SCHOOL BASED FACTORS AFFECTING LEARNING OF KENYAN SIGN LANGUAGE IN PRIMARY SCHOOLS FOR HEARING IMPAIRED IN EMBU AND ISIOLO COUNTIES, KENYA

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APRIL, 2016
DECLARATION

I confirm that this research thesis is my original work and has not been presented in any other institution. The thesis has been complemented by referenced works duly acknowledged. Where text, data, graphics, pictures or tables have been borrowed from other works - including the internet, the sources are specifically accredited through referencing in accordance with anti-plagiarism regulations.

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DEDICATION

To my nurturing parents John Rwaimba and Judith John whose foresight in education and constant encouragement drove me to this level of education and to my wife Doris and our adorable son Allan for enduring my long absence from home as I struggled with this work and their unending moral support. Your presence around me as I perused through books and other publications was a great encouragement.
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ABBREVIATIONS AND ACRONYMS

ASL  American Sign Language
BoM  Board of Management
GoK  Government of Kenya
HI   Hearing Impaired
KCPE Kenya Certificate of Primary Education
KICD Kenya Institute of Curriculum Development
KIE  Kenya Institute of Education
KNEC Kenya National Examinations Council
KSL  Kenya Sign Language
MoE  Ministry of Education
NBTL New Break Through to Literacy
NSL  Norwegian Sign Language
SBM  School Based Management
SPSS Statistical Package for Social Sciences
TSC  Teachers’ Service Commission
ABSTRACT

This was a descriptive survey study design which sought to establish the school based factors that affect the learning of KSL in primary schools for learners with HI in Embu and Isiolo counties in Kenya. The target population was all teachers (29) teaching in Isiolo and St. Lukes primary schools for learners with hearing impairment, which were the only schools for learners with HI in Isiolo and Embu counties. From the selected schools, the study purposively and randomly sampled 2 head teachers and 8 teachers. Interview guides were used to obtain data from the head teachers, questionnaires from teachers while observation schedules were used to obtain data on the general nature of the school environment. Using descriptive statistics, quantitative were analyzed and tabulated in pie charts, frequency tables and bar charts while qualitative data were analyzed and presented in narrative form. The study findings revealed that; school infrastructure had a direct impact to the academic achievement of learners, teachers made use of curriculum instructional materials such as KSL dictionaries, charts and KSL texts books to teach KSL although the researcher’s observation indicated inadequacy of these resources, all the sampled respondents had training in special needs education but only 25% had training in KSL as a subject and finally the findings also revealed that the school management had a bearing effect on the learning of KSL among learners with HI. Basing on the findings the researcher recommends that the government through the MoE should increase the funding of these schools in order for them to have the adequate resources required, to put up and maintain good quality and adequate infrastructure, teachers teaching KSL should move further and make use of audio visual curriculum materials such as TVs and computers instead of only relying on the KSL dictionaries, charts and books. On the academic training of the KSL teachers, the TSC should post teachers trained in KSL to teach KSL among learners with HI and the universities should also introduce KSL as a teaching subject alongside other subjects like Mathematics, English, Kiswahili and the like. The researcher further recommends for the training of all stakeholders in education management since training the heads alone is not sufficient because school management is a team effort.
CHAPTER ONE
INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 Introduction
This chapter presents; background to the study, statement of the problem, purpose of the study, research objectives and questions, significance of the study, scope and limitations, assumptions, theoretical and conceptual framework, and finally operational definitions of terms.

1.2 Background to the Study
For normal development of all human beings, language is an essential element. Linguistic proficiency is prequisite requirement central for all human life (Magnuson, 2000). According to the British Medical Journal, failure to develop a language that is effective and complex at formative years leads to consequences that are negative for all mental and psychological health and development aspects in a child (Hindley & Parks, 1999). From this study and others, Magnuson (2000) summed that “For children with hearing impairment to competently develop cognitively, linguistically and socially, they need to fully take part in active linguistic interaction with their parents, siblings and significant others from an early age.”

The hearing children who have an accessible children who are deaf cannot learn language through using it actively and through being exposed to it informally same as their hearing counterparts. It is difficult for the children
with HI to develop spoken language in the same manner in which the hearing children do. Scholars have argued that sign language, which is the natural language of the deaf, need to be taught to children who have HI. According to Brown (2009), says that a language that one can acquire and learn in the absence of formal instruction or training is termed as natural languages. The learning of such a language is a process that is known to naturally take place in an environment that is natural and which is filled up with a plenty of role modeling from adults from whom the children can learn the rules and conventions of that language naturally. Since the HI cannot perceive sounds, they cannot be exposed to a language via natural methods but can only be exposed to a language via formal teaching and training of that language.

Wallwork (1985) says that Language teaching should be aimed at nurturing of the child’s growth process which equips a child with the requisite linguistic resources that enable the child to handle difficult tasks as one transit from one class to the next through the life in school and after school.

Before, the works of William Stokoe in 1960, educators of the learners with hearing impairment failed to recognize and accept Sign languages as true languages thus trying several methods of educating the children with hearing impairment. Sign language was banned by these educators who in turn emphasized methods that were oral whereby, they trained the learners with hearing impairment in speech as well as attempting to come up with signing
systems that were unnatural which included the use of Pure Signed English and Signed Exact English. Smith (2000), says that during this period, Parents of children who were hearing impaired were advised against allowing their hearing impaired to sign for this was bound to tamper with these children’s chances of acquiring oral speech abilities despite of the failure of such a system among the majority of children with deafness.

Researchers like (Cummins, 2000; Drasgow, 1998) shown mother tongue knowledge supports literacy skills in a second language. Many linguists have recently accepted that Sign languages true languages and not literal translations of the oral languages. Sign languages have grammars that are spatial and complex which are quite different from the oral language grammars. Professional linguists who have researched on several Sign languages across the world have found those sign languages to be having each and every linguistic aspect thus qualifying to be true languages. This has made it necessary for many countries to recognize sign language as official languages and further introduced them as taught subjects in their schools.

On the global platform, in Sweden, Swedish Sign Language became a taught subject as well as the language of instruction in 1995 (Chupina, 2006). Since then, a similar curriculum where Sign language is included as a subject is used by special education schools and mainstream schools. Learners with deafness
at Swedish schools are taught Sign language alongside written Swedish lessons. Through this, literacy for all students in Sweden who are Deaf and hard of hearing has been improved. Learners who have deafness learn grammar at school which means that they can compare Swedish Sign Language with Swedish that is written. These learners learn grammar and the variations found in the two languages i.e. written Swedish and Swedish Sign Language. Chupina (2006) says that for student with hearing impairment to learn good Swedish, which is a second language to the hearing impaired, he/she ought to learn good Sign language, which is their mother tongue. Parents of the children who are HI reserve the right to a free of charge two hundred and forty hours of instruction in Sign language. Also Sign language instructions are offered free of charge to relatives of the children who have HI same as the hearing children of Deaf parents (Chupina 2006).

In the USA, ASL has been recognized as an autonomous natural language fully developed with distinct syntax, art form and grammar. ASL posses all the mandatory components of a language: syntax, structure, relatively arbitrary and dynamic and used by a community (Hoeman, 1986).

In almost all the American States, ASL classes are offered at all school levels i.e. elementary, secondary and post-secondary levels. Courses in American Sign Language are taught with the main objective of contributing to a greater understanding of the cultural and social dimensions of the language, and also
to enable and encourage increased interaction between persons who are hearing impaired and the persons who are hearing in society. For one to be fluent in ASL, he/she calls for a similar amount of instruction equally demanded for one to be fluent in any language that is modern or classical (Baker & Cokely, 1980).

In Norway, the national curriculum for the learners who have hearing impairment implemented L97 in 1997. According to L97, all learners should be given a chance to learn in an environment surrounded with their mother tongue (Pritchard, 2005). As children develop a positive confident deaf identity, they need help in developing the knowledge and skills required to participate in the world of the hearing, who are the majority.

Bilingualism in Norwegian Sign Language and Norwegian is a key goal in the education for learners with Deafness in Norway. It is possible for the learners to gain full access to the social cultural beliefs as well as the curriculum and the values of the hearing communities and the non hearing communities via bilingualism. Learning the language of the majority that is essential for all learners can hinder literacy of the learners with Deafness, Schein (2010). In Norway, NSL lessons are addition to the normal subjects in the curriculum and not just a supplement. The number of lessons in NSL is the same as those lessons received by learners in Norwegian during their mandatory education. At the end of the Ordinary and the Advanced level, national examinations in both Norwegian Sign Language and Norway for the learners with HI are both
administered giving the learners equal opportunities for accessing higher education (Pritchard 2005). Parents of the children who are Deaf are in addition offered a chance to receive 40 weeks, all expenses paid for, tuition in Sign language from when the child is diagnosed with deafness up to the 16th birthday of the child. This equipped parents with the medium of communicating with their children who are HI (Pritchard, 2005).

The above clearly indicates that sign languages have been adopted, taught and examined in schools globally.

Regionally, In Zambia, the Zambian government adopted a language policy known as New Break Through to Literacy (NBTL) in 2003. The policy demanded that during the formative years of school, children be taught literacy in their mother languages. Before proceeding to learning the second language, learners ought to learn the grammar, vocabulary and culture of their mother tongues. However, for the learners with HI, this is never the case. In schools for the children with Deafness where this policy has been attempted, it has been noted that teachers taught the local languages of the community which included Lozi or Bemba, using signs (Mulonda, 2013). Children with HI learn Sign language not by just using spoken languages in their community around them but via learning concepts in Sign language (Wakumelo and Miti, 2010).
In Kenya, Okombo (1994) notes that although children who are HI may learn Sign language in their school environment, the learning and teaching of KSL needs attention since the kind of language competency demanded in their life as adults after school cannot be attained from a mere exposure to language. This argument seems to agree with the policies of the British and the American governments whereby although English is a mother tongue acquired naturally by many children, they are still learn it in schools formally.

KSL was developed by the then KIE, currently KICD, in conjunction with adult persons with deafness (Ndurumo, 2008). The Ministry of Education in 2004 recognized the use of KSL as an effective medium of communication for learners with hearing impairments. In 2010, KSL was recognized in the new constitution of Kenya as both an official and National language. This was a great milestone in defining the place of sign language among the learners with hearing impairments. KSL was also declared examinable in schools for learners with HI as from the year 2010 (Kenya National Exam Council (KNEC) (2009). Thus, the learners with hearing impairments were given an opportunity to choose between Kiswahili Language and KSL. The year 2013 marked the 4th year that students sat for the KSL Paper at the KCPE. However, these results have shown discrepancies among various schools in the performance of KSL. The researcher came across no studies on school based factors affecting learning of KSL since previous studies conducted dwelt on the development of
signs for scientific terms in schools for hearing impaired (Wanjau, 2005); factors hindering effective teaching and learning activities for hearing students (Kamonya, 2008) and the strategies that facilitate KSL (Imbiti, 2012). Thus, the findings of this study have brought to light the school based factors that affect learning of KSL.

1.3 Statement of the Problem

The learning of the sign language largely takes place in the schools. Since the introduction of Kenyan Sign Language as an examinable subject, there have been obvious differences in how different learners have acquired the expressive and receptive skills in KSL as evidenced by the KCPE-KSL results at the end of the primary course. The phenomenon presents a band of schools with some showing consistent good results and others average and poor results in KSL as indicated on table 1.1 below.

<table>
<thead>
<tr>
<th>County/year</th>
<th>KSL mean score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2010</td>
</tr>
<tr>
<td>Embu (St. Lukes primary for HI)</td>
<td>55.80</td>
</tr>
<tr>
<td>Isiolo (Isiolo primary for HI)</td>
<td>48.20</td>
</tr>
</tbody>
</table>

(Data adopted from the Ministry of Education, 2014)
Thus it emerges that there could be school based differences that could be contributing to these differences.

**1.4 Purpose of the Study**

The purpose of the study was to analyze the school based factors affecting the learning of the Kenyan Sign Language in primary schools for the hearing impaired learners in Embu and Isiolo counties of Kenya.

**1.5 Objectives of the Study**

The study objectives sought to:

1. Determine the impact of the school infrastructure on the learning of the Kenyan sign language among learners with HI.
2. Establish the use of instructional materials by teachers in the teaching of the Kenyan sign language among learners with HI.
3. Find out the teachers’ levels of academic training in KSL.
4. Establish the influence of school management on the learning of the Kenyan sign language among learners with HI.
1.6 Research questions

1. What is the impact of the school infrastructure on the learning of the Kenyan sign language among learners with HI?

2. Do teachers teaching KSL in schools for learners with HI make use of instructional materials?

3. Do teachers teaching KSL have training in the subject?

4. Do the school management strategies influence the learning of the Kenyan sign language among learners with HI?

1.7 Significance of the study

The findings of the study may be of significance to the teachers teaching learners with hearing impairments, the government specific agencies related to the teaching of the learners with hearing impairments as well as the academicians in contributing to the body of knowledge. With benchmarking as a quality management approach becoming largely acceptable, the findings may provide the scope of benchmarking for schools not performing well to learn from in addition to those currently perceived to be performing well setting goals for their continuous improvement.

The study may also benefit the policy process on the teaching and learning of learners with hearing impairments. The findings would provide feedback to the curriculum development process through institutions such as the Kenya Institute of Curriculum Development as well as teacher training institutions for
teachers of learners with hearing impairments. The findings may provide feedback on the effectiveness of the curriculum development process as well as teacher training, assessment as well as benchmarking and standard setting for the learners with hearing impairments. The findings might benefit the relevant Ministry of Education, Science & Technology on the appropriateness of the curriculum, funding and management guidelines that the schools have in form of their uniqueness.

1.8 Limitations and Delimitations

1.8.1 Limitations of the study
The findings were limited to what was known to the respondents since the study was based in only two primary schools for learners with HI and a selected number of respondents. As a result, the findings from the study might not be generalized to the whole country.

1.8.2 Delimitations
Conceptually, this study did analyse the school based factors affecting the learning of the Kenya Sign Language among the learners with the hearing impairments.

The study only focused on the primary schools for the hearing impaired in Isiolo and Embu Counties, which had been sitting for the KCPE examinations
since the inception of the Kenyan Sign Language as an examinable subject by KNEC in 2010.

1.9 Assumptions of the study

i. There were school based factors within the schools sampled that did affect the learning of KSL.

ii. Teachers teaching KSL in the sampled school could effectively communicate in KSL

1.10 Theoretical and Conceptual Framework

1.10.1 Theoretical Framework

This study was based on the Relational Frame Theory (RFT) (Hayes, Barnes-Holmes, Roche, 2001). RTF gives a learning account of the origin and development of language competence and complexity. Grounded upon the behaviorism principles by Skinner, according to the Relational Frame Theory, children acquire language purely by interacting with the environment. Empirical studies that have supported the predictions of Relational Frame Theory have suggested that children learn language via an inherent system of reinforcements (Anderson, 1992).

The above theory was viewed ideal and relevant for the study since the learning of KSL goes on in the school environment, made up of the school based factors such as the school infrastructure, instructional materials used by
the teachers, training of the teachers in KSL and the school management. Adequate, quality and sufficient infrastructure encourages learners to freely interact with the environment thus spontaneously learning from the interaction. When the teachers’ have the requisite knowledge in the subject and make good use of curriculum instructional resources, they will be more confident to interact with the learners and disseminate the right knowledge to them. When the head teachers come up with supportive policies, learners are more encouraged and supported to interact with the environment. The theory is therefore relevant to the study for study findings have revealed that school based factors, which form the school environment, have a direct impact on the learning of KSL.
11.1 Conceptual Framework

Figure 1.1 School based factors affecting the learning of KSL

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Intervening Variable</th>
<th>Dependent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Level of hearing impairment</td>
<td>Performance in Kenyan Sign Language.</td>
</tr>
<tr>
<td></td>
<td>Equal entry level</td>
<td>- Receptive skills</td>
</tr>
<tr>
<td></td>
<td>Sufficiency in funding</td>
<td>- Expressive skills</td>
</tr>
</tbody>
</table>

School Infrastructure
- Indoor Air Quality (IAQ), ventilation and thermal comfort.
- Lighting
- Acoustics
- Building quality and aesthetics.

Teacher training in KSL
- Adequate level of training

Instructional materials
- Type of materials,
- Appropriateness of the materials
- Sufficiency of the materials

School management
- Commonly Shared Mission and Goals
- Problem-Solving Orientation
- Ongoing Practice Oriented Training and Development
- Decentralized Decision-Making Power
- A Variety of Mechanisms for Involving Different Stakeholder Groups

Source: Researcher’s own (2014)
1.11 Operational Definitions of Terms

**Curriculum Instructional Materials:** resources that KSL teachers use in teaching

**Hearing impairment:** Any form of hearing loss that adversely affects educational performance and therefore makes that individual legible for special education.

**School:** An institution where formal curriculum is delivered.

**School management:** Various approaches used by head teachers to run the schools.

**School based factors:** Are the conditions within the school that influence the effective learning and achievement of learners in a school.

**Newer buildings:** Refers to school buildings that undergo constant face lifting (regular painting, general repairs etc) for them to look new and attractive.

**Old buildings:** Are school buildings that do not undergo face lifting thus making them look old and neglected.

**Learning:** The ability to fluently and effectively communicate in KSL both in its written and spoken forms.
CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter reviewed literature focusing on the study objectives; school infrastructure, curriculum instructional materials, teachers’ training in KSL and finally school management.

2.2 School Infrastructure and Sign Language Learning

Infrastructure is the underlying organizational structure that is necessary for a particular operation, such as a school. Infrastructure development in primary education aims at increasing the motivation for school attendance and improving students’ academic performance. An attitude that is favorable towards the infrastructure of the school leads to school attendance motivation that in turn improves literacy rates of the locality.

Researches conducted on the role of the quality of school infrastructure have revealed that;

Indoor air quality that is poor makes students and teachers sickmaking them unable to perform (Environmental Protection Agency 2000, Kennedy 2001, Leach 1997). Learners and teachers in a classroom that has poor ventilation can't function normally.

As temperature and humidity increases, greater discomfort is reported by students leading to decreased attention span which in turn brings about
deterioration in their achievement and task-performance (King & Marans 1979). Findings by Lackney (1999) found out that teachers believe that thermal comfort not only affects the quality teaching but also the students’ achievement.

Students’ performance is further affected by the classroom lighting (Phillips, 1997). Most of the learning of learners who have hearing impairment is dependent on what they can see, classroom lighting is a very crucial factor. Studies have revealed that lighting that is appropriate in classrooms reduces off-task behavior, improves scores on tests and plays a role that is critical in the achievement of students. A class for learners with HI should, therefore, be lit adequately.

Research has testified that excessive classroom noise has a cumulative effect on a child's academic achievement level. To children who may have HI, these problems are more acute and may affect their learning of KSL negatively (Nelson & Soli 2000). Research reveals that learning environments are negatively influenced by increased noise levels from the background, mostly from transport systems and industries. Poor acoustics are, particular, a barrier to children who have HI.
McGuffey's (1982) studies indicated a direct correlation between achievement and better building quality; newer school buildings, more advanced laboratories and libraries.

Literature reviewed has majored on the performance of learners in general and little, if at all any, has touched on the effect of the quality of school infrastructure on the learning of KSL hence a call for this research to be done.

2.3 Instructional Materials and Sign Language teaching

Teaching/learning resources are important to teachers for effective teaching not only for the regular learners but also for learners with SNE in explaining abstract concepts (Wangechi, 2007). Lumumba (2009), in his findings on factors contributing to job satisfaction and dissatisfaction among teachers in special schools in Rift Valley Province, Kenya, argued that teaching/learning materials and facilities were dissatisfying to teachers thus impacting negatively on the learning process. Bunyasi (2010) also reveals that there is inadequacy of resources in Kenyan schools for learners with HI such as assistive devices due to lack of spare parts.

Okombo (2008) in his presentation on KSL development at Nairobi University - Kenyan Sign Language, Research Project (KSLRP) - postulates that there is a wide range of materials to be developed for KSL use in schools for learners with hearing impairments. Such materials include video recordings of stories.
told in KSL and reference materials such as maps, charts, Kenyan Sign Language text books and KSL dictionaries. Okombo observes that the development of these materials will need to take a continuous process because there will be new knowledge in the present era of advanced technology and lack of resources in schools for learners with HI affects learning. A study by Imbiti, 2012 only discusses teaching learning materials as a strategy for enhancing the learning of KSL but it leaves out the impacts of such materials on the teaching of KSL hence the need for this research to be conducted.

2.4 Teacher Training in KSL and KSL teaching

The teacher’s professional role is a demanding one. According to Wamai (1991), a research conducted in the Kenyan schools indicated that the academic qualification of teachers is a key factor that determines learners’ academic achievement. Teachers are, therefore, supposed to have undergone sufficient training. A management handbook by the Teachers Service Commission (TSC) (1999:21) shows that school effectiveness and improvement can be achieved through contributions made by various inputs, but effective teaching by far plays the biggest role.

Research indicates that the current situation in Zambia is that majority teachers teaching Sign Language among the children with HI are not very competent in the language. Due to inadequate Sign language training, Wakumelo (2009) observed that teachers depend mainly on learners who are
hearing impaired whereby they write words and the signs are given to the teachers by the learners. “The pupil who is supposed to be the learner now becomes the teacher,” Wakumelo (2009) notes. In a country where schools for the HI and education for the HI has been in existence for some time, this system is strange. Other times, the teachers end up using apparatus, aids or objects so as the children may see what the teachers are referring to. Muiti (2010) in her study; Hindrances to effective learning of pupils with hearing impairment in Meru North District, Kenya, asserted that most head teachers and teachers were not trained in the use of KSL and hence were ineffective in communicating using Kenyan Sign Language. She suggested that all teachers in schools for learners with HI should be trained in Kenyan Sign Language because learners with HI learn just like their hearing counterparts if given access to methods they need and the language they understand. In her findings, Imbiti (2012) found out that although most teachers had a positive attitude towards KSL use they were short of knowledge and skills in it due to inadequate training. She also found out that human resources who included teachers with HI, Teachers trained in KSL and support staffs with HI were insufficient. Mulonda (2013) in his situational analysis on the use of sign language in Zambia: Magwero and St Joseph schools for the HI, the study revealed that majority of the teachers felt having inadequately received Sign language training. From the available literature, no studies seem to have been carried out on the same in Isiolo and Embu counties, thus, a knowledge gap exists in the area and the researcher was out to fill it.
2.5 School Management and Sign Language Learning

Since the 1960s, site or school-based management (SBM) has been a popular reform adopted by states and school districts across the world as a vehicle for improving school. SBM gives local school participants—educators, students, parents and the community at large—the power to improve their school. It modifies the governance structure by moving authority to the local school. By moving governance and management decisions to local stakeholders, those with the most at stake are empowered to do something about how the school is performing (Mohrman et al 1994).

Research indicates that schools employing the following management strategies, which characterize SBM, have shown to be successful at increasing student achievement for poor, urban or minority students.

(i) Commonly Shared Mission and Goals;

Here, schools create school wide goals that plainly establish the direction of the school where everyone interested in the success of the school is involved in writing the mission statement and goals (Mohrman et al, 1994). Mission statements contain core values, such as treating each student as an individual, and the goals for the school related to student performance (Mohrman et al, 1994, Levine & Lezotte, 1995).
(ii) **Strong Teacher Professional Culture and Collaborative Planning;**

Faculty members are highly cohesive, good communicators, able to develop consensus and have a strong spirit of collegiality with teachers having a high commitment to improved student achievement (Levine & Lezotte, 1995). A spirit of collaboration exists between school personnel and district level administration (Mohrman et al, 1994).

(iii) **Problem -Solving Orientation**

Staff have an attitude that if what they are doing with students isn’t working they identify obstacles and try something else to overcome them with a willingness to modify current practices and other approaches to reach students (Levine & Lezotte, 1995).

(iv) **Decentralized Decision-Making Power**

The changes around decentralized decision-making are more effective when connected to the main purpose or goal which is to enhance student achievement (Mohrman et al, 1994, Levine & Lezotte, 1995, Odden & Wohlstetter, 1995). In this strategy, staff are encouraged to be innovative, creative, and able to take quick action (Mohrman et al, 1994).
(v) A Variety of Mechanisms for Involving Different Stakeholder Groups (parents, teachers, community members)

Many schools create school councils or decision-making bodies as a way to involve stakeholders. Schools delegate decision-making responsibilities into subcommittees to involve more people and also they create different kinds of opportunities for different groups depending on their abilities, time available and role in order to get them involved in school management and improvement. A variety of mechanisms for involving stakeholders reduces burnout and keeps people actively involved (Mohrman et al, 1994).

(vi) Available and Accessible Information

Effective schools have a consistent communication with parents which helps to bond parents to the school. Also student performance is closely monitored and the information is communicated regularly to all stakeholders (Mohrman et al, 1994). Information is available to school staff on measurements of goal attainment, trend data to measure progress, and benchmark data to know how well the school is doing compared to similar schools (Mohrman et al, 1994, Levine & Lezotte, 1995). Schools perform a contextual analysis of the strengths and weaknesses of the school; the analysis is used to design better ways to manage the school. This may best be conducted by someone from outside the school (Mohrman et al, 1994).
Literature on the effect of school management and leadership in primary schools for learners with HI is scanty. Literature on the effect of the same school based factors on the learning of KSL has also been found to be unavailable, meaning that studies on the same may be few if any. The researcher was out to fill this gap.

2.6 Summary

Related literature reviewed has clearly shown out that school based factors such as the quality of infrastructure, curriculum materials, school teachers and school management has a bearing effect on the learning of learners in any institution of learning, they influence school attendance or drop-outs. Quality school infrastructure, adequate and relevant curriculum materials and good management strategies increase school attendance motivation among learners which in turn improve the academic performance of these learners. However, the researcher has not come across a similar research. Previous Studies that were conducted dwelt on effects of sign language mode of instruction on acquisition of English affixes by the hearing impaired form two learners (Wamae, 2003); development of signs for scientific terms in schools for hearing impaired (Wanjau, 2005); factors hindering effective teaching and learning activities for hearing students (Kamonya, 2008) and strategies facilitating Kenyan sign language progress in primary schools for learners with hearing impairments (Imbiti, 2012).
The lack of earlier studies on the effects of school based factors on the learning of KSL in primary schools for learners with hearing impairment was what had necessitated the need for this study.
CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction
The chapter covers research design, description of variables, location of the study, target population, sampling techniques and sample size, research instruments, pilot study, validity and reliability of instruments, data collection techniques and procedures, data analysis and lastly logistical and ethical considerations.

3.2 Research design
The study adopted a descriptive survey research design that entailed the process of collecting data in order to provide answers concerning the current status of the study subjects. According to Mugenda and Mugenda (1999), this method is used in studies that cover large populations by selecting and studying the sample from the population to discover their characteristics. Descriptive design was adopted because it determines and reports the way things are and that the information is collected without changing the environment.
3.3 Study Variables

3.3.1 Independent Variables

In this study, the independent variables referred to the necessary enabling environment within the school that facilitated the learning of the KSL skills in primary schools for learners with HI. The study investigated the following variables: quality of the school infrastructure, levels of teacher training in KSL, curriculum instructional materials and school management strategies.

3.3.2 Dependent Variables

Learning of the KSL is considered an important milestone in the learning of the learners living with hearing impairments. It is more important for these learners to demonstrate performance of the KSL. The performance of the language is exhibited in the four basic language skills which are listening, speaking, reading and writing. Listening and reading are the receptive KSL skills while Writing and Speaking (Signing) are the expressive skills. The measurement of performance of the Kenya Sign Language is made possible by the summative evaluations such as the national examinations for instance, KCPE which are sat for by all learners who complete the cycle of primary education. Thus, the study focused on how the school based factors influence the performance of the Kenya Sign Language as a demonstration of the learning.
3.4 Location of the Study

The study was conducted in two primary schools for learners with HI. The schools are Isiolo School for the HI in Isiolo County and St. Luke’s school for the HI in Embu County. The location was viewed ideal because Isiolo primary school for learners with HI, the only primary school for HI in this county that had presented candidates for the KCPE-KSL paper (2011, 2012, 2013) in Isiolo county, had been posting lower results in the paper and ST. Lukes, the only primary school for learners with HI that had presented learners for the KCPE-KSL paper in Embu county, had been posting relatively higher results as KNEC data revealed, refer table 1.1.

3.5 Target Population

The study targeted all teachers in primary schools for learners with hearing impairments in Isiolo and Embu counties of Kenya. The target population was 2 head teachers and 27 teachers making a total target population of 29 respondents as per data from the sub-county educational offices in Embu and Isiolo in 2014.

3.6 Sampling Techniques and Sample Size

3.6.1 Sampling Techniques

Purposive sampling was used to select 2 primary schools for children with HI which had presented candidates for the KCPE - KSL paper for the years 2013,
2012 and 2011, from Isiolo and Embu counties. From each school the researcher collected data from the head teacher, a teacher teaching KSL in standard eight level who was purposively sampled and from 3 randomly picked teachers teaching KSL in any of the upper primary classes i.e. class four to seven.

3.6.2 Sample Size

10 teachers from St. Luke’s primary school for HI learners and Isiolo primary school for HI learners made the sample size. From each school, data was collected from the head teacher, one teacher teaching KSL at class 8 level and 3 teachers teaching KSL in any of the other upper primary classes (class 4-7) as indicated in the sample size matrix table 3.1.

Table 3.1: Sample size matrix

<table>
<thead>
<tr>
<th>School</th>
<th>Target population (inclusive of head teacher)</th>
<th>Sample size</th>
<th>Total sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Head teacher</td>
<td>Teacher teaching KSL in class 8</td>
</tr>
<tr>
<td>Isiolo school</td>
<td>14</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>St. Luke’s school</td>
<td>15</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Grand total</strong></td>
<td><strong>29</strong></td>
<td><strong>2</strong></td>
<td><strong>2</strong></td>
</tr>
</tbody>
</table>

Gay (1996), states that for a descriptive research where a small sample is involved, the researcher is guided to sample of 10% of the population in order
to be used for the study. Thus my sample size of 34.49% was acceptable for the study.

3.7 Research Instruments

To achieve the objectives of the study, primary data was collected using questionnaires on the KSL teachers, interview guides on the head teachers and observation schedules to ascertain the characteristics of the schools in relation to the acquisition of the KSL. These instruments were constructed by the researcher through the guidance of the supervisors.

3.7.1 Interview Guides for the Head Teachers

A semi structured interview guide that comprised of two parts was used on the heads. Part one which had three items sought demographic data alongside gender, level of education, area of specialization and experience of the head teachers. The second part which comprised of ten items was used to gather in-depth data on the head teacher’s level of training in school management and KSL, involvement of other stakeholders in the management, the quality of the school infrastructure and its effects on the learning of KSL, challenges faced in managing the schools and the probable solutions to the challenges. This second part of the interview guide elicited responses to objective one, three, four and five.
3.7.2 Questionnaires for the Teachers

The teachers’ questionnaire comprised of 3 parts. The first part had four items which aimed at finding out information on the teacher’s background; gender, age and education level, area of specialization and the teaching experience. Part two had two items which sought to know the teacher’s competence in KSL and the use of curriculum materials. The first item in part 2 gave responses related to objective 3 while the second item gave response related to objective 2. The third part of the questionnaire had two items which sought information on the quality of school infrastructure and its effects on the learning of KSL and the effect of the school management on the same. Item 1 of part 2 elicited responses to objective 1 and the second item gave responses to objective 4.

3.7.3 Observation Schedules

Kothari (2004) says that under this method, through own direct observation The researcher observed the curriculum instructional materials being used by the teachers, quality of school infrastructure among other observable school factors.

Collection of the information by the researcher was done using both descriptive and reflective field notes.
3.8 Pilot Study

The pilot study was conducted in Njia School for HI in Meru County. The school had posted the following results in KCPE-KSL paper in 2010, 2012, 2013;

Table 3.2: pilot school KSL performance.

<table>
<thead>
<tr>
<th>County/year</th>
<th>2010</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meru (Njia primary for HI)</td>
<td>61.1</td>
<td>45.1</td>
<td>53.3</td>
</tr>
</tbody>
</table>

(Data adopted from the Ministry of Education, 2014)

The tools were administered to the head teacher, one teacher teaching KSL in standard eight and three teachers teaching KSL in the upper primary.

3.8.1 Validity

Validity comes as a result of correct procedures being applied to find answers to a question. Content validity is determined by expert judgment (Orodho, 2008). Thus, the research tools were scrutinized and content validated by supervisors and other experts from Kenyatta University, department of Special Needs Education. Their recommendations were incorporated in the final questionnaires so as to enable collection of data that were valid for analysis.

3.8.2 Reliability

This is the quality of a measurement tool/procedure that provides repeatability and accuracy. It is the degree to which an instrument is consistent in producing
the same results when measuring the same things at different times but under similar conditions. Reliability was established through comparison of consistence in the developed themes (Creswell, 2003).

For the purpose of this study, reliability of the instruments was established through the use of test-retest.

3.9 Data Collection Procedures

Data collection took a duration of 1 ½ months. First copies of research permit and letters of introduction were delivered to inform the respondents about the purpose of the study. The researcher then visited each of the sampled schools for one week to familiarize and interact with the head teacher and teachers. Data was collected from the two sampled schools in two days, it took a day to collect data from each school. Data was first collected from respondents at St. Lukes School for the HI in Embu County. On arrival, the researcher went to the head teacher’s office from where the interview was conducted by the researcher himself between 11AM and 12 Noon using the interview guide. Afterwards, the researcher met with the teachers in the staffroom during the lunch break, distributed the questionnaires to the sampled teachers and took them through the instructions on how to fill the questionnaire. The researcher remained in the staffroom offering any necessary assistance and clarifications for the teachers to effectively respond to the questionnaire. After picking up the filled questionnaires from the teachers, the researcher went round the
school observing on the nature of school infrastructure, school compound, got into the classes to observe the curriculum materials being used to teach KSL and other areas as guided by the observation schedule.

A week after collecting data from St. Lukes, the research went to Isiolo School for the HI to collect data. Before going to Isiolo, the researcher had studied and internalized responses from the respondents in St. Lukes. At Isiolo School for the HI, the head teacher was interviewed by the researcher from her office between 93:30AM and 10:30AM the time she had indicated that she would be free for the interview. From the sampled teachers, data was collected during lunch break in the staffroom. The questionnaires were distributed to the sampled teachers by the researcher who took them through the instructions and also offered clarifications when called for. After finishing responding to the questionnaires, the respondents handed in the filled in questionnaires to the researcher. Finally, the researcher went round observing relevant details from the school guided by the observation schedule.

3.10 Data Organization and Analysis

3.10.1 Data Organization

Once all the data was collected from the respondents, the researcher sorted them out. The researcher went through each interview guide, questionnaires and observation checklists, scrutinizing each question and their responses one
after the other. This helped to eliminate the unusable data, interpretation of ambiguous answers and identification and correction of errors.

### 3.10.2 Data Analysis

Qualitative data was organized using the themes and presented in a descriptive form which gave the researcher an easy way to discuss the findings. The quantitative data for this study was computer analyzed using the Statistical Package for Social Sciences (SPSS) programme. Results were presented in frequency distribution tables, graphs, and pie charts and in narrative forms.

### 3.11 Logistical and Ethical Considerations

The researcher got authorization from all the relevant concerned bodies through the introduction letter from Kenyatta University-Graduate school.

During the study, a good rapport was first established which created a comfortable environment for them in order to openly and freely participate, and also sought consent from them to audio and video tape and take notes during the interview. Respondents were assured that respect and confidentiality would be highly kept.
CHAPTER FOUR
FINDINGS, INTERPRETATION AND DISCUSSIONS

4.1 Introduction

The purpose of this study was to find out the school based factors affecting the learning of Kenyan Sign Language in primary schools for learners with hearing impairments in Embu and Isiolo counties. In presenting the findings of the study the chapter is organized in two sections. Section one (4.2) covers the general demographic information of the respondents while section two which begins at 4.3 presents descriptive statistics on the findings, interpretations and discussions focusing on the study objectives which sought information on:

i. Impact of the school infrastructure on the learning of the Kenyan sign language among learners with HI.

ii. Use of instructional materials by teachers on the teaching of the Kenyan sign language among learners with HI.

iii. Teachers’ levels of academic training in KSL.

iv. Influence of school management on the learning of the Kenyan sign language among learners with HI.

4.2 General Demographic Information

The researcher sought demographic information of the respondents in relation to gender, level of education, area of specialization and experience in terms of the years one had been teaching learners with HI.
On the gender of head teachers heading schools for learners with HI in the selected counties the findings revealed that all the 2 head teachers sampled were female. The findings on the gender of the teachers teaching KSL in the sampled schools indicated that 6 (75%) of the sampled teachers were female while only 2(25%) of the sample were males. This is an indication that there are more female head teachers and teachers than their male counterparts in headship and teaching KSL in primary schools for learners with HI in the selected counties. This implied a lack of gender balance among the head teachers and teachers teaching KSL in primary schools for learners with HI in Embu and Isiolo Counties.

On the levels of education of the head teachers and the teachers teaching KSL in the sampled schools, the findings revealed that 50% of the head teachers had a master degree in Special Education while the other 50% had a diploma in special education. 50% (4) of the teachers had a master degree in special education, 25% (2) a degree in the same field and the rest a quarter (2) had a diploma training in special education. Furthering education in ones area of specialization may be of great importance for it offers more training in the subject.

The researcher also sought to find out on the respondents’ area of specialization and the findings indicated that all (100%) of the respondents had specialized in the area of special needs in Education specifically HI.
On the years of experiences, the findings revealed that 1 (50%) of the head teachers had an experience of between 6-10 years while the other half had an experience of between 11-15 years, while 5 (62.5%) of the teachers teaching KSL in primary schools for learners with HI in Embu and Isiolo counties had an experience of between 6-10 years and 3 (37.5%) had an experience of between 11-15 years. Researcher observations during learning indicated that the teachers were well conversant in handling these learners which may be as a result of this accumulated experience as a result of handling these learners for longer years.

The demographic data was not part of the research objectives but was collected for purposes of better understanding the respondents. The next sections directly address the objectives of the study as they were discussed in the literature reviewed.

4.3 Impact of School Infrastructure on the Learning of KSL

Objective one sought to determine the Impact of the quality of school infrastructure on the learning of the Kenyan sign language among learners with HI in Isiolo and Embu counties. Responses from all the respondents indicated that the quality of the school infrastructure had a bearing impact on the learning of KSL. The findings revealed that good quality infrastructure contributed to high performance while poor quality infrastructure leads to poor
performance in KSL. Both the head teachers and the teachers said that the infrastructure in their school needed improvement for most were in a poor state. Researcher’s observation found some classrooms having major cracks on the wall which posed a great challenge to the safety of all their users. Such cracked wall cause fear among learners leading to low or poor concentration in class. The classroom floors were dilapidated and the school compound was too muddy an indicator that playing was impossible during rainy seasons. The schools sampled lacked basic structure such as a language laboratory which is a key facility for learners with HI who require a lot of effort and practice in learning articulation and pronunciation. One of the head teachers interviewed said, “Inadequacy of infrastructure and the poor state of those existing is a great hindrance to the running of the school which in turn affects the learning of KSL and other subjects”. This is supported by previous studies done by Environmental Protection Agency (2000), Kennedy (2001) and McGovern (1998) who revealed that good infrastructure in schools encourages good performance of learners. Also, findings from Leah (1997), Philips (1997), Fisher (2000) and Lackney (1999) contend that good ventilation, good spaces in classrooms, less noisy places, quality buildings, better lighting and good playground are vital for learners academic achievement in school. Researcher’s observation on availability, suitability and adequacy of the school infrastructure revealed data as indicated in the table 4.3.1 below.
Table 4.3.1: Availability, quality and adequacy of school infrastructure

<table>
<thead>
<tr>
<th>Infrastructure</th>
<th>Availability</th>
<th>Quality</th>
<th>Adequacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Play ground</td>
<td>√</td>
<td>X</td>
<td>√</td>
</tr>
<tr>
<td>Classroom</td>
<td>√</td>
<td>X</td>
<td>√</td>
</tr>
<tr>
<td>Computer lab</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Language lab</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Library</td>
<td>√</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Resource room</td>
<td>√</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Key: √ - positive  X - negative

The above findings indicate that out of the 6 observed facilities, none was in good quality, 4 (66.7%) were available but only 2 out of the 4 available were adequate. This data corresponds to the data from the questionnaires and interview guides which indicated that the infrastructure in the sampled schools were inadequate and of poor quality. Hunt and Marshall (2002) argue that for effective teaching and learning of learners with HI, resources should not only be adequate but also suitable.

4.4 Use of instructional Materials by Teachers to teach KSL

Objective two sought information on instructional materials used by teachers on the teaching of KSL. When asked whether they used curriculum materials to teach KSL, all the sampled teachers from the sampled school said yes and cited the following as some of the materials that they used; KSL dictionary, KSL charts and KSL textbooks.
The figure 4.4.1 above indicates that all the sampled teachers made use of both the KSL dictionary and the text books while only 75% made use of KSL charts. These findings are supported by findings from Wangeci (2007) who asserts on the importance of teaching/learning resources to teachers for effective teaching not only to regular learners but also for learners with SNE in explaining abstract concepts. On close observation, the teachers were seen sharing few KSL dictionaries which indicated an inadequacy of the resource. These findings are supported by Imbiti (2012), whose study revealed that there were some strategies put in place to facilitate the progress of KSL such as the use of KSL dictionaries, charts and KSL textbooks but they were inadequate. No teacher, however, who indicated use of modern technological materials such as TVs and Computers, which are audio visual, as teaching/learning resources. This is contrary to Hunt and Marshall (2000) findings which
revealed that since many learners who have HI are dependent on their sight for processing information, visual representation of course content is highly important. Absence of the use of audio visual materials denied learners with HI, who mainly rely on sight for their learning, a chance to learn KSL effectively.

4.5 Teachers’ training in KSL

The third objective sought to establish if heads of schools and the teachers teaching KSL in schools for learners with HI in Embu and Isiolo counties had training in KSL and the findings indicated that all (2) of the head teachers in the sampled schools had no training in KSL as a subject. Surprisingly, during the researcher interview with the heads, all claimed that they were competent in KSL. However, when presented with an English sentence ‘The boy has gone home’ and asked to write it in KSL, they gave varying answers even after consulting the relevant KSL books. This was a clear indicator that training in KSL as a subject was paramount to all heads of primary schools for learners with HI. The results are supported by Muiti (2010) in her study; Hindrances to effective learning of pupils with hearing impairment in Meru North District, Kenya, who asserted that most head teachers and teachers were not trained in the use of KSL and hence were ineffective in communicating using Kenyan Sign Language. The data on teachers’ training in KSL was summarized in the bar graph below.
The data on figure 4.5.1 above indicates that three quarters (6) of the teachers had no training in the subject and only a quarter (2) of the sampled teachers had a certificate level training in KSL. The findings are supported by Imbiti (2012) who found out that teachers had positive opinion towards KSL use but they lacked knowledge and skills in it due to lack of training. During this study, the researchers wanted to ascertain the competence level of teachers in KSL and presented them with the English sentence ‘The boy has gone home’, which they were expected to write it in KSL. The responses were varying except for those from the 2 teachers who had undergone training in KSL, which were similar. The researcher went further to consult experts of KSL to find out whose responses were correct. Amazingly, the response from the teachers trained in KSL was found to be the correct. This was a strong
indication that training in KSL as a subject among teachers teaching KSL was a key area. This brings harmonization in the subject and reduces confusion among learners with HI in the subject.

4.6 Effect of school management on the learning of KSL

The fourth objective sought information on the influence of school management on the learning of KSL among learners with HI. When asked whether the school management affected the learning of KSL, teachers responded as tabulated in the pie chart 4.6.1.

Figure 4.6.1 Effects of school management on the learning of KSL

<table>
<thead>
<tr>
<th>Yes 87.5%</th>
<th>No 0%</th>
<th>Not sure 12.5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>87.5%</td>
<td>0%</td>
<td>12.5%</td>
</tr>
</tbody>
</table>
The findings on figure 4.6.1 above revealed that 7 (87.5%) of the teachers said that the management of the school affected the learning of KSL. only 1 (12.5%) of the teachers was non committal. When asked how the management affected this, three quarters of the teachers said, ‘*the decisions made by the management directly affected all the operations of the school, learning being one and the key of these operations.*’ They further suggested that they (teachers) be involved in making of decisions which directly or indirectly affect learning. This concurs with Odden and Wohlstetter (1995) who revealed that people at the school site must have genuine authority over budget, personnel, and curriculum.

The researcher also sought to find out whether the head teachers of primary schools for learners with HI in Embu and Isiolo counties had undergone any training in management and the findings indicated that all the head teachers sampled had undertaken a diploma course in Education Management. Mohrman et al (1994) supports the findings by indicating that it was important for key stakeholders for special schools to undergo training for effective management. This underscores the need for heads of similar schools in other counties to undertake the training in education management for effectiveness in their management of such schools. Other educational stakeholders should also not be left out of such training.
One of the interview questions sought to find out the stakeholders involvement in the management of schools for learners with HI in Isiolo and Embu counties. The findings of the interviews conducted on the two heads indicated that they involved teachers, parents, board of management, directors of education at the county and sub county levels and school sponsors in the management of the schools for the heads had this common statement, ‘Here, we can’t make any major decision without informing the sub-county educational officers, the board, teachers and other times it calls for parents’ meeting for such decisions to be made and adopted.’ Mohrman et al (1994) further supports the findings by positing that a variety of mechanisms for involving stakeholders reduces burnout and keeps people actively involved. The researcher also established that teachers were called for regular meetings to deliberate on issues pertaining the school and learners concerns. Levine and Lezotte (1995) say that teachers should be encouraged and engaged in school activities and solving issues pertaining their learners.

From the interview with the head teachers, the researcher noted that both schools had general parents’ meeting each year and that the BOM, county educational leaders and the sponsors were regularly consulted on school matters. The findings further revealed that the sampled schools had a mission and vision statement which were drafted by a team of stakeholders’ representatives. Mohrman et al, 1994, Levine and Lezotte (1995) asserts that Mission statements contain core values, such as treating each student as an
individual, and the goals for the school related to student performance, which supports the findings of this study.

Further, the research sought to identify from the head teachers the challenges they encountered in managing these schools. From the responses there was a similarity in the challenges facing the heads of both schools. They highlighted the following as their key challenges:

i. Inadequate funding. The head teachers lamented that the funding they received from the ministry of education was too little to run the operations on the schools especially purchasing the specialized equipments and infrastructure that this category of disability called for and that most of the parents could not afford meeting any extra cost charged on them.

ii. Lack of commitment from some teachers. One of the head teachers had this to say ‘teachers are always present in school but absent from classes.’

iii. Lack of full participation from parents. “Some parents have made our schools a dumping site for the children. They bring in the children to school and furnish us with contact details which become invalid as soon as they leave the school gates after their children have been admitted”. One of the heads lamented.

iv. Inadequacy of resources necessary for teaching KSL among learners with HI. Heads of the schools sampled lamented for lack of resources
and materials which are key and basic to the teaching of KSL. This is supported by the findings of Bunyasi (2010) who revealed that there was inadequacy of resources in Kenyan schools for learners with HI such as assistive devices due to lack of spare parts.

4.7 Chapter Summary

This chapter has presented findings, interpretation and discussion of results. The study sought to obtain information on the impact of school infrastructure on the learning of the Kenyan sign language among learners with HI, establish the role of curriculum instructional materials on the learning of KSL, find out if teachers teaching KSL in primary schools for learners with hearing impairment have adequate levels of academic training in the subject (KSL) and to establish the influence of school management on the learning of the Kenyan sign language among learners with HI.

The study used interview guide, questionnaires and observation schedule to collect data from the head teachers, teachers and on the general nature of the school respectively. Quantitative data collected was categorized, ordered, coded and tabulated in frequency tables and charts. Qualitative data collected
was grouped and presented in a narrative form. Results revealed that school infrastructure, use of curriculum materials, teachers’ levels of academic training on the subject and school management affected the learning of KSL in primary schools for learners with HI in Embu and Isiolo counties.
CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the research findings based on the objectives of the study. It also gives the conclusion and recommendation of the study and suggestions for further research are made.

5.2 Summary of the Findings

The researcher was out to fill a gap in knowledge on the school based factors that lead to varying results in KCPE-KSL paper which reflects how much learning of a subject has taken place. Among these factors, the researcher wanted to find out the impact of school infrastructure, use of curriculum instruction materials, teachers’ training in KSL and the role that the school management played in impacting on the learning of KSL among the learners with hearing impairment in these schools. Literature reviewed indicated that these factors played a greater role in the learning of learners in any institution of learning. Literature shown that learners from schools that had quality and sufficient infrastructure achieved higher than those from schools with poor quality insufficient infrastructure, use of relevant and appropriate curriculum instructional materials boosted learning, the more teachers are trained in their area of specialization the more competent they become and the school management has a bearing effect on the operations of the school, learning being the major operation. The research made use of descriptive survey design
employing the mixed methods. To collect data, interview guides were used on the head teachers, questionnaires on the teachers and observation schedules were used by the researcher to collect data on the general state of school infrastructure and the use of curriculum instructional materials during learning. The researcher targeted 29 respondents and purposively sampled 2 head teachers, 2 teachers teaching KSL at class 8 level one from each school and randomly picked 6 teachers teaching KSL in any class from std 4-7, three from each school. The total sample size was comprised of 10 respondents.

The findings were summarized as follows;

\[ \text{i. Effects of school infrastructure on the learning of KSL} \]

Both the head teachers and the teachers said that the infrastructure in their school needed improvement for most were of poor quality and others unavailable or those available insufficient. There was a consensus from all the respondents that the quality of school infrastructure; good ventilation, good spaces in classrooms, less noisy places, better lighting and good playground are vital for the learning of KSL among learner with HI.

\[ \text{ii. Use of instructional materials in the teaching of KSL} \]

The respondents’ responses revealed that teachers from the sampled schools made use of instructional materials in teaching KSL. From the sampled teachers, all cited that they made use of KSL dictionary and KSL textbooks
and also most of them cited that they used KSL charts. No teacher cited the use of audio-visual curriculum materials such as TVs and computers.

iii. Head teachers’ and teachers’ training in KSL.

The findings revealed that both the heads and the teachers working in the sampled schools had training in special needs education (HI). This indicates that the heads and the teachers had the requisite knowledge required in handling issues concerning learners with HI.

On the respondents’ levels of training in KSL, the findings shown that majority of the heads and teachers teaching learners with HI had no training in KSL. All the heads sampled and three quarter (6) of the sampled teachers had no training in KSL. Only a quarter (2) of the sampled teachers had a certificate level training in the subject.

iv. Effects of school management on the learning of KSL

The researcher’s findings revealed that school management is critical and plays an important role in supporting the learning of KSL. The findings further indicated that poor school management leads to poor academic performance and vice versa.
The findings revealed that the two sampled head teachers had a diploma in education management. This indicates that the heads of these schools had attained skills in education management.

The responses from both the heads and the teachers indicated that the management of the schools was done in team work. All the stakeholders including the teachers, BoM, parents and sponsors were involved in the management. Findings revealed that the heads held regular meetings with the teachers, met with BoM and sponsors and also consulted the county directors of education as need arose, and that there was an annual parents’ meeting to communicate the progress of the schools. Both schools had a mission and a vision which were drafted through a team effort.

Data from the sampled schools indicated that there were challenges like inadequate materials and resources for handling learners with HI, lack of commitment from teachers, parents and the government not giving enough funding to these schools.

5.3 The relevance of the Relational Frame Theory (RFT) use on the findings of the study

From the findings of the research, the school based factors such as school infrastructure, teachers’ competency and use of curriculum instructional materials and the school’s management make up the school environment. Findings have revealed these school based factors do affect the learning of KSL. Adequate, quality and sufficient infrastructure encourages learners to
freely interact with the environment thus spontaneously learning from the interaction. When the teachers’ have the requisite knowledge in the subject and make good use of curriculum instructional resources, they will be more confident to interact with the learners and disseminate the right knowledge to them. When the head teachers come up with supportive policies, learners are more encouraged and supported to interact with the environment. The theory is therefore relevant to the study for study findings have revealed that school based factors, which form the school environment, have a direct impact on the learning of KSL.

5.4 Conclusion

Generally, the study was seeking to find out the school based factors that affect the learning of KSL in primary schools for learners with HI. From the study, it is crystal clear that the school infrastructure is a fundamental factor for the learners learning and good performance, that adequate training of the teachers in KSL and the use of curriculum materials to teach learners with HI cannot be underscored as brought out by the findings of the study. The school management does affect the school climate for learning. It is therefore paramount for the school heads to undergo adequate training in educational management. For learning institutions to get good results, team work is deemed necessary.
5.5 Recommendations

From the research findings, the researcher, guided by the objectives of the study, recommends the following for the purposes of the improvement in the teaching and learning of KSL among learners with HI in primary schools for such category of children;

a) Recommendations on the school infrastructure

- The Ministry of Education should inject more funds to the primary schools for learners with HI due to the unique needs of these learners. Most children in these schools come from extremely poor backgrounds making it impossible for their parents to inject even a penny to the school. These schools also require specialized resources, materials which are rather expensive. The nature of infrastructure required by these schools is also unique in their own ways. The government, through the MoE should, therefore, not subsidize the fees but fully meet the cost of running these institutions.

b) Recommendation on the instructional materials for KSL

- Kenya Institute of Curriculum Development (KICD) should develop curriculum instructional materials that use the modern technology such as TVs and Computers and also seminar the KSL teachers on how to use and to develop some of those resources locally using the available technology in their schools.
c) **Recommendation on the teachers training in KSL**

- The teachers service commission (TSC) should post only teachers trained in KSL to teach in schools for learners with hearing impairment.
- The universities, colleges and other institutions training teachers should introduce KSL as a teaching subject. Of worth noting is the lack of a university or a teachers’ training college that has introduced KSL as a teaching subject alongside other subjects like Mathematics, English and such for this will give more recognition, appreciation, acceptance and standardization of training in KSL. The question that the research would pause is, why is KSL a medium of instruction, a taught and an examinable subject in schools for learners with HI and yet not a subject of specialization at the university or teacher training colleges? This is a clear indicator that the subject lacks adequately trained personnel.

d) **Recommendation on the school management**

- The Ministry of Education should extend the educational management course to other stakeholders involved in the management of the primary schools for learners with hearing impairments. Management in these schools would be made easier if all the teachers undertook a refresher course in education management. Training the heads alone is
not sufficient though a commendable move, since management of schools is a team responsibility. The BoM members and parents representatives also require a dose of the same training. This makes the heads and other stakeholders read from the same scripts when it comes to policy decisions and implementation.

5.5 **Suggested topics for further research.**

- Since the research sampled primary schools for learners with HI in Embu and Isiolo counties, the same research can be replicated in other counties.
- Research in the same area can also be done in secondary schools for learner with hearing impairment.
- Relationship between teacher training in KSL and performance in the subject.
- Factors hindering universities and teachers’ training colleges from introducing KSL as a teaching subject.
- Introduction of KSL as a taught and an examinable subject in the mainstream schools.
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APPENDICES

Appendix I:

Interview Guide for the Head Teachers

SCHOOL………………………………DATE……………TIME

GENERAL INSTRUCTIONS

This is a research study designed to analyze the effect of the school based factors on the learning of the Kenya Sign Language among the hearing impaired in Kenya. Kindly complete this research questionnaire and help in this noble task. Remember that all the information you give will be treated with ultimate confidentiality.

1. General Information

Tick in the appropriate box

1.1 Gender

Male [ ] Female [ ]

1.2 Education Level:

Certificate [ ] Diploma [ ] Degree [ ] Master [ ]

1.3 Area of specialization

Regular education [ ] Special education (HI) [ ]

Any other area [ ] State the area………………

1.4 For how long have served as a head teacher?

1 – 5 years [ ] 6 – 10 years [ ] 10 – 15 years [ ]

16 – 20 years [ ] 21 and above [ ]

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PART 2: Management approaches

*Read the following questions carefully and answer them.*

2.1 Have you undergone any training in management on top of your academic training? Yes [ ] No [ ]

If yes, what is the name of the course? .................................................................

Up to what level have you trained in the course? Certificate [ ] Diploma [ ] Degree [ ]

2.2 Are you trained in KSL? Yes [ ] No [ ]

If yes, up to what level? Certificate [ ] Diploma [ ] Degree [ ]

How would you rate your competence in the subject? Good [ ] Average [ ] poor [ ]

Kindly, write this sentence in KSL: *The boy has gone home.*

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

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

2.3 Does your school have a mission and vision statement? Yes [ ] No [ ]

If yes, who were involved in the preparing of the mission and vision?

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

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

2.4 Do you involve the following in the leadership of the school?

Teachers Yes [ ] No [ ]

Parents Yes [ ] No [ ]

Other educational stakeholders Yes [ ] No [ ]. List them.
2.5 What challenges do you face while dealing with the following in your school?

Teachers..............................................................................................................................................................

..........Parents...............................................................................................................................................................

..........2.6 Where does the school get funding from?

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

Is the funding adequate? Yes [ ] No [ ]

If No, what do you do to sustain the running of the school?

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

..........2.7 Comment on the quality of the school infrastructure in general

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

In your own opinion, does the quality of your school infrastructure hinder or promote the learning of KSL or it has no effect?

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

..........Give brief comments on your answer above...........................................................................................................

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

..........2.9 In your opinion, what do you think hinders the teaching and learning of KSL in your school?

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

.............................................................................................................................................................................
2.10 Give your general Comments about this research, if any.

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

Thank you for your participation.
Appendix II:
Questionnaire For Teachers

SCHOOL………………………………………………DATE………….TIME…………..

GENERAL INSTRUCTIONS

This is a research study designed to analyze the effect of the school based factors on the learning of the Kenya Sign Language among the hearing impaired in Kenya. Kindly complete this research questionnaire and help in this noble task. Remember that all the information you give will be treated with ultimate confidentiality.

PART 1: GENERAL INFORMATION

1.1. Gender Male [ ] Female [ ]

1.2 Education Level Certificate [ ] Diploma [ ] Degree [ ]

1.3 Area of specialization
Regular education [ ] Special education [ ]
Any other area [ ] State the area……………….

1.4 Experience 1 – 5 years [ ] 6 – 10 years [ ] 10 – 15 years [ ]
16 – 20 years [ ] 21 and above [ ]

PART 2: Teacher competence and Curriculum materials

Read the following questions carefully and answer them.

2.1. Are you trained in KSL? If yes, up to what level?

........................................................................................................................................
How would you rate your competence in the subject? Good [ ] poor [ ] not sure [ ]

Kindly, write this sentence in KSL: The boy has gone home

……………………………………………………………………………………………………

2.2 Do you use curriculum instructional materials when teaching KSL?...............

If yes in 2.2 above, state the materials that you use.

……………………………………………………………………………………………………

Part 3: General questions.

3.1 Briefly, write comments about the quality school infrastructure giving your feelings i.e. do you like it or you don’t and reasons for your feelings.

……………………………………………………………………………………………………

In your own opinion, does the quality of your school infrastructure hinder or promote the learning of KSL or it has no effect?

……………………………………………………………………………………………………

3.2 Does the management of the school involve you in the day to day running of the institution? Write brief comments to support your opinion.

……………………………………………………………………………………………………
Comments, if any:

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

Thank you for your participation
Appendix III:

Observation Guide

Areas to be considered during observation

Physical environment

1. The comfort of the rooms i.e. floors in class, enough ventilations, air conditioners, lighting in rooms like classes, labs, library, etc.
2. Availability and suitability of a library, language laboratory, play ground etc.
3. Availability and use of curriculum instructional materials in class by teachers during KSL lessons
Appendix IV:

Research Authorization

[Image of a document]

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

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

Ref. No. NACOST/P/15/8059/4834

Date: 29th January, 2015

Rwamia Muthoni Samuel
Kenyatta University
P.O. Box 43844-00100
NAIROBI

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on “School based factors affecting learning of Kenyan Sign Language in primary schools for hearing impaired in selected Counties, Kenya,” I am pleased to inform you that you have been authorized to undertake research in Embu and Isiolo Counties for a period ending 3rd April, 2015.

You are advised to report the County Commissioners and the County Directors of Education, Embu and Isiolo Counties before embarking on the research project.

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

DR. S. K. LAMEAT, OGW
FOR: DIRECTOR-GENERAL/CEO

Copy to:
The County Commissioner
Embu County.

The County Director of Education
Embu County.

[Signature]

Appendix V:

A letter Seeking Permission to Conduct Research in School

Rwaimba Samuel,
Mukothima Mixed Day Secondary School,
PO BOX 2897 MERU

The Principal,
St Lukes School For The Learners with HI,
EMBU.

Dear Sir/ Madam,

RE: PERMISSION TO CONDUCT RESEARCH IN YOUR SCHOOL
I am a student at Kenyatta University pursuing a Master degree in Special Needs Education and a research project is a requirement in this course.

My study topic is to find out the school based factors that affect the learning of KSL in primary schools for learners with has already granted me authority (see the attached copy). I assure you that all the information gathered in the school will be used only for research purpose and will be treated with a lot of confidentiality.

Thank you in advance for your cooperation.

Yours faithfully,
Samuel Rwaimba.
Student Researcher.
APPENDIX VI:
A letter Seeking Permission to Conduct Research in School

Rwaimba Samuel,
Mukothima Mixed Day Secondary School,
PO BOX 2897 MERU

The Principal,
Isiolo School for the Learners with HI,
EMBU

Dear Sir/ Madam

RE: PERMISSION TO CONDUCT RESEARCH IN YOUR SCHOOL.
I am a student at Kenyatta University pursuing a Master degree in Special Needs Education and a research project is a requirement in this course.

My study topic is to find out the school based factors that affect the learning of KSL in primary schools for learners with has already granted me authority (see the attached copy). I assure you that all the information gathered in the school will be used only for research purpose and will be treated with a lot of confidentiality.

Thank you in advance for your cooperation.

Yours faithfully
Samuel Rwaimba.
Student Researcher.