reading, sign reading, skimming and scanning, teaching of story grammar, summarizing, note making, group discussions, book reports, dramatization, role play and the use of the dictionary in the teaching of reading (Maina, 2015). Further, the sign system to be employed on these strategies has not been established. The need to make teaching of English interesting and fulfilling and the effective

planning of for the same have also been emphasized (KIE, 2004). The implementation of the recommended strategies and the sign systems in teaching and learning English in secondary schools for the deaf is, however, not known.

From the reviewed literature, there are various sign language systems. Perceptions of teachers of English as well as learners with HI towards sign systems contributes to the teaching and Learning process as well as utilization of the same. Most of the foregoing research on the sign systems and learning strategies of deaf students in English were done in America and Europe where English is a first language therefore the expectations were high.

The sign systems that should be used during English lessons as well as teaching and learning strategies in secondary schools for the deaf and its implications on academic performance is unknown. In addition, the English curriculum for Secondary Schools for the deaf (KICD, 2004) does not clearly stipulate the sign language systems and teaching and learning strategies to be used in class during English lessons for students with HI hence the need for this study.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.0. Introduction**

This chapter presents the Research Methodology employed in the study. The focus is on the research approach, the study design, location of the study, the target population, sampling techniques and sample size, Data collection instruments, trustworthiness and authenticity of qualitative data, validity, reliability, data collection procedures and lastly a discussion of ethical considerations of the study.

#### **3.1. Research Design**

This study adopted multiple case study design within a qualitative approach. The characteristics of a multiple case study design suited this study to better understand the sign systems. According to Johnson and Christien, (2008) “it is a detailed account of a case such as an individual school or subject focused on providing a detailed account of one or more cases.” P.6. A case study design enabled the researcher to closely examine data within a specific context (case) since a limited number of individuals as the subjects of the study were selected (Zainal, 2007). A true case study requires the researcher to study a phenomenon without affecting the study participants at all. This design also enabled the researcher to closely examine the data within a specific context (case). In this study, there were four cases, which are represented by the four special secondary schools for the deaf in Nyanza. Multiple case study was the preferred design since this study focused on sign language systems used in special secondary schools for the HI. The number of special secondary schools for the HI are few in the area of study but widely spread. The focus was on each case (school). According to Bengtsson (1999), the strength of conclusions from a single case is not very high, and it is claimed that the use of multiple cases yields more robustness to the conclusions from the study. It allowed the researcher to collect detailed data from the source(s) devoid of contamination and interference. In this study, the researcher endeavored to collect detailed data from the teachers of English, Principals, Form Three Students and Curriculum Support Officers. On the other hand, a qualitative method of research provided the researcher with a better narrative of understanding

the population under study. (Vander Stoep and Johnson, 2009). This approach was used to gain an understanding of the underlying reasons, opinions and motivations regarding sign language systems hence providing insights into the problems or helps to develop the ideas as far as academic performance of learners with HI is concerned. Qualitative research approach was also used to uncover trends in thought and opinions and dive deeper into the aspects of sign language systems. Therefore, this approach helped to establish thoughts and opinions of teachers of English and students with hearing impairment regarding the sign systems used in teaching English.

Creswell (2007) states that qualitative research deals with socially constructed realities that are complex and indivisible. According to Taylor and Bogdan (2004), qualitative research is an approach to the study of social world which seeks to describe and analyze culture and behavior of humans from the point of view of those being studied. Qualitative approach is naturalistic and draws on multiple methods of inquiry conducted in naturalistic settings rather than controlled ones (Rossman & Rallis, 2003). Leedy and Ormrod (2005) add that qualitative research involves studied use and collection of variety of empirical materials, case study, personal experience, introspective, life story, interview, observations that describe routine and problematic moments and meanings in individuals' lives.

Qualitative research approach also seeks to tell the story of a particular group's experience in their own words. It employs an inductive approach in which the researcher first collects data and then attempts to derive explanations from these data. It is informed by inductive logic, in which potential understandings of a phenomenon are derived from the data. As such, it tends to be more exploratory in nature, seeking to provide insight into how individuals, organizations or groups understand aspects of their world. In this case, the study sought to get the experience of teaching and learning of English subject in special secondary schools for the deaf. Therefore, the researcher tried to derive explanations regarding the sign systems used in teaching English in special secondary schools for the deaf and their implications on academic performance from the data collected. The study helped establish the implications of sign language systems on academic performance in English by the learners with HI.

Qualitative research approach also provided the advantage to the study in a number of ways. It provided an in-depth and detail research by recording perspectives, feelings and behaviors of the special educators and learners with hearing impairment in regard to the sign systems used in teaching English. Hence the approach created openness, thus encouraged the English teachers and learners with HI to expand their responses and open up new topic areas not initially considered. The approach also stimulated English teachers' individual experiences; hence building up a detailed picture of how they act and feel in regards to sign systems applied in teaching English in special secondary schools for the deaf.

### **3.2. Location of the Study**

This study was conducted in secondary schools for the deaf in Nyanza region of Kenya. The Nyanza region consists of the former Nyanza province. The counties in the region are Siaya, Homabay, Migori, Kisii, Nyamira and Kisumu. The map of Kenya showing the location of the Nyanza region is attached as Appendix XIII.

Various studies have been conducted focusing on sign language and deaf education at global and regional level. However, at the local level, there has been little focus on the sign systems and their implications on academic performance especially on English as a subject. Additionally, in Nyanza region, no known study has been conducted on sign language systems in special secondary schools for the deaf.

### **3.3. Target Population**

This is also usually referred to as the research population. Population is also regarded as the entire group of subjects that meet a designated set of standards. Sekaran (2006) defined target population as the entire group of people, events or things of interest that the researcher wishes to investigate. Cooper and Schindler (2003) define target population as the list of all the elements from which the sample is actually drawn. According to Kothari (2010), a target population is a group of individuals who have one or more common characteristics which are of the same interest to the researcher. Orodho (2009) defines target population as the set of elements that the

researcher focuses upon and to which the results obtained by testing the sample should be generalized. This study will adopt the definition of Orodho (2009) of the target population. The target population therefore consisted of Principals of secondary schools for the deaf in Nyanza region, Curriculum Support Officers for SNE, Teachers who are teaching English in secondary schools for the HI and the form three students in secondary schools for the deaf in Nyanza region. Table 3.1 shows the target population of the study.

**Table 3.1. Target population of the study**

County	School	Category	Principal	CSO SNE	English Teachers	Form Three students	Totals
Siaya	A	Mixed	1	1	2	27	30
Migori	B	Mixed	1	1	2	29	31
Kisii	C	Mixed	1	1	2	24	27
Homabay	D	Mixed	1	1	1	16	18
<b>Total</b>	<b>4</b>		<b>4</b>	<b>4</b>	<b>7</b>	<b>96</b>	<b>111</b>

*Source: Four Sub-County Directors of Education*

### 3.4. Sampling Techniques and Sample Size

#### 3.4.1. Sampling Techniques

According to Sekaran (2006), sampling is the process through which adequate numbers of elements are selected from the population, which would give results that can be generalized to the entire population. It is also regarded as the process where subsets of individual observations are randomly selected so as to make projections based on statistical inferences. On the other hand, Orodho (2009), defines sampling as a research technique employed for a given number of subjects from a target population. It is a representative of that population. In other words, it is a method of selecting or choosing a smaller number or a group from a bigger population. This is for the purposes of study and then making a generalization about the whole population. There exist several ways through which informants may be selected for a study. Very often a case may be selected simply because it allows accessibility.

In this study, the sample was drawn from four special secondary schools for the deaf in Nyanza region. The schools fall within different counties as indicated in table 3.1. The researcher then used saturated sampling to sample all the four secondary schools for the HI. All the four special secondary schools for the HI in Nyanza region were involved in the study. Saturated sampling technique was used since the four schools are the only special secondary schools for the hearing impaired in the region. Therefore, the schools were automatically selected for the study.

Purposive sampling was used to select form three students since they have developed uniform signs in a given school, unlike those in form one and two. Most of learners with HI join secondary schools with variations in signs due to existence of variations in signs in different regions, which they amalgamate and agree on uniform signs as they continue learning in the given secondary schools. Form three students were purposely sampled since they are usually tested on all sections of the full English paper unlike form one and two. Form four students were not be involved since it is a candidates' class, the school administrations may not easily allow them to be involved in other activities.

Saturated sampling was used to sample all the 4 principals of the special secondary schools for the deaf and curriculum support officers from the sub counties where the schools are located. Principals were sampled since they place an important role in making decisions on which sign systems can be used in a give a school. Principals are usually at the Centre of exam results analysis and they are the official spokesperson for the schools. In addition, principals are the top management of the schools. Being pedagogical leaders, principals have influence on how teachers move to implement the same in the classrooms. Curriculum Support Officers were also involved due to their supervisory role in the special schools.

Teachers of English were purposively sampled as persons involved in the teaching and learning of English using various sign language systems. The information they provided was important to enable the researcher establish their opinions on the sign systems used and hence their recommendations and way forward.

The sampling techniques that were used in the study can be summarized as below:

i) Purposive sampling: A sample of 4 Curriculum Support Officers for SNE; 4 Principals and 7 English language teachers were selected. Purposive sampling was applicable in case of a limited population with the information required.

ii) Stratified random sampling: To avoid gender bias, the students were first grouped into two strata; boys and girls. Simple random sampling was then used in each subgroup. Every student had an equal and independent chance of being selected as a member of the sample (Orodho, 2009). This was done by folding small pieces of paper with numbers written on them ones and twos. All number ones were selected.

### **3.4.2. Sample Size**

According to Malhotra (2004), the number of respondents that have been settled on to be included in the study is referred to as sample size. However, the process of arriving at the sample size is very crucial and various qualitative and quantitative aspects must be taken into consideration. Orodho (2009) on the other hand explains a sample as a small part drawn from the large population which serves to represent the bigger population.

Mugenda & Mugenda (2003) describes it as a small group selected from the population for testing. In this study, the sample constituted the 4 Principals, 4 CSO SNE, 7 Teachers of English and 33 Form three students. Therefore, the sample size was 48 informants. Table 3.2 presents the summary of the sample size.

**Table 3.2: Sample size for the study**

County	School	Category	Principal	CSO	English SNE Teachers	Form Three students	Sample			Totals
							Target	Boys	Girls	
Siaya	A	Mixed	1	1	2	27	5	3	8	12
Migori	B	Mixed	1	1	2	29	5	4	9	13
Kisii	C	Mixed	1	1	2	24	3	5	8	12
Homabay	D	Mixed	1	1	1	16	4	4	8	11
<b>Total</b>	<b>4</b>		<b>4</b>	<b>4</b>	<b>7</b>	<b>96</b>	<b>17</b>	<b>16</b>	<b>33</b>	<b>48</b>

*Source: Four Sub-County Directors of Education - 2022*

Therefore, the sample size was made up of 100% of Principals, 100% of Curriculum Support Officers for Special Needs, 100% of the teachers of English and 34.4% of the form three students which meets the requirements as per the recommendations of Mugenda & Mugenda (2003) who posit that the effective sample ought to be at least 30% of the population.

### **3.5. Research Instruments**

Qualitative data collection methods vary using unstructured or semi-structured techniques. The study employed interview schedules, focus group discussion guide, Classroom Observation schedules and the document analysis guide as the research tools for data collection. The interviews were used to get in-depth information from the principals and teachers of English about the application of sign language systems in classrooms for instructions and its implications on academic performance in English.

### **3.5.1. Interview schedules**

#### **3.5.1.1. Interview schedule for the Principals (ISFP)**

In this study, interviews was defined as direct conversations rather than structured questions (Yin 2003). During the interview, the had two main roles which were to follow a line of inquiry as reflected by the study and to ask actual questions in a way that would reduce the bias. The researcher conducted in-depth interviews to guide individuals in sharing their perspectives on sign language systems and the implications on academic performance in English. Interviews can be highly structured (based on a standard set of questions which the researcher asks of numerous individuals) or more free-flowing like a conversation. In this study, semi-structured interviews were used. A semi-structured interview is a data collection method that involves asking participants a set of open-ended questions and following them up with probe questions to explore further their response and the topic of interest. In this study, some questions were predetermined while others were not pre-determined.

The semi-structured interviews allowed the researcher to focus on the sign language systems while at the same time having the autonomy to explore relevant ideas that came up during the interview. Semi-structured interviews were used to collect new data and explore participants' thoughts and beliefs about sign language systems and how they affect performance in English. The open-ended questions allowed the researcher and participants to discuss the sign language systems in more detail. The researcher followed the interview guide but had the autonomy to stray from it and discuss other topics whenever he felt appropriate. Semi structured interviews enabled the researcher to have a deep exploration of the participants' experiences, beliefs, and thoughts as far as sign language systems is concerned. Interviews were audio-recorded and then transcribed to ensure that participants' exact phrasing, emphasis, hesitations, emotions among others are captured.

Interviews also gave the freedom to explore topics that arise through the process that are connected to the study. This resulted into a more intricate knowledge of the phenomenon (Creswell, 2015). In addition, an interview schedule was more appropriate because questions were more enhanced and aided in obtaining extra information on the application of sign

language systems in classrooms for instructions and its implications on academic performance in English. The interview schedules contained questions on the application of sign language systems in classrooms for instructions and its implications on academic performance in English. The interview sessions took an approximate of 40 minutes. The interview schedule for the Principals is appendix I.

#### **3.5.1.2. Interview schedule for Teachers of English (ISFTOE)**

This tool was used to collect data from the teachers of English as a subject. The interviewed seven teachers of English. Two from each of the three special secondary schools and one from the fourth special secondary school given the number of streams. The interview schedules contain questions on the application of sign language systems in classrooms for instructions and its implications on academic performance in English. The interview sessions took an approximate of one hour. The interview schedule for teachers of English is appendix II.

#### **3.5.1.3. Interview schedule for Curriculum Support Officers for SNE (ISFCO-SNE)**

This interview schedule for CSOs for SNE was also used to solicit information from these staff members of the education office who are responsible for assessment and placement of learners with special needs into various special schools and monitoring curriculum implementation in those schools. The information they provided was very vital since it helped the researcher to draw conclusion based on their observation concerning application of sign language systems in the classrooms for instructions and their implications on academic performance in English. The researcher interview four CSOs for SNE from the four sub counties where the special schools are located. The interview schedules will contain questions on the application of sign language systems in the classrooms for instructions and their implications on academic performance in English among learners with HI. The interview session will take approximately 45 minutes. The interview schedule for CSOs for SNE is appendix III.

#### **3.5.2. Form Three Students' Focus Group Discussion Guide (FTS-FGDG)**

Focus group discussions were conducted for form three students. Stewart & Shamdasani (1990) espouse that FGD is an exceptional tool for uncovering how groups of similar entities

understand a particular phenomenon. They further allude to the fact that a well conducted FGD offers the prospect for the researcher to interact with one another and with the moderator to produce a shared narrative of the phenomenon of interest. They are best suited for idea generation rather than formal evaluation and analysis. Difficulties, contests, obstructions, likes, and dislikes among users can also be discovered using FGD. On the other hand, the exact strength of users' opinions cannot be generalized using FGDs. If conducted well, an FGD can provide a wealth of valuable information in a short period (Stewart & Shamdasani, 1990).

Focus group discussion guide for form three students were used to gather the learners' collective opinions, feelings and/or thoughts about the sign systems used in teaching in class, especially during the English lessons. As a requirement of FGD, the researcher was the moderator. This provided opportunity for the researcher to introduce topics for discussion. The members of the groups were able to participate in a lively and natural discussion amongst themselves. The researcher allowed the students to agree or disagree with each other. This gave strengths and provided an insight into how they think about sign systems that are used in class during instruction.

Casey (2008) asserts that FGD should contain between 8 to 10 participants plus a facilitator and a note taker, about the size of a lively seminar class. According to Casey (2008), an FGD should not be too big as that may limit the details of some responses. There participants would have pressure of time as they shall all be struggling to share the time available. On the other side, Robson (2002) suggest that an FGD should have between eight and twelve people in a group while Krueger (2008) argue that smaller groups of five to seven participants might be more appropriate for an in-depth conversation. This study adopted the recommendations of Casey (2008). The Form Three Students' Focus Group Discussion therefore contained between 8 to 10 members. The discussion took about 45 minutes during which the researcher recorded the audio. A study by Brown (1999) recommended a series of as many as five FGDs that can be used to engage up to 60 people in the same location set up. The argument here is that relying on a single focus group session is not effective as any single group could be unresponsive or unrepresentative. Krueger (2008) agrees with Brown (1999) by alluding that two or more

groups usually increases the chances of success. Based on these assertions, the current study had 4 FGDs. Each special secondary school for the deaf had one group. To arrive at the number of students for each group, Stratified sampling was used to sample between 8 to 10 students from form three. Stratified sampling was used since the 4 schools are mixed schools having both boys and girls. The specific number in each FGD is as shown in the sample frame Table 3.2. The Focus group discussion contained questions on the sign language systems and how they impact on the English performance among learners with HI. The FGD were recorded and transcribed in order to capture the exact language used by the participants. The Form Three Students' Focus Group Discussion Guide is listed on appendix IV.

### **3.5.3. Document Analysis Guide (DAG)**

Payne & Payne (2004) contend that document analysis guide is a technique used to investigate, categorize, interpret and identify limitations of written documents. They add that Document Analysis guide help in revealing information which may not be available during observations. Merriam (2001) also adds that Document Analysis guide helps in providing original or first-hand information produced by students.

Document analysis deals with the systematic examination of records or documents as a source of data. This research instrument has the capacity of collecting both qualitative and quantitative data. According to Neuendorf (2002), this research technique enables the researcher to analyze the documents and texts that seek to qualify content in terms of predetermined categories and in a systematic and replicable manner (Bryman,2012). Document analysis was appropriate because it enabled the researcher to collect and explain qualitative data. It is a transparent research instrument.

This study therefore used document analysis guide to supplement and support evidence from interviews, focus group discussions and lesson observations. In this study the documents that were scrutinized include KSL and English syllabus, English records of work covered, English progress records, KSL and English dictionaries in use, learners' exercise books for English, English lesson plans and English schemes of work. The researcher filled the document analysis

guide with the teachers of English in the HODs' offices. The data was recorded as a dash (-) when the document was available in a school and a tick (√) when the document was available. The document analysis guide is appendix V.

#### **3.5.4. Form three Observation schedules and Field Notes (FTOSFN)**

Orodho (2009) notes that observation provides information about 'actual behavior'. Observation involves observing behavior and systematically recording the results using an observation schedule or field notes. On the other hand, an observation schedule is a list of things that an observer is going to look at while observing a class. The researcher used both field notes and schedule for this study. The schedule gave an observer a structure and a framework for an observation and at the same time served as a contract of understanding with the teacher. Orodho (2009) adds that observation allows the researcher to put the behavior into context and thereby understand it better and can reveal more information than other data collection methods. Furthermore, it is a reliable and unbiased source of information. The researcher also used field notes to freely note down the observation points.

Unstructured observations broadly focused and aimed at observing how teachers use sign systems. Detailed and descriptive accounts which were helpful in understanding the sign systems used during classroom instruction were made. Therefore, unstructured observation were appropriate for this study since it has a broad focus and gives more detailed information. The researcher made the teachers aware that they are part of the research. The teachers in classroom during observation were required to explain to the learners about the purpose of the researcher's presence.

Seven lesson observations (English lessons only) were carried out, two in each of the three schools in form three which have two streams and one observation in one school which has only one stream of form 3. This was done so as to observe the learning process during lessons by different teachers of English. The observation was done in predetermined classes and lesson times. The observation schedules had two sections: leading questions/statements and researcher

comments. Each observation took 40 minutes for each lesson. The observation schedule and field notes is appendix VI

### **3.6. Validity of the Research Instruments**

McMillan and Schumacher (2001) describe validity as the degree to which the descriptions of the phenomena match the realisms of the world. These include both internal and external issues, and issues of objectivity and reliability. Vander Stoep and Johnson (2009) propose that validity is about truthfulness. Thus, real measuring in the research what the study claims to measure. Validity is the extent to which a test measures what it claims to measure (Mugenda and Mugenda, 2003). According to Borg and Gall (1996), validity is the degree to which a test measures what it is intended to measure by the researcher. Orodho (2005) elaborates that there is no specific statistical method to calculate validity. On this note, the researcher consulted with the university supervisors to validate the research tools. Their responses were incorporated in the refining of the tools.

### **3.7. Reliability of the Research Instruments**

Reliability is a measure of the degree to which research instruments yield consistent results after repeated trials (Borg and Gall, 1996; Orodho, 2009 and Mugenda and Mugenda 2003). For qualitative data, the reliability of the research instruments is ascertained by ensuring trustworthiness of the instruments (Morse, 2015). Trustworthiness is ensured through credibility, transferability, dependability and conformability of the instruments. (Lincoln and Guba, 2005). These are explained as below:

#### **3.7.1. Credibility**

The purpose of internal validity or credibility is to show that the instruments were administered to only the right respondents. The credibility of the research instruments was achieved using the saturated and purposive sampling approach to ensure that the only targeted population was involved in the study. The researcher recorded data mechanically through discussions as the

need arose in the course of interviewing. This was to ascertain utmost originality and appropriateness of the primary data.

### **3.7.2. Transferability**

According to Marshall and Rossman (2006), transferability is also referred as External validity. This refers to the extent to which the results from a given study are generalized to the population from which the sample was extracted or other similar contexts. In this study, transferability of the instruments was achieved through providing a detailed accurate focus of the study and providing a description of the methodology and accurate analysis of data to come out with worthwhile findings.

### **3.7.3. Dependability**

According to Marshall and Rossman (2006), dependability is also referred to as external reliability. This entails the extent to which a study can be replicated. It is the degree to which a procedure yields the same results each time and, in each way, it is measured. In order to achieve this in the current study, the researcher provided a detailed description of the process of inquiring to induce the methodological steps, that is, through the use of Multiple case study research design and data collection procedure, the researcher will brief the informants on the content and the intent of the research to make them be certain of the demands of the research hence they giving relevant information during the interviews and focus group discussions.

### **3.7.4. Conformability**

Field (1980) defines Conformability as the situation in which two or more people perceive the same meaning from the same categories. It also refers to as objectivity or internal reliability. Conformability focuses on developing meaning and categories that are not based on researcher's own bias, but as seen in the data by others. In this study, this was achieved by working with the subject masters to ensure that they perceive the same meanings from the data (LeCompte and Preissle, 1993). The researcher discussed and shared meanings and categories that emerge from the study with his colleagues to determine if they (colleagues) perceive the same meanings as was required from the tools. The researcher produced a draft thesis that was to be studied and authenticated by the supervisors and other research experts from the school of education,

Humanities and Social Sciences. Finally, the researcher published the thesis in peer reviewed journals to be scrutinized by other experts before being flouted to the general public for academic consumption.

### **3.8. Data Collection Procedures**

Before going out for data collection, the researcher got the introductory letter to conduct the study from the Directorate of Board of Post Graduate Studies of Jaramogi Oginga Odinga University of Science and Technology. The researcher then applied to get approval from the Ethics Review Committee (ERC) of Jaramogi Oginga Odinga University of Science and Technology. Using the approval from ERC and the letter of introduction, the researcher applied for a research permit from the National Commission for Science, Technology and Innovation (NACOSTI). This permit enabled the researcher to get permission from the County Commissioners and the Directors of Education of the four counties: Siaya, Homabay, Migori and Kisii to carry out the study in the sampled schools in their areas. Permission was then sought from parent teachers Association (P.T.A) through the Principals to engage learners in research, make classroom observation and analyze documents.

With the help of the Principals, the informants were briefed about the study and assured of safety and confidentiality during the first lap of visits. In the second visitations, the researcher visited schools to conduct the interviews and focus group discussions. The researcher then visited schools for the third and last round to conduct classroom lesson observations and fill the document analysis guides. The process of data collection took an approximate of one month.

### **3.9. Data Analysis**

This study adopted thematic analysis to generate the findings. The researcher engaged in the process of summarizing large quantities of raw data, categorizing, rearranging and ordering data in reflection to the themes of the objectives. The researcher started by editing the data collected so that what had little or no relevance was ignored (Mbwesa, 2006). The researcher then moved to organize data according to the objectives that guided the study. The recorded interviews and focus group discussions were transcribed. In cases where the researcher used field notes, they

were analyzed and interpreted in readiness for coding (Creswell 2015). Transcripts were then read carefully after which they were coded into themes in relation to the research questions and information collected (Orodho, 2009). The list of all topics were made and sorted according to similarities and differences using highlighters of different of colors. The topics were later abbreviated as codes and the codes written near the related text in word document. Then these topics were turned into categories – major topics, unique topics, leftovers and emerging themes. Finally, the information was assembled according to category and a preliminary analysis was made (adapted from Creswell, 2015). The categories were then developed from both the data and research questions based on theory and determined at the formulation of the research instruments. The sub-themes were developed from the data. The data from observations and studied documents was also presented in narration and analyzed thematically.

Interpretational analysis was therefore examined carefully to find the constructs, themes and patterns useful in understanding sign language systems. The researcher tried as much as possible to make sense of the meanings that the respondents attached to the phenomenon as asserted by Cohen *et al* (2007). Therefore, the researcher analyzed the qualitative data using thematic analysis approach.

Table 3.3 below presents a sample of interview excerpts, themes and codes from selected respondents:

**Table 3.3: A sample of interview excerpts, themes and codes**

INTERVIEW EXCERPTS	CODES	MEANING OF INITIALS	THEMES
<p><i>Mostly we use SE, but the best one that we should use is SEE. Why because in secondary schools, it is a bit advanced and for these learners to perform in English, they need to learn the structures of English, meaning we need to stick to SEE so that they learn the structure. But now you know when you use KSL, they will not learn the structure of English.</i></p>	ToE 7	Teacher English	of Signs System used during English lessons
<p><i>It is hard, because teacher uses English (SEE) during class time, we don't get the exact meaning and which translates to the exam such that when you read a question, you don't read and get it then you just guess, so it is hard to pass English</i></p>	FGD 3	Focus Group Discussion	Impact of the sign system on performance of learners in English
<p><i>Yees, it is a serious issue, especially when they have taught, in fact every teacher, when they go to class everybody wants to achieve their objectives, when they get that they have not achieved the set objectives and they try to find out why? You find that the use of the sign system barriers, that is the SEE versus KSL, at times, it kills their morale</i></p>	P. 1	Principal	Impact of sign system used on the working of the teachers

*Source: Researcher, 2023*

### **3.10. Logistical and Ethical Considerations**

In the entire process of data collection and study period, ethical requirements were fully observed. The Process of research designing, conducting, recording and reporting of findings of the study was done with complete adherence to ethical requirements. The study was conducted with full human rights protection. This was done by ensuring that the dignity, rights, safety and well-being of research participants are considered. The subjects who were eligible and who had consented willingly to participate in the study were engaged. The researcher was obligated to explain and make clear the purposes of the study, the research procedures, benefits and length of time of the study to all the respondents. The participants who agreed to participate were informed and assured that the data would be kept strictly confidential. However, any participant who felt they are no longer willing to participate in the study, they were allowed to withdraw from the study. The researcher made it clear to the participants that they have a right to withdraw from the proposed study project at any time without prejudice and for any reasons or infringements (Saunders, Lewis & Thornhill 2012). They were asked to sign a consent form (see Appendix X, XI and XII). Given the importance of informed consent, the researcher provided a consent information to all sampled participants or their representatives in a language that is understandable and clear.

The researcher prepared an informed consent which was approved by the supervisors before it was given to the participants. Each informed consent was printed in duplicate. One copy was given to the individual signing the form and another copy was kept by the researcher. The basic elements of a consent form included: an explanation of the purpose of the study, the reason why they are selected, the amount of time that they will be involved and their responsibilities during the research. During data collection stage, the informants were guided with an aim of seeking their volunteerism in the study. The interview report from every interviewee or any such reports were kept secretly (Bryman & Bell, 2007).

For tape recording, the informants were asked if they were comfortable to be recorded. Upon acceptance, they were asked to fill a consent form for audio tape recording. (see Appendix XI). Those who were not comfortable with recording, the researcher noted down their points during

the interviews and Focus Group Discussions. For the Form three students who were under 18 years and therefore not able to make their own decisions, the parent representative were contacted and informed consent was sought (see Appendix XII).

The responses from the institutions were coded to ensure confidentiality. The names of the institutions were not captured anywhere. In this study, to ensure non-disclosure of the identity, personal details like names and telephone numbers were not be collected.

Data collected from this study is kept strictly for the purpose of the study. No one else can have access to responses of the informants except the researcher. Data is stored in one personal computer with a strong password known to the researcher alone. This study was conducted in line with research ethics whereby informants are respected (Banaji, Mahzarin, Bazerman Max, Chugh, Dolly 2003).

## **CHAPTER FOUR**

### **DATA ANALYSIS, INTERPRETATION OF FINDINGS AND DISCUSSIONS**

#### **4.1. Introduction**

This chapter presents findings, interpretation and discussions of the study. The findings, analyses, interpretations and discussions have been presented as per the research objectives. Data was presented using narrative approach and analysis done thematically according to the objectives of the study.

#### **4.2. Response to the instruments**

One of the research tools used in collecting data in this study was a document analysis guide (Appendix V). From the Document Analysis Guide, all the ten (10) items were in all the four schools. Kenyan Sign Language and English dictionary were essential because they would show the differences in structure between SEE and KSL. Lesson plans would identify the strategies and methods employed when teaching and learning English among learners with HI. Kenyan Sign Language and English syllabus were necessary because they would indicate the difference between the two languages. Schemes of work was relevant in identifying the difference between KSL and English and the strategies and methods employed while teaching and learning English. Schemes of work also showed the perceptions of the teachers of English language towards some of the approaches on how they can practice the given sign systems. Schemes of work would also indicate the encounters faced by learners while using the given sign systems.

Records of work covered would indicate the level of comprehension of learners with HI during English lessons. From the progress record one could find out whether the learners with HI experience challenges in the use of the given sign system. This was shown in the performance. Learners' exercise books were helpful in identifying the language discrepancies between KSL and English, and the challenges learners with HI face using the sign systems applied during instruction and the structure used to take down notes and in writing examinations. Learners' exercise books also gave evidence of KSL transfer into English writing. Lesson notes helped

identify some of the discrepancies between KSL and English and teachers' comments in the books when they check.

A total of seven lesson observations were conducted; two in each of the three schools in form three which had two streams and one lesson observation in one school which had a single stream of form 3. This was relevant in identifying sign systems that teachers of English used in class during lesson instruction, the way learners perceived the given sign systems that were used in class, the teachers interaction and communication with learners in class, the discrepancies in sentences made by the learners, the use of KSL during English lesson, the strategies and methods employed during English lessons and how proficient learners are in using the given sign systems through the way they respond to the questions presented by the teachers and how they interact during classroom lessons.

Interviews were conducted for the four Curriculum Support Officers in charge of Special Needs Education, 4 principals and seven teachers of English. Focus Group Discussions were conducted with form three students. Each special secondary school for the deaf had one group. School A had 8 students, School B had 9 Students, school C had 8 students while school D had 8 students as per the recommendations of Casey (2008). To arrive at the number of students for each group, Stratified sampling was used to sample 8 students in schools A, C and D while 9 students were sampled in school B as shown in the sample frame Table 3.2.

#### **4.3. Demographic information**

A part from the form three students, most of the informants had been in regular schools as teachers at some point before they joined special schools. Out of the 4 schools, only one school was being headed by a lady while the other three principals were male. Two of the principals had furthered their studies and therefore had acquired Master's degree in various areas one in Educational administration and another in Special needs Education. On the part of the teachers of English, out of the seven teachers, six of them were female while only one was male. All the teachers had bachelor's degree in Special Needs Education with knowledge in Sign Language. Majority were doing their master's Degree in Special Needs Education, but none had graduated.

From these teachers of English, only one was hearing impaired. Out of these 7 teachers of English, only 2 of them taught other subjects apart from English. The subject is Kenyan Sign Language. The other five do not teach any other subject. Out of the four curriculum support officers in charge of special needs, only one was trained in special needs education and a holder of bachelor's degree in Special Needs Education. One was trained personnel in Early childhood Development and Education up to masters level while two were trained personnel in Curriculum development. None of them had trained in Functional Assessment.

#### **4.4. Sign Systems used for instruction in Special Secondary Schools for the Deaf and their Implications on Academic performance in English**

This objective analyzed the Sign language Systems that are used for instruction in Special Secondary Schools for learners with hearing impairment and their Implications on Academic performance in English. The themes that emerged from the objectives during the interviews, focus group discussions and classroom observations included: sign language systems that are used during English lessons, Impact of the sign system on performance of learners in English, the most appropriate sign system to be used for instruction during English lesson, Extent to which teachers use KSL/SEE during English lessons, the policy that should guide which sign system to be used during English lessons and the impact of the differences between KSL and English on acquisition of English Skills

##### **4.4.1. Sign Language Systems used during English lessons**

In order to establish sign language systems that are used during instruction of English lessons, a number of teachers of English were interviewed, form three students were also engaged in focus group discussions. In addition, interviews were conducted with principals and curriculum support officers for special needs. The sign language systems that are used during instruction of English lessons varied from one school to another. This is evidenced in the divergent views from the stakeholders. During interviews with the teachers of English, some of the teachers noted,

*Sign systems from my understanding is the set or mode of delivery, like here we don't have spoken word in class, though for us teachers we have total communication... So, as teachers, we use total Communication, but when it comes to signing systems, it is the order in which the delivery is coming out in signs, where we have variations, so we have the SEE, KSL and then SE. But here in this school, we mostly use KSL and SEE. For English lessons, we strictly use SEE (ToE 1)*

*Mostly we use SE, but the best one that we should use is SEE. Why? because in secondary schools, it is a bit advanced and for these learners to perform in English, they need to learn the structures of English, meaning we need to stick to SEE so that they learn the structure. But now you know when you use KSL, they will not learn the structure of English. (ToE 7)*

Another ToE said,

*Okay, truth be told, our learners are already intoxicated with KSL, which is the mother tongue. Sometimes, we are forced to switch from SEE to KSL so that they understand. But again at the same time, you want them to understand and write English, so what do you do...? (ToE 5)*

Another teacher of English said,

*In this school, we have KSL, SEE, SE though most of teachers don't use SEE. It is only those of us teaching English that we try to use SEE. In class, I just stick to one, which is SEE. Teachers are being asked to use SEE or SE for the purposes of helping students during exams (ToE 3, ToE 4)*

*Here, we use more of SE and KSL, though it depends on the class, and the entry behavior. But we majorly use SE and KSL, I think SEE we don't use. (ToE 2)*

*Hmm... understanding is what governs the method that you want to use. So the method you feel that the students would understand you better, so you use the one that you feel you will communicate more with students (ToE 5)*

*According to me, my school has given me freedom, and they have entrusted me as a trained teacher, since I knew KSL, it is okay, so there is no pushing, there is no particular sign that I have to use. Hmmm... well, I use both. I can say all, depending on what I am teaching(ToE 6)*

The divergent views of teachers of English on the various sign systems that they use during English lessons, led the researcher to further ask them why they prefer certain system to the others. For the teachers who preferred to use SEE, when asked why they chose to use it, some of them said;

*English has its structure, order and its requirements. So if I am teaching, let us say Subject Verb Agreement or word classes, there is the order that has to be arranged. So I have to use this language that I am instilling in class, for this student to make sense out of it. (ToE 1)*

Another ToE explained,

*Hmm.. you know, the thing is, whenever it comes to delivery of content, whatever you are using, it does not matter. But for us the language itself matters, if you are delivering the content, the language itself, the English, how you are conveying that content is important because you are a teacher of English. But if you are a teacher of Biology, the content itself is more important than the language that you are using to deliver the content. That is one of the many reasons why we decided that teachers of English should not teach KSL as a subject. (ToE 4)*

It also came out that some teachers of English chose to use KSL during lessons of English. One particular teacher said,

*For me, I usually use KSL in most part of the lesson when I am teaching English, at least someone may grasp some content out of it. Yes! (ToE 6)*

Principals were also asked about their views regarding sign systems that are used during lessons of English. One of the principals said;

*Actually it is a mixture, by that I mean, there are those who use KSL, there are also those who use SEE and also others, you can't categorize them as KSL or SEE. And I think that is the SE one. (P. 2)*

*We always expect as a policy in school to use SEE, but you realize that in some cases, the student is not getting what you are saying, so in a normal communication, then you will have to turn to KSL but as a mode of instruction, we always emphasize SEE as the system. (P.1)*

*Well, hmmm... there are some who use SEE, there are some who use KSL. So whatever someone feels comfortable they decide what they want to do. In this school, we have 2 sign systems. I am aware English teachers use SEE to teach, but most of other subjects use KSL (P. 4, P. 3)*

Another principal stated;

*We have very many signs, there is KSL, SE, SEE and even the local sign language and the sheng', like if you try to understand them, they switch to another sign system. So the sign language system is a very pregnant issue. We can be using SEE but we do not exhaust it, so what we sign is sometimes a mixture of all these, so we do not have an exact way of saying we are using a specific sign system(P-3)*

Form three students in FGD were asked the sign system that is used in class during instruction of English lessons, some of their responses included;

*Teachers use English (meaning SEE) only same KSL (FGD 2, FGD 4)*

*Teacher uses English (SEE), both English (SEE) and KSL, but when English is very long, is when she changes to KSL. English is a little bit harder but we understand sign language better. So during English class, we just try to follow but it is harder even when we are writing, but we prefer sign language. (FGD 3)*

*KSL others use SEE. But the schools encourages SEE. KSL for KSL Lessons only. (FGD 1)*

*They use English (SEE). KSL zero (FGD 3)*

Curriculum Support Officers for Special Needs Education (CSO SNE) were also asked about sign system(s) that are used during classroom instruction for the English lessons. One of them stated;

*KSL is the most common. But on the sign system, there is no policy that directs us to use any of the specific sign system. But I know what teachers commonly use is KSL. (CSO SNE 2)*

From the interview excerpts above, it is clear that there are three main sign systems, which are SEE, SE and KSL. It can be concluded that teachers of English use various sign systems during English lessons as they deem fit. However, majority of the teachers tend to use SE and SEE.

However, during classroom observations, it was noted that although majority of the teachers of English mentioned that they use SEE during English lessons, the sign system that they used in class was SE. SEE was barely used. From the classroom observation, teachers did not maintain one particular sign system in class. More usage was between SEE and SE. While the teachers of English maintained English structure in their speech, they left some of the wording when signing. This led them to use SE while during interviews, they maintained they were using SEE.

Leading questions	Researcher's comments
Which signs system are used during the English Lesson? For example, SEE, KSL, SE	Teacher speaks English but only signs some words - (SE)
Do learners respond effectively when the teachers gives instructions in a given sign system?	
Does the teacher maintain one sign system throughout the lesson time? Is there coherence on what the teacher signs and what they speak?	Teacher pointed at the words to get signs from the students.
What is the extent of KSL/SEE use during the English	

**Figure 4.1a. A section of Lesson Observation showing Sign system used**

Leading questions	Researcher's comments
Which signs system are used during the English Lesson? For example, SEE, KSL, SE	Teacher wrote on the board with chalkboard and talked with learners - SE Teacher spoke SEE but signed only some words - relied on words learners have pointed and talked learners to sign
Do learners respond effectively when the teachers gives instructions in a given sign system?	There is a bit of struggle not instant response - but after a bit of repetition and emphasize

**Figure 4.1b. A section of Lesson Observation showing Sign system used**

Leading questions	Researcher's comments
Which signs system are used during the English Lesson? For example, SEE, KSL, SE	Teacher speaks English and signs the words in the similar order but leaves out some words Articles are not signed.
Do learners respond effectively when the teachers gives instructions in a given sign system?	Learners leaves out major words when asked to write / do some tasks Learners Respond well.
Does the teacher maintain one sign system throughout the lesson time? Is there coherence on what the teacher signs and what they speak?	Articles are not signed. Grounds are not signed.

**Figure 4.1c. A section of Lesson Observation showing Sign system used**

From figures 4.1a, 4.1b and 4.1c of the sections of the lesson plan observation, it can be seen that teachers of English were using SE during English lessons. The principals on their side expect the teachers to use a sign system that would help the students in examination performance as well as enable them integrate with the hearing community once they are out of schools after their form four. This however, does not apply to all of them as one of the principals let the teachers of English use any system that they are comfortable with.

It can also be concluded from the excerpts above that students with HI do not pay much attention to the sign system that is used. It therefore remains at the discretion of the teachers of English to make decision on which system to use for instruction. The students would only be concerned when they were not getting the concepts in class, which again has to involve the teacher to adjust. Teachers of English have a clear understanding of the need to use the English structure when teaching English lessons. However, the student factor (student with hearing impairment) presents different situations which makes some of them to compromise this language requirement.

The finding of teachers of English using SEE to teach English because of the content agrees with finding by Mubarak (2021) who also established that language teachers insists that when teaching language, the language of instruction (system of instruction) has a role to play on how the students comprehend content in comparison to teaching other subjects. This implies that language of instruction (sign system of instruction) determines the comprehension of content for languages

These findings agree with assertions by Adoyo (2004) and Ochwal (2008), who indicated that S.E and KSL were used by teachers of English during reading comprehension in most classes 8(72.7%), which was, however, not satisfactory. S.E alone was used in 2(18.2%) of the classes and its use was also unsatisfactory. KSL alone was used in 2(18.2%) of the class and its use was outstanding.

These findings are at variance with the reports of the study conducted by Van and Lamberti (2004) and Jacobs (2005) who established that when a learner goes to school and instruction is given in a language other than their mother tongue (language of the catchment area), they are

disadvantaged academically and that children who are taught in a second language are denied immediate access to content. The current study has showed that teaching students with HI in KSL which is their mother tongue denies them access to English language content, since KSL will be promoted as compared to English. It can therefore be argued that the role that a language of the catchment area (mother tongue) plays in helping the hearing students acquire competency in second language may not be applicable to students with hearing impairment.

Kembo-Sure and Ogechi (2009) established that the transition from mother tongue medium to English medium is premature and this arrangement denies children the opportunity to develop cognitive and intellectual skills in their first language, which they can later transfer to English. On the contrary, for learners with HI, this study supposes that transition from mother tongue medium (KSL) to English (SEE) should come as early as possible so as to give the learners with HI opportunity to get used to SEE and develop sufficient vocabulary.

The findings of this study further agree with assertions by Demissie (2011) who established that the Deaf communication approach dominantly employed in primary classes in Ethiopia is simultaneous Communication, which is considered as the best method by teachers. Signed Amharic (Manual Codes for Amharic) is the principal Medium of Instruction used in schools for learners with HI, while written and spoken Amharic served in few classroom activities. Simultaneous Communication is same as Signed Exact Spoken Language (Zapien, 1998 & Reagan, 2008). Unfortunately, the natural Ethiopian Sign Language was rarely employed as it is in many countries in the world.

On the other hand, the findings of this study agree with Marcath (2021) who established that American Sign Language (ASL) has its own grammar and syntax and that it omits many features present in English. This study has also established that KSL as a sign system has its own grammar and that instance of things like subject-verb agreement and distinction between subject, object and possessive pronouns which do not exist in KSL and thus students tend to drop them when it comes to writing English. The findings from the current study further agree with Marcath (2021) findings that ASL has a much smaller vocabulary than English therefore, it recycles words for instance, the sign for 'car' is the same as the sign for 'drive'.

The findings from this study also are at variance with findings from a study by Mubarak (2021) who explored styles of inclusive communication with Deaf Students in Inclusive Schools in Saudi University Faculty in Saudi Arabia. Mubarak (2021) established that majority of the faculty members (80%) used Saudi Arabian Sign Language in their instruction. This meant that Arabic Sign language was the most common approach chosen by the informants because it was the preferred style of communication for the deaf, while in this study, majority of teachers of English use SEE during English lessons.

The findings from this study agree with the reports from a study by Dissake and Atindogbe (2017) who established that Cameroonian Sign Language (CSL) affects the learning of spoken languages (reading and writing) by deaf students. The findings from this study further agrees with the findings by Dubeck, Jukes and Okello (2012) who established that despite the fact that teachers were in the know of the national policy which stated the need for mother tongue to be promoted, local languages were however, not recognized as languages of instruction. If KSL is taken as the mother tongue to the deaf, then there should be a debate as to why it is being taught as a subject. This implies that countries at the same level of economy tend to have similar encounters in language and systems of instructions. Teachers and students tend to prefer particular approaches of instructions.

These findings further conform to reports by Ogada, Oracha, Matu and Tyeng'o (2012) who established that the languages used in teaching and learning English composition included; English, Kiswahili, Kenyan Sign Language and signed modes such as signed English.

These discoveries likewise agree with findings by Andrews and Rusher (2010) who established that certain code switching strategies support English vocabulary learning and reading comprehension. However, the findings from this study disagree with what Andrews and Rusher (2010) reported that the teachers of the learners with HI do not necessarily need to be fluent in sign language and spoken language as long as they understand how to employ code-switching techniques in the classroom.

#### 4.4.2. Impact of the sign systems on performance of learners in English

The study also intended to find out the impact of the sign system that is used during English lessons on performance of learners with HI in English. During FGD, form three students responded as follows;

*SEE help, possible for you to read English. Possible help improve well. Help ease communication and understand writings. Reading and communicating same time possible motivate English. (It helps/motivates them to read English and help them to understand). Words in English understand small better KSL use. KSL is simple, English is deep, understand difficult (The words in English, they understand slightly, KSL is simple, while English is deep, hence difficult to understand)If teacher use English (SEE) understand English possible. If teacher use KSL, understand English Zero. So if you use KSL when teaching, we understand but it will still become a problem for a student because when it comes to exams, the student will have to read it in English and understand it before answering, yet we were used to KSL in class during the lesson. (FGD 4, FGD 2, FGD 1, FGD 5)*

*It is hard, because teacher uses English (SEE) during class time, we don't get the exact meaning and which translates to the exam such that when you read a question....so it is hard to pass English. (FGD 3)*

*Best use English (SEE) because time teacher teach then possible in exam also use English. But time we use KSL to understand English is hard. When the teacher use English (SEE) and the exam is in English, then the understanding is easy and better, but when the teacher uses KSL and the exam is in English, then the understanding is hard (FGD 2)*

On their part, teachers of English commented the following regarding impact of the sign language system that they use in class on comprehension and performance in English examinations;

*...hmmm, you see, you go to class, Form 4 Literature, for example, you are explaining a concept they are looking at you, like they have never seen you, and they tell you "use KSL, we will understand"... when you are using SEE, all is too wordy. English is wordy for them, so in the process they get detached from the content. But I cannot use KSL, you see the reason why that becomes a problem, I am teaching English, which has a structure. In English, if it is a simple sentence, the subject will come first followed by the verb, then object. In KSL, it is OSV (Object, Subject, Verb). You know I cannot explain in KSL the verb coming first then say it is English, that is not possible.(ToE 2)*

*...hmmm--- KSL has glossing, which they are so much used to. They occasionally bring it to English, meaning they cannot get it. Paper 2 and 3 performance is very low. Paper 1 is average, they try. Paper 2 whereby they are supposed to be reading and comprehending and interpreting, the paper is in SEE, answers are also expected to be in English also... (ToE 5)*

*I think there is a time we talked of it in a meeting that they need to be taught in SEE so that it can improve their English writing, yes because sometimes English Compositions they write KSL and it is KSL that is a mixture of capital letters, glossing and all other KSL features and if the examiner is not a special need trained teacher for the deaf, the students score very low. (ToE 4)*

Another ToE noted,

*KSL will lower the performance of English since we expect them to write in English. When you teach in KSL and the questions are in SEE, it will be a challenge to them to understand the questions. When you teach using KSL,*

*comprehension is eased for them. But when it comes to writing down, it is difficult (ToE 6)*

*...Yeah when you use SE and SEE, and you emphasize and train the learners to know sentence structure, the performance will go up. They will not be that too bad. But now when KSL is being used, that is now when problem comes in because the learner has an idea, but presenting it in KSL and you as a teacher of English, you need to mark grammar, sentence structure, that again will affect their performance. This means that KSL have a negative implication on learners' performance. If I am to comparing in both subjects, KSL interferes with English because even when you look at composition, when they are writing composition, they will be structuring their sentences in KSL structure instead of English structure, so for the students, mostly KSL interferes with English (ToE 4, ToE 3, ToE 5)*

*hmmm..... I find KSL a contradiction of English. If I had authority, I would abolish KSL as a subject, as a mode of communication is okay, for the deaf learners because everything for them is sign language and we cannot take it away from them. So everything English is interfered with by KSL, talk of structure, the spellings, everything. KSL affects their results so much,, so heavy! KNEC is not lenient with our learners, they don't even consider our learners. (ToE 4, ToE 5)*

When asked how the sign system that students like impact on their performance in English, a principal stated;

*Hmm.. yes, for sure it does because when we are delivering , we use SEE, learners have been trained from primary level, all through since inception of their language they have grown knowing KSL,, as they advance to higher levels, there is a mix up and they are trying to be pushed towards learning SEE and remember they are limited in speech. (P. 3)*

*Yes, there is, you know even though it is not very strict , the marking of English is very strict because being a language, they are very strict on the structure(P. 1)*

*Most of the teachers use KSL and it is affecting the performance, that is why as the administration we have come up with the decision that it is SEE that should be used, because you look at the performance of English it is dismal.. ehhh.. so we encourage the learners as well as the teachers to use SEE, I think it can make a difference, though not too much. If they use KSL, and the students understand everything perfectly, if somebody asked anything in KSL, they will understand but they cannot put it down in English. That means they won't do well in their examinations. (P.2, P. 4)*

The same principal when asked if KSL is the most appropriate and effective sign system to be used in teaching English in class, he stated:

*.....hmm, for their academic achievements, KSL can be a better approach for them to achieve academically because it lessens their work. For them to accommodate all the kinds voluminous work entailing SEE, it would be better if it is taught in KSL (P.4)*

On KSL, another principal reported;

*I know others will argue that KSL must be used for the deaf to pass examinations, it is all their inability to pass which is wrong, because in my experience of 15 years, I have seen deaf passing mathematics with a B+ in this school, so I believe KSL did not contribute to understanding of the subject. Last year I saw a deaf scoring a B- in English, so I don't think KSL contributed. (P.5)*

When asked what the impact could be if the Teacher of English used KSL to teach English, the following were some of the responses from form three students;

*You fail, grammar impossible understand. Confusion there. KSL focuses on negative English. (If the teacher uses KSL, then you will fail. It is impossible to understand grammar) (FGD 2)*

*It is impossible for KSL to help us pass exams. KSL cannot help us improve our English because when we are writing composition, you can start confusing and mixing KSL with English, again, English becomes poor. When you like using KSL when you are writing your composition, you can possibly bring KSL there then you score poor (FGD 5)*

*No! Impossible! Impossible because there is a confusion of words hence impossible help pass exams. (FGD 1)*

Teachers of English were also asked what would happen if they taught English to students in KSL. The following were some of their responses.

*How would it be? They should use SEE in writing. What I am saying is this, there is always that kapoint that you want to drive home, but then you are trying SEE, it is not getting there. So you switch to KSL for their understanding only. (ToE 3)*

*Now if you use KSL to teach English, your work will be easy because they will understand it, but what of performance? Performance will be greatly affected. They will understand but they will not get the construction of the sentences. (ToE 4)*

*It will affect them because the learner is used to KSL, in answering questions, in communicating and when it comes to English, the student will see that this is a burden. (ToE5)*

*... because if you use KSL to teach English, when students will be answering questions in exams, they will answer in KSL broken system. But when*

*marking, the markers don't understand that this is deaf because the subjects are marked across. This ends up making them perform below average. (ToE 6)*

Curriculum support officers for special needs were also asked the impact of sign system on the academic performance in English. They said the following:

*When you use SEE, it helps the deaf to pass exams. It is possible depending on the children. Those who are clever and focused in class, they can understand when you teach SEE, meaning when they are reading themselves, they can understand the meaning of words in English. It means SEE becomes easy for them. But the other children who are not serious in class, they need more practice in English, in SEE so that they can understand how to answer questions... (CSO SNE 1)*

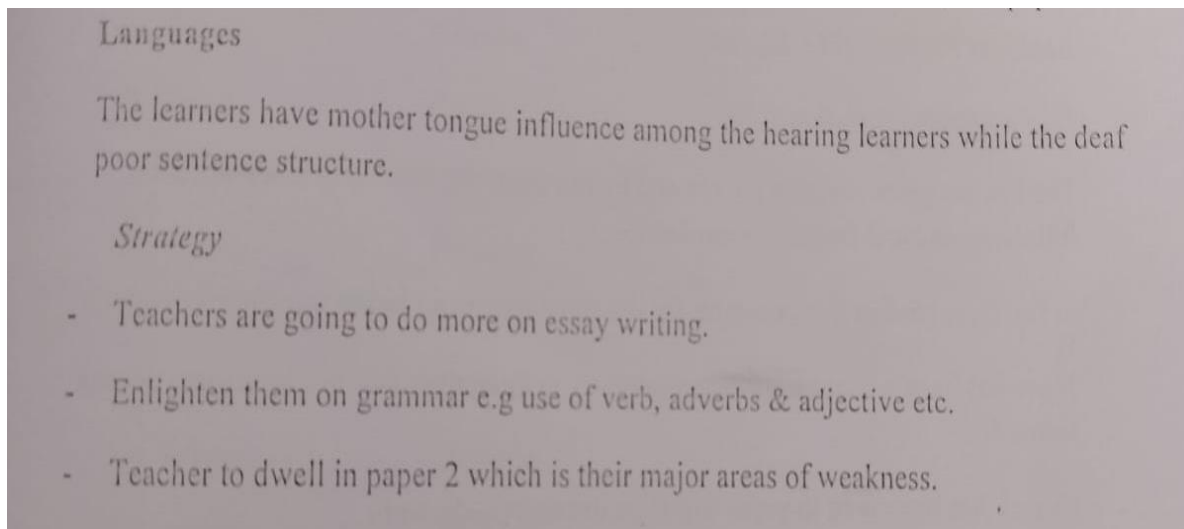
*Hmmmm... of course, there is. I have this experience. One time I managed to talk to the principal of one of the special schools for the deaf in my zone, he said in most cases, when they admit the learners, they use the remote system, local sign language. So when they come to school, they insist on KSL, ...( CSO SNE 3)*

*Hmmm... KSL affects their performance. You see, when KICD publishes books, the books are not published in KSL, they are published just in English, just as it is in regular schools, but now the teacher is teaching in KSL, automatically that difference will interfere with performance because when now given books to read, there is more than what the teacher gives. (CSO SNE 2)*

From the excerpts above, it is clear that the sign system used during instruction has a direct impact on the performance of learners in English. It emerged from all the Teachers of English, the students, the CSO SNE and principals that English and KSL as a subject have different structures. The syntax of KSL as a sign system and English (SEE) are different. SEE is too wordy for learners with HI. They are used to KSL which seems to have been introduced to

them all the way from primary schools, where they started learning. They therefore understand and comprehend KSL faster as compared to SEE given that KSL is their mother tongue. In spite of the fact that they comprehend KSL faster than SEE, the use of KSL during English lessons have negative impacts on their performance in English. While teachers of English would prefer to explain content in a system that would be easier for them to understand, the preferred system would have adverse effects on their performance. Teachers of English, therefore choose to use SEE during class room instruction. However, during classroom observation, it was noted that teachers do switch from one sign system to another during English lesson to enable the learners get the content. This, however, does not apply to all classes, as some teachers maintained the use of SE and KSL which saw the learners have a higher level of comprehension of what was being taught.

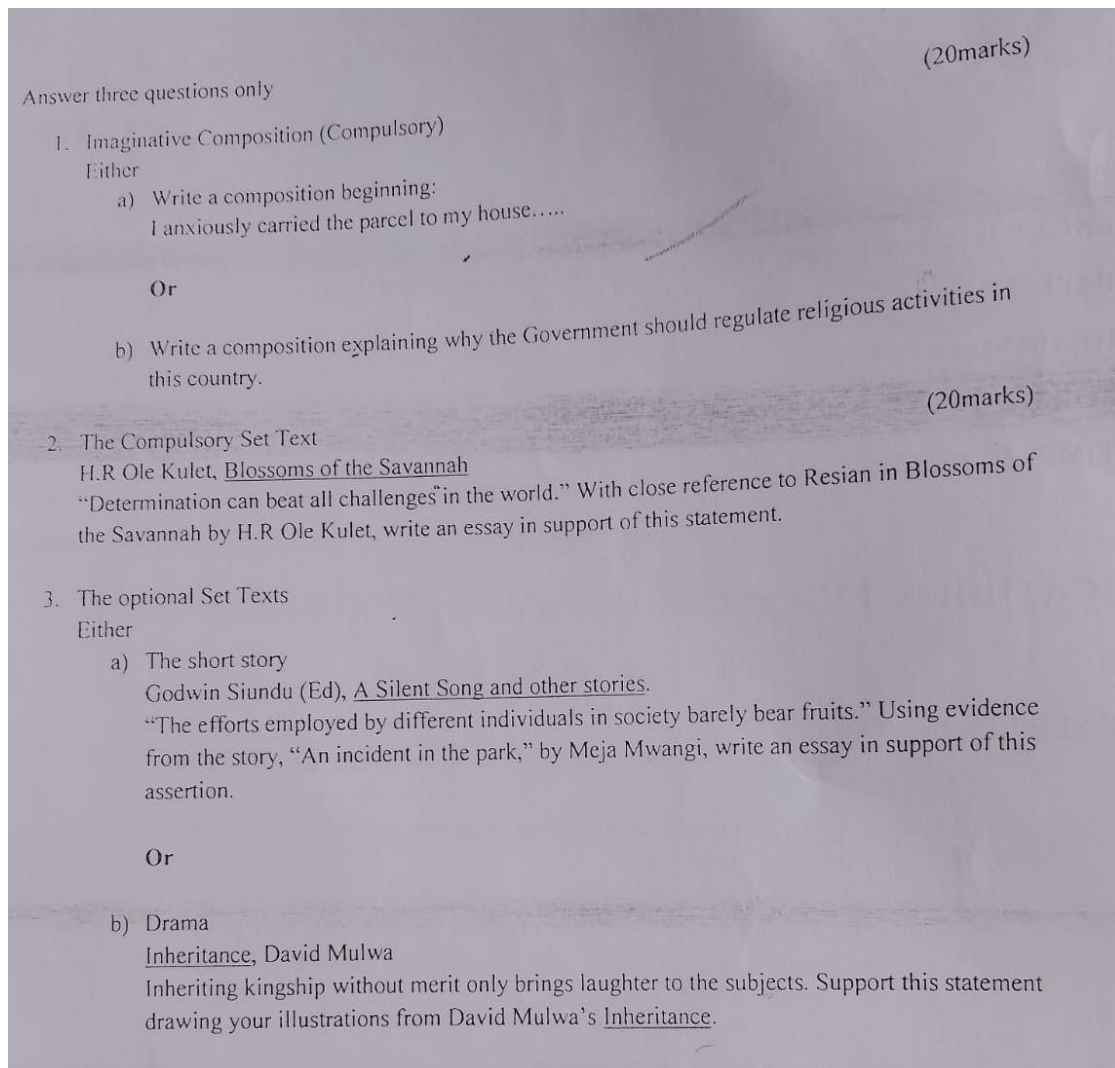
In document analysis guide, it was noted that teachers of English, during the departmental meeting, had raised the concern where the mother tongue to the deaf (KSL) had an influence on the way they write.



**Figure 4.2 A section of minutes of the Languages departmental Meeting**

From figure, 4.2 , it can be seen that the concern of teachers of English was raised on the influence of KSL (mother tongue) on the performance especially on the sentence structure. A spot check through the learners note books and tests indicated an extreme case where, in one of the evaluations tests, form three students were asked to write an imaginative composition why

the government should regulate religious activities in the country, a form 3 student could not construct correct English sentences to make up an imaginative writing.



**Figure 4.3a. A sample of Form three Examination Test**

Figure 4.3a shows a sample of a question paper for paper 3. The questions require the learner with HI to interpret them first and have a good comprehension of the set texts that are mentioned. The first question is an imaginative composition writing which requires the learners to creatively think and generate ideas. Figure 4.3b shows a sample of the responses from the students.

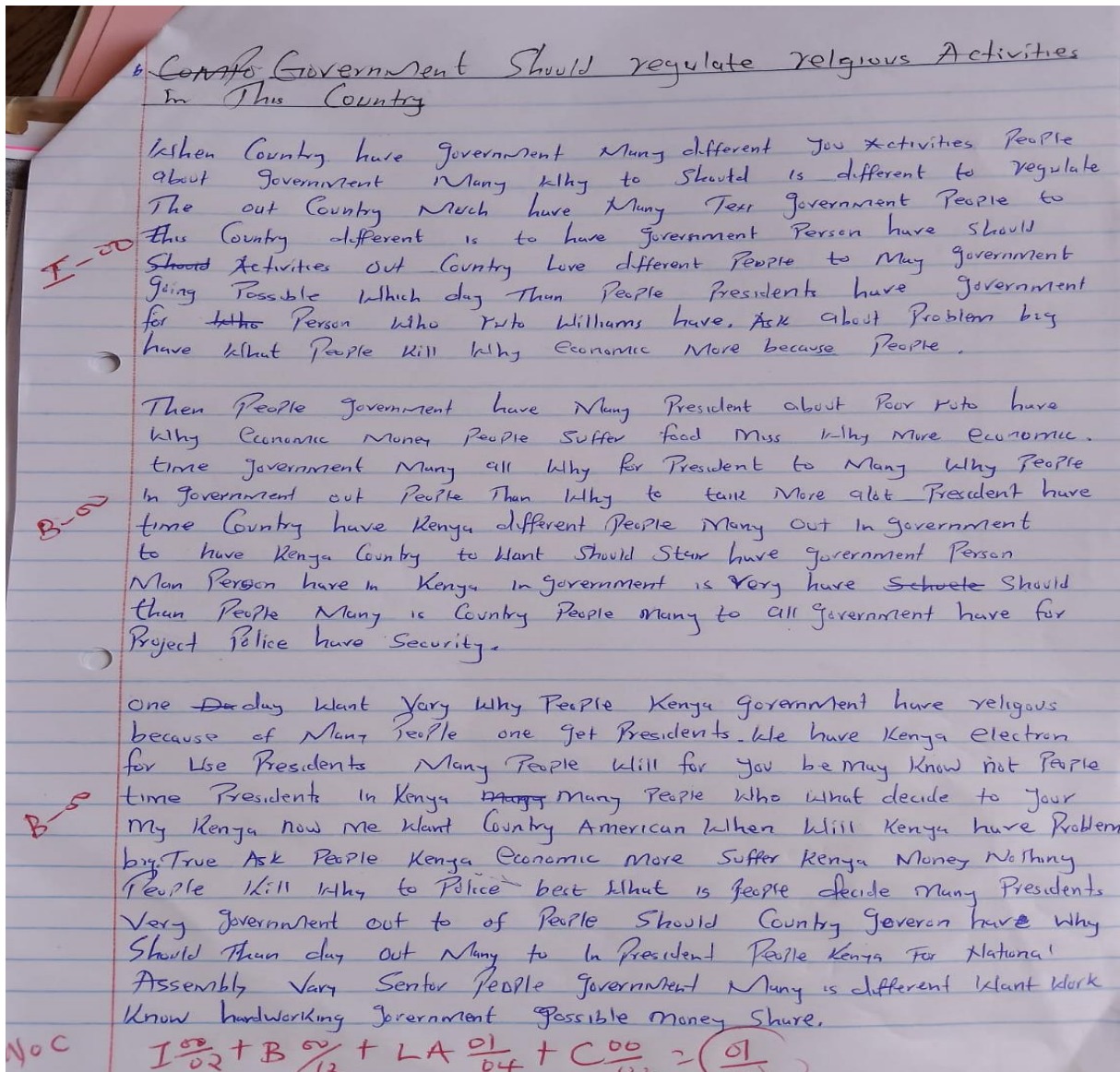
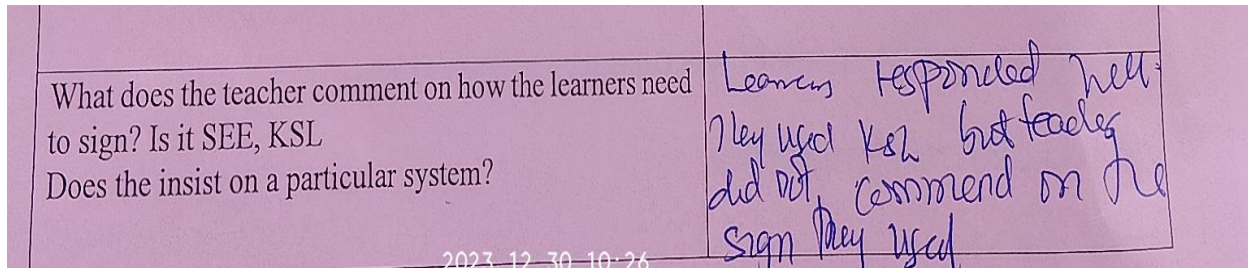


Figure 4.3b. A sample of an Imaginative Composition by a form three student with HI

From figure 4.3b, it can be resolved that some learners cannot write correct English sentences. They tend to bring KSL structures in English sentence constructions. The use of KSL during English lessons therefore makes them get used to writing KSL sentences in English. This means there will be no forum where they can be corrected and come to learn that KSL and English should be used separately.

During lesson observation, it was also noted that when the teacher asks learners questions, they tended to respond in KSL.



What does the teacher comment on how the learners need to sign? Is it SEE, KSL Does the insist on a particular system?	Learners responded well They used KSL but teacher did not comment on the sign they used
---	--

2023-12-30 10:26

**Figure 4.4. A section of Lesson Observation showing Sign Systems used by students in responding to the questions**

From figure 4.4, recorded from a classroom observation, the learners responded to the teacher in KSL. The teacher, however, understood the response but did not mind reminding the learners that they need to ensure they use the correct English structure. This makes them to write their responses in exams in the same KSL structures yet they are answering examinations in English.

From the excerpts above, it can be concluded that KSL has a negative impact on the learners with HI performance in English. Despite the fact that teachers of English try to use SEE during English lessons, so as to orient the learners on the use of SEE during English examinations, the effect of KSL that they were used to all the way from primary still crops up. The fact that KSL is also used for communication outside classroom and some teachers also use it in class for further explanation of content, also makes them to still use it during examinations. This lowers their general performance in English and more so in papers 2 and 3

It can be concluded that SEE would help improve the performance of the HI in English. The challenge that crops up is the comprehension aspect where majority of the students with HI have challenges in comprehending concepts presented in pure SEE. The teachers of English are therefore confronted with a situation where they have to decide on whether to stick to SEE during English lesson with the hope that in the long run, students shall pick up and comprehend so that in the process, they learn to use SEE during English examinations or switch to KSL to

give explanations and make them understand faster but have their results compromised due to the impact KSL will have on the way they write their responses.

These findings agree with Kilanya (2016) who established that grammar structure in KSL is totally different from that of English language and that although KSL was introduced in special schools for the deaf, its introduction had not boosted learning as it was anticipated. KSL has negative impact on English performance. This implies that KSL as a language has negative impact on English. It can therefore be argued that there is need to have it as a communication language through expression but should not be written.

These findings agree with the assertions by Kerubo (2017) who established that manual modes of communication affected reading and writing skills in English language negatively since at times there was need to finger spell for clarity of manual signs. The findings from this study further agree with findings by Muguna (2011) who indicated that sign language has a great effect on performance of learners with HI in the school. The effect was also associated with sign language techniques that were widely used as a learning resource in the school and that it affects performance of learners with HI to a great extent.

These findings disagree with Adoyo (2004) who asserted that the use of Kenyan Sign Language in instruction of deaf students was advantageous in that it provided a linguistic foundation and background knowledge necessary in making second language more comprehensible. This current study has indicated that the use of KSL during English lessons will enable students to comprehend the content but when it comes to writing, it impacts on their writing skills negatively.

These findings also disagree with the conclusions by Omutsani (2012) who posited that 80% of the teachers acknowledged that KSL has a positive influence on academic performance. In the current study, it is clear that majority of the teachers feel KSL has a negative impact on performance of learners with HI in English. While Omutsani (2012) held that 65% of the teachers associated poor performance with inadequate signs for vocabularies and 88% attributed poor performance among the deaf with teachers' poor knowledge of signs, the current study

establishes that majority of teachers of English associated poor performance in English to the sign system impact, majorly KSL.

These findings further disagree with Brent (2009) who affirmed that there was a significant relationship between ASL skill and English literacy and that there should be direct conversations with the teacher using ASL and learners be supported to learn ASL. The current study notes that KSL has negative impact on English acquisition and students with HI are to reduce the use of KSL. Teachers are asked to use SEE which promotes English literacy and English writing Skills.

#### **4.4.3. Extent to which teachers use KSL/SEE/SE during English lessons**

Given the divergent views and positions held by teachers and principals on the sign systems, the study sought to establish the extent to which particular sign system is used during English lesson. When asked at what times and to what extent they use KSL, SEE or SE during English lessons, ToE reported the following;

*... sometimes we are only forced to use KSL with SE because they (learners with HI) tend to understand KSL faster, so sometimes you try this SE, they don't get, so you are forced to go back to KSL. But SEE is not mostly used. We don't use it most of the time, though it is the one that should be used .... They will be learning the signs but following the syntax of English. (ToE 7)*

*I use SEE when I am teaching grammar... I also use SEE when giving notes in class. I use KSL when explaining to this learner who has not developed their competency in SEE, I must purely use KSL and twist it so many ways for them to understand. (ToE 1)*

*I use SEE across the lesson, during discussion with them... When I feel like students have not grasped any concepts that I have taught them, then I shift to KSL, especially when it comes to literature. They find it hard to grasp, so I use KSL for them to understand something, so to help the weaker ones, is when I use*

*KSL so that they can be a part with others. But usually not to get into KSL that much. (ToE 4)*

*Sometimes but very rare do I switch to KSL, very minimal. For example, when maybe I am explaining a comprehension or maybe an oral literature story, then you try to explain in SE or SEE, but you still look at the students, is like they are not aware of what you are talking about. Then you will have to switch to KSL, back to SE and SEE. When you switch and explain in KS, you will see the reaction, some will laugh, they become happy meaning they have gotten the message. That means they comprehend KSL better than SEE. (ToE 4)*

*We mostly use SE, where we don't sign every word, but because we are teaching English, we are trying as much as possible to use SE, but still at times, they (learners with HI) just don't get you until you go back to KSL, so like explanations, we write the notes in SEE (English) then when signing notes, you sign everything (SEE), but now when you try to explain, you will use SE until they don't get you and finally you accept and switch to KSL for that explanations (ToE 3)*

When the same question was presented to Form Three students during Focus Group Discussion, they responded,

*If the teacher see that deaf understanding SEE nothing; with KSL, meaning that sometimes the English teacher use KSL during lesson of English. (FGD 4)*

*KSL use time explain more. English word examples written there, but time understand more KSL use explain ( English is used to give the words but explaining is done in KSL) (FGD 2)*

The principals were also asked the occasion when teachers of English use KSL, they noted;

*Sometimes, when they want to bring the point home, they have taught in SEE, they have seen that the learner has not comprehended anything that they have, that is the time they bring in aspects of KSL to bring the point at home and ensure that the learner understands. (P. 3)*

*Hmmm... most of the time, they omit those articles, that means they also use SE. Fingerspelling is also used especially when it gets that the teacher does not have a sign and the learners also don't have a sign, it makes them fingerspell. (P. 4)*

From the excerpts above, it can be seen that teachers do use SEE and SE in most sessions of English lessons. However, they usually bring in KSL when the students do not comprehend whatever they are teaching or explaining.

During lesson observation, as shown in Figure 4.5, it was noted that the teacher uses SE and SEE and at some point asks the students to use SEE. However, this was not the case in some classes as teachers tended to switch from one sign system to another

<p>What is the extent of KSL/SEE use during the English lesson? / It is used throughout the lesson, to introduce the lesson, to conclude the lesson</p>	<p>Teacher maintains SEE throughout the lesson. KSL is not used anywhere.</p>
<p>What does the teacher comment on how the learners need to sign? Is it SEE, KSL Does the teacher insist on a particular system?</p>	<p>Teacher cautions the learners to use SEE strictly.</p>

**Figure: 4.5 A section of a Lesson Observation showing ToE switching from one sign system to another**

On the other hand, some teachers commented that they majorly use KSL as compared to SE and SEE.

*We rarely use SEE, not that we don't want but sometimes, you try using it, then they don't get you. You know in primary, they are used to KSL, so you find*

*teachers teach English in KSL, so when you come to secondary schools, you want to use SEE but it does not work (ToE 3)*

*Teachers try to use the agreed sign system of SEE, but now at times there are concepts that are so hard that the teacher has to use their own approaches including coming up with KSL explaining then going back to the SEE or SE (ToE 5)*

*...Even when you are teaching English, after you have written your SEE, for these students to understand, you will have to apply the knowledge of KSL, their mother tongue so that they are able to understand what you are teaching. (ToE 2)*

*If I am doing grammar, I will use SEE but if I am doing literature, I will not have to use SEE because the point has to be home, and for the point to be home, you have to use a little of KSL. So when I am doing literature, I have to mix both SE, KSL and SEE (ToE 6)*

It can also be concluded that some teachers do choose to use KSL more than SEE or SE since they focus more on learners understanding the concepts than how they shall respond to questions during examinations.

The findings from this study agree with reports by Wakumelo and Manyando (2013) who analyzed use of sign language systems in the Education of the Deaf focused on Magwero and St. Joseph's Schools for the Deaf. The study established that 60 per cent of the teachers use both signed English and sign language; 14 per cent use exclusively signed English; and 12 per cent used Zambian sign language exclusively. Teachers switched from Zambian Sign Language to Sign English and vice versa. In Wakumelo and Manyando (2013) study, teachers noted that they use Zambian Sign language for understanding purposes while for the sake of children passing examinations, they use signed Exact English. This is similar to the current study whereby it has been established that teachers of English use KSL in order for the students to understand

concepts and to explain content in details in class. However, this does not help them during exam writing, and therefore for the students with HI to respond well to the questions in English, the teachers have to stick to the use of SEE. This finding implies that students with HI in the lower middle economy countries tend to comprehend sign language of their countries faster as compared to sign language of the second language.

However, the findings of this study differs from the assertions by Owu-Ewie (2006) who asserts that bilingual Deaf education emphasize the need to gain mastery in one language before learning the second language. This means that students with HI should be taught in KSL until they have gained its mastery before they can be taught in SEE. However, this study establishes that KSL only impacts negatively on English.

#### **4.4.4. Policy that guide which sign system should be used during English lessons**

It came out clearly that different stakeholders had their own decisions on which sign systems that they preferred to be used during instruction of English lessons. The study sought to establish the need to have a standard sign system which all the teachers of English would use when teaching in schools for the deaf. When form three students were asked if there is any rule that dictate which sign systems should be used, the following were the responses;

*Yes, we have, rule say you use English (SEE)Because time during the lesson, debate and discuss must use SEE, for fingerspelling, you show then you write. The rule is that we must use SEE time of English lesson. (FGD 1, FGD 3, FGD 2)*

*Yes, rule say use KSL (FGD 1)*

*Yes, that we must use KSL and SEE. (FGD 4)*

Although students noted that there is a policy which directs which sign systems ought to be used while teaching English, it was noted that there was no documentation in regard

to the said regulation. During interviews with principals and teachers of English, they noted that the government agencies were yet to release any circulars as far as sign language systems are concerned.

Some of the ToE stated,

*I have not been shown any circular about the policy regarding sign systems that we should use as teachers of English, but it is the principal and the Director of Studies together with all the teachers who encourage ourselves to use the two sign systems, that is SE and SEE (ToE 3)*

*I think if there is a policy, it is silent, it is not outstanding that we are supposed to use this or that or we cannot use that. .. So it is silent, we are not aware actually if there is any policy (ToE 4)*

*hhmmm... there is a policy that we have to use SEE but it is not documented anywhere, it is through the word of mouth. (ToE 6)*

*Hmm.. I have not come across any policy, but I met someone who was insisting that I stop using SEE because I am making the students to fail, that I should be using KSL, which we differed because I am in the filed I have seen what SEE does to them, so I know. If I go this way, this is the right path for them (ToE 2)*

When the principals were asked if there is any regulation or direction from the government as far as the sign language system to be used is concerned, they responded;

*Actually, I can't be specific on it, because as we speak, I am not aware of any system that the government is propagating, but what I know given from primary, they are conversant with KSL. So could be, that the government is learning towards KSL, but there is no document or legal framework that says so. (P. 2)*

Another principal responded:

*No, there is no circular or communication that the government has released to such. (P. 1)*

*Nooooo...! We don't have a policy, it is the teacher deciding if they want to use SEE, SE or KSL. (P. 3)*

In situations where the school management has come out to advocate for a particular sign system by asking teachers to use during English lessons as well as making all students to follow the given system, form three students were asked whether students and teachers do use the sign systems that the school advises all to use. They responded as follows;

*Nothing... nothing, they break. Why, many confuse during lessons and during learning. Time teaching English language, SEE, impossible for students to understand, so teacher same change to KSL. (FGD 2)*

*Some of us students cannot follow that rule because some of us cannot arrange English grammatically. So we end up breaking because we cannot arrange sentences in the order. (FGD 2)*

*Some students understand and follow the rule, some students KSL follow well. Others SEE rule follow zero, others fair. Some teachers use English (SEE) Others use KSL. Some students depend on the teacher on duty to sign a specific sign system. (FGD 1)*

*Some they break the rule, because the teacher also sometimes uses KSL instead of SEE, because of difficulties in understanding English language, they change to KSL. Some students use bad language (language) not allowed in school. Some students use KSL well other students now sign language they don't know. (FGD 4, FGD 3)*

From the excerpts, it can be concluded that teachers and students do not usually follow or use the sign system that the school managements advocates for. While majority of the schools advocate for the use of SEE, the students with HI find it difficult to use it and end up using KSL that they find easy to use in communication. During lesson observation, it was noted that learners do not respond to a particular sign system as advocated by the school.

Do the learners understand and comprehend the instructions as given by the teacher?	Yes. fingerspelling was at good and Moderate pace
Which sign system do they use? Do they insist on using a particular one?	Not really.
Do the learners who use the KSL or SEE well respond correctly to all the questions.	There was a bit of struggle.

**Figure 4.6. A section of a Lesson Observation showing ToE switching from one sign system to another**

From figure 4.6, it can be seen that the learners did not willingly use a particular sign system. They struggled in their responses as they attempted to adhere to SEE yet they did not have much capability to use it.

Teachers of English were also asked about their opinion as to whether SEE should be introduced all the way from Grade 1. Some of them responded;

*Not really, consider the sentence, "this is a book". You know book you can see, but "this is" you cannot see. Sign language is a visual language. Is there a picture of "this"..? That is why the teacher will point, the name is written there and the picture of the book or holding the book, so when I see "this" (book) and I see the picture, or I have the book itself and I see the name, I will record that name. but now, "this is" is imaginary. So if we are going to introduce SEE in*

*Grade 1, then it means we are going to interfere with KSL being the mother tongue of the deaf and therefore the oral part of KSL will not be there ...that would mean they will have only English. I am of the opinion that from PPI to Grade 3, let them teach that KSL so that they may also learn things so that when you also read “this is a book” and point the book, they may think the long sentence is the name of the object (book) being referred to. (ToE 7 )*

*... At least a child must have a base, so should we say that this English, the child begins with from nursery, meaning the child will only have the base of English and to some extent how will the child perceive the environment without that first language. You know KSL is easy to understand and easy to learn compared to English. So when you say this child goes direct to English, they may not have a base of language. (ToE 3)*

From these excerpts, it can be concluded that teachers do not support the opinion that SEE be strictly used all the way from ECDE. Students with HI should be allowed to develop KSL as their mother tongue but SEE be introduced and be used during instruction of subjects other than KSL

Participants were also asked to give their opinion on whether there should be a policy or a regulation, like a standard sign language system that should be used in schools and which sign system they would recommend to be included in the policy, they responded;

*Hmmm... Ohh yes, I would recommend that 100% (P.1)*

*Yeeees... ohh yes, certainly, because we are coming int a world of spoken language, okay, they are deaf, they are not speaking but again, they are getting into a world of spoken and written language. They need to know how to write these things and of course with a lot of practice and if there is one policy, the it reduces the confusion...If I was the policy make, I would recommend SEE, even though they don't know how to write it, but they have known the order, so even if*

*they don't spell it right, but they already understand what is first, these things of subjects, objects they know. (Principal 3)*

*There should be a policy to have SEE be used in teaching English. I tend to look at a student who has gone out after form 4 with KSL, going to the world, expression will be different. Sometimes, a parent walks in here and asks how do you communicate? Communication is a problem. When I tell them to take a pen and paper and write down, the parent tells you, "hata English anaandika siiilewi." (the English the boy write, I do not understand) For me as a teacher I understand that the student will have written KSL, but the parent does not understand KSL. English is also most universal, KSL is not KSL is for Kenya alone, when you go to USA, you will find ASL, signs are different. So giving these students SEE is giving power to fit anywhere. (ToE 1)*

*Yees, I think they should come up with a policy because the signing skill you can get here is not the same as what you can get in a school like Kuja, or Ngala. Signs are dynamic. People sign differently (ToE 5)*

Another teacher of English explained,

*Yees, the government needs to step in and KICD and KISE should all join in and have the regulation. .. (ToE 4)*

*Hmmm... the current language policy for instruction in schools as it is, it cannot work with the deaf learners because the mother tongue according to linguistics is supposed to be another language which should build and/or introduce further vocabulary to the learners, but in this case, I think for the deaf learners, it is not easy for deaf learners to build on another language after acquiring the first one, it is like unteaching the language, it is very difficult for them to get that. (ToE 6)*

From the above excerpts, it can be concluded that all the stakeholders are of the opinion that there be a separate policy regarding sign system to be used in special schools for learners with

HI. The policy should clearly specify the sign system to be used during English lessons. Majority of the participants are of the opinion that SEE should be made the sign system for instruction during English lessons. Although KSL is regarded as the mother tongue to the deaf, the language policy that is used in regular schools should not apply in special schools for the deaf. KSL should be limited to teaching of KSL as a subject while all the other subjects, should be taught in SEE. The usage of SEE should be introduced in early grades of primary schools. This will enable the learners with HI to get used to the SEE as a system. The teachers in ECDE should also start introducing the use of SEE to the learners through reading. This will enable the students with HI to improve in the way they communicate with the hearing peers as well as home with parents and family members especially in a situation where the parents do not know sign language.

It can further be concluded that there is no clear policy on which sign system should be used in classroom teaching. The government has never come out clear to given direction to the effect that a particular sign system is to be used for instruction. This does not only apply to English but also to all other subjects in secondary schools. KSL is only mentioned to be used during teaching of KSL as a subject. This has led to a situation where individual teachers of English, principals and Directors of Studies come up with their own directions on what has to be done and which system has to be used. The sign system that is used for teaching during English lesson therefore varies from one school to another, based on the position adopted by the teacher(s) of English as well as the administration of the school. On the other hand, the administration may not have the legal framework to implement their position as far as the teachers may decide to do otherwise.

These findings agree with findings by Mweri (2014) who established that there is no clear policy regarding the use of mother tongue in education as is the case with the hearing children. KSL is regarded as the mother tongue for the deaf, but by the fact that it uses the English words, it has become prominent until it is taught as a separate subject. It can therefore be argued that the aspect of having a policy on which sign language system should be used has not been brought to the attention of relevant government agencies.

These findings further lend credence to the assertions by Wakumelo and Manyando (2013) that there is no policy on the teaching of sign language to guide teachers in Magwero and St. Josephs Secondary School for the deaf in Zambia. It therefore implies that various stakeholders in the lower middle economy countries need to work around and have a policy that will guide on which sign language system(s) to be used for instruction during English lessons.

These findings on the other hand differ from Inceçay (2012) who revealed that the new policy prepared by the Ministry of National Education of Turkey in 1997 considering teaching English as a foreign language in Primary schools was the outcome of top-down, assumption-based, and quick policy making which consequently had unintended impact on poorly-resourced schools with teacher shortage.

#### **4.4.5. Impact of the differences between KSL and English on acquisition of English Skills**

It was noted that KSL and English are different in terms of syntax (sentence structure) as well as the word formation. The differences between KSL and English mean a lot to the teachers of English and learners with HI. In terms of acquisition of various English skills, the difference between KSL and English comes along with a number of implications. Teachers of English were asked how the difference between KSL and English impacts on how learners with HI acquire and use tenses, they noted the following;

*Hmmm...I remember when teaching tenses, and added "S" to indicate a habitual, in the third person, for example, "HE WALKS" then asked why we have this "S" they told me, because he walked many times, so like they are seeing walks as plural of walk instead of as a tense. And because you are insisting on this SEE, you cannot omit that "s". but if it KSL, it is just the stem word that is signed, there is no "s" (ToE 2)*

*In tenses, they tend to bring in KSL aspects. For example, in KSL, when you talk of past tense like "I went home" in KSL, you will say, "PAST HOME ME GO//"  
meaning this go is retaining its present tense. When it comes to English, you say*

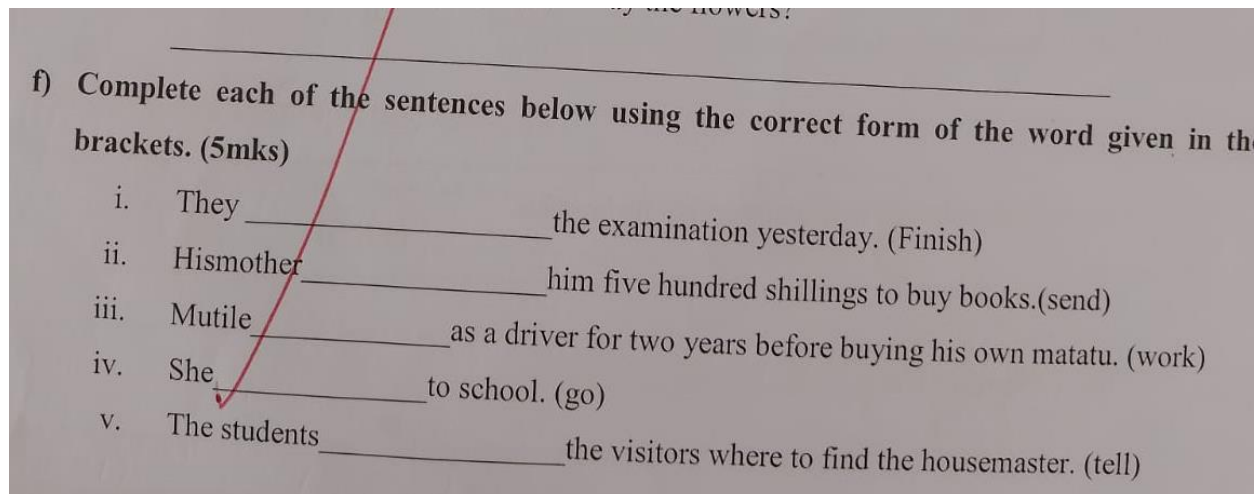
*“I went home”, meaning go is used in past tense, but in KSL, you start with past to show that it has happened and go is retained in the present tense. That one most of the time it affects their writing because as much as they might not write for you PAST in English but they will retain go in the present, so they might not say, I went home, but they will say, I GO HOME. So they retain the same verb in the present tense (go) when they really mean went. In secondary they have known that these are two different systems, so they will ignore past, but now they don’t know the past tense of go. So they retain go instead of went. (ToE 7)*

*There is a difference when it comes to tenses, because when you will be teaching KSL about tenses, you will not have a sign for example, “bought” so you will sign “BUY PAST”. This will give the learner a challenge because sometimes, if you don’t tell them that the past tense of buy is bought or past participle of buy is bought, some find it strange, for example, I write the word “bought” then I sign “PAST BUY”. Some will not understand. (ToE 4)*

*Hmmm... it happens that they bring KSL structure in English. When using gerunds as verbs, instead of writing “I am going”, they write “I am go” because KSL does not have the “..ing” For the tenses, like verbs, if you have finished, which is a tense indicator in KSL for present perfect tense, but in English, if they meet that term, they will confuse it with a tense instead of a verb, for example, “I ate finish//” in English or “ME EAT FINISH//” (ToE 6)*

From the excerpts above, it can be clinched that KSL affects how students with HI acquire the skill of using tenses in English. They have difficulties using tenses in their right form. Given that KSL uses only tense markers, where verbs do not take the past or participles in their own form, they tend to use the verbs in present tense while writing English sentences in past or participle. Although they may not bring the tense markers in English, but because they have not comprehended the signs for the verbs in past and participle tenses, they still write the verbs in their present tense forms while writing sentences in past and participle forms. In addition, some

students with HI do not comprehend the concepts of tenses totally. This makes them not to respond to questions on tenses if tested in examinations. In document analysis guide, a closer look indicated that some students never attempted questions that needed them to respond on tenses.



**Figure 4.7. Form Three Test Students' Response on Tenses**

From figure 4.7, question (f) which was testing on tenses, one can tell that the student never responded to any of the questions. While the teacher had given 5 questions where the student was needed to respond by filling the blank space with the right tense of the verb given in brackets, the student attempted none of the five questions.

The findings of this study are in line with a study by Mudhsh (2021) which compared and analyzed the similarities and differences between Arabic and English tense and aspect of categories in terms of their forms, functions and usage. The findings showed that there is a difference in both systems of Arabic and English in terms of tense and aspect systems. English divides time using tenses while Arabic aspects are distinguished as either perfective versus imperfective. Mudhsh (2021) also reported that mother tongue impacted on the components such as articles, tenses, pronouns and prepositions among others. The study further agrees with a study conducted by Mohammed (2021) who reported that features that are affected by mother tongue among the respondents are articles, tenses and pronouns.

Regarding vocabulary, teachers of English were asked how the difference between KSL and SEE impacts on how the students with HI acquire and make use of the vocabulary. They noted,

*...hmmm and you know KSL is limited in terms of wordings and vocabulary. This kid comes in with KSL structure. So when you are giving instructions in SEE, at some point, this kid will get lost if you are not careful as the teacher (ToE 1)*

*...hmmm.. to some extent, KSL limits the acquisition of vocabulary. The reason why I am coming to that, the signs are limited. You find there are words that mean differently, but the sign is one. For example, just today at breaktime, there was a teacher who wanted to go to class, a teacher of business and studies, and he was looking for the sign for the word interest, meaning profit. Now you know there is another interest which means motivated towards something. Then akauliza interest inasigniwa aje? (he asked how do we sign “interest”), then I am seeing he is being given the sign of interest to mean motivated, not interest the one of business. You cannot go with this interest in business. It is one word, two meanings but needs two different signs. So it gets to a point where vocabularies are limited that you have to sign the meaning that interest, but not the exact word. (ToE 2)*

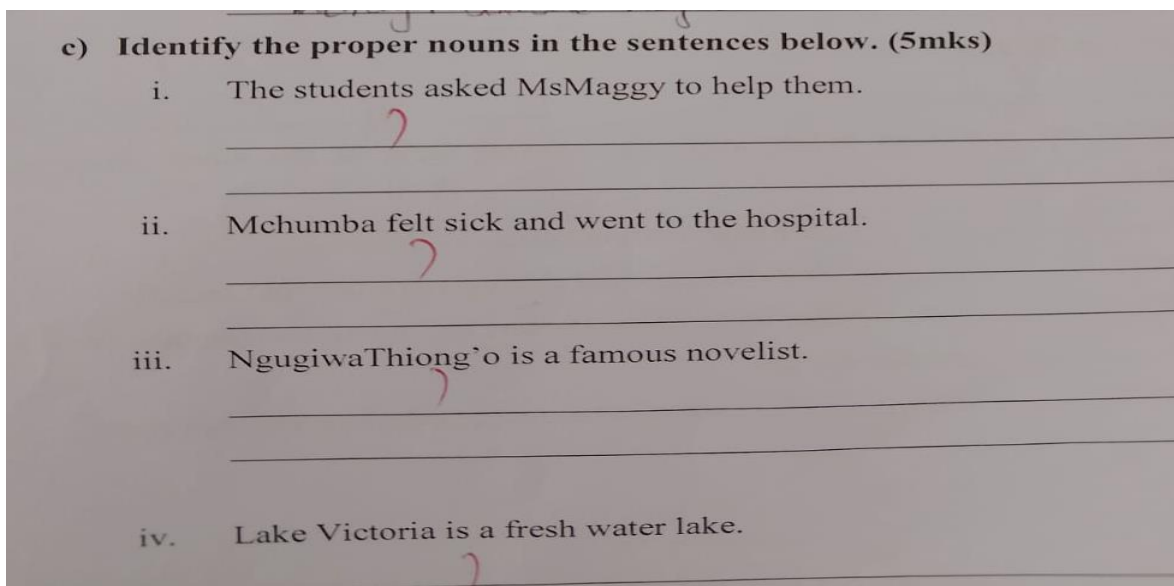
Another ToE added,

*KSL is very narrow. When you give them a word like stem, to them, they know stem in Biology, so they cannot associate stem to a different subject. They will carry that content and bring it to this particular word in English and to them, they have more challenges and that is why SEE and KSL is different (ToE 6)*

Form three students were also asked to comment on their vocabularies and how they use them in English and KSL. One FGD stated;

*English is wordy, it has a lot of vocabularies that you cannot understand and also passages, we don't get the exact meanings. The set books, for example, The Fathers of Nation, you try reading, you read it but at the end of the day, when you are given the question, you can't get the question right because the questions are different. (FGD 5)*


From the excerpts above, it was noted that KSL has limited vocabulary while English has a lot of words and vocabularies. This is due to the fact that KSL relies on signs, which are limited. Students with HI will take any word that does not have a sign as a difficult word. The student will take it as a difficult word once they realize that the word does not have a sign. Given that students with HI have been used to KSL from primary school, and their communication has been limited to KSL, they have not been exposed to many words in English. This makes them (students with HI) have lower capacity to sentence construction and hence affecting their capacity to write compositions. Through the document Analysis guide, it was established that learners with HI have difficulties in the use of vocabularies. In situations where they need to apply appropriate vocabularies, the way they attempt the questions shows lack of or inadequate knowledge in the use of vocabularies.



**Figure 4.8. Form Three Test Students' Response on Vocabularies**



out clear that during a test where student were asked to rewrite information using given words, some students could not rewrite the sentences using given words



**4. GRAMMAR** (15 MARKS)

**A. Rewrite the following sentences according to the instructions given after each. Do not change the meaning. (4marks)**

i. As soon as Jude entered, James left. (Begin: No sooner...)

*No sooner ~~as~~ Jude entered as James left.*

ii. The little rascals ran round the ragged slope. (End: ...rascals)

*The ragged slope rounded by The little rascals.*

iii. Why did the prefects do such a thing! (Rewrite in passive)

*Why such things should the prefects do!*

iv. The man was arrested. His cattle destroyed the maize in the school farm. (Rewrite as one sentence.)

*The man was arrested because his cattle destroyed the maize in the school farm.*

**B. Use the most appropriate form of the verb in brackets (2marks)**

i. What *were* the children doing when you last saw them? (to be)

ii. I *did not* appreciate his jokes. They were not funny. (to do)

**C. Complete each of the following sentences using the correct phrasal verb formed from the word given in brackets. (4 marks)**

(i) Kipchoge *put down* of the marathon race due to his injury. (pull)

(ii) The county fire brigade *put out* the fire after few hours. (put)

(iii) It is clear from her looks that Jenny *talk at* her mother. (take)

(iv) The youths should *take care of* to adults for guidance. (look)

**Figure 4.10. A Form three Test on re-writing Sentences using given words.**

From figure 4.10, it can be concluded that due to the limited exposure to vocabularies, some students with HI have difficulties using the various forms of words in different contexts. They also have difficulties using the words in different ways.

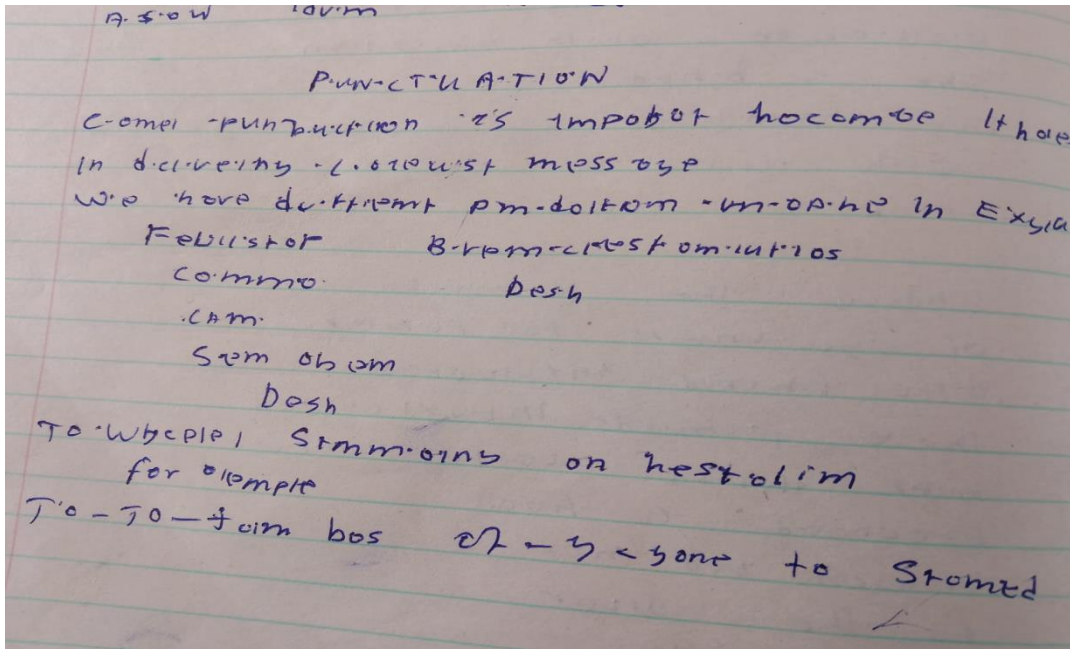
Teachers of English were also asked to comment on how the difference between KSL and SEE impacts on how students with HI learn and use the skill of punctuation. Some of them stated;

*Another hinderance is on punctuation. Punctation is also an issue because you find that in KSL, a sentence ends with double slash (//) which is a full stop. A single slash is a comma, the question mark is placed on top of an interrogative pronoun, although these do not come so much in English. Although majority have mastered the punctuation marks for English, but some confuse and bring into English the KSL aspects. For instance, for individual letters and fingerspelt words, in KSL we separate with a hyphen, now some of them when writing English, they still use hyphen(ToE 5)*

*.....but now in KSL, Some punctuations like exclamation is not there, we have brackets, they are not there, the colon etc. KSL has only three punctuation marks and they are weirdly written. So when they see these other punctuation marks that they have seen in KSL, they wonder. They don't know whether it is a word. They even come to you asking, for example, an exclamation mark, they think it is an "i" written upside down, in as much as you have taught them in English, but when they meet in on a word they can't comprehend, they only remember the few punctuation marks in KSL, and therefore take an exclamation mark as an inverted "i" (ToE 7)*

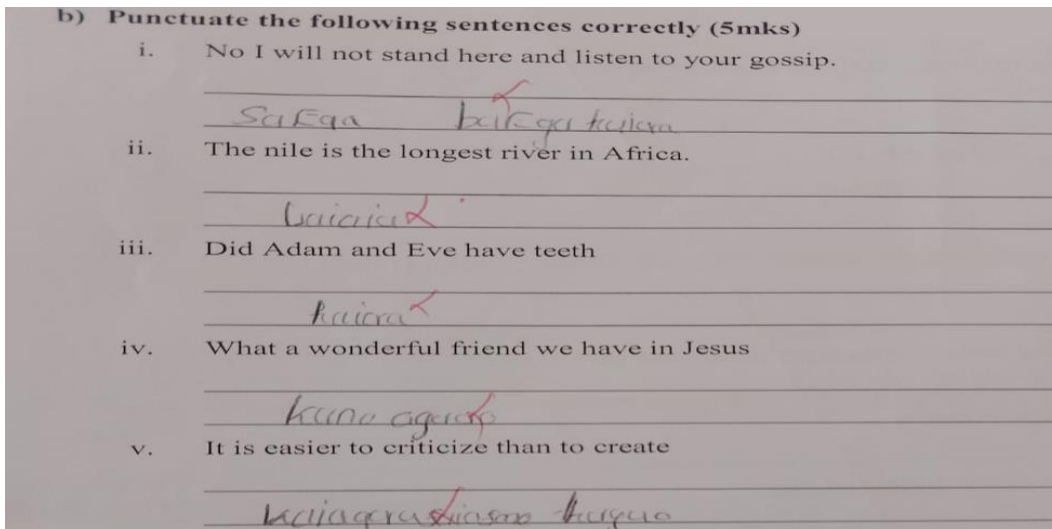
From these excerpts, it is clear that the aspect of punctuation is affected by KSL. This makes learners with HI to have difficulties with punctuation when writing English sentences. During document analysis guide, it was noted cases where students could write English sentences with hyphens. In writing fingerspelling in KSL, individual letters are separated with hyphens. Some students with HI bring this aspect into English.

It can also be concluded that there are differences between KSL and English as far as punctuation is concerned and that KSL has fewer punctuation marks as compared to English. It is also evident that the differences in the punctuation marks impact on English writing negatively and that most of the time learners opt to leave their work without punctuating.



**Figure 4.11. A Section of Form three student English note book**

From figure 4.11, it can be seen that some students bring the aspects of punctuation of KSL when writing English assignment and taking notes. This automatically affect their ability to use proper English punctuation marks.



**Figure 4.12. A Form three Test on Sentence Punctuation**

Figure 4.12 also shows another case of a student who could not use any punctuation mark in English. When asked to punctuate English sentences, the student could not attempt to use any English punctuation mark.

These findings agree with Al-Khaza'leh (2021) who investigated Errors Analysis of Writing among Third- and Fourth-Year College EFL Students. The results showed that there are errors in all the exercises assigned to students. The sentences written contained punctuation errors which, were attributed to the influence of KSL on English (SEE)

Teachers of English were also asked to comment on how the difference between SEE and KSL impacts on the students with HI acquiring and using the skill of plural in English. They stated;

*... English they relate with KSL while actually it is very easy in KSL because they have only A LOT, MANY, MUCH. If there are those who will master adding (s) then they will add on everything. They will add "s" to any word, and you know in English, that is not how it works always. For tense and plural, if you have a verb "come", then you have "comes", then they will interpret it as plural. KSL is only good for their comprehension, but it affects their writing. (ToE 3, ToE 6)*

*KSL affects them, for example, "these are my books" in KSL I will not say the same. if I write BOOK THESE MINE, so "THESE" would mean plural, but what about books? So I would have to write BOOK BOOK THESE MINE for them to know they are many books. So it affects the way we change singular to plural in English. There is a lot confusion in pluralization, ... And sometimes because they miss or lack the kind of words to use to substitute for the plural, they will use some words like a lot meaning many, and you know it does not bring it out clearly what they wanted to say in English. Actually it will be wrong in English. (ToE 5)*

From these excerpts, it can be concluded that the difference between KSL and SEE affects how students with HI learn to write plural of words and statements. This impacts on how they

perform in English. The students with HI will easily write the plural of words as they do in KSL which will of course be wrong in English.

From the excerpts above, it can also be concluded that there is a big difference when making plurals in English and KSL. This makes the learners with HI to exhibit nonstandard written English since KSL, which is a signed language is also taught and tested in written form and uses English words thus interfering with English. The difference causes total confusion to learners as it is difficult for them to tell which rules to follow when. Thus, most of the time the learners with HI tend to follow KSL way of making plurals because it is there language and they are more conversant with it. This agrees with Al-Khaza'leh (2021) who assessed errors analysis of writing among third and fourth year college EFL students and revealed that learners committed many errors in their assignments when writing their sentences and paragraphs. The errors made include singular – plurals among others; the students were not able to differentiate between singular or plural objects. Due to lack of comprehension, they mixed tenses hence using singular instead of plural or plural instead of singular. The findings also agree with Manan et al. (2017) who reported that learners had a problem with rules related to conversion of singular to plural nouns. This was revealed in a study that sought to assess Mother tongue interference in the writing of English as a Second Language (ESL) among Malay learners in terms of transfer of rules, redundancy, reduction and over-generalization (Manan et al., 2017).

These findings disagree with assertions by While Graham and Van Ginkel (2014) who established that WPM is the same in other languages other the original language. The current study has established that thee sign systems used in Special Secondary Schools for the deaf also have an effect on the reading comprehension of the learners in English.

#### **4.5. Perspectives of Special Needs Educators on the Application of Sign Systems used in Classroom and their Implication on Academic Performance in English**

This objective investigated the Perspectives of special needs educators regarding the sign systems that are used in classroom and their implication on academic performance in English. The themes that emerged from the objectives during the interviews, focus group discussions and classroom observations were but not limited to opinion of teachers towards sign system, impact of sign system used on the working of the teachers of English for learners with HI, Sign System challenges that teachers face when teaching English, position of school management regarding sign systems and teachers' understanding of signs made by students during English lessons

##### **4.5.1. Opinion of teachers of English towards Sign Systems used during Instruction of English lessons**

Teachers of English were asked their opinion on which sign system should be used in class during instruction of English lessons. Some of them recommended;

*...hmmm, I would recommend SE and SEE same to all other subjects because all other subjects regulation is the same on the language that is used. Not all examiners who mark have the knowledge of KSL. (ToE 2)*

*I think this is what should be done, let it be like the other children, KSL which is the mother tongue be taught in early years, then after that acquisition of KSL, ... have KSL as teaching subject just like the way hearing have Kiswahili, but when it comes to teaching, especially teaching English, let those teachers teach in SEE(ToE 4)*

*I would recommend, at high school subjects to be taught in pure SEE, but the KSL just remain a communication language for learners with HI the same way we are using Kiswahili. Let it remain a national language but not official. (ToE 6)*

*Personally, I am advocating for the use of SEE, but let it start from primary schools. SEE should be introduced in primary and remain as the language of instruction throughout. (ToE 6).*

One teacher disagreed with the sign system that had been agreed and adopted by the fellow colleagues.

*Hmmm... I disagree. I think we should just use the language that is familiar to the learners so that they understand easily of which it is KSL. (ToE 3)*

Principals were also asked the views and opinion of their teachers of English regarding the sign language systems that should be used during instruction in class, they reported;

*I know most scholars will say deaf can learn best when we use KSL as a means of instruction... if we propagate the use of KSL, we are going to disadvantage our learners, compared to others who are using SEE, because we expect that after this, the deaf to communicate to other people through writing, so how will others understand KSL if we simply say they should use KSL! (P. 1)*

*The general view of most teachers is that KSL interfere with English. So we are looking at how we can resolve this. They will be living in the society, then we say why can we make KSL a visual language...? Just like in South Africa where we don't put in writing. (P. 2)*

*The teachers are usually geared towards SEE, yes because they say it is difficult to have signs you know KSL is signing it does not involve fingerspelling for the words that miss signs. But SEE means you meet the sign where you don't relate to it, you can fingerspell. So they are saying we can adopt SEE for delivery of curriculum (P. 3)*

*Hmmm... teachers have also given their input towards the same and most of them are propagating SEE. They have a reason for that because you realize that*

*KSL actually when it is written like deaf person applying for a job using KSL, it is a bit hard to understand or comprehend whatever message is in that letter. But then when the individual tries to use SEE, then it becomes a bit open and easy to understand. (P. 4)*

During Form Three Groups Discussion, students were asked the sign systems that teachers use in class during English lessons. They reported;

*They use English (SEE) why because to follow the rule of English. Some teachers use English, they speak English and they follow the format of English. (FGD 1)*

Curriculum Support Officers for SNE were also asked the views and opinion of their teachers regarding the sign language systems, one of them reported;

*Hmmm... okay, you know the government comes up with its policies. In the field, we are used to KSL. I mean KSL is what we know. I am hearing about SEE and SE the first time here. The few teachers I have interacted with have majorly been on KSL, that is what they are used to, unless I find out how they get SE or SEE. (CSO SNE1)*

From the classroom observation, it was observed that teachers of English geared towards the use of SEE. Majority of them used SEE during English lessons.

<p>What is the extent of KSL/SEE use during the English lesson? / It is used throughout the lesson, to introduce the lesson, to conclude the lesson</p>	<p>Teacher maintains SEE throughout the lesson. KSL is not used anywhere.</p>
<p>What does the teacher comment on how the learners need to sign? Is it SEE, KSL Does the insist on a particular system?</p>	<p>Teacher cautions the learners to use SEE strictly.</p>

**Figure 4.13a. A Lesson Observation on Sign Systems used by ToE**

<p>Does the teacher maintain one sign system throughout the lesson time? Is there coherence on what the teacher signs and what they speak?</p>	<p>Yes, the teacher uses SEE throughout the lesson. Some words - a few are left out</p>
<p>What is the extent of KSL/SEE use during the English lesson? / It is used throughout the lesson, to introduce the lesson, to conclude the lesson</p>	<p>SEE used throughout the lesson -</p>

**Figure 4.13b. A Lesson Observation on Sign Systems used by ToE**

From figures 4.13a and 4.13b, it can be noted that teachers of English use SEE during English lessons. They also insist that learners need to respond in SEE. When the learner signs in KSL during English lesson, they remind them to use SEE.

From the excerpts above, it can be concluded that almost all the teachers of English for learners with hearing impairment are of the opinion that SEE should be used during instruction of English lessons. A part from only one teacher of English who was of contrary opinion, actually against the agreed position of the school and the language department that they use SEE during English lessons, she opted to use KSL during English lessons. In addition, it was also noted that Teachers of English are of opinion that SEE should be introduced all the way from primary schools, where it should be used in teaching not only English lessons but all other subjects other than KSL. Some teachers also feel that KSL should be limited to oral communication, and should be tested orally through interviews. It should not be written as it leads to confusion with English which leads to low poor performance in English. Principals also acknowledged that teachers of English do feel SEE is the best sign system to use while teaching English. The students who were engaged in Focus Group Discussion also confirmed the sentiments of the teachers that they use SEE during English lessons.

These findings are at variance with results by Kerubo (2017) who established that the main mode of communication used in primary special schools for the deaf was Kenya Sign Language. These findings are at variance with the findings by Owuor, (2008) who revealed that the teachers had a negative attitude towards the hearing impaired which impacted on their performance. The current study indicates that teachers of English are committed to teaching.

The findings also agree with conclusions from a study by Omutsani (2012) who indicated that 16% of Teachers preferred to use KSL. The current study had only one teacher of English out of the 7, who preferred to use KSL during English lessons. This translates to 14.3% which is almost the same as the percentage of teachers who preferred KSL according to Omutsani (2012).

These findings disagree with results by Andrews and Rusher (2010). According to Andrews and Rusher (2010), many teachers are obsessed about the myth that Deaf children will never learn English if they are allowed to use sign language in class. Andrews and Rusher (2010) further affirms that the prejudice that Deaf children will be not able to be fluent in two languages, is not always true as there are many societies where there are children fluent in at least two languages, depending on how efficient the education is. This disagrees with findings from this study which indicates that majority of teachers of English believe Students with HI are only proficient in KSL.

#### **4.5.2. Impact of Sign Systems used during English lessons on the working of the teachers**

Teachers of English were asked how the given sign systems that they use in class during English lessons impact on their working, some of them reported:

*But now you find that, like in English, you might want to use SEE then other subjects they use KSL in teaching all their subjects, so because they understand KSL better, they tend to develop some kind of attitude because now in English and towards you as the teacher of English, you come with hard English which may be too difficult for them (learners with HI). They feel you are too much on them yet teachers of other subjects are allowing them to use KSL. This of course affects your relationship with the learners which may automatically affect your working. (ToE 3)*

*Hmmm... obviously, it demotivates. And you know from you to move from SEE to SE to KSL to Fingerspelling, after the 40 minutes, you are almost collapsing. (ToE 7)*

*.....Sometimes they develop that attitude and especially now that you go to English lesson, you want to use SEE. Another teacher comes with Geography, they use KSL, you know they will see Geography as simple, English I hard, they say English is for the hearing especially when it comes to set books. You tell them to read set books, they tell you, the book is very fat, it is for the hearing, and now you want to bring in SEE, you will lose it. (ToE 5)*

*It really affects our working. You know, the language of instruction is SEE and then the language of exam is SEE, so when you have to switch to KSL for them to understand, it means you are not taking care of the language of instruction. So this student will also give you this answer in KSL in an exercise book, so you wonder whether to punish them, or just leave it. This makes my work difficult and I feel frustrated. ... Sometimes, it gets so frustrating this issue of sign system. (ToE 2)*

*Hmmm... I am sure the other teachers also feel the same. You will hear some say, kufunza deaf in ngumu (teaching a learner with HI is so difficult), what I have been teaching all along they are not understanding, so they cannot answer the questions. (ToE 5)*

*Now using SEE, you know their sentences are long and you know their focus is short lived. They can be tired and just look at you, and that may affect my working because, imagine teaching in a class where everybody is looking at you and is like saying, what is she saying, but when you use KSL, they enjoy since they are part of it and the class is very interactive. (ToE 2)*

On the other hand, one teacher of English stated;

*When it comes to using SEE in English, I am very okay with that and I will advocate for this thing everywhere hata huko juu (including at the highest offices). Let it just be a rule in our curriculum that these learners ( with HI) are to be taught using SEE. I enjoy signing SEE. (ToE 1)*

The principals were also asked their observations on how the sign systems used affect the working of their teachers of English. They responded;

*Yees, it is a serious issue, especially when they have taught, in fact every teacher, when they go to class everybody wants to achieve their objectives, when they get that they have not achieved the set objectives and they try to find out why? You find that the use of the sign system barriers, that is the SEE versus KSL, at times, it kills their morale (P. 1)*

Curriculum Support Officers for SNE were also asked the views on how the use of a given sign systems affects the working of teachers, one of them reported;

*Hmmm.. currently, as I have said, what I have had, most of the institutions, the mode of instruction is KSL, that is what I have seen. ..When you try to bring in these other ones, you will find that they are pulling behind. (CSO SNE 1)*

From the interview excerpts above, it can be concluded that the use of SEE affects the working of teachers negatively. Although majority of teachers of English agree that SEE is the right system of instruction to use, the fact that learners with HI comprehend KSL faster than SEE creates a difficult working environment for them considering that if they choose to use KSL for instruction, then the impact on English performance will be higher than on other subjects. What follows in is the attitude development where learners with HI will perceive English as a difficult subject as compared to other subjects where teachers can easily decide to present content in KSL hence making it easy for them to understand. Majority of learners with HI also acknowledge that KSL affects their performance in English if they use it, but on the surface of communication,

which is the basic need at the time of interaction in class, then they will be comfortable and prefer content being given through KSL than SEE.

For those who choose to switch to KSL and SE at some point for explanation in order to help the learners with HI comprehend the content, it becomes too tasking for them, such that by the end of the lesson, they are too exhausted and fatigued as compared to when they would have maintained one sign system. However, some of teachers of English are very okay with SEE and the use of it does not affect their working in any way.

These findings are at variance with Papademetriou (2019) who reported that teachers have a positive attitude towards the approach and are motivated to apply CLIL, mainly because it appears to increase students' motivation and class interaction. The current study findings are at variance with the findings of Papademetriou (2019) in that the teachers of English feel SEE, KSL and SE affects their working from the way the learners perceive the content delivery. However, the current study findings agree with findings of Papademetriou (2019) on the fact that the teachers were unsure of whether there is a clear development of linguistic competences and knowledge of grammar which would allow them to sit for Language exams. It is noted from the current study that KSL cannot help students with HI to pass English examinations.

#### **4.5.3. Sign System Challenges that teachers face when teaching English lessons**

In regard to the sign language systems that teachers use during English lessons and general instruction in secondary schools for the learners with HI, it was noted that teachers face several challenges during instruction in class. Principals were asked if they are aware of any of such challenges. One of the principals noted;

*It is really time consuming because you need to sign everything, virtually everything, but by the end of the day, we expect learners to grab and know how to write in English. They have the challenge of the sign systems to use, they make use of SE and KSL instead of SEE. (P. 4, P. 3)*

*The issue of sign is challenge to both teachers and students, because there are words that are not in sign language, which to some extent, the teacher would rely on explanation and is going around and round the word, not saying exact word, (P. 2)*

*Sometimes these books, the set books, some of them complain so much they don't comprehend. You get that a new set book has come, there are some words you don't have the signs, yes, so it becomes very difficult for them, that it is part the part they complain most of the time.(P. 1)*

On the other hand, during interview with the teachers of English, they were asked some of the sign system challenges that they face during English lessons, they reported;

*When we are in the staffroom, you will hear all other teachers complaining, that they are teaching in SEE, but the learners are asking them to sign in KSL, but the books are not in KSL, the assignments will not be in KSL, the exams will not be in KSL... So it is a challenge that cuts across. (ToE 1)*

*Hmmm... there are learners who come to school when they don't have any knowledge about any of the sign systems, yes, some come with knowledge of all the three sign systems, but other do not have any, especially those who come from integrated schools, so you sign but the learner is not getting anything, so you have to go back to start teaching them basic signs, fingerspelling, some even come they don't know finger spelling. (ToE 4)*

*Hmmm... there are some challenges because some learners are so much used to KSL. When you use SEE, they get confused on the way...(ToE 7)*

*According to the syllabus, if you use SEE, it means you will need more time. It requires more time. If you are going to teach in SEE, it means ule wakati wako nayo ni kidogo sana (it means the time will be too short to cover the syllabus), so at the end of the day, I don't know if we are going to have better results because*

*if we have not covered the whole syllabus, then you can't be sure of the students passing (ToE 5)*

Curriculum Support Officers for SNE were also asked some of the sign system challenges that the teachers could be encountering in classes during instruction. One of them noted;

*Most of our teachers who teach in these special schools for the deaf, you find that this was a teacher from a regular school, then they have furthered their education through KISE, then they are deployed to Special schools for the deaf, but they are yet to be competent in signs, they even don't know sign systems. The teacher may not be so much proficient in signs, so as much as they try, but you find even the teacher struggles to deliver. (CSO SNE 2)*

*Actually, your study is very very important. It will help to open up these challenges that teachers do face in class while teaching. You find areas which the teachers are delivering in, in primary many concepts have common signs, but in secondary when you go deep, there are many concepts without signs. So every teacher and school coin their owns signs that they use (CSO 2)*

From these excerpts, it can be concluded that teachers of English face a number of sign language systems challenges in class during instruction. The students are admitted to special secondary schools come from different regions. The primary schools tend to have their regional signs that they use most of the times. When student report to secondary schools, teachers have to take time to harmonize the signs that they need to use in class. They therefore are confronted with the challenge of having uniform signs especially in form ones when from ones have reported.

There are also cases of those students who learn in integrated primary schools but upon finishing primary sections, then join special secondary schools. In most of the integrated primary schools, the aspect of sign system is not so clear. They tend to use the local natural signs. When they join special secondary schools for the deaf, they have to take time to learn sign language and specific systems in use. This means the teacher has to make special arrangements for them to learn signs.

In secondary schools where content of English is huge compared to the one in Primary schools, there are so many words and concepts that do not have signs. This makes it challenging for the teachers to effectively teach or explain certain concepts. What happens is that the teacher has to explain the concept, instead of using one sign, to give the learner. Since sign language is a visual language, during examination, the learner may not remember all the explanations the teacher gave, and even if the answer is there, but the learner cannot connect the explanations and the word, since the answer may require specific word.

The aspect of set books also is a challenge since the books are usually changed after sometime. In addition, in cases where the teacher had formulated local signs that they use with students in class, if there is a change of the teacher, then the learners will have to formulate new signs with the new teacher in place.

In document analysis, it was noted that some students have difficulties writing correct English.

it careful  
 Ach. ever's High School  
 P.O. Box 777  
 Kisumu  
 Kenya  
 January 2005

my caring cousin m.w. keofi  
 what would I do without you I can't  
 thank you enough for having come to  
 see  
 me on visiting day which coincided  
 with my sixteenth birthday I would  
 not be  
 me on visiting day which coincided  
 with my sixteenth birthday I would not  
 stretch the truth if I said it was the  
 best birthday I have ever had As for  
 your presence wasn't enough you brought  
 money wonderful and thoughtfully  
 chosen presents the novel you brought  
 for example was so captivating that  
 I could  
 hardly take my eyes off it and the  
 my friends can't stop admiring  
 remembering the food you brought  
 my mouth water besides you  
 jokes that left me in stitches with  
 laughter once again thank you  
 much  
 Best wishes  
 m.w. keofi

**Figure 4.14.** A section of Form three student English note book

From figure 4.14, it can be seen that some students cannot construct correct English sentence. They are not able to write compositions or make a correct structural sentence.

During lesson observation, some difficulty in communication between the teacher and students was noted in the way in which students responded to questions from teachers. There was some hesitations on the side of students, which was associated with failing to understand or misunderstanding of the statements made by the teachers.

Do learners respond effectively when the teachers gives instructions in a given sign system?	Yes, they responded well. Learners were slow to respond to the questions.
Does the teacher maintain one sign system throughout the lesson time? Is there coherence on what the teacher signs and what they speak?	The teachers use KSL and SEE. No, the teacher speaks but misses out some words when signing.
What is the extent of KSL/SEE use during the English lesson? / It is used throughout the lesson, to introduce the lesson, to conclude the lesson	To explain concepts when learner appears not to have understood the concepts.
What does the teacher comment on how the learners need to sign? Is it SEE, KSL Does the insist on a particular system?	No, the teacher just repeats the words as they are signed.

② The teacher used SEE to speak but ~~not~~ signed.

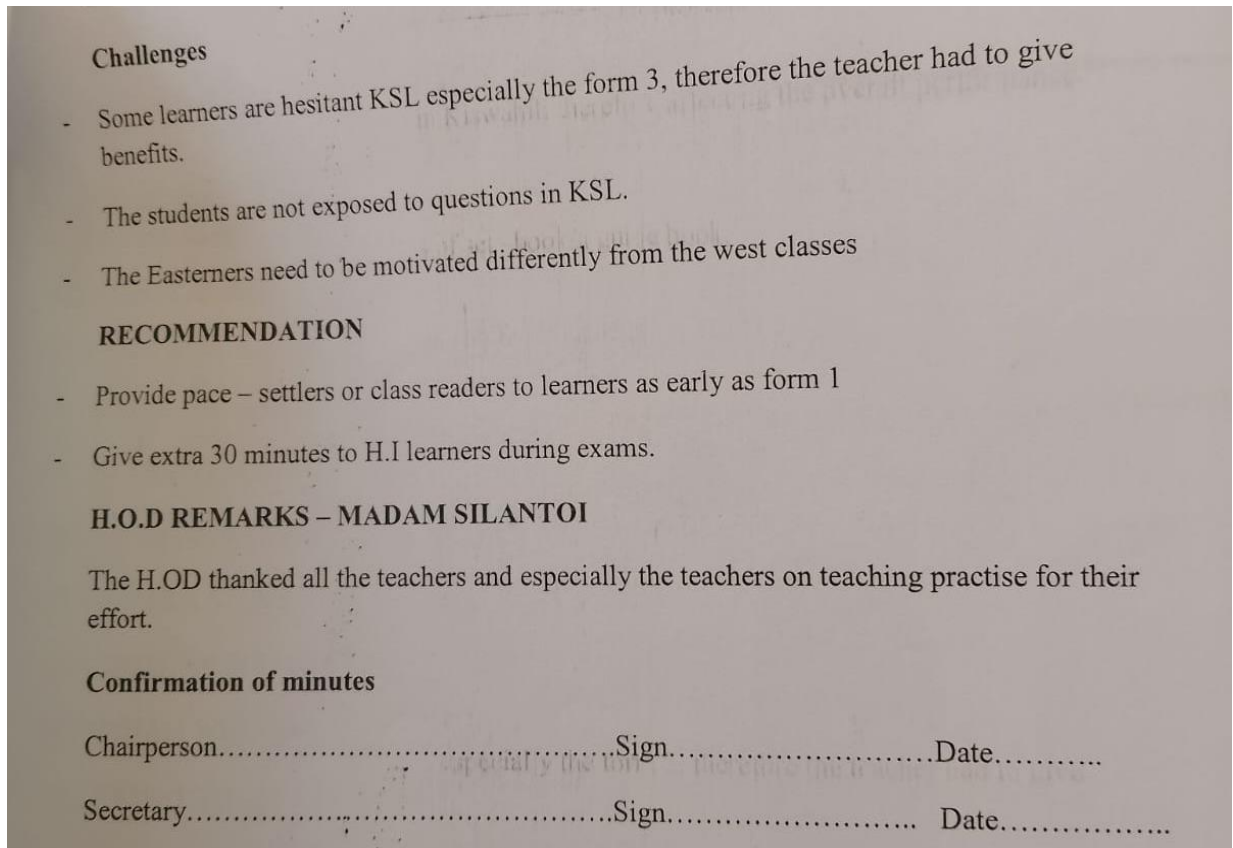
**Figure 4.15a. A Lesson Observation on Sign Systems used by ToE and Students with HI**

Do learners respond effectively when the teachers gives instructions in a given sign system?	There is a bit of struggle. Not instant response - but after a bit of repetition and emphasize.
Does the teacher maintain one sign system throughout the lesson time? Is there coherence on what the teacher signs and what they speak?	No. Mixed SEE with fingerspelling and SEE. No - teacher spoke clear English but only signed main words.
What is the extent of KSL/SEE use during the English lesson? / It is used throughout the lesson, to introduce the lesson, to conclude the lesson	SEE/SE along with KSL. No. also fingerspelling throughout the lesson.

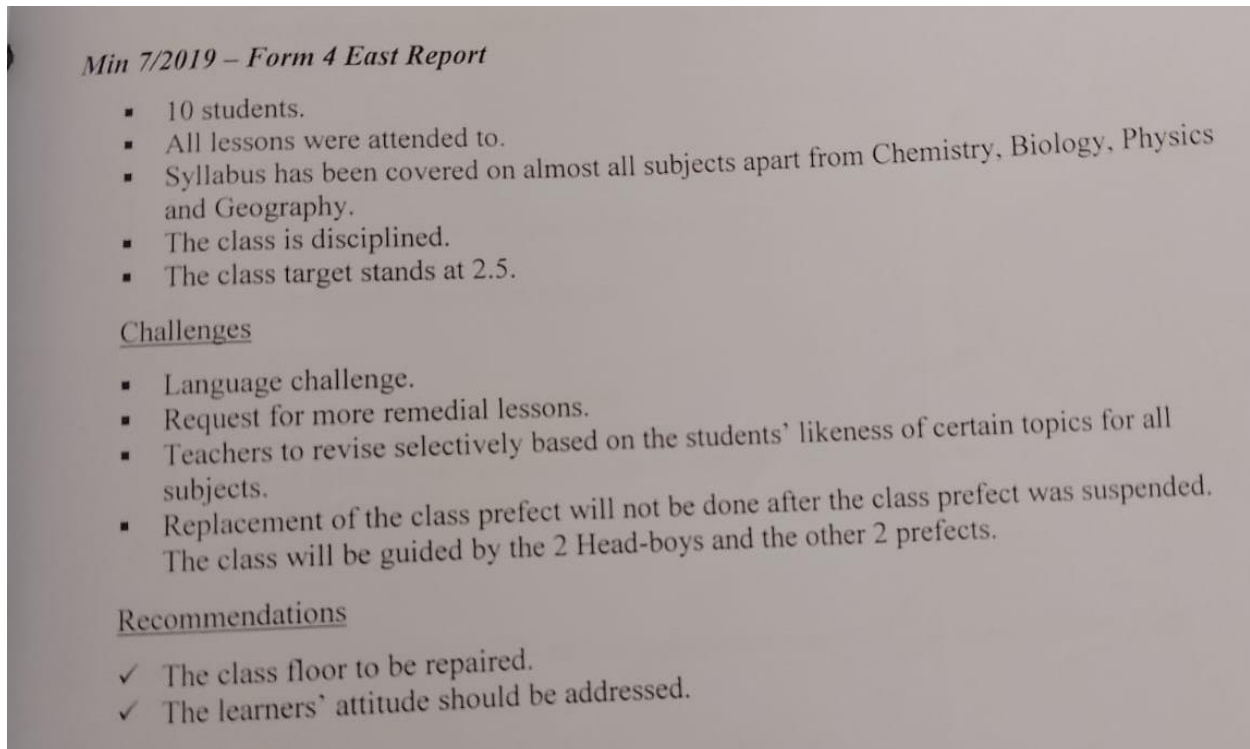
**Figure 4.15b. A Lesson Observation on Sign Systems used by ToE and Students with HI**

From figures 4.15a and 4.15b, it can be seen that there was no instant responses from the students. From the document analysis, it was also noted that during the departmental meeting,

the teachers raised the challenge of language and sign systems that they face in class which is impacting negatively on the performance of learners in English.



**Figure. 4.16a. A section of Minutes of Languages Department Meeting**



**Figure. 4.16b.** A section of Minutes of Languages Department



**Figure. 4.16c.** A section of Minutes of Languages Department

From figures 4.16a, 4.17b and 4.16c, it can be seen that during the departmental staff meeting, in Minute 7/2019, teachers noted the challenge of language of instruction.

These findings agree with conclusions by Kerubo (2017) who established that there was difficulty in teaching learners with hearing impairments. The finding from this study agree with findings by Gregory (2016) who established that teachers felt using the target language was more of a challenge for academic purposes because of their belief that they should be conducted in the target language (TL).

These findings further agree with results by Gregory (2016)) who established that teachers experienced more difficulties completing academic tasks in the target language since it involved a greater quantity of speech functions. The current study established that SEE has more content and since the teachers have it as the target language which they want students with HI to learn and use in examinations, they are faced with challenges in using. The learners with HI are used to KSL as a system of instruction, which has limited vocabulary.

Heineman-Gosschalk (1999)also found that hearing teachers most frequently mentioned that they had problems with communication and linguistic factors when they read with deaf children. Specifically, the problems included: The use of Sign Supported English (SSE), Signed English (SE) or British Sign Language (BSL) mode of communication; giving meaning to the story; non-transferability of visual system (sign) to English orthography; confusion in complicated sentences; dealing with the interface of text and BSL and ensuring appropriate use of SSE; getting attention between the text and the need to watch for visual clues on the lips; and lack of communication skills.

#### **4.5.4. Position of School Management regarding sign system**

Teachers of English were asked what the school management usually comments regarding the sign systems that they are supposed to use,

One teacher remarked;

*Obviously, the school management are in the use of SEE. You know they usually say English determines the mean grade of the school. So if we don't go for it, then it means the mean score will come down. However, the other teachers, most of them do not focus much on language, they rather focus on content. (ToE 3)*

*The school management is of the view that we use SEE or SE. The former principal used to walk around, she surprises you and enters the class and sits at the back and observes how you teach, maybe use a different language and*

*incorporate with English. Then she will have to call you and warn you. So she was insisting that you stick to SEE (ToE 2)*

*Ohh... they have not told us to use this or that, but they have or are trying to encourage us to.... You know in most cases, we want the child to understand, that is the major thing, so that is why when we are communicating with deaf, we use the body language, total communication and that is what we are trying to be encourage to use Total Communication to ensure that the message is home. (ToE 4)*

From the above excerpts, it can be concluded that majority of the school administrators are in support of using SEE for teaching English. However, some of the school administration have not come out clear to give direction to teachers on which sign system should be used during English lessons. This has given teachers of English opportunity to make their decisions on which sign system they can use during English lessons.

#### **4.5.5. Teachers' understanding of signs made by students during English lessons**

Teachers of English were also asked if they have clear understanding of the communication with learners. Some of them responded,

*Hmmmm... we have. The learners are comfortable signing in KSL, but when the learner is giving an answer, they will give KSL, they so easily do it in KSL, so it is you to reorganize them the way they should be. It is usually very difficult at the beginning, and more so especially for teachers. (ToE 1)*

*Yes, I understand them because we have interacted with them and I have taught them, I understand when they use SE. Sometimes when they use SEE you know they will fingerspell and you know sometimes they are very fast and sometimes very slow. So I will have a challenge grasping what they are fingerspelling. If I get lost, I have to tell them to go slow. (ToE 6)*

*Yes, there are instances when students sign and I don't understand. It happens. When they misspell words, sometimes they may ask a question, then they misspell, sometimes their language is broken, that is when they use KSL. They try to use SEE but then get confused on the way, so they mix up. (ToE 2)*

*In fact today in the morning, the learners were communicating to me, there was a word the learners were signing, I was not able to figure it out, they were signing it and I thought they were signing idle, and now when they finger spelt, they finger spelt something I don't know, now when they gave me a sign closer to that, is when I got what they were saying. It is the same way for students, I might be signing something as a teacher, I know this learner is getting what I am signing kumbe alipotea kitambo (but the learner is not understanding) (ToE 5)*

*At times I don't, but I will still ask questions so that I can get to understand them. At times, they use signs that are known to them, that I am not familiar with. (ToE 6)*

*For me, my case, many times I understand but the few times I don't, number one is their speed. They are so fast and then sometimes, you lack a sign for a particular word, so you take the learner back to fingerspell for you and then you get it. Another thing is their structure. They will start with object, by the time you understand what they are signing, you have taken some time, so the structure is the issue. (ToE 2)*

Form three students were also asked whether their teachers do understand them when they communicate to them. They responded;

*Some teachers do not understand. Why because in school we have some teachers who are not conversant with sign language and therefore when teaching and you ask them a question in KSL teachers miss out on some signs, hence making wrong interpretation of the question and they give wrong answers. Some*

*teachers when you use KSL, they understand slowly but when you use English (SEE) they understand fast.(FGD 3, FGD 5)*

*No.. some understand, some understand zero. Some teachers impossible answer because students sign faster then impossible understand. (FGD 1, FGD 6)*

The principals were also asked if the teachers of English usually do understand the signs when students communicate to them. They noted;

*Hmm... that is challenge. Some of us interest varies. There are those who wants to know what is this about sign language. Even where they communicate the learner, they really want to know but in some cases, some teachers are not much... (P. 1)*

*Sometimes, the teachers don't comprehend, sometimes the learner can say something which the teacher cannot comprehend, so he has to first internalize or ask another learner who has the same sign which was used differently but some of them you find they have 2/3 signs having one meaning. Although this comes back to the fact that there is no policy. (P. 2)*

From these excerpts, it can be concluded that majority of the teachers of English understand signs that students with HI communicate with them in class. however, a number do not get the communications from the learners. This is majorly in cases with form ones, who mostly are yet to harmonize signs with the ones being used in schools. Also, learners with HI appears to be more competent and fluent in signs than some of the English teachers. This makes them miss out on some signs when they make, the learners also seems to sign and fingerspell faster than the teachers, hence teachers miss out on some of the points and concepts that the learners could be passing. The miscommunication also comes as a result of the learners using wrong signs or using their local signs that are not familiar to other people in the community.

It is also concluded that teachers of English do understand SEE faster as compared to KSL. Given that learners with HI communicate more in KSL than SEE, teachers of English tend to take a bit of time to process what the students have said.

It is also concluded that the teachers who have taught in the special secondary schools for some time have an effective communication with learners with HI as compared to those who are newly employed in those schools. The teachers are able to adapt to their ways of communication and approaches through which they can understand the signs that students make.

The learners with HI also understand that some of their teachers do not understand signs that they make. However, teachers have adopted various approaches that they use to ensure they get the message the learners are passing.

From class room observation, it was noted that teachers had to ask learners some signs while they are teaching.

What are the impacts of the strategies employed when teaching English? / Are the students able to write correct sentences in English when the strategies are applied?	... and discussed with the learners.
What are some of the challenges faced by learners when learning English writing skills? / Aspects of KSL that are transferred to English writing.	The teacher asked the learners to sign when he did not know the signs.

**Figure 4.17. A Lesson Observation on ToE understanding signs**

From figure 4.17, it was observed that during the lessons, teachers asked students for some signs during the lessons. This means that the teacher was not sure of all signs hence this could be a barrier for effective communication. In a situation where the student was communicating to the teacher, then the teacher may likely miss out on some of the signs that the student would make.

These findings agree with conclusions by Kerubo (2017) who established that as learners with HI write and use sign language, teachers can understand the weakness of students and assist them accordingly.

#### **4.6. Perspectives of Students with Hearing Impairment on Application of Sign Systems and their Implications on Academic Performance in English.**

This objective investigated the Perspectives of Students with Hearing Impairment regarding the application of Sign Systems used during classroom instruction and their Implications on Academic Performance in English. The themes that emerged from the objectives during the interviews, focus group discussions and classroom observations were but not limited to Sign system preferred by the students with hearing impairment during English lessons, Reading Habits of the deaf and their comprehension in English, Challenges that learners with HI face in class during English regarding sign systems and excitement of learners with HI to attend English Lessons

##### **4.6.1. Sign system preferred by the students with hearing impairment during English lessons.**

The study intended to establish the perspectives of students with HI towards sign systems that are used during classroom instruction. The principals were asked to comment on the sign system that the students prefers. One of the principals said,

*...hmm.. according to my observation, they are KSL oriented, because you cannot find them using SEE (P.2)*

In FGD with form three students, when asked which is the best sign systems that they prefer, the following were their responses;

*KSL is the best, why? KSL possible to understand KSL best. Help understand well. Communication well, sign easy (FGD 1, FGD 2)*

*SEE best, because possible understand best. Time deaf use KSL always in English impossible to pass exams. They use broken English always. Now we have exams set in SEE before and new. Some examiners do not know KSL, so if one comes to marking and the deaf have written KSL, they end up failing the exam, therefore SEE is the best. All people know English but some people know KSL nothing, so English language (SEE) is the best. SEE, because it makes us write composition very well, that is from SEE. (FGD 1, FGD 2)*

*KSL is the best, why because it is easy for us to obtain the information. KSL words are easy(FGD 1)*

*SEE is best because it helps deaf improve English. All other subjects in school are taught using SEE.SEE is best. It helps me to understand faster, it is the only language which is important in all the world and possible help in future. (FGD 4, FGD 6, FGD 2)*

Teachers of English were also asked which sign systems students prefer in class during English lessons. They reported;

*Hmmm.. they have not mentioned to me what which signs they prefer but when you use KSL, you see they are happy, motivated and they participate. But when you come to SEE, they are bored, they are not there with you...(ToE 1)*

*In English, they prefer SEE though, there are those instances when they will tell you to put in KSL because KSL is just direct (ToE 2)*

*Definitely, they choose KSL (ToE 5)*

*In terms of how a teacher uses it in class, they would prefer a teacher to use KSL, because that what they will get quicker, faster and more clearly. When you explain using KSL, they understand faster as compared to when you use SEE*

*However, when it comes to results, there is nothing correct they will write. (ToE 3)*

*They prefer KSL, they will want you to use KSL, you find someone telling you.. “understand zero” (I have not understood) so you look at them and ask, so what do you want me to do, they will tell you, better change to KSL. It is easy but now if I change to KSL, it won't be English again(ToE 4)*

*They prefer KSL, they don't request you to use KSL but when you use SEE, they look confused when you are teaching but when you switch to KSL then they become active and concentrate (ToE 5)*

Form three students were also asked which sign system they think should be used to help them pass English examinations, they noted;

*SEE, because time you want to write notes, then you follow the notes using English (SEE), so when the notes are being copied using English, the time you will be writing English, then same you follow and understand and do same in exam (FGD 2)*

*English (SEE) possible help pass examinations. When the teacher uses English, the student understand and follows the rules of English and possible to pass examinations. (FGD 4)*

From the above interview excerpts, it can be concluded that majority of students with HI prefer KSL as the system of instruction during lessons. It was noted that they prefer KSL to SEE since they comprehend KSL faster compared to SEE. The understanding of KSL during content presentation, however, does not help them in English during writing of answers since all answers must be written in SEE.

During lesson observation, it was observed that the teachers had to switch to KSL at some point to explain certain concepts that appeared not clear when the teacher had explained in SEE alone.

It can also be concluded that students with HI are aware that KSL has a negative impact on the way they will write their English sentences. Therefore, with this understanding, some student with HI prefer SEE to be used during instruction as they believe this would help them improve their writing during English lessons. During lesson observation, it was observed that teachers of English mixed the sign systems during English lessons.

Which signs system are used during the English Lesson? For example, SEE, KSL, SE	SEE / KSL
Do learners respond effectively when the teachers gives instructions in a given sign system?	Responded well. But more on KSL and fingerspell
Does the teacher maintain one sign system throughout the lesson time? Is there coherence on what the teacher signs and what they speak?	No. - SEE / KSL
What is the extent of KSL/SEE use during the English lesson? / It is used throughout the lesson, to introduce the lesson, to conclude the lesson	KSL - used to supplement SEE

**Figure . 4.18. A Lesson Observation on Sign Systems used by ToE**

From figure 4.18 of lesson observation, it can be concluded that a number of teachers used a mixture of both KSL, SE and SEE during the English lesson. This was to facilitate understanding of some concepts that the students had not gotten clear when the teacher use SEE alone.

These findings agree with findings by Biricik and Ozkan (2012) who established that the teaching techniques for developing motivation are significantly important for language acquisition, which includes creative use of the learner's native language in order to make them understand what is being taught.

These findings disagree with results by Chong(2014) who indicated that students with HI in Malaysia prefer Malay and English than Malaysian Sign language. The students with HI rarely showed affinity for Malaysian Sign language. Often, they saw Malaysian Sign language as a system to communicate in Malay through signs and fingerspelling and a tool to help them learn Malay. When it came to English they preferred SEE or ASL. This contrasts the results from current study

which show that students with HI prefer KSL to SEE, SE or any other language. These findings further differs with findings by Omutsani (2012) who showed that 43% of learners preferred teachers to use mainly Kenyan sign language when teaching. The current study has indicated that majority (more than 50%) of the students with HI preferred the use of KSL as compared to SEE and SE.

#### **4.6.2. Reading Habits of the students with HI and their comprehension in English**

Reading is an important skill in English. From the interviews with teachers regarding sign systems, it was noted that reading contributes to how learners with HI comprehend the sign systems that are used during instruction as well as how they perform in English. Teachers of English were asked to comment on the reading habits of learners with hearing impairment, they noted,

*Their reading habits and culture is very poor, they don't like reading, and that is why in paper 3 where we have set books and even paper 2, it takes relatively longer period of time to get done with a book... (ToE 3)*

*They are very slow in reading, and actually you will give them a comprehension in class, like doing comprehension and only answer one question. When you give them time, they are already copying the question before reading. They like writing than reading. Wataandika kwanza then they get back to reading (they will write first, is when they start reading) so you are left wondering, what are you writing, then the student tells you, I am only writing question then I will read. So reading is tasking for them. (ToE 2)*

*They lack concentration when it comes to reading, so to solve that problem, I usually prefer they do their reading in their groups. (ToE 7)*

..... you know the deaf they don't love reading, so it becomes a challenge, unlike in regular schools where learners really love reading. I think probably, they were not introduced to reading at early age, you know reading is something that when a child is born and introduced to reading, then they grow up loving to read, but if you just leave there, how are they going to acquire that language, you see, it is quite difficult. (ToE 4)

What I have observed is that they read by signing, only a few read without signing. They sign SEE and where they don't know, they sign, they fingerspell.(ToE 1)

Hehehee.. they have very poor reading habits because for them, they find SEE to be too long, too cumbersome, too wordy and because the language that they use is KSL which is short while English has a lot of vocabulary, they wouldn't like English. ToE 6)

Now, I just want to be honest, their reading habit is very poor and they don't read at all. When reading, they tend to encounter obstacles on every word, they don't know what it means or don't know the sign or sign does not exist. So they keep on pausing, checking meaning in the dictionary and this becomes boring and they switch off. (ToE 6)

Form three students were also asked about how they view English in regard to reading. They responded;

*I feel annoyed because teacher will come and explain and explain, but will not get anything. It is very difficult . I understand half. There is a lot of reading involved, reading is a lot and reading makes me tired. (FGD 5)*

The principals were also asked to comment on the reading habits of the students, they noted;

*...hmmm.. reading is of course terrible for them, but I know because it is a tall order for them to understand even simple English, for them to read is very difficult, they don't read much, because they simply don't understand most of the things they are reading.... (P. 1)*

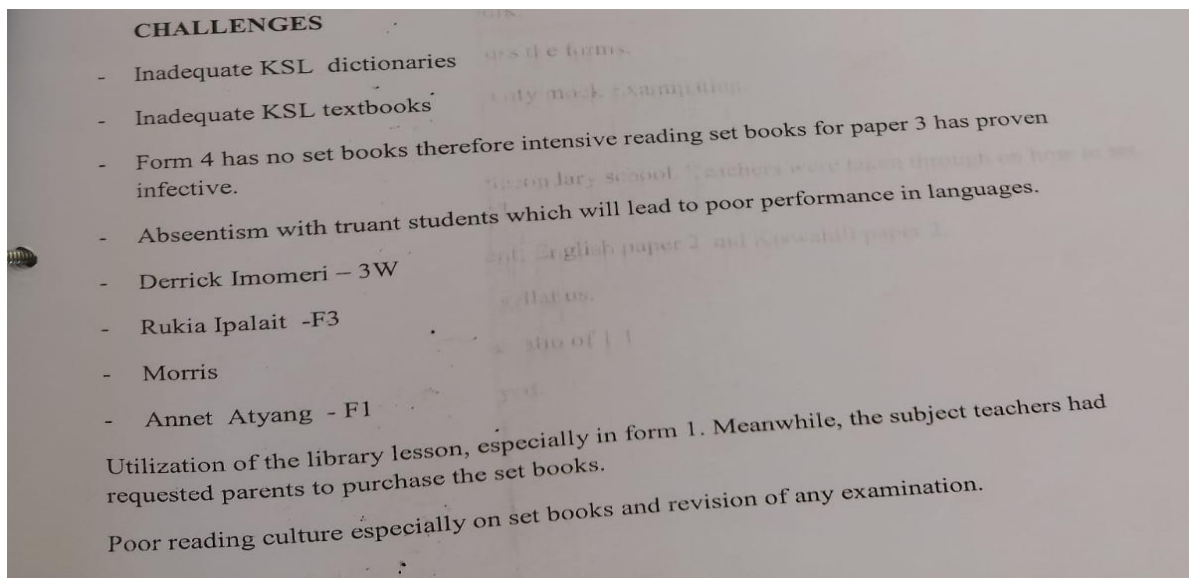
*The magic trick here is that they need to differentiate between KSL and English as two different languages so that when they are approaching them, they are approaching them as 2 different languages. You don't read KSL actually, KSL you practice it, but now English you read, but they need to be encouraged to read it so that the structure sticks in their minds, so that they know normally after this, this follows and this, so that even if it is wrong, but there is that order seen. (P. 2)*

From the excerpts above, it can be concluded that reading is a serious challenge to students with HI. They have very poor reading habits because for them, they find SEE to be too long, too cumbersome, too wordy and because the language that they use is KSL which is short. While they tend to have a short concentration span, English in secondary schools demands more time and focus for the student to be able to follow and understand. There are several areas that need focused reading including literature where students are expected to read set books and other genres including poetry and comprehension. The students with HI lose focus in the process of reading. For the case off set books where they are expected to read a minimum of three, and have a clear understanding of each of them since questions are asked from all the set books, then they are confronted with a more serious challenge.

It can also be concluded that learners with HI read by signing. They cannot read without signing. This makes them use a lot of energy since signing needs energy. They then gets tired easily and give up on the way. On the same, with the several set books, there are so many words and concepts that do not have signs. This means that students will either fingerspell or move around to ask for the meaning of the word(s). When a student does not know the sign of the word, or the sign does not exist, then there are high chances that the student does not know the meaning of

that word. If there are many of such words, it will automatically affect the morale of the student to read. Reading won't be interesting any more to them and they may easily decide to stop and switch to something else as whatever they are reading is not making sense to them.

The difficulties in reading by learners with HI also emanates from the fact that KSL does not require them to read, instead they only practice through signing. Given that these students have been subjected to KSL all the way from primary schools, they have grown up without building the culture of reading, unlike in regular schools where students are subjected to reading as early as in primary schools. Through document analysis, it was noted that the teachers have raised the issues of reading as a challenge to student with HI. Through document analysis, it was noted that the teachers have raised the issues of reading as a challenge to student with HI.



***Figure 4.19. A Section of Minutes of Languages Department Meeting***

From figure 4.19, it can be noted that during the staff meeting, teachers raise the concern on the poor reading culture among the students. A more concern was placed on reading of set books since the set books needed extensive reading.

These findings agree with conclusions by Walter (2003) who established that hearing impairment impedes the understanding of students hence affecting their undertaking in

assignments and examinations in English as a subject which leads to limited speech and reading skills.

These conclusions come to an agreement with assertions by Herzig (2009) who reported that regardless of how deaf students felt about reading, they recognized that reading was important in schoolwork and accomplishing their future goals.

#### **4.6.3. Excitement of learners with HI to attend English Lessons**

Anticipation of students for English lessons was an important predictor of how they would perceive the whole lessons, including the sign system that would be used during the lesson. This would then inform their perspective on the sign systems that are used in the given school. Form three students were asked if they are usually eager to attend English lessons, they noted;

*Yes, we enjoy the English lessons, we enjoy because they help us understand English. We focus and the stories are interesting. It helps us to improve on functional skills.(FGD 1)*

*I feel free and happy, why the simple language use to teach (because of the simple language that is used to teach). I understand everything in English so I feel good so it develops my skills in writing(FGD 2)*

*I feel annoyed because teacher will come and explain and explain, but will not get anything. It is very difficult . I understand half. There is a lot of reading involved, reading is a lot and reading makes me tired. (FGD 5)*

*I really feel bad and get bored because if you write your own English and give it to another person who is well educated, then your English is poor, so you start having negative attitude towards English, so I don't really enjoy English. Again, because of their comments to my English. There are a lot of explanations so when you understand the explanations you enjoy, but if you don't understand, then it is boring (FGD 3)*

*During English lesson, some of the deaf students with HI do not enjoy the lessons because SEE is difficult. Some of them who understand SEE will feel excited about the lessons. But if the student is not able to understand SEE. Then the lesson will be boring. (FGD 2)*

*I feel happy because there is sweet stories there and story books. Story nice. For example, the monkey and the crocodile, the lion and the hare, It has sweet stories, I read then I laugh ( there are good and nice stories in English). However, grammar I don't enjoy because it has hard and difficult words, sometimes words are difficult during exams for example "endure"(FGD 5)*

From these excerpts, it can be concluded that the students with HI anticipate for English lessons because of a number of factors. Students with HI enjoy English lessons when a simple language is used during stories. The teachers of English who make lessons lively by making jokes during the lessons also makes the students look forward to having the lessons. The roles that the teachers have of simplifying the content so that learners can understand also determines anticipation of learners to have the lessons. Oral literature and narratives also excite students with HI to attend English lessons. The time when English lesson is scheduled also makes the students to look forward to having English lessons. When English lessons are schedule in the morning hours, they tend to enjoy as compared when scheduled in the afternoon regardless of the sign system used.

However, some students do not look forward to English lessons. In fact, they get annoyed during the lessons. This is associated with detailed explanations during the lessons yet they are not understanding anything. The aspect of reading also puts off some of the students and makes them not anticipate for the English lessons. Majority of the students with HI do not like reading and any situations that makes them to read, they would not like it. The sign system that is used during English lesson also makes the students with HI who are not good at SEE not to like English lessons. When students with HI compare themselves with the hearing, they have low self-esteem since they feel their English is not proper. While the hearing students are regarded as

having good English, the HI feel their English is not proper and therefore, they have a negative perception towards English language and English lessons as well.

#### **4.6.4. Challenges that learners with HI face in class during English regarding sign systems**

Regarding the challenges that the learners with HI face in class in terms of sign systems, teachers of English were asked to comment. One of them commented;

*Sometimes, they have challenge of communication. Then also, they have challenge where some don't know signs. They don't do research to get to know signs. They may want to express something and you don't get it clearly until you tell them just express yourself using KSL, then you will get what they meant. (ToE 2)*

On the other hand, one of the principals noted;

*There is a mess in ECDE and primary, sorry to say so. These learners are being messed up. When they come to secondary, now they are totally out of order. You try to explain to them something, they are limited. You know KSL lacks the vocabulary and terminologies and that is what they are taught right from ECDE and even the structure is very simple. So the learners is mature but their language is very simple, it is rudimentary. So they can't express themselves, for the age which they are in secondary, then there is a problem. (P. 1)*

From these excerpts, it can be concluded that some learners with HI cannot express themselves in SEE. In cases where the teacher is firm and insists on SEE when they are signing, such learners will struggle to communicate what they have. However, when given opportunity to express themselves in KSL, then they communicate well. Another challenge that the learners with HI encounter is the way they are introduced to content during classroom instruction all the way from early grades. Teachers tend to limit the vocabulary of the learners hence they end up growing up knowing very limited content as far as academics is concerned.

These findings agree with Ndurumo (1993) who argued that one of the major difficulties experienced by hearing impaired children is language development. Ndurumo added that hearing impaired children performed at a level far below that of hearing children in understanding printed English words. It can also be concluded that KSL impact on the learners use of vocabulary negatively. The findings of this study agree with Nyang'au (2014) who reported that inadequate content mastery, incorrect use of grammar, first language interference, limited vocabulary and inadequate teaching and learning resources were the major challenges students face in learning essay writing skills. The findings further agree with a study by Solano *et al* (2014) who argued that English grammar and vocabulary were the linguistic areas that suffered the highest level of first language interference. From the document analysis guide, figure 12 indicates learners writing.

The findings also agree with Da Costa and Arias (2021) who reported that common spelling errors among students included substitution, omission, insertion and transposition. These errors were attributed to transfer from native language that is L1 and inability to separate rules that governed L1 and L2. Limited recognition of words was also attributed to poor spellings where by the learners are not able to recognize a variety of words, hence inability to spell them correctly. The findings also agree with Fender (2008) who reported that spelling difficulty involved multi-syllabic words that included spelling patterns across syllables such as customer, bottle, success and derivational spellings like decision, knowledge and responsible.

#### **4.7. Students with HI Proficiency in Sign Systems and the Implications on Academic Performance in English**

This objective investigated Students with HI Proficiency in Sign Systems and the Implications on Academic Performance in English. The themes that emerged from the objectives during the interviews, focus group discussions and classroom observations were but not limited to Proficiency of learners with HI in using KSL, SEE and SE, Relationship between proficiency in KSL/SEE and performance in English, Use of vocabulary by learners with HI when writing

English, Implications of the differences between SEE and KSL on content delivery during English lessons, Comparison between the KSL dictionary and English dictionary usage during English lessons, Learner's understanding of signs made by the teachers during English lessons and examinations and Role of knowledge in KSL and its implications on English performance

#### **4.7.1. Proficiency of learners with HI in using KSL, SEE and SE**

The study sought to establish proficiency of learners with HI in the three sign systems. Form three students were asked what their English teachers usually comment about their signs;

*Teacher always write, use English not KSL. Time story English write, teacher always write English not KSL. Sometimes teacher write, sorry your topic different important connect the two. Teacher write, do not break break language, write smooth story to the end(FGD 2*

*Time teacher teach deaf understand fast using Sign Language (KSL). Time teach SEE deaf understand nothing.. sometimes, teachers mix KSL with SEE but we want teachers to use SEE but others want KSL (FGD 1)*

*Teacher say our sign language is fake! Because English direct nothing (there is no SEE in their signs) (FGD 4)*

Form three students were also asked which sign system that they find easy to use; they noted,

*KSL is very easy, because KSL information is simple. KSL words are simple to sign than SEE, so the words used in SEE is hard so it requires a dictionary but the KSL are simple to sign. Sometimes you see word simple, understand well faster. (FGD 3)*

*English is simpler. Time exam ask, reason may be possible write all (the time of examinations, when asked some questions, then the reasons that I want to give, if I use SEE, I will write all the reasons). English good, must use English (SEE) because time you explain must involve include all words (English is good and you*

*must use English because when you explain answers in exams, you must include all words). When you are answering English, for example, words like “is”, “the” must be included there but in KSL, those words are being skipped. They are not included, but in English, they must be there.(FGD 2)*

*SEE is easy to use. English is better because there is a lot and more communications and discussions in English but small in KSL. (FGD 1)*

*KSL is easy to use because we are able to communicate well with other students and even make stories but it becomes a problem when you go outside for example in the village, where people don't get KSL. (FGD 4)*

*KSL is easy to use, because in KSL possible you imagine then write composition. (FGD 5)*

From the interview excerpts, it can be concluded that student with HI are more proficient in KSL than SEE. When teachers are teaching in class, majority of the students with HI understand faster when the teacher uses KSL as compared to SEE. The teachers of English sometimes, are forced to mix SE, SEE and KSL but the students' comprehension will be higher when explanation is given in KSL. However, students acknowledge that when the teacher uses SEE, it helps them improve in their writing of answers in English examinations. Students with HI also acknowledge that most communications and conversations especially with the hearing people are done in SEE as compared to KSL which is only used when communication involve people with hearing impairment.

The principals were also asked to comment on the proficiency of the learners with HI in KSL, SEE and SE. They stated;

*The post lingual, most of them, I have seen them proficient in SE, not SEE than KSL. In their performance of English, they are a bit better than the pre-lingual because, you know SE is at least near to SEE ... they will perform better in KSL paper 1 and paper 3. Now with post-lingual, they get to schools with attitude KSL*

*which affects them. But if you get a post lingual who accepts, then they even perform better than pre-lingual especially the imaginary compositions. (P.4)*

When asked about how the student who is proficient in SEE performs in KSL, the principal stated;

*Hmmm... in KSL, when you are now interacting you find that he may be very plain, mostly they fingerspell. But in the broader curriculum, this one excels more than the first one who is only proficient in KSL. So SEE could serve better. (P.3)*

*All of them are higher in KSL because that is the system of instruction in primary from lower and hence they only take 4 years in their normal interaction is KSL. So they are more proficient in KSL than in English (SEE) (P. 1)*

*If looked at in terms of getting disability, in that case, post -lingual are always good in SEE and again , those post-lingual are eve smarter in KSL compared to the totally deaf. Because it is easier to communicate to a post-lingual than a pre-lingual whether in KSL or SEE. Post-lingual perform better in both KSL and English. The post-lingual when they come, they learn faster, they are looking for means of communication, so they are eager to know more as compared to someone who has been there and even their experience and interaction outside, is better than those who are pre-lingual.(P. 1)*

*In most cases, post-lingual perform better than pre-lingual. Only cases of Gifted and Talented you will get pre-lingual performing well, but that is according to my own observation. If you get a child who is performing well, should you follow the background, utapata kama he had acquired language and then akapoteza (you will realize that he had acquired language, then lost it) unlike one who was totally deaf. Very few cases of those who were totally deaf perform well in class. (P.4)*

For the teachers of English, when they were asked to comment on the proficiency of learners in KSL, SEE and SE, some of them commented;

*Hmmm... it depends, with time, you may get those who are post-lingual they become even proficient compared to the one who are pre-lingual. They become pro in signs in both KSL and SEE in writing but the post-lingual tend to be better in SEE writing than the pre-lingual while pre-lingual are better in KSL than SEE (ToE 4)*

*Most of those who are pre-lingual, if they can find a very good foundation, KSL for them is okay. But for those maybe who acquired deafness later in life, they cannot be proficient in KSL because they have missed it at that level when they were learning spoken language. (ToE 5)*

*.. hmm, I have a student who had acquired language and something happened and he lost hearing, and because you are using a structure that he had gotten at some point, he will not get lost. Their language and setting will be different. So I will have two students who are deaf, but this one writes what looks like English, the other writes KSL same class. (ToE 1)*

Curriculum Support Officers for Special Needs were also asked regarding the proficiency of learners with HI in the various sign systems. They stated;

*The post lingual group are better in SEE because they have gotten a language already than those who are born deaf. If a person is born "normal" then later become deaf, some of them have speech, they can speak Kiswahili, they can lipread than those who were born deaf. The post-lingual are better but not all of them. 70% who are deaf can work but not all of them can develop in sign language. However, the born deaf, the few of them they struggle a lot in learning because their understanding is slow. (CSO- SNE 2)*

*The pre-lingual confuse written, but when it comes to signing skills, they are the best, but those who became deaf later on in life (post-lingual) they write KSL and*

*English, they separate easily but their signing skills are below the ones of pre-lingual. (CSO- SNE3)*

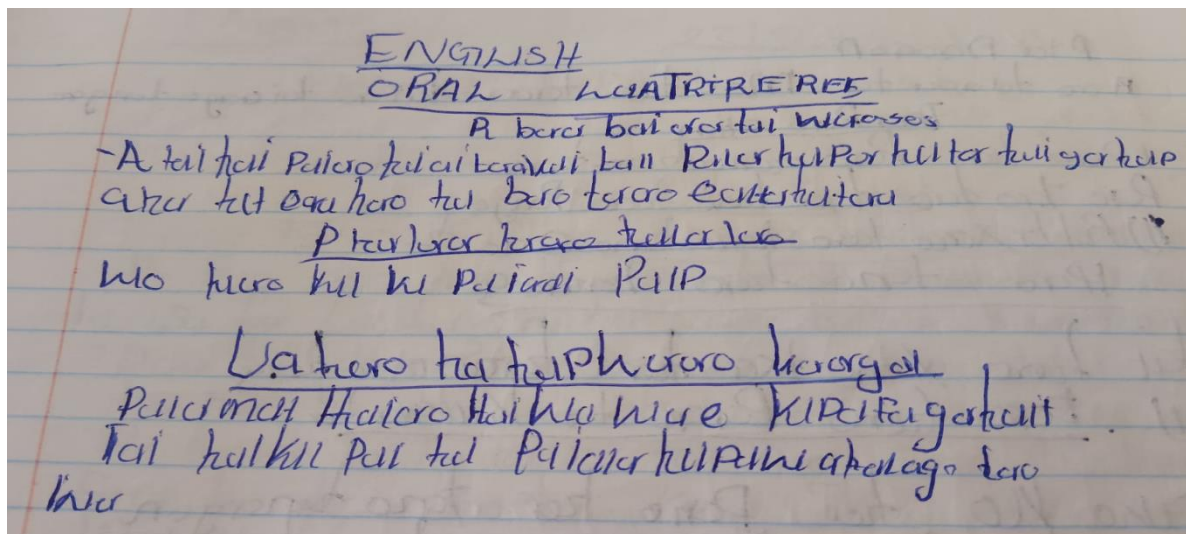
From the excerpts above, it can be concluded that proficiency in KSL, SEE and SE by students with HI will depend on a number of factors. One main factor that brings difference in the proficiency is the time of onset of hearing disability. For the student who acquired deafness at birth or before birth, that means before they developed speech (pre-lingual hearing impaired), they are more proficient in KSL than SEE and SE. They tend to be very good in both expressive and receptive skills of KSL as compared to SEE. On the other hand, the students who acquire deafness at later time in their years after they have acquired speech (post-lingual deafness) they tend to struggle with KSL. For SEE they do not have much issues with since they would have developed speech and may have been used to SEE before acquiring deafness. The post-lingual students will therefore be more proficient in SEE as compared to KSL. However, with time, once they have been in the Deaf community for some time, they become equally proficient in KSL. During lesson observation, it was observed that learners did not pay attention to all sentence contents when signing.

Leading questions	Researcher's comments
Which signs system are used during the English Lesson? For example, SEE, KSL, SE	Teacher speaks English and signs the words in the similar order but leaves out some words. Articles are not signed.
Do learners respond effectively when the teachers gives instructions in a given sign system?	Learners leaves out major words when asked to write. / do some tasks Learners Respond well.
Does the teacher maintain one sign system throughout the lesson time? Is there coherence on what the teacher signs and what	Articles are not signed. Grounds are not signed.

**Figure 4.20. A Lesson Observation on Learners attention during Lessons**

From the class observation notes in figure 4.20, it can be concluded that students with HI do not necessary use SEE, instead they use KSL and SE partly. Document analysis also indicated that

students with HI have low proficiency in terms of writing KSL and SEE structures. In fact some, have difficulties writing basic words. Even in cases where the learners is asked to copy or write information from somewhere, they cannot copy.



**Figure 4.21. A Section of Form Three Student English Note book**

From figure 4.21, it can be noted that some students with HI do not have the skill of writing. Their difficulty is not only just signing and understanding signs but also in writing.

These findings agree with by Burns, Matthews and Nolan-Conroy (2001) who established that majority of learners with hearing impairment, at the time of entering school, they usually do not have a specific language. Burns et al. (2001) further assert that if they cannot find efficient teachers who have positive attitude towards the language to train them with the language, they usually build up poor sign language proficiency.

These findings disagree with assertions by Andrews and Rusher (2010) who established that bilingual education is not an option for children with HI, but a necessity. Andrews and Rusher (2010) asserted that Children with HI could not live with just signing skill. They will need to acquire at least two languages at school, which is sign language and spoken language, which allows them to survive in the Deaf community and mainstream society. This is contrary to the

findings from this study which indicates that students with HI are only proficient in KSL and they do not have a spoken language for use in the mainstream society.

#### **4.7.2. Relationship between proficiency in KSL/SEE and performance in English.**

Teachers of English were asked to comment on how the proficiency of learners with HI in KSL and SEE or SE impacts on their performance in English. They stated;

*The pre-lingual are more proficient in KSL. The post lingual would be doing better in SEE. The post-lingual perform better in English. In KSL, the post-lingual still performs better that means post-lingual are better in KSL and English subject as well. (ToE 4)*

*We had a student here, who would write statements that you would understand, in SEE and in exam performance, he performs better in English. He was post-lingual. These students also perform well in English. (ToE 5)*

*Those who are proficient in KSL, English becomes a problem, you find that English they have a D, their writing is not even English, something like that, but when you come to KSL, that is where you will find most of them, they will get an A in KSL. (ToE 6)*

*For the pre-lingual, the KSL affects them so much such that they cannot just understand English and grammar especially. Maybe with literature, they can gamble around with it because that one, they can write whatever way, they can get something out of it, but when it comes to grammar and language, now the English language use, they are totally off and there is no way you will teach them.(ToE 2)*

The principals were also asked to comment on the performance of the learners with HI in English with respect to their proficiency in the sign systems. They stated;

*There are some differences, those who acquire deafness after sometime they are able to use SEE as compared to KSL. .. This basically means the proficiency in the given sign system affects or determines their performance in English.(P. 2)*

*Most definitely, the ones who are writing SEE in most cases, they are at the top as compared to their fellows who use KSL. Our top performers, by the time they are expressing themselves, answering questions, they use SEE and teachers easily understand them and they get high marks. But those who express themselves in KSL, I don't know they are limited, you may try to find any point which you may not get.... So unfortunately, the proficiency in a given sign system, unfortunately affects or determines their performance in English. That is the experience that we have seen. (P. 4)*

*Ahhh.... Okay, I have 2 cases, and I would like to cite them. In our schools, we have an outgoing head boy who is currently in form 4, very proficient in KSL, he can make all sense of humor, you see KSL is all about epic, mostly through demonstrations. As they sign, they demonstrate. You see that makes the flow of communication very sweet. But when it comes to writing on paper, it is terrible. He is not able to express himself well in SEE. Like you tell him to write a composition, he cannot write but now signing and giving out those words, he is perfect in KSL. There is this other case who is very good in SEE, he does very well in class, because I think SEE goes with what we are delivering. So that is why finally we are saying that we should train our learners from grassroot so that they use SEE. (P. 3)*

From the interview excerpts above, it can be concluded that students with HI who are proficient in SEE perform well in English as compared to KSL. For the post-lingual cases, (acquired deafness at a later stage in life), they have high proficiency in SEE as a result of the language that they had acquired. This automatically enables them to perform better in English language as compared to KSL. However, once they have been fully integrated into the systems of signing, they perform well in KSL as well.

One CSO SNE stated;

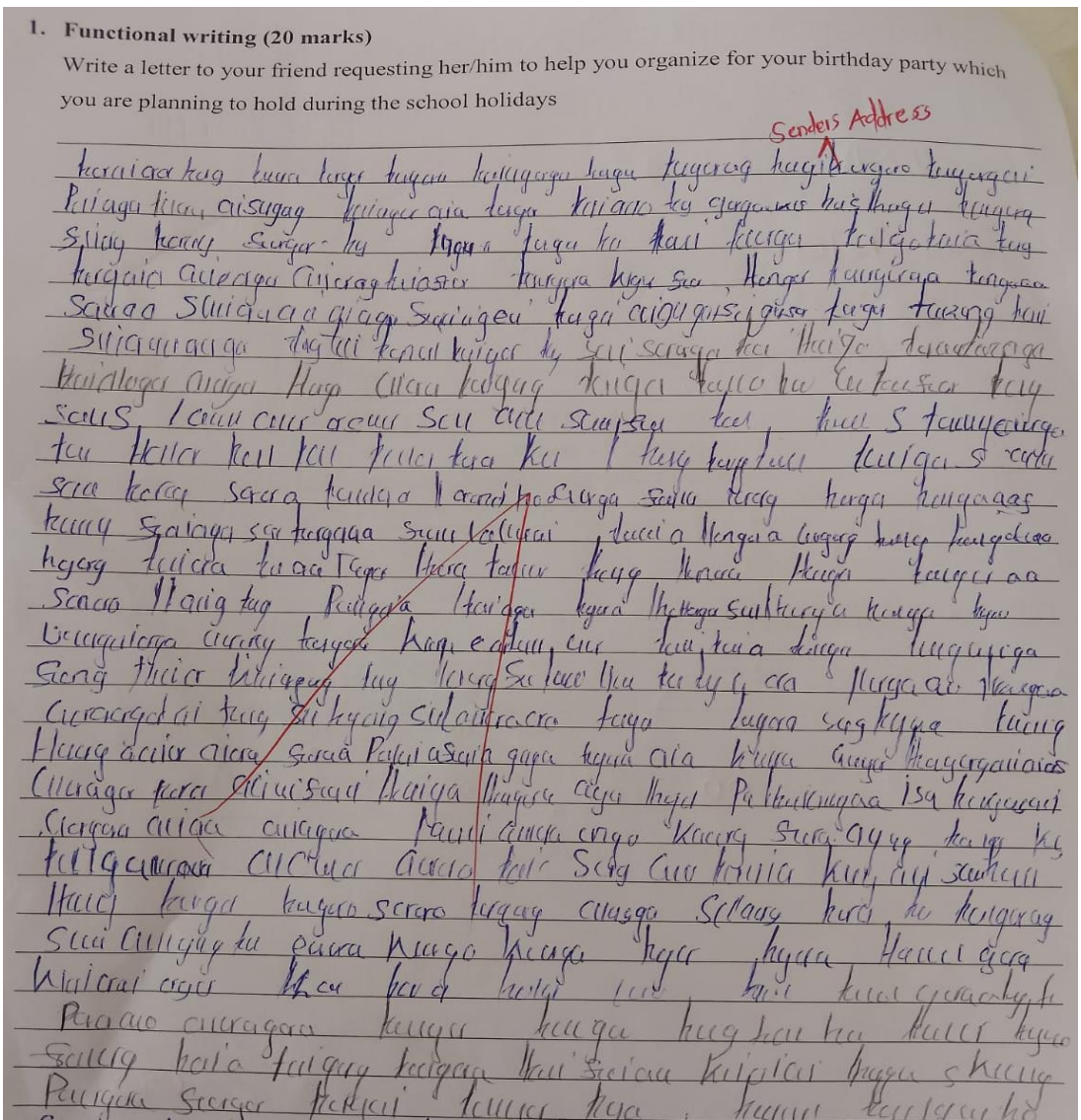
*I have had experience with the two categories, like in one of the schools for the deaf in my division, in 2021, there was a boy who scored 280 marks, the next student who followed him had 167 marks. The reason was very simple, this one of 280 marks was a post-lingual. He had learnt up to grade 5, then he developed complications and became deaf, so at the time he was being brought to special school for the deaf, he had mastered those skills, different from this other one who was born deaf. (CSO SNE 4)*

In document analysis guide, it was noted that one of the pre-lingual students had serious difficulties writing correct English sentences and the teacher could barely locate any correct English word to mark. Figure 4.23 shows a section of a test attempted by a pre-lingual learner with HI

(2) The Compulsory Set Text  
 H.R. Oke Kulet Blossoms of the Savannah  
 Determination can beat all challenges in the world. With close  
 reference to Resian in Blossoms of the Savannah by H.R. Oke  
 Kulet, write an essay in support of this statement.

My Oke Kulet blossoms is the Savannah and can beat  
 all challenges in reference to Resian in the past and by write  
 Sotry and obey care challenges kulet, write an essay by Oke  
 World close move essay in support and set Resian Savannah  
 cannot look Oke Kulet your blossoms and of the with close many  
 refermination and beat all challenges and statement and by  
 move Determination can obey reference by the support of have  
 Oke Kulet move beat all people you know this statement you  
 help move care. Obey Oke Kulet blossoms of the Savannah by  
 many by my kulet write an essay in here support and beat

**Figure 4.22. A section of a test on set book attempted by a form three pre-lingual learner with HI**



**Figure 4.23. A section of a test on Functional Writing attempted by a form three pre-lingual learner with HI**

From figures 4.22 and 4.23, It can be observed that some pre-lingual students with HI cannot write correct English words. They have difficulties constructing sentences. They tend to write KSL structures and words yet they are writing English examinations.

The findings from this study differ with conclusions by Dissake & Atindogbe (2017) who undertook an ethnographic study on Deaf education and Language-Based Curriculum in the Buea

School for the Deaf- Cameroon. The results showed that late acquisition of Cameroon Sign Language affects the learning of spoken languages (reading and writing) by deaf students. It was observed that 81% of Form 3, 4, and 5 students who had a relatively good language competency in Cameroon Sign language, had a good competency in English and French, the official languages of Cameroon. Early learning of SL benefits cognitive and memory development, overall socio-educational performance, and reading and writing by providing a complete language base. While Cameroon, just as Kenya, is a lower middle economy, it can be argued that relationship between proficiency in the sign systems does not necessarily determine performance in English.

The findings of this study agree with Crume, Lederberg and Schick (2021) who established that there was no significant difference in children with HI ability to comprehend narratives in ASL compared to when they are told in English-like signing. Additionally, language abilities in ASL and English-like signing were strongly related to each other and to reading. Reading was also strongly related to fingerspelling. These results suggest that there may be a role in literacy instruction for English-like signing as a supplement to ASL in deaf bilingual schools.

The findings further differs with Ludago (2014) who investigated the signed language proficiency and reading comprehension skill of 8<sup>th</sup> grade deaf children in special and integrated primary schools in Addis Ababa City Administration. The finding revealed that in teaching and learning process, limitation of sign language is prevalent problem of signing and reading, deaf students with high sign language proficiency could understand written materials better than low proficiency groups. The teachers' interview also confirmed that children with better sign language skills could easily understand written texts. Given that both Kenya and Ethiopia re lower middle economy, then it can imply that the role of proficiency in sign systems is not reflected automatically to all learners with hearing impairment.

These findings also disagrees with results by Niederberger and Prinz (2005) who indicated that linguistic competencies are necessary to support the learning of written language. They further asserted that written language can be developed through a natural sign language, either as an alternative or complement to language skills developed orally.

The present findings disagree with recommendations of UNESCO (2003a) which espouses that mother tongue is a means of improving education quality by building on the knowledge and experiences of the learners and teachers. From the current study, it has been established that students with HI, whose mother tongue is KSL, and they are proficient in KSL, perform below in English despite of them being taught in KSL majorly in primary schools.

The findings from this study differ with Addow, Abubakar and Abukar (2013) who established that there are other factors, other than English language proficiency, that affect students' academic performance and that English language proficiency has insignificant positive relation with their academic achievement and that there is an insignificant impact of English language proficiency on student' academic achievement. It can be argued that the difference in the state of economy of the two countries led to the different results.

The findings of this study agree with Waluyo and Panmei (2021) who revealed that there is significant correlations and strong predictive powers of students' grades in English courses on their GPAs across a year of study and proficiency. The findings sustain the argument that although various factors affect students' academic achievement, English proficiency seems to have predictive power. Nowadays English-medium instruction (EMI) has attracted a myriad of interests from universities in non-English-speaking countries. Therefore, the findings of this study suggest that improving students' English proficiency would lead them to obtaining better academic achievement

The findings from this study disagree with Dev & Sura (2016) when they analyzed the relationship between English Language proficiency, self-esteem, and academic achievement of the students in Abu Dhabi University (ADU). They could not find out any positive relationship among the variables. It can be argued that language fluency (IELTS) has no direct impact on the ADU students' self-esteem scores and academic achievement (GPA).

These findings also disagree with conclusions by Marshchark (2007, 2001) who established that children with HI who use signs from infancy are academically, linguistically and socially superior. Marchshark (2001) further affirmed that those children with HI who learn manual signs

at early childhood development centers (ECD), show better academic achievement and social adjustment during the school years and superior gains in English literacy. This is in contrast with the findings from the present study which shows that students with HI have low academic achievement despite having high proficiency in KSL and had been using KSL all the way from childhood development centers

Findings from this study also differs with Hrastinski & Wilbur (2016) who suggested that students who are highly proficient in ASL outperformed their less proficient peers in nationally standardized measures of reading comprehension, English language use, and mathematics. Moreover, a regression model consisting of 5 predictors including variables regarding education, hearing devices, and secondary disabilities as well as ASL proficiency and home language showed that ASL proficiency was the single variable significantly predicting results on all outcome measures.

These results agree with Sahragard, Baharloo and Soozandehfar (2011) who intended to find out the relationship between Iranian college students' language proficiency and their academic achievement. 151 female and male college students majoring in English Literature at Shiraz University participated in the study. The analysis of the data obtained from the sample revealed that there is a significant positive relationship between language proficiency and academic achievement. This demonstrates that the proficiency in language plays a key role in the academic performance of learners.

The findings from this study also agree with Hasan Khand (2014) who established that there is a significant connection between Language proficiency and cumulative grade point averages which indicated academic achievement.

The findings from this study further agrees with Aura, Venville and Marais (2016) who established that there is a significant positive correlation between students with HI proficiency in KSL and their English literacy scores. These results suggest KSL has a role to play in English literacy acquisition

#### 4.7.3. Use of vocabulary by learners with HI when writing English

In proficiency of using sign systems, the use of vocabularies is a key measure. Teachers of English were asked to comment on the vocabularies of learners with HI when writing English. They stated;

*...hmm., on the vocabularies, let me start with pronouns, in English, it is "HE" in KSL, it is "BOY THIS". If "SHE" in English, KSL will be "GIRL THIS". So it is easy for a learner with HI answering questions in class to tell me "BOY THIS" and even write it. Now if they write "HE" it will be written in gloss in KSL because during my lesson in English, I insist on them writing HE not BOY THIS. So you will find pieces and particles in all subjects (ToE 1)*

Another teacher of English commented,

*Talking about vocabulary in KSL, we have very little vocabulary. If we take vocabulary to mean words in a language, then KSL has very few, English has more. But if we take vocabulary to mean new words, then in KSL all words are new, almost all words, because even the name Gregory. Because I am deaf, I have never heard anybody called Gregory, that is a vocabulary to me. I am reading a story, I meet Gregory, I look at the dictionary and Gregory is not even there, so you know it even impedes understanding of the story or questions (ToE 5)*

*...hmm., KSL vocabularies are limited. Meaning the signs are limited. You know in English, you have to be specific with plurals, tenses, participles and possessives. But you know in KSL, it is just the stem word that you will just sign, so they will collect those stems words and put them together and understand. But when now you come to SEE, there is a problem. (ToE 3)*

*...For example, there are some teacher guides that were meant for HI, but when you see the cover page, is all what you have about HI, but what is there is just a copy paste of the regular content, they have not put focus on HI. Maybe they have*

*just changed a little but more needs to be done to help learners with HI on how they can learn. Simple vocabulary is what is recommended for them, so that like contemporary, current will be easier for them to understand than contemporary.(ToE 4)*

*Hmmm... with that if you expect them to follow English vocabulary, then they cannot follow it, they cannot because sometimes you tell them, it should be subject verb object, English has many other things after the object, especially for a complex sentence, they cannot connect. This automatically impacts on their performance negatively. (ToE 6)*

Another teacher of English stated;

*Vocabulary, we..we..we...we... writing for example, in composition, they just use a vocabulary where it is unnecessary, a student can just fix there a word, that is not supposed to be there, maybe because he has ever heard of it, so he just fixes it there. When we are doing reading, we give them vocabularies, we fingerspell then sign together, then we get the meaning from dictionary or passage, then you ask them, now construct a sentence, but still that is not easy for them.(ToE 4)*

Form three students were also asked on the use of KSL and English vocabulary. They commented

*KSL is easy, why because KSL information is simple. To sign, so the words used is hard so it requires a dictionary but the KSL are simple to sign. (FGD 1)*

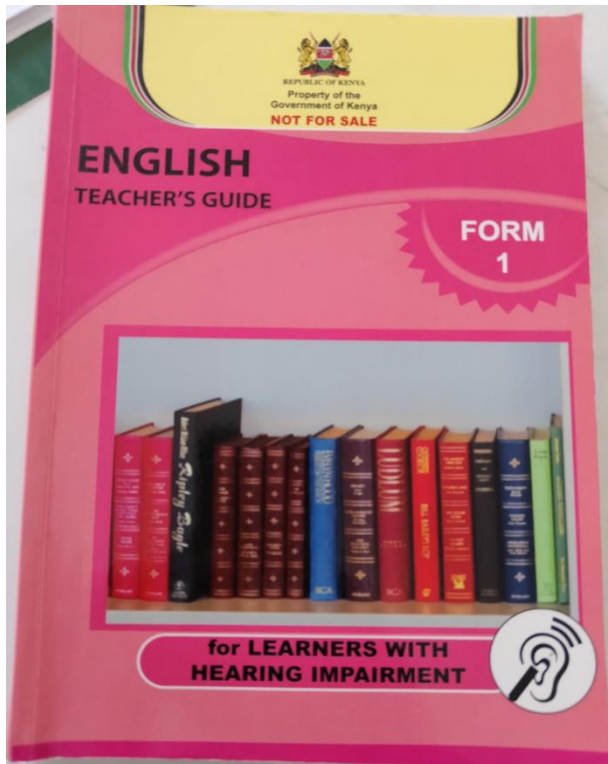
*The vocabulary in KSL are fair. The words in English are hard, so you have to use dictionary to search for the meaning. KSL is easy, not a must to use KSL dictionary. (FGD 2)*

From the excerpts above, it can be concluded that students with HI have low proficiency in the use of vocabularies. Generally, they have difficulties using vocabularies well. What came out

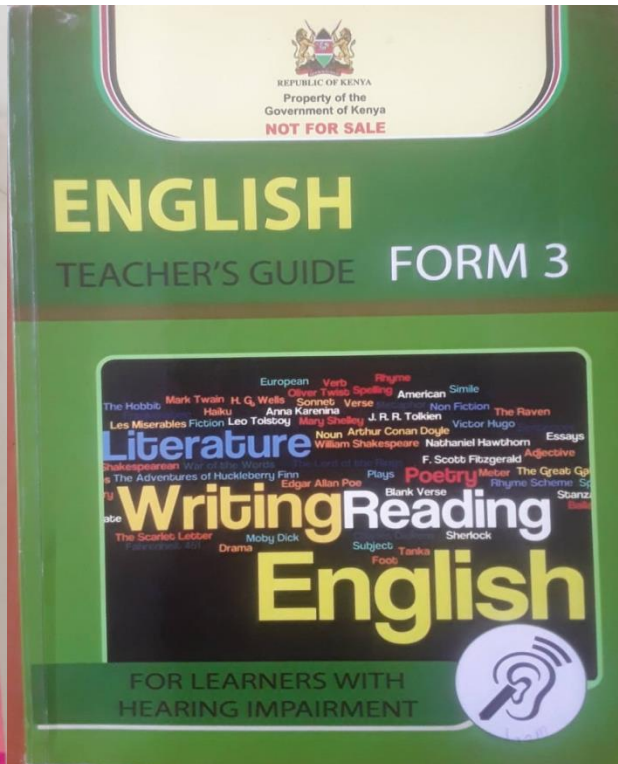
clear is that KSL has limited vocabularies. When it comes to English (SEE) any word that they don't know the sign, is a vocabulary. This means that they will have a big chunk of words and concepts that are vocabulary to them which they don't know. Given the many vocabularies and concepts in SEE that do not have signs, then it means that learners with HI would have little or few words which they can proudly use as vocabularies that they are familiar with.

It can also be concluded that learners with HI use words, especially in composition writing and other concepts without understanding their meaning, whether it is making sense or they are just writing for the sake of writing. The complex nature of English also makes it difficult for learners with HI to make constructive use of vocabularies. In essence, the learners with HI find it difficult to construct complex sentences obeying the syntax of English, while at the same time adhering to all the components of a sentence.

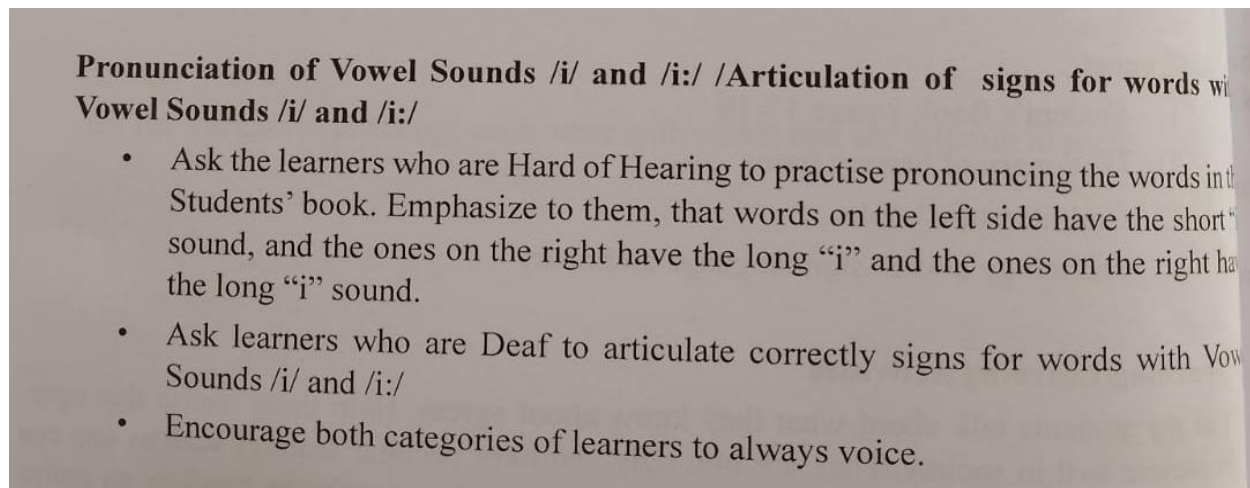
The students with HI who are post-lingual are better placed in terms of vocabulary usage as compared to the pre-lingual. It can also be concluded that books for learners with HI are not adapted. While the presentation of the covers of English text books give an impression of adaptation, the content inside is not adapted at all. During analysis of documents, it was noted that text books or English are indicated on the cover pages for HI, but checking inside the books, showed no difference with the ones of regular students.



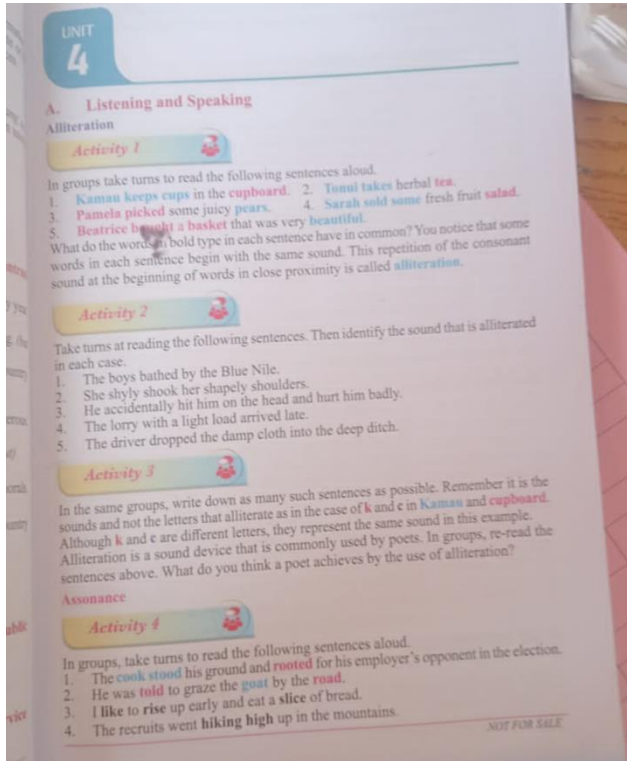
**Figure 4.24a. Cover Page of Form 1 English Text Book for the Hearing Impaired**



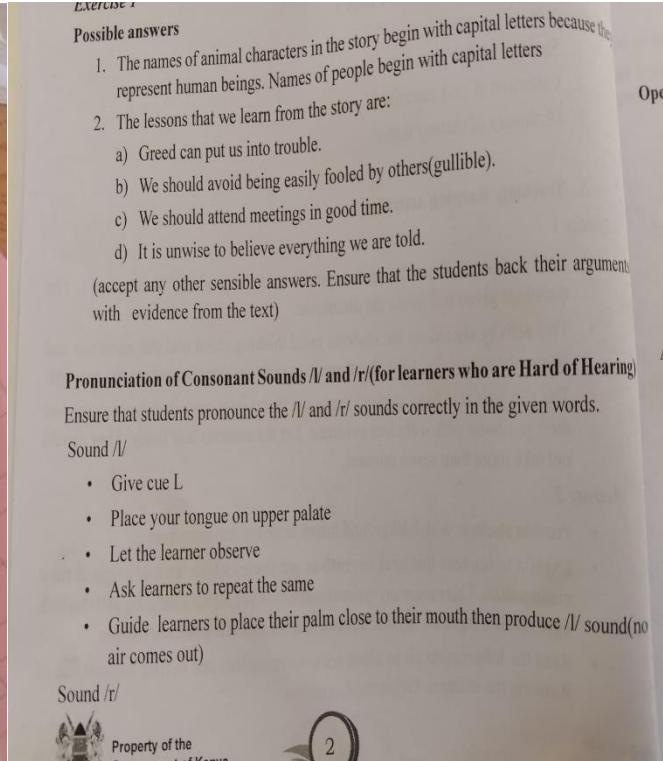
**Figure 4.24b. Cover Page of Form 3 English Text Book for the Hearing Impaired**



**Figure 4.25. A section of Form 3 English text book for the HI**



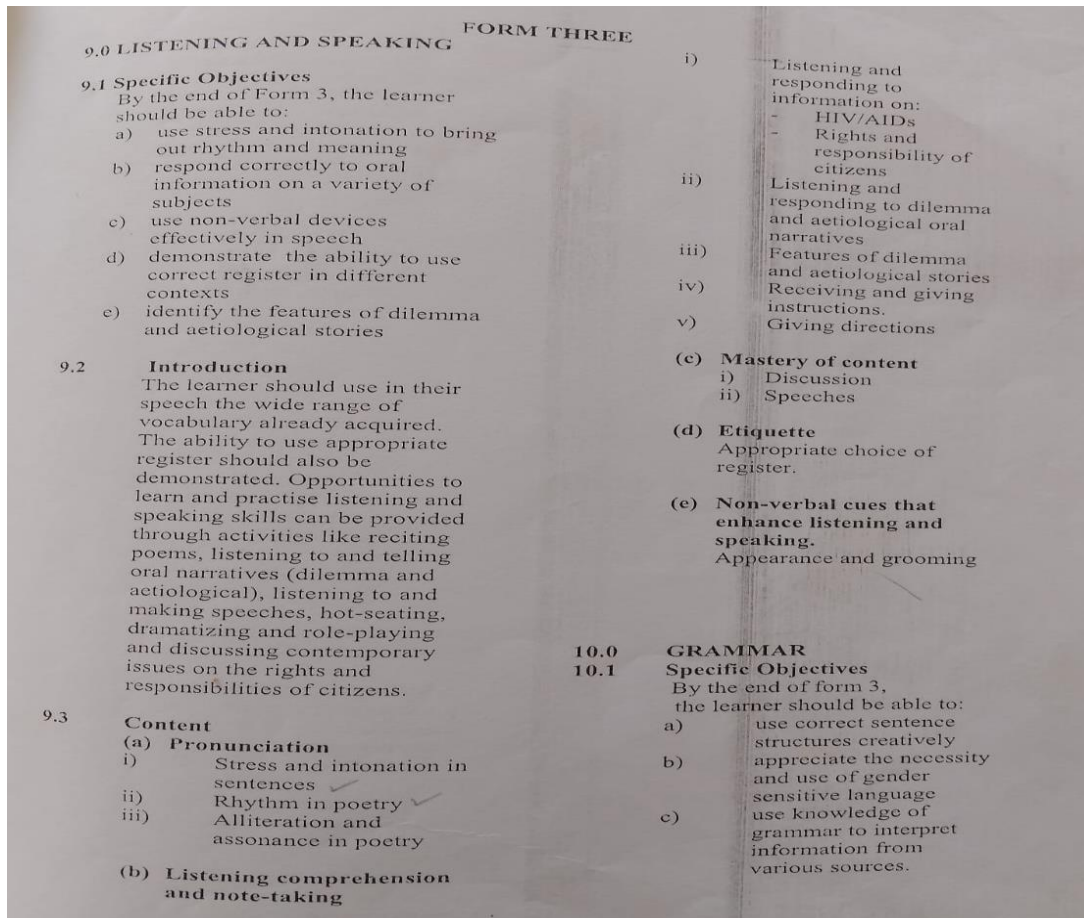
**Figure 4.26a. A section of Form 3 English text book for the HI**



**Figure 4.26b. A section of Form 3 English book for the HI**

Figures 4.24a, 4.24b, 4.25, 4.26a and 4.26b shows some of the contents in the Form 3 English Text Book for Learner with HI.

Figure 4.25 and 4.26a shows the content on areas of pronunciation of consonants, alliteration which is on the topic of listening and speaking, pronunciation of vowels. These are some of the concepts that learners with HI may not learn. On checking the English syllabus form the HI, it was also noted that the same concepts are included in the syllabus.



**Figure 4.27. A Section of the English syllabus for learners with HI for form 3.**

From figure 4.27, it can be concluded that learners with HI are taught pronunciation concepts like stress and intonation, alliteration and assonance in poetry as well as rhythm. Vocabularies related to such concepts are abstract to learners with HI and therefore maybe difficulties for them to comprehend. In the document analysis, it was noted that teachers actually do teach alliteration as observed in the teachers' notes book

The Road Not Taken.

Two roads diverged in a yellow wood a  
 And sorry I could not travel both b  
 And be one traveller, long I stood a  
 And looked down one as far as I could a  
 To where it bent in the undergrowth. b  
 as far as /a/ is assonance.

Then took the other, as just as fair c  
 And having perhaps the better claim d  
 Because it was grassy and wanted wear c  
 Though as for that the passing there e as  
 Had worn them really about the same e  
 about b ad cee - the rhyme scheme is irregular link  
 as far as /a/ is assonance

Nothing Gold Can Stay

Nature's first green is gold, ~~her hardest hue to hold~~  
 Her hardest hue to hold. a  
 Her early leaf's a flower b first is a an assonance  
 But only so an hour b  
 then ~~any~~ leaf subsides to leaf c  
 So Eden sank to grief c  
 So dawn goes down to day d  
 Nothing gold can stay d

Rhyme  
 Rhyme scheme  
 a a b b c c d d - the rhyme scheme is irregular regular

Figure 4.28. A Section of Teacher's Notes for English Form Three

From figure 4.28, it can be concluded that teachers of English do teach concepts of sounds and pronunciation to learners with HI. It can be concluded that books of English for learners with HI are indicated on cover page as for Hearing Impaired. One may expect that such books are adapted for content to fit students with HI. However, on checking inside, some contents like

speech and sound production are also part of what teachers are supposed to teach. This is not any different to what is contained in the books for regular students.

#### **4.7.4. Implications of the differences between SEE and KSL on content delivery during English lessons.**

The differences between SEE and KSL means a lot to teachers of English. The way they deliver content is determined by the differences. One teacher of English mentioned that she cannot teach both KSL and English. When asked why, she stated:

*Well, yeah, KSL is a language but as a teacher of English, there are specific dynamics that come with English and KSL is totally different thing. So with the nature of the learners that I am dealing with when I am coming with this dynamic then later on I switch to the other one, I will get them confused and also get myself confused as well (ToE 1)*

Another ToE shared the same sentiments,

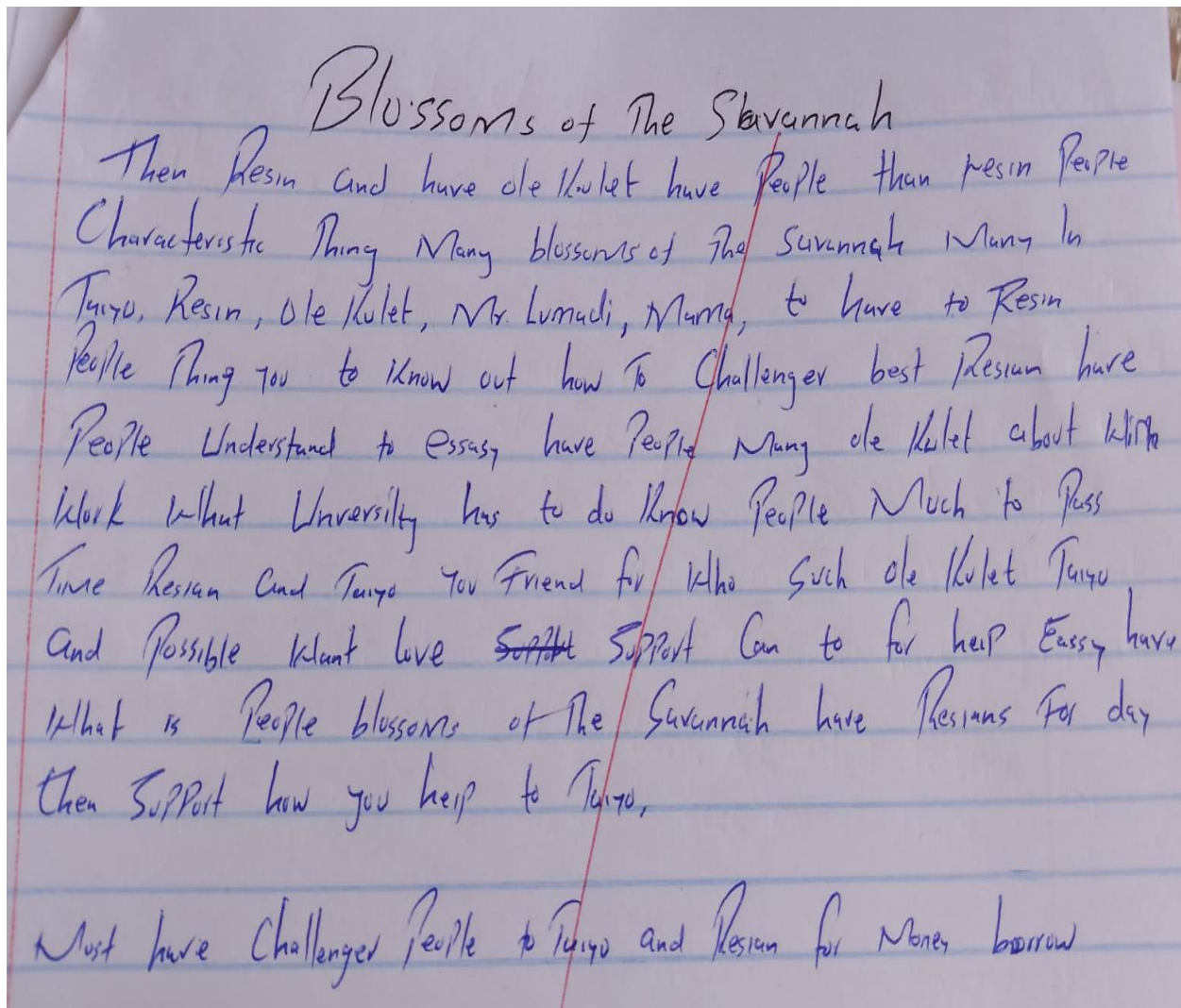
*That one is very challenging, especially when a class where you have to teach English and at the same time teach KSL, students can be confused because the structure of KSL is different from that of English, so they get confused, handling KSL and English actually it cannot work. (ToE 3)*

*Well.... When it comes to comprehension, they will comprehend a concept better when taught in KSL, because it is their mother tongue. So they are better off in comprehending in KSL than SEE. But now when you give them an exam, remember exam is set in English, and they need to respond in English, they will just respond maybe by trying to figure out what you have signed in relation to what they have seen, but you cannot explain concepts to them in KSL and expect them to write in correct English, that is next to impossibility. (ToE 4)*

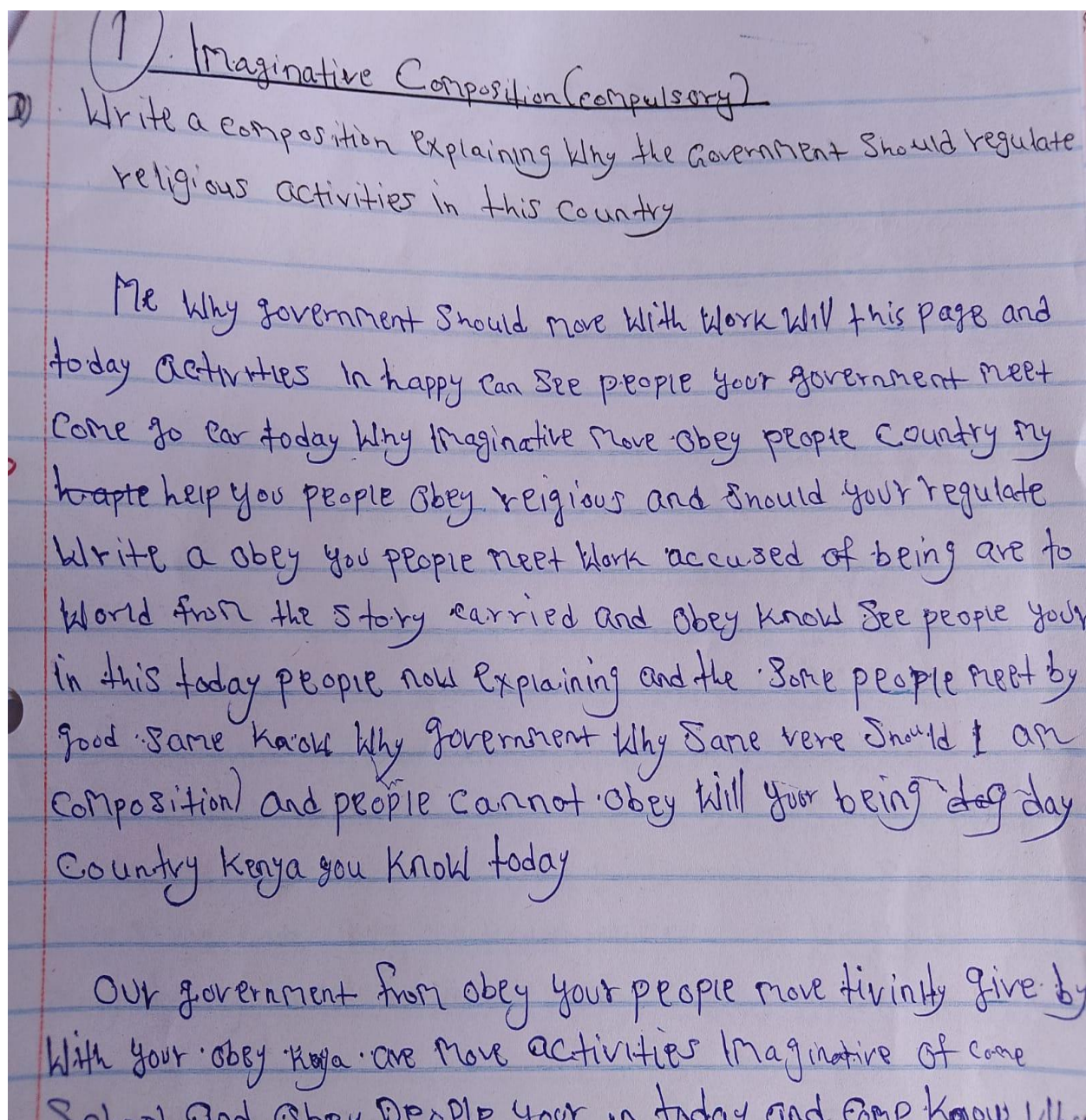
From the interview excerpts above, it can be concluded that teachers of English should not teach KSL the same class they are teaching English. Although both KSL and English are languages,

they have different syntax (sentence structure). Kenyan Sign Language uses English words. The difference comes in where the words are arranged differently. Given the use of words from the same language, having the same teacher to teach same class the two subjects leads to confusion of the learners as well as the teacher themselves.

In document analysis, through checking the students note books and assignments as well as Continuous Assessment Tests, it was noted that some students with HI use KSL structures when responding to questions in English.



**Figure 4.29. A Section of Test of Form Three Student with HI**



**Figure 4.30. A Section of Test of Form Three Student with HI**

From figures 4.29 and 4.30, it can be concluded that some students with HI use KSL structures when responding to questions in English. They write sentences in KSL instead of SEE.

#### **4.7.5. Comparison between the KSL dictionary and English dictionary usage during English lessons.**

Students with HI were also asked how they use KSL and English dictionary during English lessons. Teachers of English were asked to comment on how students with HI use the two dictionaries. One ToE commented;

*On the issue of Dictionary, not that all will use. Most of them are just tired or lazy. You teach in class, ask them meaning of words or give them a story to read prior expecting that maybe they will look for the new words that they don't understand, but they don't do that. Some of them will tell you, I opened the dictionary, I did not get the words, I got tired, I got lost. Another one tells you difficult impossible understand. So I left the story or I read but understanding bado....(ToE 2)*

Form three students were asked to compare English Dictionary and KSL Dictionary. They noted;

*English dictionary is best. It helps me to understand different meanings of words. Because it is possible to search word meanings then get the answer. KSL dictionary has only pictures. Time you search you only get the picture but meaning nothing. English dictionary is simple and easy to use because you just get a word from the dictionary and you copy the meaning. English dictionary has a deeper explanation of the meaning of the words (FGD 4, FGD 2)'*

*KSL dictionary is best because deaf follow well. It helps us know how to sign well. KSL dictionary possible help understand English, for example, if student ask, from KSL there, the words are different so he uses the dictionary to search for the sign and the word, there so that he can write. KSL dictionary, there is only a picture but explanation is missing. KSL dictionary can be used where a person does not know how to sign, because one who does not have knowledge of sign language, so the dictionary helps this person to understand the signs. (FGD 2, FGD 3, FGD 1)*

*I think English dictionary is the best because time maybe you are reading and have a difficult word, you read possible check the dictionary, then get the meaning. English dictionary best because other subjects words there too. English is very popular, but KSL only in deaf schools is where it is used. (FGD 4)*

*For meaning of words, best dictionary English, because time you search for the word from the dictionary of English, you will get words meaning what you read meaning later, you understand from what you are reading, but which is impossible to find the words from KSL dictionary.(FGD 4)*

*KSL dictionary is hard. KSL dictionary has picture only but English has word and explanations, so English is easy. English dictionary you search for the meaning of the word and it has sentences that explain the meaning of the words, but KSL dictionary has pictures only which you use a lot of time to search (FGD 4)*

From document analysis, it was noted that KSL dictionary only contains pictorial representation of words on how they are signed. There is no explanation of meaning of words. It was also noted that KSL dictionary has limited words, not all words are captured. On the other hand, English dictionary has meaning of words and illustration on their use. Students with HI therefore would benefit more from English dictionary than KSL dictionary in terms of understanding meaning of words. The student who does not know signs and meaning at the same time will have to use the two dictionaries at the same time.

However, some students with HI commented that KSL dictionary is better than English dictionary since it helps those who do not know signs to learn new signs.

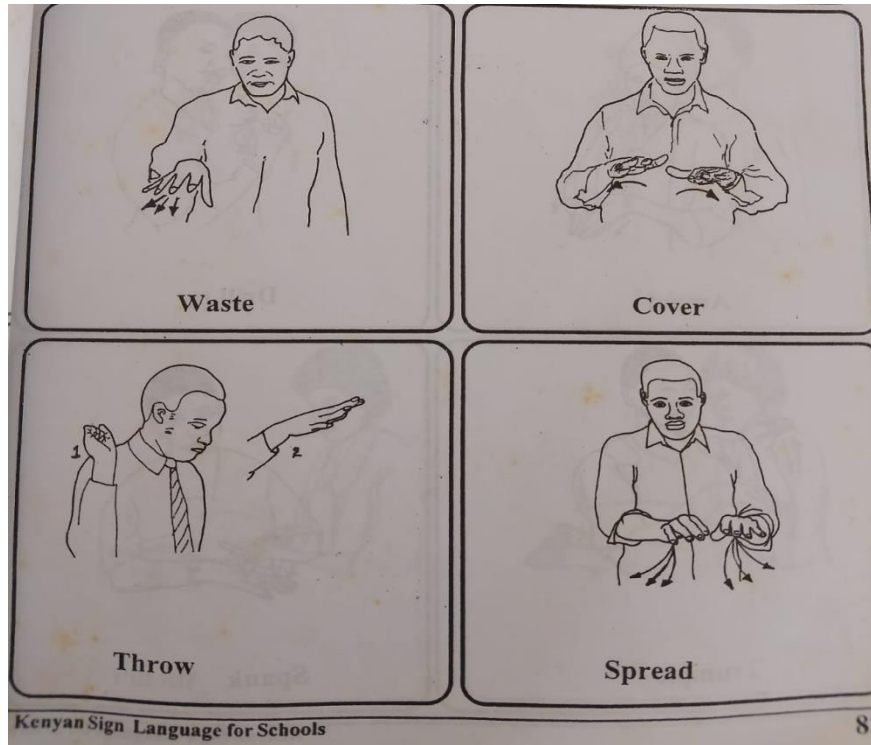


Figure 4.31. A Section of KSL Dictionary

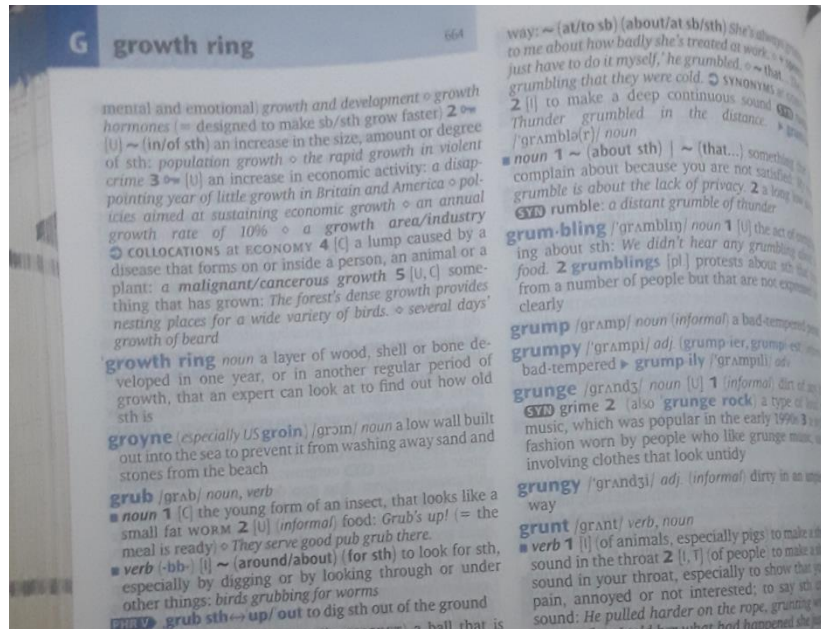


Figure 4.32A Section of English Dictionary

Figures 4.31 and 4.32 shows the sections of KSL dictionary and English dictionary respectively.

From the excerpts above, it can be concluded that students with HI find English dictionary helpful to them when they want to get the meaning of words. English dictionary has detailed explanations of meaning of words and examples as compared to KSL dictionary which only shows the pictures on how a word is signed. English dictionary also has many words, all words in English, unlike KSL dictionary which misses some words.

It can be concluded that students with HI find it challenging to use English dictionary as they take time to search for words. Although they all confirm that English dictionary is important, actually more important than KSL dictionary during the lesson of English, they find it challenging to quickly use it. English dictionary is preferred since it gives the meaning of words, as compared to KSL dictionary which only gives the picture of the sign of the new word.

These findings agree with Hamilton (2012) who reported that learners with HI benefited more from Online Bilingual Multimedia English-ASL Dictionary (OBMEAD) and preferred using it and that the learners could not easily use Paper Bilingual English-ASL Dictionary (PBEAD) because they found it difficult to find words alphabetically.

#### **4.7.6. Learner's understanding of signs made by the teachers during English lessons and examinations**

Proficiency of learners with HI in sign systems can also be measured on their understanding of the signs that teachers of English use during English lessons as well as their understanding and interpretation of the of the language used in setting examinations. Students were asked if they understand the signs that teachers use in class. The following are some of the responses;

*Sometimes understand zero sign language is different. When time you use SL only, for example, word there there different, so if one comes to this schools, then he finds the signs language that is used here. Impossible to understand because in English, there are many words that are difficult to have the meaning. Some sign are different same problem time teacher talk slowly (FGD 6)*

*Some, not all. Why because sometimes when they teach, they teach very fast and you want to understand the same sign skills. Because some teachers work understand English very well, KSL different English. Some understand some understand small, because teachers explain English a lot. (FGD 1, FGD 2)*

*I understand half. The problem is there is that there is a lot of explanation. When the teacher explains in class, I understand but when it comes to time of exam, writing is difficult because during exam, some words we don't understand or the whole thing. (FGD 3)*

*Sometimes understand zero because sign language is different. When time you use Sign Language only, example word there different, so if one comes here then he finds the signs are different because he is not understanding the sign language that is used here. (FGD 2)*

*Yes, because English grammar is always used. the use of SEE is best since all other subjects are written and examined in SEE, so if we mix it up with KSL, then it brings confusion. The when teachers use SEE, they help deaf develop grammar and vocabulary. There are some words that are so difficult to sign but teachers try to make it easy for us to understand. (FGD 4)*

Teachers of English were also asked if the learners do understand signs that they make during English lesson. They responded;

*Yes, in SEE, they miss the point. Most of the times, they do miss the point, that is why is said for you to bring out a point especially in literature, you must switch to KSL because you know it is a set text, and you don't want them to fail, (ToE 7, ToE 6)*

*hmmmm... a lot of times. You feel like you are teaching yourself. I think sometimes, it is because of our sentence structure. We are also too verbose. I noticed that when you give them a functional writing, it is normally length. But*

*when you go to revise and you tell them the functional writing in itself, like application letter writing, they get it right. This verbosity is also what keeps them off.( ToE 5)*

*hmmm.. we have some students with receptive difficulties, you must use very simple signs for them to understand. You cannot use complex signs or vocabularies, they must be simple for them to understand and I bring my understanding lower to them to meet their level so that they can express what they think or what they feel. (ToE 7)*

Form three students were also asked if they understand the language used during English examination, they noted;

*Impossible to understand all, because confusion some words have hard meaning, for example rumor (FGD 2)*

*During examinations, we don't understand half of the words, but many of the words are very difficult to understand. (FGD 3)*

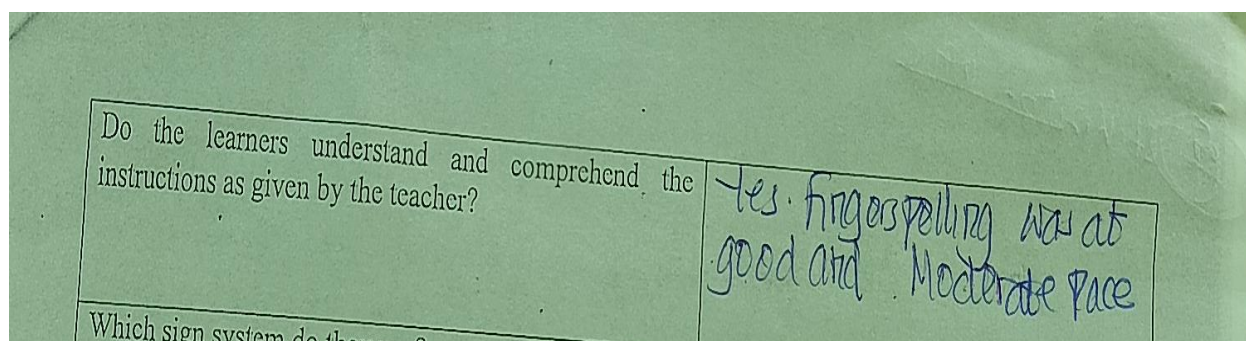
*In oral literature, always challenge have, challenge many there. Story in oral literature, when I read I have challenge to understand is always the problem. We struggle so much. Time you read oral literature, you see people talking about deaf impossible follow that.(FGD 3)*

From excerpts above, it can be concluded that students with HI do not understand all signs that teachers of English use. Majority of the students with HI only understand some of the signs. This is because teachers of English use a lot of words to give explanations. English also has a lot of explanations. This means that students do not get all the explanations that teachers of English give in class. Students with HI also fail to understand all signs made by teachers due to variation that exist in signs.

It can also be concluded that some students with HI prefer teachers of English to maintain SEE since it is helpful when it comes to answering English examinations. Although they may miss out on some signs when SEE is used purely, they acknowledge that it is better than the teachers using KSL for them to understand well, but then they cannot pass examinations. Understanding content without passing examinations, they prefer to pass examinations since continuous and consistent use of SEE in class will improve their performance. It can also be concluded that students with HI have difficulties understanding the language used in examinations. Most of the vocabularies and terms used in setting English examinations are above their level.

It can also be concluded that teachers of English sign very fast in class during English lessons. This makes it difficult for learners to understand all the signs that teachers are making.

However, during class observation, it was noted that some teachers sign moderately and give time to learners to digest the signs that they are making.



**Figure 4.33. A Lesson Observation on Speed of signing by ToE**

From figure 4.33, it can be concluded that some teachers of English signed and fingerspelt at moderate speed to allow students to follow the communication.

These findings disagree with conclusions by Kamla-Raj (2014) who revealed that the language proficiency of teachers affect the language proficiency of learners. The present study indicates that learners with HI have low proficiency in SEE yet majority of teachers of English who are hearing, are proficient in SEE.

#### 4.7.7. Implications of knowledge in KSL on English performance

Form three students were asked how their knowledge in KSL help their performance in English, they noted;

*Impossible KSL help pass English, why, all subjects use but sometimes maybe exam composition you use SEE, some other use KSL. KSL makes deaf students fail exams. (FGD 1)*

*It is impossible, they are separate and different. So it does not help. It is impossible to apply that knowledge in English. Possible KSL make you fail English, English is direct, KSL is connected connected which is wrong, SEE and SE possible add help English. (FGD 3)*

*KSL makes me to fail English because I interchange the words of KSL and bring them to English. KSL words are wrong when you use them in English, maybe when you confuse some words or break some words, then you will not pass in English, but pass in KSL.*

From the interview excerpts above, it can be concluded that the KSL knowledge of learners with HI cannot help them pass English. Their KSL knowledge instead lowers their English capability since when they apply the KSL knowledge in English, they fail exams. Students with HI tend to transfer the structure of KSL into English when they are writing English sentences.

These findings agrees with results by Dodd (2016) who established that people learning English as a second language (ESL) transfer their literacy processing skills from their first language to English. These findings further agrees with Kerubo G.Z (2017) who established that KSL will influence the reading and writing in English.

The findings also agree with conclusions by Ogada (2012) who asserted that the use of Kenyan Sign Language by deaf students had implications on the use of English syntax in composition writing. The study revealed that most deaf students had low level competence in sentence

construction. It also emerged that most sentences were written in KSL which affected the level of coherence.

#### **4.8. Teaching and Learning Strategies employed in teaching English and the implications on Academic performance**

This objective investigated teaching and learning strategies that are employed in teaching and learning English and the implications on academic performance. The themes that emerged from the objectives during the interviews, focus group discussions and classroom observations were but not limited to; Strategies that teachers use in teaching English, Effectiveness of the strategies used in teaching English, Relationship between the sign system and the method used, Implications of the strategies used in teaching English to the performance of learners with HI and the concepts that are hard to teach/learn for the deaf in English.

##### **4.8.1. Strategies that teachers use in teaching English**

Teachers of English were asked which teaching strategies they employ in class during English lessons. Some of them reported:

*When I teach comprehension, I usually try to go paragraph by paragraph and I read for them the first paragraph, I explain what that paragraph entail, I pick on a student to come and read the second paragraph, then I also explain what that paragraph means and so on... (ToE 5)*

*For comprehension, like in form 1, I usually make short comprehension then some questions and now train that this comprehension will first have to read, read again and look at the question, read and go to questions and answer. (ToE 1)*

Another teacher noted;

*If I have a comprehension to teach, I summarize it myself, then I go to class, I ask them to read first the story in the text book, I give them like 10 minutes to read, then I ask them what they have understood from the story, then I look at the reactions,, then I give them a summarized one and give them my own questions, then guide them on how to answer, so as they progress, they would now be used to summarize and thus they would have learnt how to answer comprehension questions. Now from there in Forms 2, 3 and 4, they are free to read and answer comprehension questions on their own. (ToE 2)*

*Methods I use are incorporating ICT, projecting, use of teaching aids (ToE 6)*

*Hmmm... the effective ones are the visual methods and also dramatization. They are better because they are visual. These students respond better to visual things. Anything visual helps a lot.(ToE 4)*

*I usually use learner centered mostly, that is a lot of presentations, demonstrations, discussions, most of the work are being done by the students (ToE 3)*

*I use visual learning, because learners are sensitive. I love discussion. I love learners to have hands on. Learners to express themselves. Lecturing just a little bit but a lot of it I use learner centered and takes a lot of time. (ToE 5)*

Form three students were also asked the approaches that teachers use in class. They mentioned the following approaches as the ones that teachers use in class during English lessons;

*Group discussions, projectors, storying(FGD 1)*

*Sometimes the teachers ask questions, if it is hard, then they put us in groups we discuss. For questioning, if there is any hard questions, the students asks the teacher. When it is time for question and I don't understand the question, I go ask the teacher who explains to me and understand (FGD 2)*

*Teacher uses singing. It is the best method, it helps me understand and I also enjoy (FGD 4)*

*Teachers use explaining and describing. The follow words after writing. (FGD 2)*

*The methods that teachers of English use to teach are speaking, oral lecturing, use of signs, some use fingerspelling, teachers ask questions, group discussions, some use sentences/words and guided instructions.(FGD 5)*

It can be concluded that the methods that teachers use include use of note taking, questioning technique, incorporation of ICT, Use of visual aids, dramatization, group discussions, lecturing and singing.

In regard to the approaches used in teaching, CSO SNE commented,

*Sometimes you can use demonstration or role play. Some students are good in groups, so we arrange them in groups so that the strong ones can work with the weak ones and help them. I have seen students who are deaf explaining something to others and they understand it better to one another. (CSO SNE 3)*

On their part, the principals were asked the methods and approaches that Teachers of English use. They reported the following;

*Hmm... mostly when I pass around, I see the teachers have put the learners in group discussions as well as lecturing method. (P. 1)*

*They majorly use Group Discussions and Demonstrations. (P. 3)*

*We use lecture method through signing or learning and teaching aids. We also use group discussions. The problem with group discussions, you put them there, you leave them there, they start their own stories, so if you use discussions, and you leave them, they start own stories. These discussions and group work, if the teacher is not going to be there and supervise, then it is a raw deal. It cannot*

*work. If there is no supervision, the we better not use them. Others will not tell stories, but will just say they are tired. So they will leave the work for those who are better performers. (P. 2)*

From lesson observation, it was noted that whilst the teacher had put students in groups for discussion then stepped out of the class shortly to attend to an urgent matter, the students dispersed from the groups and stopped undertaking assignments that they teacher had given them.

<p>What strategies are used during English lesson? For example, discussions, guided writing, peer teaching, group work.</p>	<p>Guided writing. Group work was also given. However,</p>
<p>What are the impacts of the strategies employed when teaching English? / Are the students able to write correct sentences in English when the strategies are applied?</p>	<p>the teacher was called in the office to attend to something and all learners left the group,</p>
<p>What are some of the challenges faced by learners when learning English writing skills? / Aspects of KSL that are transferred to English writing.</p>	<p>and went to stand outside the class.</p>

**Figure 4.34. A Lesson Observation on how students with HI use Group Work**

From figure 4.34 which is was taken from part of the lesson observation, it can be seen that students with HI although they had been given assignment which they were doing in groups with their teacher, once the teacher stepped out, they also stopped discussion in groups and walked out. They stood out on the verandah and started playing.

From other lesson observations, it was noted that teachers used various methods during English lessons.

What strategies are used during English lesson? For example, discussions, guided writing, peer teaching, group work.	Total communication used
What are the impacts of the strategies employed when teaching English? / Are the students able to write correct sentences in English when the strategies are applied?	Guided Learning/Writing is used by the teacher. Demonstration by the teacher and peers also
What are some of the challenges faced by learners when learning English writing skills? / Aspects of KSL that are transferred to English writing.	The teacher had to write the notes for the students on the chalkboard for them to copy.
<b>C. STUDENTS PARTICIPATION</b>	
Do the learners who use the KSL or SEE well respond correctly to all the questions.	The learners were active as the teacher narrated a story.
What strategies are used during English lesson? For example, discussions, guided writing, peer teaching, group work.	The teacher used group work. The projector was also used. This appeared very important during the lesson as the attention of the learners improved.
What are the impacts of the strategies employed when teaching English? / Are the students able to write correct sentences in English when the strategies are applied?	
What are some of the challenges faced by learners when learning English writing skills? / Aspects of KSL that are	
What strategies are used during English lesson? For example, discussions, guided writing, peer teaching, group work.	Lecture Methods Explanation/Description Verbal exposition
What are the impacts of the strategies employed when teaching English? / Are the students able to write correct sentences in English when the strategies are applied?	Yes - see the students books
What are some of the challenges faced by learners when	

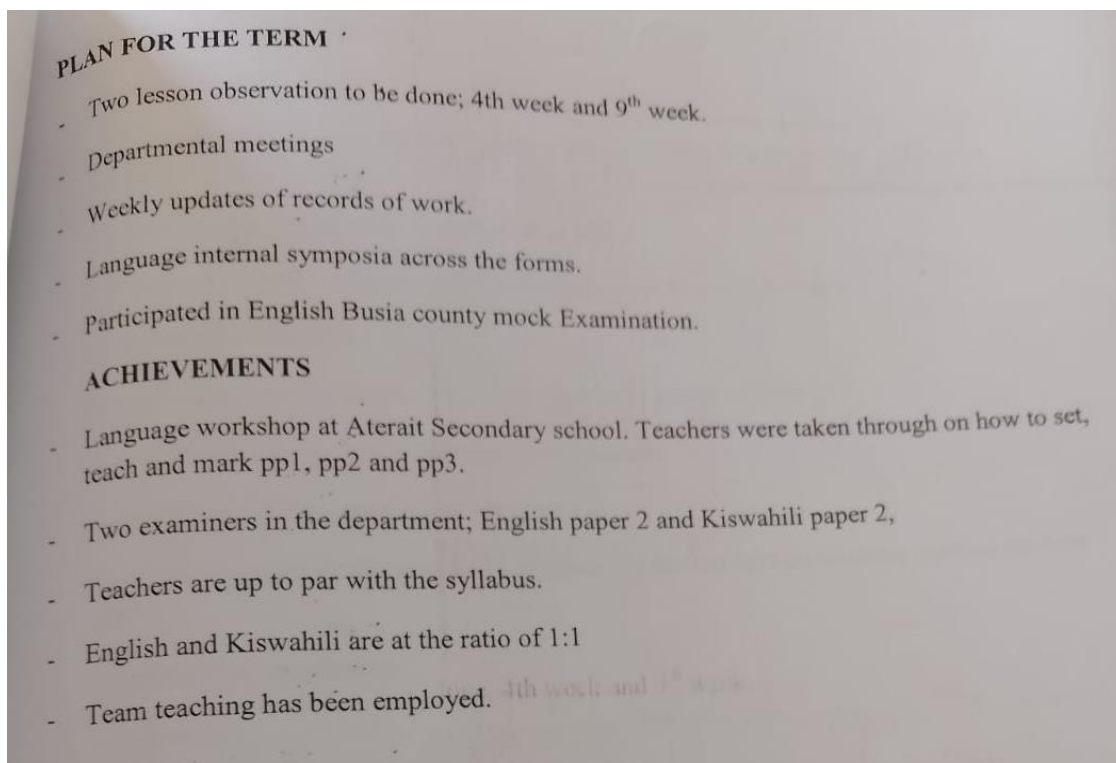
**Figure 4.35. A Section of Lesson Observation Guide on various Methods Used During English Lessons.**

From figure 4.35, it can be seen that teachers used various methods. These methods include note taking, questioning technique, incorporation of ICT, Use of visual aids, dramatization, group

discussions, lecturing and singing, use of peer tutoring, team teaching, use of total communication among others. The commonly used methods by teachers of English in their teaching are lecture and group discussions. Drama, debating and role plays are not utilized fully.

It can be concluded that teachers of English use various methods during English lessons. However, there are no standard methods which are to be used for certain concepts. The teachers make decision on which method can work when teaching which concept. However, some methods like the use of group work require the presence of the teacher for it to be effective.

From document analysis, it was noted that during one of the Departmental staff meeting, teachers confirmed having implemented Team teaching.



***Figure 4.36. A Section of Minutes of Languages Department Meeting on Team Teaching***

From figure 4.36, it can be noted that, one of the achievements noted during the meeting was employment of the team teaching. Through Document Analysis, it was also noted on the lesson plans of the teachers of English that actually these methods were planned for.

NAME: ... NO. IN CLASS: ... CLASS: ...3D... TOPIC/SUBTOPIC: GRAMMAR: formation of Adverbs OBJECTIVES: By the end of the lesson, the learner should be able to:  
a) Form adverbs from adjectives by use of the suffix -ly.

TIME ESTIMATE	CONTENT	LEARNING ACTIVITIES	LEARNING RESOURCES
5 mins	Introduction -Review of the previous content on functions of adverbs. -State the objectives of the current lesson. -Re-write functions and formation of adverbs.	-Asking questions -Answering questions	-Head Start English Books pages 138-140
STEP I 15 mins	content delivery -Form adverbs from adjectives with the given words by adding the suffix -ly. -Write two groups of sentences and ask the learner to identify if it has been used as an adverb or as an adjective.	-Presentation	
STEP II 15 mins			
5 mins	Conclusion Give assignment by Head Start pages 140 Exercise 2	copy down the assignment and submit for marking	

Figure 4.37a. A Section of Lesson Plan for Plan for Form 3 English

CLASS: ...3E... NO. IN CLASS: ...11... TOPIC/SUBTOPIC: LITERARY ANALYSIS: A DOLL'S HOUSE OBJECTIVES: By the end of the lesson, the learner should be able to:  
a) Read the novel  
b) Analyse the plot analysis in the play.

TIME ESTIMATE	CONTENT	LEARNING ACTIVITIES	LEARNING RESOURCES
5mins	Introduction -Review of the previous lesson on plot analysis in the play, characterisation and stylistic devices	-Narration -Signaling	-A doll's house by Henrik Ibsen -Chalkboard
STEP I 15 mins	content delivery Assign the learner the role of Nora, Helmer, Mrs. Linden and Stage directions. Read and sign the assigned roles in the play. Note the difficult words and give synonyms of similar words.	-Role-play -Silent reading -Signaling	
STEP II 15 mins	Explain the meaning of the words. Analyse the plot analysis in the play.	-Note-taking -Question and Answer method. -Presentation	
5 mins	Conclusion Summarise lesson with plot analysis.		

Figure 4.37b. A Section of Lesson Plan for Form 3 English

From figures 4.37a and 4.37b, it can be noted that the form three English teacher had planned to use questioning Technique, lecturing, role play, demonstration and note taking

Through document analysis, it was also noted that drama club through language department in one of the schools had staged dramatization of one of the set books, and they were organizing to have the members of the club perform the set books with three other schools.



These findings agree with results by Riwayatningsih (2019) who showed that the use of questions helps students to think critically hence meaningful learning. The findings also agree with finding by Situmorang (2021) who established that group work had a positive impact on students, attitudes and enlarged their commitment to completing assignments. The findings from the current study further agrees with Li and Vandermensbrugghe (2011) who revealed that group work helped international students to start their writing process, it motivated them to develop their writing skills, increased their self-confidence as writers and supported them through their writing. These findings agree with Caddy (2015) who established that teachers made use of a balanced literacy program in their classrooms but also emphasized the development of English comprehension and vocabulary among English First Additional Language (EFAL) learners. These findings further agrees with Namukoa (2014) who noted that the best practices and strategies for science literacy instruction are known to teachers. However, these strategies are not fully implemented during classroom instruction. Teachers of English are only implementing some of the strategies superficially during classroom instruction.

The findings of this study further agree with results by Chow (2003) who established that students with HI preferred reading the text themselves before they asked for help. The findings likewise agree with Mutai (2012) who established that the commonly used methods by teachers in their teaching are lecture and group discussions. Drama, debating and role plays are superficially utilized. The findings further agree with conclusions by Chabari and Awori (2017) who revealed that teachers were not so sure of which strategies and projects that could be used to improve writing among learners with HI. The findings further agree with Caddy (2015) who stated that teachers made use of a balanced literacy program in their classrooms but also emphasized the development of English comprehension and vocabulary among EFAL learners. Teachers adapted their strategies to provide support for the learners by adjusting their pace of teaching and providing much needed individual attention during group guided reading session especially for learners whose English reading development and academic achievement had been negatively impacted by overcrowding, lack of parental support and poverty.

The findings similarly agree with Wandera (2012) who argued that questions and answer instilled on students a mix of listening and speaking skills. The use of questions and answer can enable learners to be proficient in English writing skills when the questions and answers are given in SEE. Otherwise, if the questions and answers are stated in KSL then it cannot aid in writing good English.

The findings correspondingly agree with Kilave (2015) who sought to explore teaching deaf and hard of hearing (d/hh) learners and argued that for students to get background information and develop schema and vocabulary related to subject content, visual aids such as photos, films, should be used to provide multiple examples of concepts

The findings of this study also agree with findings of Leandro and Andrés (2017) who showed that Collaborative Learning has been used along with different kinds of technology in the education of deaf people with positive outcomes like improving skills in sign language, literacy and communication

#### **4.8.2. Effectiveness of the strategies used in teaching English**

Teachers of English were asked their opinion on how effective the methods are and how the students receive the content when teaching using the mentioned approaches. They stated;

*What I have realized with deaf, is that when you use methods that involve them, then their reception and concentration will be better and you will see them happy and interested. Methods like the use of flash cards. Also when you project, you will see most of the learners are interested. (ToE 6)*

*Yes, they are effective, because you find that, that thing which you did in the role play, they will be able to remember, so the question may not even touch on that particular segment, but you find that that is the only thing they remember, so they write it down, so it has an effect, at least they know what is happening in the text. (ToE 2)*

*I have observed that in the way they enjoy. In the way you make them to behave like teachers. It builds their confidence and then it motivates them to get something more. When you present the concept, it sticks in their mind. (ToE 3)*

*They are bearing fruits, when I was in my first year of teaching, I was majorly lecturing, question and answer, but I never saw fruits, but for now, if I am using learner centered, I will think of it, model it, they come up with a project. So these methods are effective, I mean where the learner is at the center like demonstrations, realia etc. (ToE 6)*

*They help them improve in performance because it is rare to a see a student recording E in English during their final exams so I think they help them. (ToE 2)*

*When I use dramatization, I find it very effective since they understand and they remember. (ToE 7)*

*Hmmm... to a very small extend. Something about the deaf, is that when you bring an audio visual and they dramatize on that, then the question might not necessary ask what you dramatized but you will see what you did with them in that exam. Exactly the same things. If I taught from known to unknown like application letter and they understood, they appreciate that, but still the problem goes back to what we have said, when it comes to exam, they will not read the questions, they will just write an application letter, whether it is a question on diary, shopping list, memo, minutes etc., they will just write an application letter. (ToE 1)*

From document analysis, it was noted of a student who just wrote something different far from what had been asked.



ENGLISH 16/5/2023

A 9 a r a s u r e e r o

c l t a r t e r o p l e r a r e r w l a d e h e l t e r o k i l l e r a r t u l l a r e r g t e l l a r e f o r m e l a r e  
 f o r a r f e r o t i a r e h e l o t e r o t e l l a r g l e r a r o k i l l e r a r o d e a r t u r d g a g a  
 A c r t u t e r t e r a r e f u t a r t e r o t e r a r t e r a r t e r o k e r a r e r o l e r a t e r a  
 Q u e r t e r l e r o t e r o t e r a r e f e r o t e r a r t e r a M e l o l e r o t e r e r g e r o  
T a r o r k e r f e r a r t e r e e r o k e r o t e r a r e a s  
F i e r o t e r o t e r o t e r o t e r o t e r o h e r t e r o l e r d t e r o e  
I l l e r a r o t e r o t e r o t e r o k i l l e r t e r o d e r a t e r d t e r t e r a l e r d u n o  
k e r a r e r a r t e r o t e r a r e h i l e r e a r h e r o t e r d e r a r g e r s e  
U a r o l a r a t a  
 a a r o h e r o t e r o h e l t e r h e l l e r h e l e r h e l a r o h e l o t e r g e r g e r  
 P a r a h e l a r o t e r a r t e r a r t e r a r h e r a r a r k i l l e r h e l a r g e r a r  
 3 W a r t e r a l e r o h e l t e r a r d a r h e l S a r o t e r a t e r a r t e r o l e r a r a r  
 S t e r a t e r a r t e r a P a r d t e r a r t e r a f a c t a r o t e r a r t e l a r a  
 E t e r r a r a r t e r d S e r d e a r t e r a r t e r a r t e r t e r t e r t e r a r g e r a  
 T h e r a r o t e r a r o t e r a r t e r a r t e r o t e r o h e l l e r k i l l e r t e r a r t e r a r  
 P a r o k i l l S a r o t e r a r W i a r a r W i a r a r k i l l a r t e l l a r d  
 P a r o t e r t e r a r e r a r k a r a r a r t e l l a r t e l l e r t e r d t e r a r a r  
 S m t e r d S m e t u i e l l e r o h e l l e r o S e l e a r a r t e r t e r a r  
 t e r t e r a r S e l e a r t e r o

**Figure 4.40. A section of an English test attempted by a form 3 student with HI**

From figure 4.40, it can be seen that some students with HI do write anything once they are given a question. The figures clearly show how teachers strain to bring the point home and make

students understand whatever concepts that they are teaching. The methods that they could have used to teach these concepts may not be effective.

The principals were also asked to comment on the effectiveness of the approaches, they noted,

*Hmm... I don't think the methods that teachers use are effective. If they can add other methods, they can be better and the learners can benefit more (P. 1)*

*Most of the parents for the deaf are still in denial, hence they have not accepted them fully. This affects how they support their children in school and even at home of the basic academic support they need. Even on communication, most of the deaf parents, do not know even sign language, unlike the parents of the blind who may just easily come out and talk. Most of the deaf love being in school, where they can communicate. (P. 3)*

Form three students were also asked to comment on the effectiveness of the methods that their teachers use in class during English lessons. They noted;

*While in group discussions, possible one person help other then answer question and easily help each other. Projector helps to memorize same improve memory. (FGD 2)*

*Some of them help zero, there are songs in English, but when you read, the song, you don't understand, meaning the singing does not help, singing important zero. (FGD 6)*

*Writing and following by signing will help us. First, you write on the board, after you have finished, then you start explaining by following, then you leave it there and explain same same (FGD 5)*

*The best method is group work, because it helps us if one understands, others not understand, possible one to explain to others then they understand. It helps some to understand the information if given to other students. We have first*

*learners and slow learners, so the faster learners can help the slow learners.*  
(FGD 1)

*The best method is discussion. Some students best understand so they help me understand then I improve. Discussion best since it helps us improve National unity and cooperation.* (FGD 3)

Curriculum support officers for SNE were also asked to comment on the effectiveness of the strategies that teachers use for instruction. One of them commented

*Hmmm.... I don't think they are effective. The same scenario goes into even the secondary schools. The teachers' proficiency in the whatever systems of instructions is not adequate.*(CSO SNE 1)

*One main problem, teachers don't prepare. You go to assess them, they are wondering what you are doing there. There are no records, there are no materials, but because you have gone there, he has to teach, so he sits down and scribble a few things, then he goes to class. Of course you may not expect much from such a teacher. So our teachers are lazy. It is something that cuts across all schools.* (CSO SNE 2)

*I have observed a number of teachers at the special schools, but the methods these teachers use is the teacher centered approach. The teacher signs everything, just like that. It is teacher centered. Children are not put in groups. They are there listening and observing. Learner participation is very minimal. So the approaches are not effective. I believe the learners should be involved in the learning process.* (CSO SNE 2)

From document analysis, it was noted from the schemes that the teachers did not plan for learner centered activities. According to schemes of work, the learning activities were too general and did not have specific activities to engage the students.

			LEARNING ACTIVITIES	LEARNING RESOURCES	REF MA
1	OPENING AND HEAD-CAT EXAMS				
2	4	Grammar Participles	By the end of the lesson the learner should be able to: - identify participles	- Discussing the meaning of the examples - writing and signing sentences	Dictionary Sec 2 Engl Text
	2	Writing Condolence Messages	By the end of the lesson the learner should be able to: (i) identify features of a condolence message (ii) write a condolence using correct format	- Discussing the features - Discussing and writing condolence message	- Sample Condolences - Newspaper cut outs - charts Sec 2 En BK ST FR GR D
3	8	Reading Compulsory	By the end of the lesson the learner should be able to: - Identify and illustrate	- Discussing the themes - Note-taking	- Dictionary - Fathers of Nations F OT
4		Set texts Themes	✓ ✓		

Figure 4.41. A Section of Scheme of Work for Form Three English

DEPT LAM GUGGES SCHEME OF WORK IN ENGLISH TERM II YEAR 2022 Form Four

WK	LSN	TOPIC	SUB TOPIC	OBJECTIVES	T/LEARNING ACTIVITIES	RESOURCES	REFERENCES	REMARKS
1-2		REVISION AND TESTING						Covered Well
3	1-2	Reading Comprehension	Comprehension Are goals scape goals?	By the end of the lesson the learner should be able to: - Make proper notes from the topic given - Answer the summary question given correctly	- Reading - Discussion - Writing	Extracts From Reader	New Horizons In English BK 4 pg 106-107	Some of the objectives were achieved as learners answered questions given correctly
	3-4	Grammar	Functions of Adjectives	By the end of the lesson the learner should be able to: Use adjectives in sentences correctly	- Reading - Discussion - Writing	Class readers	New Horizons In English BK 4 pg 107-109	
	5-6	Writing	Letter of Request	By the end of the lesson the learner should be able to: Write a letter of request correctly	- Discussion - Reading - Writing	Sampled Letter of Request	New Horizons BK 4 pg 86-87	Covered Well

Figure 4.42. A Section of Scheme of Work for Form Three English

From figures 4.42 and 4.43, it can be seen that when scheming, teachers of English do not plan for learner centered lessons. They do not have specific learning activities which involve the learners directly in the lesson. The activities for students mentioned are too general like discussion, reading, writing, note taking which do not engage the learners.

It can be concluded that students with HI consider group discussion and peer tutoring as the effective methods to be used during instruction of English lessons. It can also be concluded that use of songs is not an effective approach to teaching students with HI

These findings agree with conclusions by Borjian and Padilla (2010) who disclosed that there is a need for teachers in the US to help more their students becoming proficient in English in order to succeed in academics. The current study has revealed the need for teachers to use approaches that help students with HI pass their English Examinations. These findings are at variance with conclusions by Thu (2019) who revealed that learners understood faster concept faster and scored higher when they were taught through songs. These findings further disagree with Ikonta and Maduekwe (2012) who indicated that the use of reading tactics impacted positively on students' reading and summary writing ability. The current study indicates that reading is a are approach to be used and most students with HI are poor in reading.

The findings also agrees with Oyier (2019) who established that teaching and learning strategies had positive influence on performance from moderate to a very large extent. The findings further agree with conclusions by Li and Vandermensbrugghe (2011) who revealed that group work helped international students to start their writing process, it motivated them to develop their writing skills, increased their self-confidence as writers and supported them through their writing. The use of group work is an effective approach as it triggers thinking the students and enables them to improve their writing skills as well as other language skills. These findings further differs with Caddy (2015) who indicated that teachers use a balanced literacy program in their classrooms and also emphasize the development of English comprehension and vocabulary among English learners; teachers adapted their strategies to provide support for the learners by adjusting their pace of teaching and providing much needed individual attention during group

guided reading session especially for learners whose English reading development and academic performance had been negatively impacted by overcrowding, lack of parental support and poverty. In the current study, no evidence has been seen showing the commitment of teachers to adapt their strategies so as to provide support for the learners to improve their performance in English. These findings also agrees with conclusions by Namirembe, Mkama & Kilave (2015) who indicated that pre-teaching and re-teaching led to a significant difference in the academic achievement of the d/hh and hearing. Namirembe, Mkama & Kilave (2015) espoused the role of visual aids such as photos, films for the students to get background information and develop schema and vocabulary related to content subject. Teachers of English confirmed the effectiveness of using projectors and visual aids when teaching English as learners understood concepts better.

The findings from the current study further agrees with results by Choshi (2015) who established that the Department of Basic Education in South Africa has not come up with any specific teaching strategies. Teachers are therefore innovative on their own ways and they come up with approaches that suit the lesson and the type of learners. Choshi (2015) opined that teachers should use different approaches since performance of English improve. The use different strategies by teachers of English is important since learners with HI have different interests and needs hence the diversification of strategies will ensure majority are helped in class.

The findings from this study also agree with outcome of Jacobs, Louis Ronald, (2022) who revealed that there is significant differences between deaf and hearing samples. Hearing students scored higher on test scores in comparison with deaf learners when they are subjected to the same lesson and content.

#### **4.8.3. Relationship between the sign system and the method used**

The participants were asked if there is a particular sign system that is preferred when a particular method is being used. The principals stated;

*Hmmm..... yeah, definitely, there is, for instance, KSL would be more effective for group discussion than SEE. That is where you find that learners are discussing, and they are using KSL more than SEE. But in lecture method whereby teachers would be the ones leading, they will use more of SE and SEE than KSL (P. 1)*

*Hmmmm... like when delivering in class, the teacher would really wish to use SEE because focus majorly on the subject that s/he is handling, not limited to KSL. (P. 5)*

Teachers of English were also asked if there is a preferred sign system that would be used when a particular approach is being used, one of them reported;

*During group discussion, another problem is if it will be done in SEE, then it will not help especially writing because they will write everything in KSL, but they will have a concept of what you are talking about. (ToE 6)*

From the above excerpts, it can be concluded that for Group discussion involving students with HI to be effective and learners to participate, then they have to use KSL since that is the sign language system that students with HI are more conversant with and can express themselves easily. However, the impact it will bring when they write answers will outweigh the gain they would have gotten in understanding concepts through group discussions. For lecture Method, demonstrations and other methods that involve the teacher directly, SEE and SE will be most preferred sign systems so that learners can be oriented towards SEE and SE.

#### **4.8.4. Concepts that are hard to teach/learn for the deaf in English**

The study also intended to establish the concepts that teachers of English find it difficult to teach. On their part, when the principals were to comment on some of the concepts the teachers of English find difficult to teach students with HI, some of them stated;

*One of the concepts that they (Teachers of English) find it difficult to teach is a metaphor. When you say you are a lion, they tell you that is impossible. Imagery,*

*they don't have, when you tell them, imagine you are school principal and write a memo to students, they tell you, no... no...no.. me impossible be the principal. So for imaginative composition, they can't. Another difficult thing to teach them is riddles. If you tell them, I have a house without door and windows, they tell you that is impossible. In a lesson, if you go, introduce riddles and give them examples, I have a house without door and windows, they tell you that is impossible. A house must have door, windows and they will proceed to mention all the things that houses do have. So anything imaginary does not apply to them, because for them, they have never seen a house without a door. So teaching some of these things you just teach because they are in the syllabus, although initially riddles were not in the syllabus. (ToE 3, Principal 4)*

On their part, teachers of English stated the following:

*In most cases, especially literature and oral literature in general, poetry they have problems with comprehension. The bigger part of comprehension. When it comes to literature, where they are supposed to comprehend an oral song or poem, they don't get it because everything is imaginary, for example, all that glitters is not gold, if you tell them to write a story about it, they will start explaining how gold is smart because they relate with what they see (ToE 6)*

*There is no riddle in KSL, the learners who are deaf they have not interacted with this animal called riddles because it has been detached from their world, but if you go to the hearing, they have used it every day, the grandparents talk to them about it, helping the learner to get what is this riddle is a problem. So there are things that are very much abstract in English that are so difficult to explain to the deaf learners, so teaching abstract concepts is difficult (ToE 4).*

Another Teacher of English said,

*Yes, especially set books. How you teach it is challenging, the learner has to read and understand first, but now for them, imagine for them, they are fingerspelling most of the words first of all. They take a lot of time. They then ask you, what is this..? they ask the meaning of each of the word they meet, and you are there giving a synonym, a simpler term trying to give a sign word for the word that they have fingerspell. And at the end, I don't think they enjoy. You know reading set books is all about emotions, you have to be in that book, most of these set books are big. They can be given simplified ones. You have to read for them, sign for them, explain them. (ToE 2)*

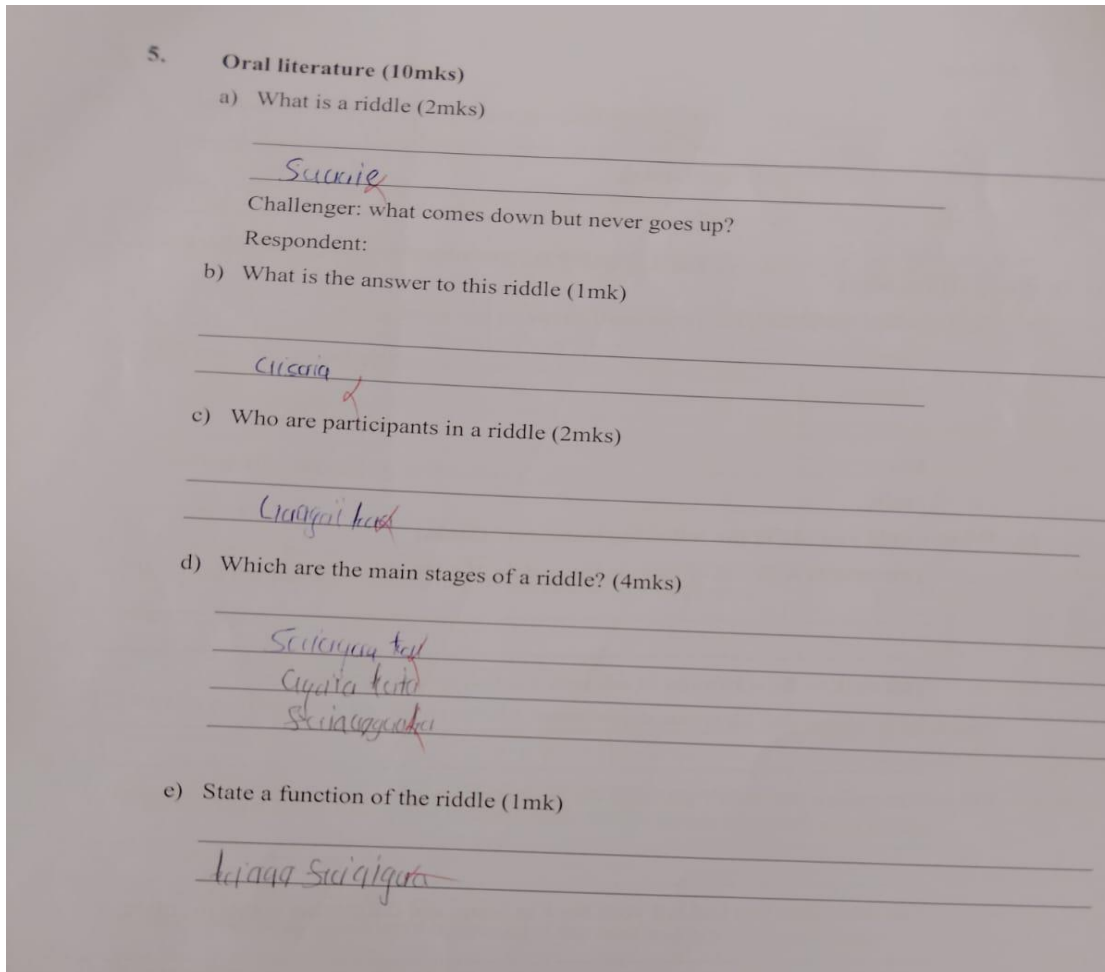
*Yes there are several concepts, things like, onomatopoeia, ideophones, imagery, sarcasm and symbolism, when you tell them about symbolism, it becomes difficult, like when you tell them, this table here signifies this and that, but not the really table, they look at you and they are like, this is a table, how do you want me to explain that it does not mean the really table but something else (symbolism). Their imagination is very limited. (ToE 6)*

*Some grammar rules for them is very difficult because you teach them yes, but the way they comprehend grammar is now a difficult thing. Maybe you have a sentence, then told to re-write using a specific word, for example, use the word seldom, then the learners with HI will have challenges. (ToE 2)*

*You saw it yourself today, alliterations, it is in their syllabus but now to bring it to them, that is a sound, is not easy. (ToE 5)*

*Literature, when it comes to themes, styles, language and style is a big problem. Hmmm... characterization in literature the use of adjectives and all that, they are trying but coming to language and style in literature, like they are supposed to identify the style, is a big challenge for them. For instance, them identifying satire is very difficult (ToE 4)*

During document analysis, it was indeed confirmed that students with HI have difficulties in answering questions on the areas and concepts that teachers mentioned. A look at the question papers of the previous tests and assignments that they had done showed very high level of difficulty.



**Figure 4.43. A section of a form 3 learner's response on a test on riddles**

Figure 4.43 shows a section of the test where the student did not respond to questions on riddles. From figure 4.43, it can be concluded that some learners with HI cannot totally respond to questions on riddles. Riddles are abstract concepts to them and they only meet them in books, at secondary school level unlike the regular students who start interacting with them and hear them from grandparents and other members of the family.

1. What was the boatman doing when the young man and woman approached him? [2mks]

2. Why did the boatman refuse to take the young man and woman across the lake [2mks]

3. Why was the young couple in a hurry to cross the lake [2mks]

4. Who was Eric according to the story [2mks]

5. Why did the boatman decide to row the couple across [2mks]

6. Why do you think Eric decided to row the young couple across the lake instead of his father?

7. Why did chief Ullin follow the young couple with a group of armed men [2mks]

8. What do you think could have happened if the boat had not capsized [2mks]

9. Explain the meaning of the following words as used in the passage [2mks]

a) capsized

**Figure. 4.44.** *A section of Form 3 student's response on a test on Comprehension*

From figure 4.44, it can be seen that some learners with HI have difficulties responding to comprehension questions. Comprehension seems a difficult concept to them as the learners cannot attempt questions despite having been given a passage to read and use to respond the questions.

Blossoms of The Savannah

Then Resin and have ole Kulet have People than resin People  
 Characteristic Thing Many blossoms of The Savannah many in  
 Tuzo, Resin, ole Kulet, Mr Lumudi, Maria, to have to Resin  
 People Thing you to know out how to Challenger best Resin have  
 People Understand to essay, have People many ole Kulet about write  
 work without University has to do know People Much to Pass  
 Time Resin and Tuzo you Friend for who such ole Kulet Tuzo  
 and Possible want love ~~support~~ support can to for help Essay have  
 what is People blossoms of The Savannah have Resins For day  
 then support how you help to Tuzo,  
 must have Challenger People to Tuzo and Resin for Money borrow

Figure 4.46a. A section of the learner's response on question on set text "The Blossoms of the Savannah"

(2) The Compulsory Set Text

H.R ole Kulet Blossoms of the Savannah  
 Determination can beat all challenges in the world? With close  
 reference to Resin in Blossoms of the Savannah by H.R ole  
 Kulet, write an essay in support of this statement

My ole Kulet blossoms is the Savannah and can beat  
all challenges in reference to Resin in the most and by write  
 Sotry and obey care challenges kulet, write an essay by ole  
 World close more essay in support and set Resin Savannah  
 cannot low ole Kulet your blossoms and of the with close many  
 determination and beat all challenges and statement and by  
 more Determination can obey reference by the support of have  
 ole Kulet more beat all people you wanten this statement you  
 help more care. obey ole Kulet blossoms of the Savannah by  
 many by my Kulet write an essay in there support and beat

Figure 4.46b. A section of the learner's response on question on set text "The Blossoms of the Savannah"



These findings agree with findings by Walter (2003) who established that learners with HI are not as competitive as their hearing counterparts in their ability to comprehend printed words. They experience more difficulties in answering comprehension questions as well as in writing. Walter (2003) further asserted that there is a very high connection between hearing the language being spoken and learning the rules of that language. If this is missing, then the need to have special instruction rises.

These findings further agrees with findings by Ndung'u (2013) who established that learners with HI at standard four cannot read for comprehension or write for communication. The current study has also established that some learners in Form three cannot respond to comprehension question whilst some cannot write correct English sentences.

## CHAPTER FIVE

### SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1. Introduction

This chapter presents the summary of findings, conclusions, recommendations and finally, suggestions for further research.

#### 5.2. Summary of Findings

The findings of the study were summarized based on five main themes that emerged namely: Sign systems, Perspectives of Special Educators and students with HI towards sign systems, deaf students' Proficiency in sign systems and the teaching and learning strategies employed during teaching the deaf and their implications on the academic performance in English.

##### 5.2.1. Sign Systems used for instruction in Special Secondary Schools for the Deaf and their Implications on Academic performance in English

From the findings, it is clear that there are three main sign systems, which are SEE, SE and KSL commonly in use in these schools. Teachers of English use various sign systems during English lessons as they decide. However, majority of the teachers tend to use SEE and SE. Teachers do not maintain one particular sign system in class. More usage was between SEE and SE. While the teachers of English maintained English structure in their speech, they left out some of the wordings when signing. This basically means they use SE.

Students with HI do not pay much attention on the sign system that is used. It therefore remains at the discretion of the teachers of English to make decision on which system to use for instruction. The students would only be concerned when they are not getting the concepts in class, which again has to involve the teacher to adjust. Teachers of English have a clear understanding of the need to use the appropriate English structure when teaching English lessons. However, the student factor (student with hearing impairment) presents different situations which makes some of them to compromise with this language requirement.

The sign system used during instruction has a direct impact on the performance of learners with HI in English. English and KSL as two linguistic subjects have different structures. The syntax of KSL as a sign system and Sign Exact English (SEE) are different. Students with HI understand and comprehend KSL faster as compared to SEE given that KSL is their mother tongue. Despite the fact that they comprehend KSL faster than SEE, the use of KSL during English lessons would have far reaching negative impacts on their performance in English. While teachers of English would prefer to explain content in a system that would be easier for them to understand, the preferred system would have adverse effects on their performance. The teachers, therefore, choose to use SEE during class room instruction.

There is no any clear policy on which sign system should be used in classroom teaching. Individual teachers of English, principals and Directors of Studies comes up with their own directions on what has to be done and which system has to be used. The sign system that is used for teaching during English lesson therefore varies from one school to another, based on the position adopted by the teacher(s) of English as well as the administration of the school. Students do not usually follow or use the sign system that the school management advocate, rather they use KSL thus giving a negative effective effect on their performance in English.

### **5.2.2. Perspectives of Special Needs Educators on the Application of Sign Systems used in Classroom and their Implication on Academic Performance in English**

Teachers of English for learners with hearing impairment are of the opinion that SEE should be used during instruction in English lessons. Teachers of English are also of opinion that SEE should be introduced all the way from primary schools, where it should be used in teaching, not only English lessons, but also all other subjects other than KSL. Some teachers also feel that KSL should be limited to oral communication, and should be tested orally through interviews. It should not be written as it leads to confusion with English which leads to low performance in English.

Many teachers of English agree that SEE is the right system for instruction to use. However, learners with HI comprehend KSL faster than SEE. This creates a difficult working environment

for them considering that if they choose to use KSL for instruction, then the performance of English will be lower in comparison with other subjects. What follows in, is the attitude development where learners with HI will perceive English as a difficult subject as compared to other subjects where teachers can easily decide to present content in KSL hence making it easy for them to understand. Majority of learners with HI also acknowledge that KSL affects their performance in English if they use it, but on the surface of communication, which is the basic need at the time of interaction in class, then they will be comfortable and prefer content being given through KSL than SEE.

In secondary schools where the content of English is enormous compared to the one in Primary schools, there are so many words and concepts that do not have signs. This makes it challenging for the teachers to effectively teach or explain certain concepts. What happens is that the teacher has to now explain the concept, instead of using one sign, to give the learner. Since sign language is a visual language, during examination, the learner may not remember all the explanations the teacher gave, and even if the answer is there, the learner cannot connect the explanations and the word, since the answer may require specific word. It is on this conformation that SEE supersedes KSL in the sense that its sentence construction style conforms to the smooth usage of fingerspelling in replacement of the words with no signs.

Majority of the teachers of English understand signs that students with HI use when communicating in class, however, a number of them do not get the communications from the learners. This is majorly in cases with form ones, who mostly are yet to harmonize signs with the ones being used in the schools. Also, learners with HI appear to be more competent and fluent in signs than some of the English teachers. This makes them miss out on some signs, the learners also seem to sign and fingerspell faster than the teachers, hence teachers miss out on some of the points and concepts that the learners could be passing. The miscommunication also comes as a result of the learners using wrong signs or using their local signs that are not familiar to other people in the community. Some learners with HI cannot express themselves in SEE. In cases where the teacher is firm and insists on SEE when they are signing, such learners will struggle to

communicate what they have. However, when given opportunity to express themselves in KSL, then they communicate well.

### **5.2.3. Perspectives of Students with Hearing Impairment on Application of Sign Systems and their Implications on Academic Performance in English.**

Students with HI are poor in reading. They take long to read and they have very short concentration span. This makes them not to love reading. They therefore take long to read and generally teachers tend to take long to cover set books and comprehension passages with them. Students with HI look forward to having English lesson based on when the lesson is scheduled. They prefer KSL as the system of instruction during lessons since they comprehend KSL faster compared to SEE. The understanding of KSL during content presentation, however, does not help them in English during examinations since all answers must be written in SEE. Therefore, with this understanding, some students with HI prefer SEE to be used during English lessons

Learners with HI read by signing. They always accompany make signs when reading. They therefore use a lot of energy. They then get tired easily and give up on the way. On the same, with the several set books, there are so many words and concepts that do not have signs. They also lack the essence and competency in figurative expressions that are core in literature

The difficulties in reading by learners with HI also emanates from the fact that KSL does not require them to read, instead they only practice through signing. Given that these students have been subjected to KSL all the way from primary schools, they have grown up without building the culture of reading, unlike in regular schools where students are subjected to reading as early as in primary schools.

Students with HI anticipate for English lessons because of a number of factors. The roles that the teachers have of simplifying the content so that learners can understand also determine anticipation of learners to have the lessons. Oral literature and narratives also excite students with HI to attend English lessons. The time when English lesson is scheduled also makes the students to look forward to having English lessons. When English lessons are schedule in the

morning hours, they tend to enjoy as compared to those scheduled in the afternoon regardless of the sign system used.

#### **5.2.4. Deaf Students' Proficiency in Sign Systems and the Implications on Academic Performance in English**

Students with HI are proficient in KSL than SEE. During lessons in class, majority of the students with HI will understand faster when the teacher uses KSL as compared to SEE. The teachers of English sometimes, are forced to mix SE, SEE and KSL but the students' comprehension will be higher when explanation is given in KSL. However, students acknowledge that when the teacher uses SEE, it helps them improve in their writing of answers in English examinations. Students with HI also acknowledge that most communications and conversations especially with the hearing people take place in SEE as compared to KSL which is only used when communication takes place involving people with hearing impairment.

Proficiency in KSL, SEE and SE by students with HI will depend on a number of factors. One main factor that brings difference in the proficiency is the time of onset of hearing disability. For the student who acquired deafness at birth or before birth, that means before they developed speech (pre-lingual hearing impaired), they are more proficient in KSL than SEE and SE. They tend to be very good in both expressive and receptive skills of KSL as compared to SEE. On the other hand, the students who acquire deafness at later time in their years after they have acquired speech (post-lingual deafness) they tend to struggle with KSL. For SEE, they do not have much issues with, since they would have developed speech and may have been used to SEE before acquiring deafness. The post-lingual students will therefore be more proficient in SEE as compared to KSL. However, with time, once they have been in the Deaf community for some time, they become equally proficient in KSL.

Students with HI who are proficient in SEE perform well in English as compared to those who are proficient in KSL. The cases of post-lingual (acquired deafness at a later stage in life), hence

having higher proficiency in SEE as a result of the language that they had acquired, they have higher proficiency in SEE which automatically enables them to perform better in English language in comparison to KSL. However, once they have been fully integrated into the systems of signing, they perform well in KSL as well.

Students with HI have low proficiency in the use of vocabularies. Generally, they cannot use vocabularies well. KSL has limited vocabularies. When it comes to English (SEE) any word that they don't know the sign, is a vocabulary. This means that they will have a big chunk of words and concepts that are vocabulary to them which they don't know. Given the many vocabularies and concepts in SEE that do not have signs, then it means that learners with HI would have little or few words which they can proudly use as vocabularies that they are familiar with

Learners with HI use words, especially in composition writing and other concepts without understanding their meaning, whether it is making sense or they are just writing for the sake of writing. The complex nature of English also makes it difficult for learners with HI to make constructive use of vocabularies. In essence, the learners with HI find it difficult to construct complex sentences obeying the syntax of English, while at the same time adhering to all the components of a sentence.

The students with HI who are post-lingual are better placed in terms of vocabulary usage as compared to the pre-lingual. English text books for learners with HI are not adapted. While the presentation of the covers of English text books give an impression of adaptation, the content inside is not adapted at all. Although both KSL and English are languages, they have different syntax (sentence structure). KSL uses English words. The difference comes in where the words are arranged differently. Given the use of words from the same language, having the same teacher to teach same class the two subjects leads to confusion of the learners as well as the teacher themselves.

Students with HI find English dictionary helpful to them when they want to get the meaning of words. English dictionary has detailed explanations of meanings of words and examples in comparison to KSL dictionary which only shows the pictures on how a word is signed. English

dictionary also has many words, all words in English, unlike KSL dictionary which misses some words. Students with HI find it challenging to use English dictionary as they take time to search for words. English dictionary is important to the learners with HI, actually more important than KSL dictionary during the lesson of English, they find it challenging to quickly use it. English dictionary is preferred since it gives the meaning of words, as compared to KSL dictionary which only gives the picture of the sign of the new word. KSL knowledge by learners with HI cannot help them pass English. Their KSL reliant and knowledge instead lowers their English capability since when they apply the KSL knowledge in English, they fail exams. Students with HI tend to transfer the structure of KSL into English when they are writing English sentences a phenomenon of mother tongue interference on a second language, which is very detrimental to their academic work.

#### **5.2.5. Teaching and Learning Strategies employed in teaching English and the implications on Academic performance**

The methods used for instruction during English lessons include note taking, questioning technique, incorporation of ICT, Use of visual aids, dramatization, group discussions, lecturing, singing, use of peer tutoring, team teaching among others. Teachers of English use various methods during English lessons. However, there are no standard methods which are to be used for certain concepts. The teachers make decision on which method can work when teaching certain concept. However, some methods like the use of group work require the presence of the teacher for it to be effective. When scheming, teachers of English do not plan for learner centered lessons. They do not have specific learning activities which involve the learners directly in the lesson. The activities for students are too general like discussion, reading, writing, note taking which do not engage the learners.

Students with HI consider group discussion and peer tutoring as the effective methods to be used during instruction of English lessons. Use of songs is not an effective approach to teaching students with HI. For group discussion involving students with HI to be effective and learners to participate, then they have to use KSL since that is the sign language system that students with

HI are more conversant with and can express themselves easily. However, the impact it will bring when they write answers will outweigh the gain they would have gotten in understanding concepts through group discussions. For lecture Method, demonstrations and other methods that involve the teacher directly, SEE and SEE would be most preferred sign systems so that learners can be oriented towards SEE and SE.

### **5.3. Conclusions**

It is always important to make conclusions with reference to the findings in a research study. The variables under study included Sign systems, Perspectives of Special Educators and students with HI towards sign systems, Deaf students' Proficiency in sign systems and the teaching and learning strategies employed during teaching the deaf which were studied in relation to their implications on the academic performance in English.

#### **5.3.1. Sign Systems used for instruction in Special Secondary Schools for the Deaf and their Implications on Academic performance in English**

There are three sign systems used in Special schools for the deaf which are SEE, SE and KSL. Teachers of English majorly use SE and SEE during classroom instruction. There is no policy that guides which sign system should be used during classroom instruction for English lessons. However, from the study, SEE takes preference to teachers in as far as academic work in English is concerned. Sign system used during instruction has a direct impact on the performance of learners in English.

### **5.3.2. Perspectives of Special Needs Educators on the Application of Sign Systems used in Classroom and their Implication on Academic Performance in English**

Teachers of English for learners with hearing impairment are of the opinion that SEE should be used during instruction of English lessons. Teachers of English are also of opinion that SEE should be introduced all the way from primary schools, where it should be used in teaching not only English lessons but all other subjects other than KSL. Some teachers also feel that KSL should be limited to oral communication, and should be tested orally through interviews. It should not be written as it leads to confusion with English which leads to low poor performance in English. The use of SEE affects the working of teachers negatively. Majority of the teachers of English understand signs that students with HI use in class.

### **5.3.3. Perspectives of Students with Hearing Impairment on Application of Sign Systems and their Implications on Academic Performance in English.**

Students with HI prefer KSL as the system of instruction during lessons since they comprehend KSL faster compared to SEE. They are poor in reading. They take long to read and they have very short concentration span. This makes them not to love reading. Learners with HI read by signing. Students with HI anticipate for English lessons because of Oral literature and narratives excites them.

### **5.3.4. Deaf Students' Proficiency in Sign Systems and the Implications on Academic Performance in English**

Students with HI are proficient in KSL than SEE. When teachers are teaching in class, majority of the students with HI will understand faster when the teacher uses KSL as compared to SEE. For the student who acquired deafness at birth or before birth, that means before they developed speech (pre-lingual hearing impaired), they are more proficient in KSL than SEE and SE. The post-lingual students will therefore be more proficient in SEE as compared to KSL. Students

with HI who are proficient in SEE perform well in English as compared to KSL. The students with HI who are post-lingual are better placed in terms of vocabulary usage as compared to the pre-lingual. KSL knowledge by learners with HI cannot help them pass English. Their KSL knowledge instead lowers their English capability since when they apply the KSL knowledge in English, they fail exams. Students with HI tend to transfer the structure of KSL into English when they are writing English sentences.

Although both KSL and English are languages, they have different syntax (sentence structure). KSL uses English words. The difference comes in where the words are arranged differently. Given the use of words from the same language, having the same teacher to teach same class the two subjects leads to confusion of the learners as well as the teacher themselves.

### **5.3.5. Teaching and Learning Strategies employed in teaching English and the implications on Academic performance**

The methods used for instruction during English lessons include note taking, questioning technique, incorporation of ICT, Use of visual aids, dramatization, group discussions, lecturing, singing, use of peer tutoring, team teaching among others

Group discussion and peer tutoring are the preferred approaches of instruction. However, these methods needs close supervision by the teacher.

## **5.4. Recommendations**

### **5.4.1. Sign Language Systems used for instruction in Special Secondary Schools for learners with HI and their Implications on Academic performance in English**

KICD should generate a policy to have SEE be used in teaching English. This should start all the way from primary schools. KICD also should ensure that curriculum for HI is adapted and concepts that deaf cannot learn like sounds should be removed.

#### **5.4.2. Perspectives of Special Needs Educators on the Application of Sign Systems used in Classroom and their Implication on Academic Performance in English**

Universities that offer Bachelor's degree in Special needs Education should offer KSL as a teaching subject. Universities should train specific teachers to teach KSL. Universities should endeavor to teach SEE to the student teachers who are preparing to teach in Special schools for the deaf.

#### **5.4.3. Perspectives of Students with Hearing Impairment on Application of Sign Systems and their Implications on Academic Performance in English.**

KICD and schools should ensure English lessons are always scheduled in the morning hours. Teachers of English to introduce strategies that encourage and promote reading culture among learners with HI. Reading should be introduced to students at an early age. Pace setters books should be availed to students with HI in primary schools so that they are introduced to reading at an early age. KICD should also introduce KSL in all regular schools so as to reduce the gap between hearing and Deaf community

#### **5.4.4. Deaf Students' Proficiency in Sign Systems and the Implications on Academic Performance in English**

KICD should modify the syllabus for students with HI to suit the needs and interests of the learners. Concepts that are abstract to student with HI like sounds and speech production should be removed from the syllabus for learners with HI. Students with HI should be provided with dramatized set books in signs so that they can follow.

#### **5.4.5. Teaching and Learning Strategies employed in teaching English and the implications on Academic performance**

Teachers of English should focus on using learner centered methods. Learners should be encouraged to read story books and be exposed to newspaper as well as use of group discussions and peer tutoring.

#### **5.5. Suggestions for further research**

- A study to be undertaken to establish the role of parents in developing sign systems for learners with HI
- A comparative study on the signs systems that are used in secondary schools for the deaf and the ones used in Primary schools for the deaf
- The findings of this study showed that vocabulary knowledge influenced deaf students' performance in English. This study, however, focused on contextual knowledge of vocabulary provided in the passages and as observed on how students used the vocabularies during the lessons and also while answering questions in exams. The depth and breadth of vocabulary knowledge was not addressed. There is need, therefore, to examine the relationship between deaf students' depth and breadth of knowledge of English vocabulary and performance in English
- This study established the teaching and learning strategies used in class during English lessons for learners with HI. A cause-effect relationship between the strategies and performance in English, however, not conducted. Based on this limitation, a quasi-experimental approach on the effect of the learning strategies on deaf students' academic performance in English would be more appropriate for identifying strategies that produced a positive outcome.

## REFERENCES

- Abushaira (2007). The Effect of Sign Writing on the Achievement and Acquisition of Vocabulary by Deaf Students at “Al-Amal School for the Deaf” in the City of Amman-Jordan. 10.13140/2.1.4097.8883.
- Addow A. M, Abubakar A. H, and Abukar M. (2013). English language proficiency and academic achievement for undergraduate students in Somalia. *Educational Research International*. ISN. L: 2307-3713. ISN 2307- 3721. Vol. 2 No. 2 October, 2013
- Adoyo, P.O. (1995). An investigation of Kenyan Sign Language Development. Unpublished PGD Dissertation, University of Bristol, U.K.
- Adoyo, P.O. (2001). Bilingualism in Kenya. Begründung eines bilingualen Ansatzes in der Erziehung und Bildung Gehörloser. *DAS ZEICHEN* 58, 536-543.
- Adoyo, P.O. (2004).). *Kenyan Sign Language & Simultaneous Communication: Differential Effects on Memory and Comprehension in Deaf Children in Kenya*. Kisumu: Lake Publishers & Enterprises Ltd
- Afrin, S. (2016). Writing problems of non-English major undergraduate students in Bangladesh: An Observation. *Open Journal of Social Sciences*, 4, 104-115.  
<https://dx.doi.org/10.4236/jss.2016>
- Akatch, P. (1991). Sentence types in Kenyan Sign Language. A structural approach. Unpublished MA Thesis, University of Nairobi, Kenya.
- Akatch, P. (1997). Language convergence and phenomena in growth of a national sign language in Kenya. In: *International journal of sociology of language: Sociolinguistics issues in sub-Saharan Africa*. Vol.11 Abdul-Aziz, MH (ed) Moutonde Gruyteri Berlin.

- Akach, P. A. O. (2010). Application of South African Sign Language (SASL) in a Bilingual-Bicultural Approach to Educating the Deaf. Unpublished PhD Dissertation, University of Free State.
- Akmajian, A., Demers, R.A., Farmer, A.K. & Hamish, R.M. (2001). *Linguistics: An introduction to language and communication*. Cambridge: M.T. Press.
- Alamri, G. (2017). *Teachers' beliefs and attitudes about Saudi Arabia sign language*. Retrieved from <https://search.proquest.com/openview/e6befad0e3239c71f953becd52f07984/1?pq-origsite=gscholar&cbl=18750&diss=y> on 25th February, 2023
- Albertini, J., & Mayer, C. (2011). Using miscue analysis to assess comprehension in deaf in college readers. *Journal of Deaf Studies and Deaf Education*, 16(1), 35-46.
- Ali, B., Okwaro, R., & Adera, T.A.O. (2003). *Elementary sign language part II*. Nairobi: Kenya Institute of Special Education.
- Al-Hilawani, Y. A. (2003). Clinical examination of three methods of teaching reading comprehension to deaf and hard-of-hearing students: From research to classroom applications. *Journal of Deaf Studies and Deaf Education*, 8(2), 146-156.
- Allen, T. E. (1994). *Who are the deaf and hard-of-hearing students leaving high school and entering postsecondary education?* Unpublished manuscript. Washington, DC: Gallaudet University Center for Assessment and Demographic Studies. Retrieved from <http://research.gallaudet.edu/Annual Survey/whodeaf.php>
- Andrews, J. F. (1988). Deaf children's acquisition of pre-reading skills using the reciprocal teaching procedure. *Exceptional Children*, 54(4), 349-355.
- Andrews, J. F., & Mason, J. M. (1991). Strategy usage among deaf and hearing readers.

*Exceptional Children*, 57(6), 536-543.

Algren, L. and Hyltenstam, K. (1994). *Bilingualism in Deaf Education*. Hamburg: Fuldaer Verlagsantalt.

American Psychological Association. (2022). APA Style common reference examples guide. <https://apastyle.apa.org/instructional-aids/reference-examples.pdf>

Andrews, J.F., & Rusher, M. (2010). Codeswitching techniques: Evidence-based instructional practices for the ASL/English bilingual classroom. *American Annals of the Deaf*, 155(4), 407-424. doi:10.1353/aad.2010.0036

Archer, A. J. (2004). *Characteristics of an effective teacher of reading in an Elementary school setting*. Doctorate Dissertation, Louisiana State University. Retrieved from [http://etd.lsu.edu/docs/available/etd-10282004-201637/unrestricted/Archer\\_dis.pdf](http://etd.lsu.edu/docs/available/etd-10282004-201637/unrestricted/Archer_dis.pdf). on Jan 21, 2023

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

Athimoolam, Logan & Kibui(2013). An Analysis of Kenyan Learners' Proficiency in English Based on Reading Comprehension and Vocabulary. *Journal of NELTA*. 17. 1-13. 10.3126/nelta.v17i1-2.8088.

Aura L.J, Venville, G. and Marais, I (2016) The relationship between Kenyan Sign Language and English literacy. *Issues in Educational Research*, 26(2), 2016 165

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

- Banaji, Mahzarin R., Bazerman Max H., Chugh, Dolly. 2003. How Unethical Are You? In *On Managing Yourself*, 157-173. Boston, MA: Harvard Business Review Press
- Banner, A., & Wang, Y. (2011). An analysis of the reading strategies used by adult and student deaf readers. *Journal of Deaf Studies and Deaf Education*, 16 (1), 2-23.
- Bengtsson, M., & Kock, S. (1999). Cooperation and Competition in Relationships between Competitors in Business Networks. *Journal of Business & Industrial Marketing*, 3, 178-193. <https://doi.org/10.1108/08858629910272184>
- Berent, G. P. (2009). The inter language development of deaf and hearing learners of L2 English: Parallelism via minimalism. In W. C. Ritchie & T. K. Bhatia (Eds.), *The new handbook of second language acquisition* (pp. 523-543). Bingley, UK: Emerald Group Publishing.
- Biricik, E., & Ozkan, Y. (2012). The roles of teacher attitude in preschool language education. *Cukurova University Faculty of Education Journal*, 41(1), 70-86. Retrieved from <http://egitim.cu.edu.tr/efdergi/index.php/efdergi/issue/view/1>
- Bloom, L. & Lahey, M. (2007). *Language Development and Language Disorders*. Mac Keith Press.
- Borjian, A., & Padilla, A. M. (2010). Voices from Mexico: How American teachers can meet the needs of Mexican immigrant students. *Urban Rev.*, 42, 316-328. doi:10.1007/s11256-009-0135-0
- Brent, R. (2009). Active Learning: An Introduction. *ASQ Higher Education Brief*, 2, 4-9.
- Brown, E. (2009). One Student, Two Languages: *Print Literacy in Deaf Students*.

- Brown, S. (1999) *Institutional Strategies for Assessment*. In: Brown, S. and Glasner, A., Ed., *Assessment Matters in Higher Education*, The Society for Research into Higher Education and Open University Press, Buckingham, 1-13.
- Bryman, A. (2012). *Social Research Methods*. Oxford: Oxford University Press
- Bryman, A. & Bell, E. (2007) “Business Research Methods”, 2nd edition. Oxford University Press.
- Burns, S., Matthews, P. and Nolan-Conroy, E. (2001). Language Attitudes. In Lucas, C. (Ed.). *The Sociolinguistics of Sign Language*. Cambridge University Press; United Kingdom.
- Caddy, S. (2015). *Exploring Strategies for Teaching Reading to English First Additional Language Learners in Grade 2* (Masters Dissertation). University of Pretoria, South Africa.
- Cawthon, S. (2004). Schools for the deaf and the No Child Left Behind Act. *American Annals of the Deaf*, 149, 314–323. doi:10.1353/aad.2005.0002
- Chabari, P. and Awori, B.B. (2017). Strategies Used in Teaching Written English Language to learners with Hearing Impairment: A Case of Njia Special School in Meru County, Kenya. *International Journal of Education and Research*., Vol. 5 No. 12.
- Chong V.Y (2014) Attitudes of Deaf Malaysians Toward Malaysian Sign Language Within Deaf Education (1954-2000). A thesis Submitted to the Department of ASL and Deaf Studies and the Graduate School of Gallaudet University
- Choshi, M.A. (2015). Application of teaching strategies in Grade 12 English second Language Classrooms in Makweng Circuit, Limpopo Province. <http://hdl.handle.net/10386/1640>

- Chou, Y.C. (2008). Exploring the reflection of teachers' beliefs about reading theories and strategies on their classroom practices. *Feng Chia Journal of Humanities and Social Sciences, 16*, 183-216.
- Chow, D. L. (2003). *The reading experience through deaf eyes: A case study of signing deaf high school students*. University of British Columbia, Vancouver. Retrieved from <http://www.pbs.org/weta/throughdeafeyes/about/transcript.pdf> on June 16, 2010.
- Cooper, D.R. and Schindler, P.S. (2003) *Business Research Methods*. 8th Edition, McGraw-Hill Irwin, Boston.
- Creswell, J. (2015). *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*. New York: Pearson.
- Crotty, M. (1998). *The Foundations of Social Research: Meaning and Perspective in the Research Process*. London: *SAGE Publications Inc*.
- Crume P. K, Lederberg A. and Schick B (2021) Language and Reading Comprehension Abilities of Elementary School-Aged Deaf Children. *Journal of Deaf Studies and Deaf Education, 2021*, 159–169. doi: 10.1093/deafed/enaa033
- Cummins, J. (1991a). Interdependence of first- and second language proficiency in bilingual children. In E. Bialystok (Eds.), *Language processing in bilingual children*. Cambridge: Cambridge University Press.
- Dada, S., & Alant, E. (2002). A comparative study of the attitudes of teachers at special and educationally inclusive schools towards learners with little or no functional speech using communication devices. *South African Journal of Education, 22*(3), 213-218.

- Datt, S. and Chetty, P. (2016). *How to determine validity for quantitative research?* [online] Project Guru. Available at: <https://www.projectguru.in/determining-validity/> [Accessed 03 Feb. 2023].
- Demissie E. (2011) Sign Language use as Medium of Instruction: The Case of Mekanissa School for the Deaf. Unpublished thesis- Addis Ababa University
- Dev, S.& Sura M. (2016) The Relationship between English Language Proficiency, Academic Achievement and Self-Esteem of Non-Native-English-Speaking Students. *International Education Studies*; Vol. 9, No. 5; 2016. ISSN 1913-9020 E-ISSN 1913-9039 Published by Canadian Center of Science and Education. 147. doi:10.5539/ies.v9n5p147 URL: <http://dx.doi.org/10.5539/ies.v9n5p147>
- Dhillon, J. & Wanjiru, J. (2013) Challenges and Strategies for Teachers and Learners of English as a Second Language: The Case of an Urban Primary School in Kenya. *International Journal of English Linguistics*, 3(2).
- Diamond, A. (2014). Understanding executive functions: What helps or hinders them and how executive functions and language development mutually support one another. *The International Dyslexia Association: Perspectives on Language and Literacy*. 40. 7-11.
- Dissake M.E.K & Atindogbe G.G (2017). Being multilingual in a bilingual environment: Implications for quality education. *University of Buea*
- Dodd, R. J., & Sharpley, A. N. (2016). Conservation Practice Effectiveness and Adoption: Unintended Consequences and Implications for Sustainable Phosphorus Management. *Nutrient Cycling in Agroecosystems*, 104, 373-392. <https://doi.org/10.1007/s10705-015-9748-8>

- Dubeck, M. M., Jukes, M. C., & Okello, G. (2012). Early primary literacy instruction in Kenya. *Comparative Education Review*, 56(1), 48-68.
- Ewoldt, C., Israelite, N., & Dodds, R. (1992). The ability of deaf students to understand text: a comparison of the perceptions of teachers and students. *American Annals of the Deaf*, 137(4), 351-361.
- Fafunwa, B.A (1990). Using National Languages in education: A Challenge to African Educators.  
In: *African Thoughts on the Prospects of Educational for All*. Dakar: UNESCO/UNICEF, 97-110
- Fagerberg- Diallo, S. (2006). Learner Centered Processes and Approaches: The Connection between Non Formal Education and Creating a Literate Environment. *Working Document. Biennale on Education in Africa*, Libreville, Gabon, March 27-31
- Fender, M. (2008) *Spelling knowledge and reading development: Insights from Arab ESL learners*. *Reading in a Foreign Language* April 2008, Vol 20, No. 1
- Flórez-A., Leandro & Cano, Sandra & Collazos, César & Solano, Andrés & Slegers, K.(2017). Collaborative learning as educational strategy for deaf children: a systematic literature review. 1-8. 10.1145/3123818.3123830.
- Forero R, Nahidi S, De Costa J, Mohsin M, Fitzgerald G, Gibson N, McCarthy S, Aboagye-Sarfo P. (2018). Application of four-dimension criteria to assess rigour of qualitative research in emergency medicine. *BMC Health Serv Res*. 2022 Feb 17;18(1):120. doi: 10.1186/s12913-018-2915-2. PMID: 29454350; PMCID: PMC5816375.

- Friend, M., & Bursuck, W. D. (2009). *Including students with special needs: A practical guide for classroom teachers* (5<sup>th</sup> ed.). Upper Saddle River, NJ: Merrill.
- Gall, M. D., Borg, W. R., & Gall, J. P. (1996). *Educational Research: An Introduction* (6th ed.). Longman Publication.
- Gargiulo, R. M. (2006). *Special education in contemporary Society. An Introduction to Exceptionality*. New York: Thomson Wadsworth.
- Garner, R., Alexander, P.A., & Hare, V.C. (1991). Reading comprehension failure in children. In B.Y.L Wong (Ed.). *Learning about learning disabilities*. San Diego, CA: Academic Press.
- Garrett, J. (2002). Enhancing the attitudes of children toward reading: Implications for teachers and principals. *Reading Improvement*, 39(1), 21-24.
- GOK. 1976. *National committee on educational objectives and policies: The Gachathi Report*.
- GoK, 2021- Status Report On Disability Inclusion in Kenya, 2021: Implementation of The Global Disability Summit Commitments of 2018
- Gregory T. (2016) Perspectives of Foreign Language Teachers on Influences, Challenges, and Practices Affecting Language Choice. Unpublished Master's Thesis. Brigham Young University- USA
- Republic of Kenya, (1999). *Totally Integrated Quality Education and Training (TIQET) System of Kenya*. Nairobi: Government Printer.
- Gilbert, D. (2011). *Reading instruction for deaf students. An honors thesis, Ball State University*. Retrieved from

[https://cardinalscholar.bsu.edu/bitstream/123456789/196282/1/G55\\_2012GilbertDe](https://cardinalscholar.bsu.edu/bitstream/123456789/196282/1/G55_2012GilbertDe)

vonM.pdf on Jan 27, 2023.

Graham B. E & Van Ginkel A. (2014) Assessing early grade reading: the value and limits of 'words per minute', *Language, Culture and Curriculum*, 27:3, 244-259

DOI: [10.1080/07908318.2014.946043](https://doi.org/10.1080/07908318.2014.946043)

Gravel, J. S., & O'Gara, J. (2003). Communication options for children with hearing loss. *Mental Retardation and Developmental Disabilities Research Reviews*, 9(4), 243- 251.  
doi:<https://doi.org/10.1002/mrdd.10087>

Guba, E. G., & Lincoln, Y. S. (2005). Paradigmatic Controversies, Contradictions, and Emerging Confluences. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (pp. 191–215). Sage Publications Ltd.

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

Hallowell, D and Silverman K. (2008) *Hearing and Deafness*:4th Edition. New York: Holt, Rinehart and Winston.

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

Hasan K.and Akhand M.M (2014). EFL students' English language proficiency and their academic achievement. *ABAC Journal Vol. 34 No. 2 (May-August 2014 pp.64-70)*

- Heineman-Gosschalk, R. (1999). *The roles of teachers, parents and deaf adults in promoting reading in deaf children*. PhD thesis, University of Bristol.
- Herzig, M.P. (2009). *Understanding the motivation of deaf adolescent Latino struggling readers*. Retrieved from <http://escholarship.org/uc/item/1r7825k9> on February 15, 2023.
- Hibbing, A. N., & Rankin-Erickson, J. L. (2003). A picture is worth a thousand words: Using visual images to improve comprehension for middle school struggling readers. *The Reading Teacher*, 56(8), 758–770.
- Hirsch, E. D. (2003). Reading comprehension requires knowledge of words and the world: Scientific insights into the fourth-grade slump and the nation's stagnant comprehension scores. *American Educator*, 27, 10–29.
- Hrastinski, I. & Wilbur, R. (2016). Academic Achievement of Deaf and Hard of Hearing Students in an ASL/English Bilingual Program. *Journal of deaf studies and deaf education*. Volume 21, Issue 2, April 2016, Pages 156–170, <https://doi.org/10.1093/deafed/env072>. 21. 10.1093/deafed/env072.
- Hu, M., & Nation, I.S.P. (2000). Vocabulary density and reading comprehension. *Reading in a Foreign Language*, 13(1), 403–430.
- Jacobs, G. & Arthur K. (2005). Syllable structure and sonority in language inventory and aphasic neologisms. *Brain and language*, 95, 280-92.
- Johnson, K. E. (1994). The emerging beliefs and instructional practices of pre- service English as a second language. *Teaching & Teacher Education*, 10, 439-452.

- Ikonta, N.R. & Mandukwe, A.N. (2012). *Reading strategies: A catalyst for enhancing comprehensive and summary writing proficiency among high school students in Lagos. Nigeria. Central and Eastern European Online Library*, 1. 249-256.
- Irokaba, G. (2006). Effectiveness of the application of the principals of ASL/ English bilingual philosophy in the pedagogy in deaf education in Africa. Retrieved from <http://www.pfi.uio.no.konferance/LEA2006/assets/docs/Irokaba-paper.pdf> on June 26, 2022
- Jacobs, L. R. (2022) The efficiency of sign language interpreting to convey lecture information to deaf students. A Dissertation Submitted to the Faculty of the Rehabilitation center,. *The University of Arizona*
- Jessica A.& Jonathan H. (2021) Second verse, same as the first: On the use of signing systems in modern interventions for deaf and hard of hearing children in the USA, *Deafness & Education International*, 23:2, 123-141, DOI: [10.1080/14643154.2020.1792071](https://doi.org/10.1080/14643154.2020.1792071)
- Johnson, R.B. and Christensen, L.B. (2008) Educational Research: Quantitative, Qualitative, and Mixed Approaches. 3rd Edition, *Sage Publications, Inc.*, Lose Angeles.
- Kalya J.K, Bunyasi B.A & Karugu G (2020) Effect of Kenyan Sign Language on Academic Performance of Learners with Hearing Impairment; A Case of Kedowa Special School, Kericho County, Kenya. *International Journal of Research and Scientific Innovation (IJRSI)* | Volume VII, Issue X, October 2020 | ISSN 2321–2705
- Kamla-Raj (2014) Concerns for the Language Skills of South African Learners and Their Teachers North-West University, Vaal Triangle Campus. *South Africa Int J EduSci*, 7(1): 219-228 (2014)

- Kannapell, B. (2011). An examination of Deaf college students' attitudes toward ASL and English. In C. Lucas (Ed.), *The Sociolinguistics of the Deaf Community* (pp. 191-228). San Deigo: Academic Press.
- Karabenick, S. A., & Noda, P. C. (2004). Professional development implications of teachers' beliefs and attitude toward limited English proficient students. *Bilingual Research Journal*, 28 (1), 55-75.
- Kembo-Sure (1997) *Language Development and Integration in Kenya since Independence*. Unpublished Manuscript. University of Pretoria.
- Kembo-Sure M., Mwangi, S., & Ogechi, N. (Eds.) (2009). *Language Planning for development in Africa*. Eldoret: Moi University Press.
- Kerubo G.Z (2017) Modes of Instruction's Influence On Performance in English Language in Special Primary Schools for The Deaf in Kisii County, Kenya. Unpublished Master's Thesis- Kenyatta University
- Khonamri, F., & Salimi, M. (2010). The Interplay Between Efl High School Teachers' Beliefs and their Instructional Practices Regarding Reading Strategies. *Novitas- ROYAL (Research on Youth and Language)*, 4 (1), 96-107.
- Kenya Deaf Resource Centre (K.D.R.C) (2009). *Teaching reading to deaf children*. Retrieved from <http://www.kenyadeafnet.org/contact/view/159/348> on August 24, 2022.
- KIE, (2004). *Secondary syllabus for learners with hearing impairment, Kenya Sign language*. Nairobi: KIE.
- KIE, (2008). *Let's learn sign language standard five*. Nairobi: Kenya Institute of Education.

- KIE (2002). Kenyan Sign Language for Schools: Fourth Draft. Nairobi: Kenya Institute of Education.
- Kilanya, A. (2010) *Effects of Kenyan sign language on acquisition of English language: A study of Esageri School for The deaf, Mogotio, Baringo County*. (Master's thesis). Kenyatta University, Kenya.
- Kimani, C. (2012). Teaching Deaf Learners in Kenyan Classrooms. Unpublished PhD Thesis; University of Sussex
- Kiptui D.K., & Mbugua, Z.K. (2009). In EMSK (2009). *Kenya Journal of Education, Planning, Economics and Management. Vol. 1*. Kisumu: Education Management Society of Kenya
- Kirk, A.S, Gallagher, J.J and Anastasiow, J.N (2007), *Educating Exceptional Children* (8<sup>th</sup>ed.). New York, Boston: Houghton Mifflin Company.
- Klima, E. and U. Bellugi. 1975. Aspects of Sign Language and Its Structure. In Kavanagh and Cuttings (eds.). *The Role of Speech in Language*. Cambridge: MIT Press.
- KNAD (2001). Kenyan sign language dictionary. Nairobi; Oracle Ventures.
- Kochung, E.J. (2003) National Task Force on Status of Special Education in Kenya
- Kodiango, W.O. & Syomwene, A. (2016). Challenges Faced by the Hearing Impaired Learners in Composition Writing and in Answering Comprehension Questions in English Language Lessons. *European Journal of Educational Studies*. Vol 2 No.10.
- Koech, D. (1999), Commission- [en.Wikipedia.org/wiki/Davy-Koech-Co-softkenya.com/education/education-com.www.kenpro.org/papers/education-sys...](http://en.Wikipedia.org/wiki/Davy-Koech-Co-softkenya.com/education/education-com.www.kenpro.org/papers/education-sys...)
- Kothari, C, (2010), *Research Methodology, Methods and Techniques 2<sup>nd</sup> Edition*, New Age International, India.

- Krueger, R.A. & Casey, M.A. (2008) *Focus groups: A practical guide for applied research*. 4th edition. New York: *SAGE*.
- Kvint, V. (2009). *The Global Emerging Market: Strategic Management and economics*. London: Routledge.
- Kyle, F. E., & Harris, M. (2006). Concurrent correlates and predictors of reading and spelling achievement in deaf and hearing school children. *Journal of Deaf Studies and Deaf Education*, *11*, 273–288.
- Lane, H., Hoffmeister, R., & Bahan, B. (1996). *A journey into the deaf-world*. San Diego, CA: Dawn Sign Press.
- Leandro F, A. (2017) Collaborative Learning as Educational Strategy for Deaf Children: A Systematic Literature Review. Association for Computing Machinery. ACM ISBN 978-1-4503-5229-1/17/09...\$15.00 <https://doi.org/10.1145/3123818.3123830>
- LeCompte, M. D., & Preissle, J. (1993). *Ethnography and Qualitative Design in Educational Research* (2nd ed.). New York: Academic Press.
- Lederberg, A. R., & Spencer, P. E. (2001). Vocabulary development of deaf and hard of hearing children. In M. D. Clark, M. Marschark, & M. Karchmer (Eds.). *Context, cognition, and deafness*. Washington, DC: Gallaudet University Press.
- Li, Linda & Vandermensbrugge J. (2011). Supporting the thesis writing process of international research students through an ongoing writing group. *Innovations in Education and Teaching International*. 48. 195-205. 10.1080/14703297.2011.564014.

- Ludago, B.T. (2014) Signed Language Proficiency and Reading Comprehension Skill of Deaf Children in Special and Integrated Primary Schools in Addis Ababa. *International Journal of Research (IJR)*, 1(7), 729-751.
- Loh, E. K. Y., & Tse, S.K. (2009). The relationship between motivation to read Chinese and English and its impact on the Chinese and English reading performance of Chinese students. *Chinese Education and Society*, 42, 66-90.
- Lynas, W. (1988). Sign systems in special education: some experiences of their use with deaf children. *Child Language Teaching and Therapy*, 4(3), 251– 270.  
<https://doi.org/10.1177/026565908800400301>
- Lucas, C. (2001). *The Sociolinguistics of Sign Languages*. Cambridge: Cambridge University Press.
- MacCracken, W. and Sutherland, H (2013). *Deaf-Ability Not Disability*. A Guide for parents of Hearing Impaired Children. Clevedon: Billing & Sons Ltd.
- McAnally, L., P. Rose, S., & Quigley, P., S. (2006). *Reading practices with deaf learners* (2<sup>nd</sup> ed.). Austin, TX: Pro-ed.
- Marcath, K. (2021). Challenges faced by deaf and hard of hearing learners. Retrieved from.  
<https://www.aslpicturebooks.com/>
- Martin, S.D. (2001). The English-only movement and sign language for deaf. *Sign Language Studies*, 115-120.
- Marvelli, A. L. (2010). Highlights in the history of oral teacher preparation in America. *Volta Review*, 110(2), 89-115.

- McLeod, S. (2022, May 05). Vygotsky's Sociocultural Theory of Cognitive Development. *Simply Psychology*. [www.simplypsychology.org/vygotsky.html](http://www.simplypsychology.org/vygotsky.html)
- McLeod, S. A. (2019). What Is the zone of proximal development? *Simply Psychology*. [www.simplypsychology.org/Zone-of-Proximal-Development.html](http://www.simplypsychology.org/Zone-of-Proximal-Development.html)
- MacMillan, J.H. and Schumacher, S. (2001). *Research in Education. A Conceptual Introduction*. 5th Edition, Longman, Boston.
- Mahmoud A.R. (2017). The Impact of Effective Teaching Strategies on Producing Fast and Good Learning Outcomes. *International Journal of research*, 5(1), 43-58.
- Maina E.N (2015) Teaching and Learning of English Reading Comprehension: Implications on Academic Achievement of Deaf Students in Secondary Schools in Kenya
- Magongwa, L. (2010). Deaf Education in South Africa. *American Annals of the Deaf* 155(4), 493-496. [doi:10.1353/aad.2010.0042](https://doi.org/10.1353/aad.2010.0042).
- Malhotra, N.K. (2004) *Marketing Research*. Prentice Hall, New Jersey.
- Marschark, M., Sapere, P., Convertino, C., Seewagen, R., & Maltzen, H. (2004). Comprehension of sign language interpreting: Deciphering a complex task situation. *SignLanguage Studies*, 4,345-368.
- Marshall, C., & Rossman, G. (2006). *Designing qualitative research*, (4th ed.). Thousand Oaks, CA: Sage Publications
- Mbwesa J. (2006). *Introduction to Management Research, A student's handbook*. NAIROBI: Jomo Kenyatta Foundation.

- McCombes, S. (2022, December 01). Sampling Methods, Types, Techniques & Examples. *Scribbr*. Retrieved January 26, 2023, from <https://www.scribbr.com/methodology/sampling-methods/>
- McKeown, M. (2011). *The strategy book* (1<sup>st</sup> Ed.) Harlow, United Kingdom: Pearson Education Limited.
- Mellet S. M., & Crowe J.H. (2009). The Relationship between Selected Affective Factors and Achievement in English of Secondary School Students in Zimbabwe. Retrieved from <http://www.uir.Unisa.ac.za/handle/10500/994> on July 5, 2022.
- Mesthrie, R. (2002). *Language in South Africa*. Cambridge University Press.
- Miller, D. (2002). *Reading with meaning: Teaching comprehension in the primary grades*. Portland, ME: Stenhouse.
- Miller, P. F. (2000). Syntactic and semantic processing in Hebrew readers with pre-lingual deafness. *American Annals of the Deaf*, 145, 436-451.
- Miller P.,Kargin T.,Guldenoglu I. B.,Rathmann C.,Kubus O.,Hauser P., &Superegon, E. (2012).Factors Distinguishing Skilled and Less Skilled Deaf Readers: Evidence from Four Orthographies.*Journal of Deaf Studies and Deaf Education*, 17, 439-462.
- Misbah, N.H., Mohamad, M., Yunus, M. & Ya'acob, A. (2017). Identifying the factors contributing to students' difficulties in the English language learning. *Creative Education*, 8, 1999-2008. <https://doi.org/10.4236/ce.2017.813136>.
- Mitchell, R. E. (2008). Academic achievement of deaf students. In R. C. Johnson & R. E. Mitchell (Eds.), *Testing deaf students in an age of accountability*(pp. 38–50). Washington, DC: Gallaudet University Press

- Monreal, S. T. & Hernandez, R. S. (2005). Reading levels of Spanish deaf students. *American Annals of the Deaf*, 150(4), 379-387.
- Moore, D.F. (2001). *Educating Deaf Psychology Principles; Educating Children who are deaf or hard of hearing: Assessment*. Washington: Gallaudet University Press.
- Mowlaiea B. & Rahimib A. (2010) The effect of teachers' attitude about communicative language teaching on their practice: Do they practice what they preach? *Procedia Social and Behavioral Sciences* 9 (2010) 1524–1528. WCLTA 2010
- Muguna F.G (2011) Perception on the Factors Influencing Performance of Pre-school children with HI-a Case of Kaaga School- Imenti North District – University of Nairobi, Unpublished Master's Thesis
- Mukiri, S.R. (2012). *Depth and breadth of vocabulary knowledge and English language reading comprehension among selected standard eight pupils in Meru Central District, Kenya*. Retrieved from <http://ir-library.ku.ac.ke/etd/handle/123456789/2763> on February 28, 2023.
- Moses, R. & Mohamad, M. (2019). Challenges faced by students and teachers on writing skills in ESL contexts: A Literature Review. *Creative Education*, 10, 3385-3391. doi:10.4236/ce.2019.1013260.
- Morgan, P., Fuchs, D., Compton, D. L., Cordray, D. S., & Fuchs, L. S. (2008). Does early reading failure decrease children's reading motivation? *Journal of Learning Disabilities*, 41, 387-404.
- Morse J.M (2015) Critical Analysis of Strategies for Determining Rigor in Qualitative Inquiry. *Qualitative Health Research*. 2015;25(9):1212-1222. doi:10.1177/1049732315588501

- Mubarak A. (2021) Communicating with Deaf Students in Inclusive Schools: Insights from Saudi University Faculty; Eurasian Journal of Educational Research; DOI: 10.14689/ejer.2021.95.11
- Musselman, C. (2000). How do children who can't hear learn to read an alphabetic script? A review of the literature on reading and deafness. *Journal of Deaf Studies and Deaf*
- Mutai, M.N. (2012). An Assessment of the Teaching Strategies Employed by English Language Teachers in Eldoret Municipality, Kenya. *Journal of Emerging Trends in Educational Research and Policy Studies*, 3(3), 352-357.
- Nabea, W. (2009). Language Policy in Kenya: Negotiation with Hegemony. *The Journal of Pan African Studies*, vol 3(1), 121-138.
- Namirembe, B., Philip, E., Mkama, I. & Kilave, Y. (2015). *Teaching D/HH learners, testing innovative teaching practice in inclusive secondary schools in Tanzania.*
- Namukoa, W.A. (2014). Teacher Practices in Science Literacy instruction for Learners who are Deaf or Hard of Hearing in Kenya. <https://doi.org/10.7939/R31688>
- Neuendorf, K. A. (2002). *The Content Analysis Guidebook*. Thousand Oaks, CA: Sage Publications
- Ngobeni, Winnie & Maimane, Joseph & Rankhumise, Mmushetji. (2020). The effect of limited sign language as barrier to teaching and learning among Deaf learners in South Africa. *South African Journal of Education*. 40. 1-7. 10.15700/saje. v40n2a1735.
- Ndegwa, E. N. (2008). *Intermediate Kenya sign language*. Nairobi: Kenya Institute of Special Education.

- Ndung'u C.W. (2013) English Language Literacy for Deaf Learners. A paper presented in the First International Research and Innovation Conference at Mount Kenya University, 28<sup>th</sup>–30<sup>th</sup> August, 2013 at Safari Park Hotel- Nairobi Kenya
- Ndurumo, M. M. (2008). *African Annals of the Deaf Issue* No.2008-01.
- Ndurumo, M. M. (1993) *Exceptional Children –a Developmental Consequences and Intervention*. Nairobi: Longman Kenya Ltd.
- Ndurumo, M. M. (1986). *An analysis of the recommendations to redesignate schools for the deaf based on children's oral competence*: Kenya Institute of Education.
- Niederberger Costello, Nathalie & Prinz, P. (2005). Does the knowledge of a natural sign language facilitate deaf children's learning to read and write? *57*. 285-297.
- Ochieng, D.O. (2016) *Analysis of influence of mother tongue on English Performance in Kenya Certificate of Primary Education: A case study of Ndhiwa Sub-County*. (Masters research Project). University of Nairobi, Kenya.
- Ochwal, A.A. (2008). Communication strategies used by non-specialized teachers of the deaf learners in Nyanza province. Unpublished M. EdThesis, Maseno University.
- Ogada, R., Oracha P. A., Matu P. M. & Tyeng'o M. (2012). Languages used in teaching and learning English composition writing among learners with hearing impairments in Nyanza Province, Kenya. *International Journal of Social Sciences and Entrepreneurship*, 1 (12), 1-11.
- Ogotu, T.A. (2004). *Children with Communication Disorders*, KISE.
- Okwaro, R and Bakari., A (2003). *Elementary Sign Language Part I*. Nairobi: Kenya Institute of Special Education.

- Okombo, O. (1994). Kenyan Sign Language: Some attitudinal and cognitive issues. In the evolution of a language community. Humgurg: Signum.
- Okombo, O., W. Akaranga, G. J. Mweri and A. T. A. Ogutu. 2006. *Introduction to theory and skills of teaching Kenyan Sign Language: A handbook for teachers*. Nairobi: Kenya Society for Deaf children.
- Okombo, O. 1992. "Bilingualism in the Schools for the Deaf." In Proceedings of East African Sign Language Seminar. Nairobi, Kenya.
- Okombo, O. & P. A. O. Akach. 1997. "Language convergence and wave phenomena in the growth of a national Sign Language in Kenya". In M. H. Abdulaziz (ed.). *International journal of the sociology of language*. No. 125: New York: Mount de Grutyter, pp. 31.
- Omugur, J.P. (2007). Sign language interpretation services for children with hearing impairment in inclusive secondary high schools: a case study on the challenges faced by sign language interpreters in one secondary high school – Uganda- Unpublished thesis.
- Omutsani J.A (2012) Factors Affecting KCPE Performance of Learners with Hearing Impairments in Special Schools in Selected Counties, Kenya – Unpublished Master's Thesis, Kenyatta University
- Ongechi, N. and Ongechi, E. (2002). "Educational publishing in African languages with a focus on Swahili in Kenya. *Nordic Journal of African Studies*.
- Orodho, J. A. (2009). *Techniques of writing research proposals and reports in education and social sciences*. Nairobi. Kanezja publishers.

- Oyier R.A (2019) the influence of selected factors on academic performance of deaf students in English composition in secondary schools in Kenya. Unpublished Master's Thesis- Maseno University
- Oyetunji, C.O. (2011). *The effect of reading strategy instruction on L2 teacher trainees performance*. M.A Thesis, University of South Africa. Retrieved from [http://uir.unisa.ac.za/bitstream/handle/10500/7760/dissertation\\_oyetunji\\_co.pdf](http://uir.unisa.ac.za/bitstream/handle/10500/7760/dissertation_oyetunji_co.pdf) March 24, 2022.
- Owuor, H., (2008). *Teacher's attitudes and their effects on academic performance of hearing impaired learners in selected regular primary schools in Homabay district*. (Unpublished Master's thesis). Kampala international University, Uganda.
- Papademetriou S. (2019) Language Teachers' perspectives on CLIL and CBI in a Language School. Unpublished Master's Thesis Report. University of Roehampton London
- Padden, Carol A. (2003). *How the alphabet came to be used in a Sign Language*, *Sign Language studies*,41. Gallaudet University Press,<http://en.w.kipendia.org/wiki/Fingerspelling>.
- Paul, P. (2001). *Language and deafness* (3<sup>rd</sup> ed.). San Diego, CA: Singular.
- Paul, P. V., Wang, Y., Trezek, B. J., & Luckner, J. L. (2009). Phonology is necessary, but not sufficient: A rejoinder. *American Annals of the Deaf*, 154, 346-356.
- Parault, S. J., & Williams, H.M (2010). Reading Motivation, Reading Amount, and Text Comprehension in Deaf and Hearing Adults. *Journal of Deaf Studies and Deaf Education*,15(2), 120-135.

- Pennington R. E (2016) Teachers' Perspectives: What Support Systems are Needed to Ensure Effective Implementation of SEL by Classroom Teachers? Unpublished Master's Thesis. The University of Sydney.
- Pribanić, Ljubica. (2006). Sign Language and Deaf Education: A new tradition. *Sign Language & Linguistics*. 9. 233-254. 10.1075/sll.9.1.12pri.
- Reagan, T. (2008). (2001). Language Planning and Policy. In Lucas, C. (Ed.). *The Sociolinguistics of Sign Language*. Cambridge University Press; United Kingdom.
- Riwayatningsih, Rika. (2019). Improving Writing Skill with Questioning: A Path on Critical Thinking Skill. *Metathesis: Journal of English Language, Literature, and Teaching*. 3. 203. 10.31002/metathesis.v3i2.1665.
- Robson, C. (2002). *Real World Research: A Resource for Social Scientists and Practitioner-Researchers* (2nd ed.). Oxford: Blackwell Publishers Ltd.
- Ruth S.C (2018) Impact of Kenya Sign Language on Written English Grammar Among Learners who are Deaf in Upper Primary Classes in Nakuru Region, Kenya. Unpublished Master's Thesis.
- Rwaimba, S.M. (2016). School based factors affecting learning of Kenyan sign language in primary schools for hearing impaired in Embu and Isiolo counties, Kenya. *Revista Brasileira de Educação do Campo*, 1, 584-605.
- Saunders, M., Lewis, P. & Thornhill, A. (2012) "Research Methods for Business Students" 6th edition, *Pearson Education Limited*.
- Sekaran, U. (2006). *Research Methods for Business: A Skill Building Approach*. Hoboken, NJ: John Wiley & Sons.

- Sibanda, P., Chimhenga, S., 2016. Perceptions of sign language among teachers in schools that enroll deaf children in Bulawayo (Zimbabwe). *Scientific Journal of Pure and Applied Sciences*, 5(5), 440-454
- Strong M,& Prinz P. (1997). A study of the relationship between American sign language and English literacy. *J Deaf Stud Deaf Educ.* 1997 Winter;2(1):37-46. doi: 10.1093/oxfordjournals.deafed.a014308. PMID: 15579834.
- Republic of Kenya (1988). *Kamunge-Report: Education and manpower training for the next decade and beyond*. Nairobi: Government Printer.
- Richardson, V., Anders, P., Tidwell, D., & Lloyd, C. (1991). The relationship between teachers' beliefs and practices in reading comprehension instruction. *American Educational Research Journal*, 28(3), 559-586.
- Sahragard R., Baharloo A. & Seyyed S.M. A (2011) a closer look at the relationship between academic achievement and language proficiency among Iranian EFL Students. *Theory and Practice in Language Studies*, Vol. 1, No. 12, pp. 1740-1748, December 2011. © 2011 Academy Publisher Manufactured in Finland. Doi:10.4304/tpls.1.12.1740-1748. © 2011 Academy Publisher. ISSN 1799-2591
- Schirmer, B. R. (2000). *Language and literacy development in children who are deaf* (2<sup>nd</sup> ed.). Boston: Allyn and Bacon.
- Schirmer, B. (2003). Using verbal protocols to identify reading strategies of students who are deaf. *Journal of Deaf Studies and Deaf Education*, 8,157-170.
- Schirmer, B., Bailey, J., & Lockman, A. (2004). What verbal protocols reveal about the reading strategies of deaf students: A replication study. *American Annals of the Deaf*, 149, 5-16.

- Schirmer, B. R., Therrien, W. J., Schaffer, L., & Schirmer, T. N. (2009). Repeated reading as an instructional intervention with deaf readers: Effect on fluency and reading achievement. *Reading Improvement, 46*, 168-177.
- Schwartz, M., Mor-Sommerfeld, A., & Leikin, M. (2010). Facing bilingual education: kindergarten teachers' attitudes, strategies and challenges. *Language Awareness, 19*(3), 187-203. doi: 10.1080/09658416.2010.491919
- Sedita, J. (2005). Effective vocabulary instruction. *Insights on Learning Disabilities, 2*(1), 33-45.
- Siima, S. B. A. (2011). *Teaching of Reading and Writing to Deaf Learners in Primary Schools in Uganda*. University of Oslo, Norway. Retrieved from <https://www.duo.uio.no/bitstream/handle/10852/32261/thesis.pdf?sequence=1> on February 26<sup>th</sup>, 2023.
- Situmorang, M., A., (2021). Students' Perception of Using Group Work in English Class. *Journal of English Teaching, 7*(1), 81-88.
- Slavin, R. (2000). *Educational Psychology*. Boston: Allyn and Bacon.
- Snow, C., Sweet, A.P., Alvermann, D. E., Kamil, M.L., & Strickland, D.S. (2002). Formulating a research agenda about reading for understanding. In A.M. Roller (Ed.), *Comprehensive reading instruction across the grade levels: A collection of papers from the reading research 2001 conference* (pp. 88–110). Newark, DE: International Reading Association.
- Solano, P.A.C., Torres, P.F.G., Cueva, C.A.O., Beltran, A.L.Q., Cuesta, L.M.C., Jaramillo, L.M.S., Jaramillo, F.O.E. & Cordova, M.O.A. (2014) *Spanish Interference in EFL Writing Skills*. <http://dx.doi.org/10.5539/elt.v7n7p40>

- Strassman, B.K. (1992). Deaf adolescents' metacognitive knowledge about school related reading. *American Annals of the Deaf*, 137(4) 326-330.
- Strassman, B. K. (1997). Metacognition and reading in children who are deaf: A review of the research. *Journal of Deaf Studies and Deaf Education*, 2(3), 140–149.
- Stahlman, B (1998). Language, Issues in Deaf Education: Hillsboro: *Butte Publications*, Inc.
- Stewart, D.W., & Sham Dasani, P. N. (1990). Focus groups: Theory and practice. Applied social research methods series, Thousand Oaks, CA: *Sage Publications*, Inc.
- Struart, C., & Thurlow, D. (2000). Making it their own: Pre-service teachers experiences, beliefs, and classroom practices. *Journal of Teacher Education*, 51(2), 113-121.
- Squires, D., & Bliss, T. (May 2004). Teacher visions: navigating beliefs about literacy learning: teachers can use 'visioning' as a tool to clarify how their beliefs play out as instructional practices. *The Reading Teacher*, 57(8), 756.
- Suwiryo, A.I., & Artyana, E.R. (2018). Sign Language Interpreting in English Language Teaching for a Deaf Student: A case study. *Indonesian JELT: Indonesian Journal of English Language Teaching*.
- Thu, H. (2019). Using metaphor in EFL classroom to enhance writing skills. *International Journal of Humanity Studies*, 3(1), 1-13
- Udosen, A. E. (2011). The state of reading instruction in secondary schools in Akwa, Ibom State: Implication for sustainable development. *Journal of Emerging Trends in Educational Research and Policy Studies (JETERAPS)*, 2(5), 382-387.
- Valenzuela, A. (1999). Subtractive schooling: U.S.-Mexican youth and the politics of caring. Albany, NY: State University of New York Press.

- Van Rensberg, W. & Lamberti, P. (2004). *The language of learning and teaching*. In S. Gravett & H. Geyser (Eds.), *Teaching and learning in higher education*. Pretoria: Van Schaik publishers.
- Vander Stoep, S.W & Johnson, D.D. (2009). *Research methods for everyday life: blending qualitative and quantitative approaches*. 1<sup>st</sup> Edition. Hoboken, NJ, USA: Wiley Publisher, 1-353.
- Van Zeeland, H., & Schmitt, N. (2012). Lexical coverage and L1 and L2 listening comprehension: The same or different from reading comprehension? *Applied Linguistics*, 34(4), 457-479.
- Wakumelo M. N & M. Manyando (2013) A situational analysis of the use of sign language in the education of the Deaf in Zambia: A case of Magwero and St Joseph's schools for the Deaf, *Language Matters*, 44:3, 69-88, DOI: [10.1080/10228195.2013.839733](https://doi.org/10.1080/10228195.2013.839733)
- Wallace, C. (2007). Vocabulary: The knowledge to teaching English language learners to read. *Reading Improvement*, 44 (4) 189-198.
- Walter, G. G. (2003). Lexical abilities to hearing and hearing impaired children. *American annals of the deaf* 123, 976-982.
- Waluyo B. and Panmei B (2021) English Proficiency and Academic Achievement: Can Students' Grades in English Courses Predict Their Academic Achievement? *MEXTESOL Journal*, Vol. 45, No. 4, 2021 1
- Wamae, G. (2002). Linguistic challenges facing the hearing-impaired learners in Kenya. Unpublished paper presented at the Department of English and Linguistics, Kenyatta University, Nairobi.

- Wandera S.N (2012) Effectiveness of Teaching Methods in English Language On Acquisition of English Language Skills in Public Secondary Schools in Nairobi County, Kenya- Unpublished Research Project Report. University of Nairobi.
- Wang, M., & Geva, E. (2003). Spelling Performance of Chinese ESL Children: Lexical and Visual-Orthographic Processes. *Applied Psycholinguistics*, 24, 1-25
- Wiest, L.R. (1998). Using immersion experiences to shake up pre-service teacher's views about cultural differences. *Journal of Teacher Education*, 49(5), 358-365.
- William, H. (2006). *Exceptional Children. An Introduction to Special Education* (8<sup>th</sup> edition) Merrill Prentice Hall Upper Saddle River, New Jersey.
- Webb, V. & Kembo-Sure, (eds) (2000). *African Voices: An Introduction to the Language and Linguistics of Africa*. London: Oxford University Press.
- Wilbur, R. B., & Quigley, S. P. (1975). Syntactic structures in the written language of deaf students. *The Volta Review*, 77, 194–203
- Wood, K. (1998). *Undergraduates' life stories in the deaf education English literacy system: revealing discursive identities with coherence resources*. Washington DC: Georgetown University Doctoral Dissertation.
- Woolfolk Hoy, A., Hoy, W. K., & Davis, H. A. (2009). Teachers' Self-Efficacy Beliefs. In K. R. Wentzel & A. Wigfield (Eds.), *Handbook of Motivation at School* (pp. 627– 653). NewYork: Routledge.
- Yin, R.K. (2003). *Case Study Research: Design and Methods*. Sage. Thousand Oaks, California.
- Yule, G. 1985. *The Study of Language* (5th Edition). London: CUP

Zainal, Zaidah. (2007). Case study as a research method. *Journal Kemanusiaan*. 9.

Zambia National Association of the Deaf (ZNAD) (2001). *Zambian Sign Language Dictionary: A basic Dictionary of Gestural/Visual Communication System of the Zambian Deaf Community*. Zambia National Association of the Deaf.

Zapien, C. (1998). Options in Deaf Education—History, Methodologies, and Strategies for Surviving the System. Found at [http://hh.tanq.org/Uploads/Franklin/Options\\_in\\_Deaf\\_Education.pdf](http://hh.tanq.org/Uploads/Franklin/Options_in_Deaf_Education.pdf) Retrieved on July 1, 2022

Zhang, L. J. & Annual, S. B. (2008). The role of vocabulary in reading comprehension: The case of secondary school students learning English in Singapore. *RELC Journal*, 39 (1), 51-67.

## APPENDICES

### APPENDIX I: INTERVIEW SCHEDULE FOR THE PRINCIPALS

I am a PhD student on research at Jaramogi Oginga Odinga University of Science and Technology (JOUST) in Special Needs Education. This interview schedule is intended to gather data for the purposes of exploring details and examining the sign language systems used in classroom and their implications on performance in English.

I am sincerely requesting you to volunteer information by responding to each question item during the interview. The information provided will be treated with high confidentiality and used only for this intended purpose. If you are willing to participate, kindly fill in the consent form herewith attached. Please DO NOT write your name or a mobile phone number anywhere in this form.

I thank you for your cooperation.

#### **A. Sign Systems used for instruction in Special Schools for the Deaf and their implications on academic achievements in English**

1. What is your area of specialization?
2. What is the recommended number in class?
3. Which sign systems do you use/promote in the school?
4. How do you think KSL differs from English?
5. What impacts do you think the system has on general performance of learners/of English?
6. Which sign system do you think is the most appropriate to be used during English lessons?
7. Is there a policy that guides on which sign system should be used?

#### **B. Perspectives of Special Needs Educators on the Application of Sign Systems and their Implications on Academic Performance in English**

1. How many teachers teach English?
2. What do teachers say about the various sign systems?
3. How do teachers in your school use KSL during English lessons?

4. How does the sign system used affect/interfere with the teachers' working?
5. How can you comment on the use of KSL, SEE, SE and Fingerspelling use during English Lessons?

### **C. Perspectives of Deaf students towards Sign Systems and their Implications on Academic Performance in English**

1. Does the sign system used affect the learners in any way?
2. How does this perception of the learners to sign systems affect their performance in English?
3. How does the school perform in English in the National examinations?
4. Do you think the sign systems used in classroom instruction affect their performance in any way? How?
5. What do the learners comment about the sign system(s) used?
6. What challenges do these learners face when learning English?

### **D. Deaf Students' Proficiency in Sign Systems and the implications on Academic performance in English.**

1. What can you comment on the proficiency of learners in using KSL, SEE and SE?
2. How do you compare the learners' proficiency in KSL and versus English?
3. How do you compare those with high proficiency in Sign Language with the below average in English performance?

### **E. Teaching and Learning Strategies employed in teaching English and the implications on Academic Achievement**

1. What strategies do teachers in your school employ during English lessons?
2. Comment on the effectiveness of the above-mentioned strategies as far as acquisition of literacy skills in English is concerned
3. What is the relationship between the strategies employed and the sign system that teachers use?

## **APPENDIX II: INTERVIEW SCHEDULE FOR TEACHERS OF ENGLISH**

I am a PhD student on research at Jaramogi Oginga Odinga University of Science and Technology (JOOUST) in Special Needs Education. This interview schedule is intended to gather data for the purposes of exploring details and examining the sign language systems used in classroom and their implications on performance in English.

I am sincerely requesting you to volunteer information by responding to each question item during the interview. The information provided will be treated with high confidentiality and used only for this intended purpose. If you are willing to participate, kindly fill in the consent form herewith attached. Please DO NOT write your name or a mobile phone number anywhere in this form.

I thank you for your cooperation.

### **A. Sign Systems used for instruction in Special Schools for the Deaf and their implications on academic performance s in English**

1. For how long have you been teaching English?
2. Which other subject do you teach apart from English?
3. What do you understand by Sign Systems?
4. How many sign systems are there in this school?
5. Which Sign System do you use in class during instruction for English?
6. Comment on the relationship between the sign system used and the performance of the learners in English.
7. What do you think about the extent to which teachers should use KSL/SEE during English lessons?
8. What do the differences between KSL and English mean when teaching your learners?
9. How do the differences impact on acquisition of English skills in relation to:
  - a) Plurals
  - b) Sentence structure- subject, verb, object order; number and tense agreement.
  - c) Punctuation

- d) Tenses
- e) Use of subjective and objective pronouns
- f) Use of adverbs and adjectives
- g) Use of auxiliary verbs
- h) Use of conjunctions and articles

**B. Perspectives of Special Needs Educators on the Application of Sign Systems and their Implications on Academic Performance in English**

1. What is your opinion on the sign system that is used in your school in teaching English?
2. How does the use of a given sign system affect your working as a teacher of English?
3. What do other subject teachers comment about it?
4. Is there a policy that recommends which sign system that you are supposed to use in class while teaching English?
5. What is the position of the school Management as far as sign systems is concerned?
6. Given the opportunity, would you recommend the current practice on how teachers teach the deaf?
7. To what extent do you use KSL during English lessons?
8. How does the use of KSL during English lessons impact on English performance?
9. What challenges do you face in your teaching subjects?

**C. Perspectives of Deaf students on the Application of Sign Systems and their Implications on Academic Performance in English**

1. Which sign system do students prefer you to use when teaching English? / Examinations?
2. How does this affect their performance in English?
3. Comment on your understanding of the signs when student communicate to you in class during English lessons.
4. What are the challenges learners with HI face on the issue of sign System usage during English Lessons?

**D. Deaf Students' Proficiency in Sign Systems and the implications on Academic performance in English.**

1. What can you comment on the proficiency of learners in using KSL, SEE and SE?
2. How does this affect their academic performance in English?
3. What can you comment on the use of vocabulary by learner with HI when writing English?
4. What do the differences between KSL and English mean when teaching your learners?
5. How do the differences impact on acquisition English writing skills in relation to:
  - i. Plurals
  - ii. Sentence structure-subject, verb, object order; number and tense agreement.
  - iii. Punctuation
  - iv. Tenses
  - v. Use of subjective and objective pronouns

**E. Teaching and Learning Strategies employed in teaching English and the implications on Academic Performance**

1. Which strategies do you use in teaching English?
2. Comment on the learners' reception in relation to the methods and approaches you use.
3. How do they affect the academic performance in English?
4. What are some of the ways through which teachers can improve teaching of English to learners with HI?

### **APPENDIX III: INTERVIEW SCHEDULE FOR CURRICULUM SUPPORT OFFICERS**

I am a PhD student on research at Jaramogi Oginga Odinga University of Science and Technology (JOUST) in Special Needs Education. This interview schedule is intended to gather data for the purposes of exploring details and examining the sign language systems used in classroom and their implications on performance in English.

I am sincerely requesting you to volunteer information by responding to each question item during the interview. The information provided will be treated with high confidentiality and used only for this intended purpose. If you are willing to participate, kindly fill in the consent form herewith attached. Please DO NOT write your name or a mobile phone number anywhere in this form.

I thank you for your cooperation.

#### **A. Sign Systems used for instruction in Special Schools for the Deaf and their implications on academic performance s in English**

1. What is your highest qualification?
2. What is your area of specialization?
3. For how long have you been a CSO for SNE?
4. What do you understand by the sign systems?
5. What is the government policy on the sign systems that should be used?
6. Is the curriculum for English in Secondary school for the deaf implemented well?
7. How do they affect the performance of learners with HI in English as a subject?
8. How do you think the differences impact on performance in English?
9. Do you think SEE should be used during English lessons? If yes, how?
10. What do you think about the extent of KSL and SEE use during English lessons?

**B. Perspectives of Special Needs Educators on the Application of Sign Systems and their Implications on Academic Performance in English**

1. What do teachers comment about the sign systems used in teaching English?
2. Do they use the system as recommended in the curriculum?
3. How does the sign system recommended in the curriculum affect their working?

**C. Perspectives of Deaf students on the Application of Sign Systems and their Implications on Academic Performance in English**

1. What do the students comment on the sign system(s) used during teaching of English lesson?
2. How does it affect their performance in English?

**D. Deaf Students' Proficiency in Sign Systems and the implications on Academic performance in English.**

1. Comment on the proficiency of learners with HI in KSL, SEE and SE
2. How does it affect their performance in English?
3. Which challenges do you think learners with HI face in Learning English?

**E. Teaching and Learning Strategies employed in teaching English and the implications on Academic Performance**

1. What are the recommended strategies that teachers are supposed to use during English Lessons?
2. Do the teachers use these strategies as recommended in the curriculum?
3. Which other strategies do you think teachers should use during English lessons?
4. How do you think these strategies impact on performance in English?

## **APPENDIX IV: FOCUS GROUP DISCUSSIONS FOR FORM THREE STUDENTS**

The main purpose of the discussions is to understand sign language systems used in classroom and their implications on performance in English. Please respond to the questions by engaging in the discussions as best as you can.

### **A. Sign Systems used for instruction in Special Schools for the Deaf and their implications on academic performance s in English**

1. What do you understand with sign systems?
2. How many do you know?
3. Which ones does the teachers use?
4. Which ones do you think is the best/ why?
5. How does the sign system used affect your performance in/understanding of English?
6. Is there a rule in the school that dictate which sign system to use? Do teachers follow it?

### **B. Perspectives of Special Needs Educators on the Application of Sign Systems and their Implications on Academic Performance in English**

1. How do teachers use KSL /SEE during English lessons?
2. What do teachers comment about sign systems you use?
3. Do teachers understand you when you sign to them?
4. What do teachers say about the sign language that you use in class during English lessons?
5. Does the use of KSL and SEE during English lessons help you understand the content in other in in English? Explain.
6. What can you say about the extent of KSL and SEE use during English lessons by your teachers? How often and when?

**C. Perspectives of Deaf students on the Application of Sign Systems and their Implications on Academic Performance in English**

1. What do you think about the sign system that is used in class during English lessons?
2. How does it affect your performance in English?
3. Do you understand the teachers when they communicate to you?
4. Do you feel excited to attend English lesson? Why?

**D. Deaf Students' Proficiency in Sign Systems and the implications on Academic performance in English.**

1. Do you think KSL/SEE is easy as compared to English as a subject?
2. What can you say about vocabulary when you compare KSL and English?
3. Do you think the sign system used during English lesson helps you to perform better in English? How?
4. How do you find the use of English dictionary as compared to KSL dictionary?
5. Do you understand the sign systems that teachers use during English lessons? English Exams?
6. How does your knowledge in KSL affect your academic performance in English?

**E. Teaching and Learning Strategies employed in teaching English and the implications on Academic Performance**

1. Which methods do teachers use while teaching English?
2. Do you think these methods support you to learn English? How? Why?
3. According to you, can performance in English language be made better?
4. What recommendations would you make concerning the improvement of performance in English in general?

## APPENDIX V: DOCUMENT ANALYSIS GUIDE

I am a PhD student on research at Jaramogi Oginga Odinga University of Science and Technology (JOUST) pursuing PhD in Special Needs Education. This document analysis guide is intended to gather data for the purposes of examining sign language systems used in classroom and their implications on performance in English.

This is purely administrative hence will be filled in coordination, collaboration and cooperation with the Principal, Deputy Principal and Heads of Language Department. The researcher requests the principal to assist in obtaining the required data. The data is for research purpose and there is no any malice behind. Data obtained will therefore be treated within the policy regulations regarding the information from the informants.

Kindly fill in the comment's column indicated.

S/No.	Item	School				Remarks
		A	B	C	D	
1	KSL/English syllabus Coverage	√	√	√	√	Available
2	Lesson plans	√	√	√	√	Updated
3	Schemes of work	√	√	√	√	Updated
4	Record of work covered	√	√	√	√	Not Updated
5	Progress records	√	√	√	√	Not Updated
6	KSL/English dictionary	√	√	√	√	Available
7	Learners' exercise books	√	√	√	√	Available
8.	Lesson notes	√	√	√	√	Not Updated
9.	Teaching/Learning Aids	√	√	√	√	Available
10.	English Text Books	√	√	√	√	Available

**APPENDIX VI: FORM THREE CLASS OBSERVATION SCHEDULE AND FIELD NOTES (FTOSFN)**

**A. BACKGROUND INFORMATION**

- a. Number of students **in** class \_\_\_\_\_
- b. Observation date:
- c. Time began:
- d. Time ended:
- e. Brief description of physical and social characteristics of the observation setting:
- f. \_\_\_\_\_  
\_\_\_\_\_
- g. (Working as; (i) Individuals (ii) Pairs (iii) Groups

**B. CLASSROOM EXPERIENCE**

(i) Teaching methods in English:

Leading questions	Researcher's comments
Which signs system are used during the English Lesson? For example, SEE, KSL, SE	
Do learners respond effectively when the teachers gives instructions in a given sign system?	
Does the teacher maintain one sign system throughout the lesson time? Is there coherence on what the teacher signs and what they speak?	

What is the extent of KSL/SEE use during the English lesson? / It is used throughout the lesson, to introduce the lesson, to conclude the lesson	
What does the teacher comment on how the learners need to sign? Is it SEE, KSL Does the insist on a particular system?	
Do the learners understand and comprehend the instructions as given by the teacher?	
Which sign system do they use? Do they insist on using a particular one?	
Do the learners who use the KSL or SEE well respond correctly to all the questions.	
What strategies are used during English lesson? For example, discussions, guided writing, peer teaching, group work.	
What are the impacts of the strategies employed when teaching English? / Are the students able to write correct sentences in English when the strategies are applied?	
What are some of the challenges faced by learners when learning English	

**C. STUDENTS PARTICIPATION**

Type of supplementary materials used by teachers during the lesson

Type	Available	Not available	Comment
Newspaper			
Textbooks			
Computers			
Adverts			
Brochures			
Photographs			

**FIELD NOTES:**

Comments on any other significant observation:

-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----

## **APPENDIX VII: INTRODUCTION LETTER**

Jaramogi Oginga Odinga University of Science and Technology  
School of Education, Humanities and Social Sciences  
Department of Special Needs Education and Early Childhood Development  
P.O. Box 210-40601 Bondo.

**Dear Sir/Madam,**

### **RE: EDUCATIONAL RESEARCH**

I am a postgraduate student Pursuing a doctoral degree in Special Needs. Education at Jaramogi Oginga Odinga University of Science and Technology

I am conducting a study on the sign systems used in classrooms in special secondary schools for learners with Hearing Impairment and their implications on academic performance in English.

Kindly respond as appropriate

Yours Sincerely,

**Gregory Jumah Nyongesa**

**APPENDIX VIII: LETTER OF PERMISSION**

**The Principal,**

Dear Sir/madam,

**RE: LETTER OF PERMISSION**

I am a postgraduate student Pursuing a doctoral degree in Special Needs. Education at Jaramogi Oginga Odinga University of Science and Technology

I am conducting a study on the sign systems used in classrooms in special secondary schools for learners with Hearing Impairment and their implications on academic performance in English.

I am kindly requesting for permission to use your school as one of the study schools for the purpose of generating data.

Yours sincerely,

Gregory Jumah Nyongesa

(Researcher)

## **APPENDIX IX: RESEARCH DESCRIPTION**

### **TO WHOM IT MAY CONCERN:**

I am a postgraduate student Pursuing a doctoral degree in Special Needs. Education at Jaramogi Oginga Odinga University of Science and Technology

I am conducting a study on the sign systems used in classrooms in special secondary schools for learners with Hearing Impairment and their implications on academic performance in English.

I intend to administer interview to the Principals and Teachers of English as well as conduct Focus Groups Discussion with the Form Three students

I therefore request for the permit to carry out the study above

**Yours faithfully,**

**Gregory Jumah Nyongesa**

**(Researcher)**

## APPENDIX X: CONSENT FORM

Email: [gnyongesa@jooust.ac.ke](mailto:gnyongesa@jooust.ac.ke)

Tel: +254705 286 270 / +254753 676310

I am a postgraduate student Pursuing a doctoral degree in Special Needs. Education at Jaramogi Oginga Odinga University of Science and Technology. I am conducting a study on the sign systems used in classrooms in special secondary schools for learners with Hearing Impairment and their implications on academic performance in English.

I am seeking your consent to involve you in this study by seeking your opinion on the same.

This will be through the use of interview schedule and/ Focus Group Discussions. They will be used for the purpose of generating data from your responses.

Please feel free to ask me any questions, before, during and after the process.

1. The researcher will maintain confidentiality and anonymity throughout this study. Confidentiality will be maintained by not divulging identifiable information to other parties, except those directly involved in supervising and examining the study. Such parties will not be able to link the data to identifiable informants, as the data will be anonymized by using codes on the interview transcripts.
2. Data will be protected by keeping transcripts and interview tape recordings in a secure place. Once the study will have been conducted, the data will be kept until the researcher's final assessment; then will be destroyed.

I agree/ don't agree to take part in the above study. I have read the research descriptions above and agree to be tape recorded by Gregory Jumah Nyongesah. I understand that any information I provide is confidential and that no information will lead to identifying institutions or individuals involved in this study. I understand that my participation is voluntary and that I can choose to withdraw at any stage in case of infringement.

Name \_\_\_\_\_

Tel: \_\_\_\_\_ Email \_\_\_\_\_

***Please tear off and return to Gregory Jumah Nyongesah before or on the interview day.***

## APPENDIX XI: CONSENT FORM FOR AUDIO TAPE RECORDING

Email: [gnyongesa@jooust.ac.ke](mailto:gnyongesa@jooust.ac.ke)

Tel: +254705 286 270 / +254753 676310

I am a postgraduate student Pursuing a doctoral degree in Special Needs. Education at Jaramogi Oginga Odinga University of Science and Technology. I am conducting a study on the sign systems used in classrooms in special secondary schools for learners with Hearing Impairment and their implications on academic performance in English.

I am seeking your consent to record your audio during the interview/ Focus Group Discussions. This will be through the use of audio tape recorders. The recording will help save on time and allow the researcher ample time to do the transcription.

Please feel free to ask me any questions, before, during and after the process.

1. The researcher will maintain confidentiality and anonymity throughout this study. Confidentiality will be maintained by not divulging identifiable information to other parties, except those directly involved in supervising and examining the study. Such parties will not be able to link the data to identifiable informants, as the data will be anonymized by using codes on the interview transcripts.
2. Data will be protected by keeping transcripts and interview tape recordings in a secure place. Once the study will have been conducted, the data will be kept until the researcher's final assessment; then will be destroyed.

I agree/ don't agree to be tape recorded in the above study. I have read the research descriptions above and agree to be tape recorded by Gregory Jumah Nyongesah. I understand that any information I provide is confidential and that no information will lead to identifying institutions or individuals involved in this study. I understand that my participation is voluntary and that I can choose to withdraw at any stage in case of infringement.

Name \_\_\_\_\_

Tel: \_\_\_\_\_ Email \_\_\_\_\_

*Please tear off and return to Gregory Jumah Nyongesah before or on the interview day.*

**APPENDIX XII: CONSENT TO INVOLVE FORM 3 STUDENTS**

**Email:** [gnyongesa@jooust.ac.ke](mailto:gnyongesa@jooust.ac.ke)

**Tel:** +254705 286 270 / +254753 676310

**TO:**

**The Parent Representative,**

**Dear Parent,**

**RE: CONSENT TO INVOLVE FORM 3 STUDENTS IN RESEARCH**

I am a postgraduate student Pursuing a doctoral degree in Special Needs. Education at Jaramogi Oginga Odinga University of Science and Technology. I am conducting a study on the sign systems used in classrooms in special secondary schools for learners with Hearing Impairment and their implications on academic performance in English.

I intent to involve the form 3 students as participants during the study in Focus Group Discussions.

Your consent as the representative of the parents is therefore sought to involve the students in the said study as participants

I you agree/ don't agree for the form three students to be involved in the in the above study, kindly respond and fill in the details below and send back to me

I have read the research descriptions above and agree for the Form three students to be tape recorded by Gregory Jumah Nyongesah. I understand that any information they provide is confidential and that no information will lead to identifying institutions or individuals form three students involved in the study. I understand that my participation of the form three students is voluntary and that they can choose to withdraw at any stage in case of infringement.

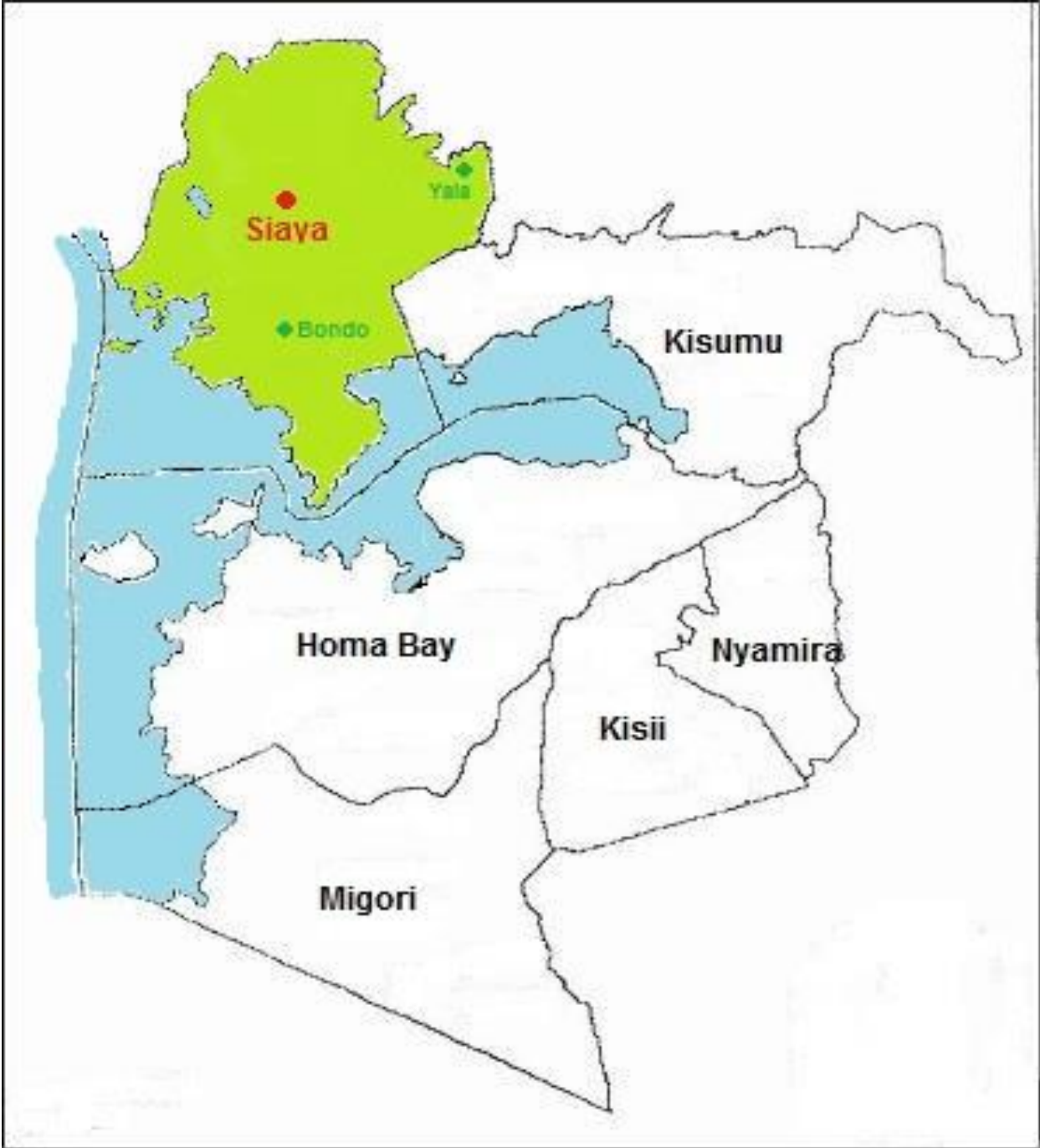
Name \_\_\_\_\_

—

Tel: \_\_\_\_\_ Email \_\_\_\_\_

***Please tear off and return to Gregory Jumah Nyongesah before or on the interview day.***

**APPENDIX XIII: SKETCH MAP OF NYANZA REGION- KENYA**



**APPENDIX XIV: DISTRIBUTION OF PEOPLE WITH HI BY RESIDENCE IN NYANZA REGION COUNTIES**

Serial Number	County	Hearing difficulties
1.	Homa Bay	0.9%
2.	Siaya	0.8%
3.	Kisumu	0.7%
4.	Migori	0.6%
5.	Kisii	0.5%
6.	Nyamira	0.5%

**APPENDIX XV: BOARD OF POSTGRADUATE AUTHORIZATION LETTER**



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY**  
BOARD OF POSTGRADUATE STUDIES  
*Office of the Director*

Tel: 057-2501804  
Email: [hps@jooust.ac.ke](mailto:hps@jooust.ac.ke)

P.O. BOX 210 - 40601  
**BONDO**

**Our Ref:** E462/4215/2020

**Date:** 23<sup>rd</sup> November 2023

**TO WHOM IT MAY CONCERN**

**RE: GREGORY JUMAH NYONGESA – E462/4215/2020**

The above person is a bonafide postgraduate student of Jaramogi Oginga Odinga University of Science and Technology in the School of Education pursuing a PhD in Special Needs Education. He has been authorized by the University to undertake research on the topic: *“Sign Language Systems in Special Secondary Schools for Learners with Hearing Impairments; Implications on academic Performance in English”*.

Any assistance accorded to him shall be appreciated.

Thank you



Prof. Julius Mwangi  
**DIRECTOR, BOARD OF POSTGRADUATE STUDIES**

## APPENDIX XVI: ETHICAL REVIEW COMMITTEE AUTHORIZATION



**JARAMOGI OGINGA ODINGA  
UNIVERSITY OF SCIENCE AND TECHNOLOGY  
DIVISION OF RESEARCH, INNOVATION AND OUTREACH  
JOUST-ETHICS REVIEW OFFICE**

Tel. 057-2501804  
Email: [erc@jooust.ac.ke](mailto:erc@jooust.ac.ke)  
Website: [www.jooust.ac.ke](http://www.jooust.ac.ke)

P.O. BOX 210 - 40601  
BONDO

OUR REF: JOOUST/DVC-RIO/ERC/E5

13<sup>th</sup> December, 2023

Gregory J. Nyongesa  
E462/4215/2020  
**JOOUST**

Dear Mr. Nyongesa,

**RE: APPROVAL TO CONDUCT RESEARCH TITLED "SIGN LANGUAGE SYSTEMS IN SPECIAL SECONDARY SCHOOLS FOR LEARNERS WITH HEARING IMPAIRMENT; IMPLICATIONS ON ACADEMIC PERFORMANCE IN ENGLISH"**

This is to inform you that JOOUST ERC has reviewed and approved your above research proposal. Your application approval number is **ERC S/03/23-06**. The approval period is from 13<sup>th</sup> December, 2023- 12<sup>th</sup> December, 2024.

This approval is subject to compliance with the following requirements:

- i. Only approved documents including (informed consents, study instruments, MTA) will be used.
- ii. All changes including (amendments, deviations and violations) are submitted for review and approval by JOOUST IERC.
- iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to NACOSTI IERC within 72 hours of notification.
- iv. Any changes, anticipated or otherwise that may increase the risks of affected safety or welfare of study participants and others or affect the integrity of the research must be reported to NACOSTI IERC within 72 hours.
- v. Clearance for export of biological specimens must be obtained from relevant institutions.
- vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
- vii. Submission of an executive summary report within 90 days upon completion of the study to JOOUST IERC.

Prior to commencing your study, you will be expected to obtain a research permit from National Commission for Science, Technology and Innovation (NACOSTI) <https://oris.nacosti.go.ke> and also obtain other clearances needed.

Yours sincerely,

Prof. Francis Anga'wa  
**Chairman, JOOUST ERC**


Copy to: Deputy Vice-Chancellor, RIO

Director, BPS


DEAN, SEHSS

APPENDIX XVII:RESEARCH LICENSE

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION



REPUBLIC OF KENYA




**NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION.**

Ref No: **115955**

Date of Issue: **08/January/2024**

**RESEARCH LICENSE**




**This is to Certify that Mr.. GREGORY JUMAH NYONGESA of Jaramogi Oginga Odinga University of Science and Technology, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Homabay, Kisii, Migori, Siaya on the topic: SIGN LANGUAGE SYSTEMS IN SPECIAL SECONDARY SCHOOLS FOR LEARNERS WITH HEARING IMPAIRMENT; IMPLICATIONS ON ACADEMIC PERFORMANCE IN ENGLISH for the period ending : 08/January/2025.**

License No: **NACOSTI/P/24/32318**

Applicant Identification Number: **115955**

Director General  
**NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION**

Verification QR Code



**NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.**

**See overleaf for conditions**



**INFLUENCE OF WORKING CONDITIONS ON SPECIAL NEEDS  
EDUCATORS' JOB SATISFACTION IN SPECIAL SCHOOLS FOR THE  
LEARNERS WITH HEARING IMPAIRMENT IN KENYA.**

<sup>1</sup>GREGORY JUMAH NYONGESA, <sup>2</sup>DR. CHARLES OMOKE, <sup>3</sup>DR. WASHINGTON WACHIANGA

1, 2, 3 JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

*Abstract.* Effective teaching and learning to achieve the educational goals require satisfied teachers, yet, most of the teachers in Kenya indicate lack of job satisfaction with their work. The rising numbers of special needs educators exiting from special schools for the Hearing Impaired and the frequent strikes are the possible indicators. This study examined the influence of working conditions on teacher job satisfaction among the Special Needs Educators in Special Schools for the Learners with Hearing Impairment in Kakamega County Kenya.

This study employed the Two Factor Theory of Herzberg. The study adopted multiple case study design. The study was carried out in Special Primary Schools for the HI in Kakamega County. The target population was 59 respondents, which comprised of 4 headteachers, 4 deputy headteachers, 47 classroom teachers and 3 curriculum support officers for special needs drawn from each of the sub counties where the special schools for the HI is located. The sample size was a total of 58 participants. Saturated sampling technique was used. Interview schedules, Focus Group Discussions and document analysis were used for data collection. The study adopted thematic analysis to generate the findings of the study.

Many of the Special Needs Educators were not satisfied with the working conditions that the schools had. The workload for the Special Needs Educators in some schools was unattainable. Some schools had teachers taking as many as 46 lessons per week

*Keywords:* Working Condition, Teacher job satisfaction, Special Needs educators, Special Schools for the Learners with Hearing Impairment

---



## TEACHING AND LEARNING STRATEGIES EMPLOYED DURING ENGLISH LESSONS IN SPECIAL SCHOOLS FOR THE DEAF AND THEIR IMPLICATIONS ON ACADEMIC PERFORMANCE IN ENGLISH

Gregory Jumah Nyongesa<sup>1</sup>, Prof. Charles Makori Omoke<sup>2</sup>, Dr. Cleophas Owino Owiko<sup>3</sup>

<sup>1</sup>Department of Special Needs Education-Jaramogi Oginga Odinga University of Science and Technology

<sup>2</sup>Department of Special Needs Education-Jaramogi Oginga Odinga University of Science and Technology

<sup>3</sup>Department of Special Needs Education-Jaramogi Oginga Odinga University of Science and Technology

### ABSTRACT

Students with Hearing Impairment (HI) face various implications in the process of learning as a result of the hearing loss. The academic performance of these students who have hearing loss or have ability to only perceive slight sound is affected greatly. These students with HI have continued to perform below average in Kenya Certificate of Secondary Education (KCSE). The objective of this study was to find out the teaching and learning strategies employed in teaching and learning English and their implications on the academic performance. The study adopted multiple case study design within a qualitative approach. The study was conducted in the four special secondary schools for the deaf in Nyanza region of Kenya with a sample size of 48 participants. The sample size comprised 33 form 3 students, 7 teachers of English, 4 Curriculum Support Officers and 4 Principals of Secondary Schools for the Deaf. Purposive sampling technique was used to select the four schools while saturated sampling technique was used to select 7 teachers of English. Stratified sampling was used to select 33 Form 3 students. The study employed In-depth interview schedules, focus group discussion guides, Classroom Observation Checklists and the document analysis guide as the research tools for data collection. Thematic analysis was employed for data analysis based on the themes that emerged from the study. The findings of the study indicated that the methods used for instruction during English lessons include note taking, questioning technique, incorporation of ICT, Use of visual aids, dramatization, group discussions, lecturing, singing, use of peer tutoring, team teaching among others. Group discussion and peer tutoring are the preferred approaches of instruction. However, these methods needs close supervision by the teacher. The study recommends a quasi-experimental study approach on the effect of the learning strategies on deaf students' academic performance in English to identify appropriate strategies that can produce a positive outcome.

**KEYWORDS:** Students with Hearing Impairment, Sign Language Systems, Teachers of English, Perspectives, Academic Performance, Teaching and Learning Strategies



## Perspectives of Deaf Students towards Sign Language Systems as used in the Classroom and their Implications on Academic Performance in English

Gregory Jumah Nyongesa<sup>1</sup>, Prof. Charles Makori Omoke<sup>2</sup>, and Dr. Cleophas Owino Owiko<sup>3</sup>

<sup>1</sup>Department of Special Needs Education-Jaramogi Oginga Odinga University of Science and Technology

<sup>2</sup>Department of Special Needs Education-Jaramogi Oginga Odinga University of Science and Technology

<sup>3</sup>Department of Special Needs Education-Jaramogi Oginga Odinga University of Science and Technology

**Abstract:** Students with Hearing Impairment (HI) face various implications in the process of learning as a result of the hearing loss. The academic performance of these students who have hearing loss or have ability to only perceive slight sound is affected greatly. These students with HI have continued to perform below average in Kenya Certificate of Secondary Education (KCSE). For instance, in the year 2017, 2018, 2019, 2020 and 2021, out of the possible mean score of 12, these students scored an average of 2.4, 2.3, 2.3, 2.8 and 2.7 respectively all of which indicated a “D-” (D Minus) Grade. In Kenyan grading system and considering the affirmative Action for those with visual and hearing impaired, which is grade C- these scores are below average and also below the minimum pass-mark for entry into higher institutions of learning like teachers’ training colleges. Explanations regarding the poor performance have pointed to perspectives of the learners with HI towards the sign systems that are used. The objective of this study was to establish the influence of deaf students’ proficiency in Sign systems on Academic performance in English. The study adopted multiple case study design within a qualitative approach. The study was conducted in the four special secondary schools for the deaf in Nyanza region of Kenya with a sample size of 48 participants. The sample size comprised 33 form 3 students, 7 teachers of English, 4 Curriculum Support Officers and 4 Principals of Secondary Schools for the Deaf. Purposive sampling technique was used to select the four schools while saturated sampling technique was used to select 7 teachers of English. Stratified sampling was used to select 33 Form 3 students. The study employed In-depth interview schedules, focus group discussion guides, Classroom Observation Checklists and the document analysis guide as the research tools for data collection. Thematic analysis was employed for data analysis based on the themes that emerged from the study. The findings indicated that there are three sign systems which are Signed Exact English (SEE), Signed English (SE) and Kenyan Sign Language (KSL) are used during English lesson. There is no specific sign system that must be used during English lessons. Every school and teachers of English (ToE) decides which system to use based on what they are to teach. There is no policy for sign language systems. Sign system used during instruction has a direct impact on the performance of learners in English. The study also established that majority of ToE prefer using SEE during English lessons. Students with HI on the other side, prefer KSL to SEE to be used. It was also established that Students with HI are proficient in KSL than SEE and that they comprehend content faster when taught in KSL than in SEE. However, KSL affects them in writing English exams.

**Keywords:** Students with Hearing Impairment, Sign Language Systems, Perspectives, Academic Performance, Implications.

*My GOD I Offer this Useful Knowledge to the World, For in, You All things are possible,*

*I Bless your Holy Name; Knowledge and Wisdom Come From YOU, May the Foundations  
and Pillars of this Thesis be built Unto YOU, in The Name of*

**JESUS CHRIST**

**#####-----THE END ----#####**