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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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ABSTRACT. This was a descriptive survey study design which sought to establish the school based factors that affect the learning of Kenyan Sign Language in primary schools for learners with hearing impairment in Embu and Isiolo counties in Kenya. The target population was all teachers teaching in primary schools for learners with hearing impairment in the two counties. From the selected schools, the study purposively and randomly sampled 2 head teachers and 8 teachers respectively. 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. Quantitative data collected were analyzed using descriptive statistics and tabulated in frequency tables, bar charts and pie charts while qualitative data were analyzed and presented in narrative form. The study findings revealed that all the sampled respondents had training in special needs education but only 25% had training in KSL as a subject. Basing on the findings the researcher recommends that the TSC should post only teachers trained in KSL to teach KSL among learners with HI and that the universities should introduce KSL as a teaching subject alongside other subjects like Mathematics, English and Kiswahili.

Keywords: School, Learning, Language in Primary Schools.

Factores con bases la escuela que afectan el aprendizaje de la lengua de signos en las escuelas primarias de Kenia para los sordos y los distritos de Isiolo Embu, Kenia

RESUMEN. Este estudio se caracteriza como una investigación descriptiva que tuvo como objetivo señalar los factores escolares que influyen en el aprendizaje de lengua de signos en las escuelas primarias de Kenia para los alumnos con discapacidad auditiva en los municipios de Embu e Isiolo, Kenia. La población objetivo era que todos los maestros que enseñan en las escuelas primarias para los alumnos con discapacidad auditiva en ambas ciudades. Para la selección de las escuelas, el estudio seleccionado al azar 2 directores y ocho profesores asistentes, respectivamente. Las entrevistas se utilizan para obtener datos de los grandes maestros, cuestionarios para los asistentes de enseñanza, y también se utilizó para observar, con el fin de obtener datos sobre la naturaleza general del entorno escolar, locus de esta investigación. Los datos cuantitativos obtenidos fueron analizados utilizando estadística descriptiva y se tabulan en tablas de frecuencias, gráficos de barras y gráficos circulares mientras que los datos cualitativos fueron analizados y presentados en forma narrativa. Los resultados del estudio revelaron que todos los encuestados de la muestra fueron capacitados en educación especial, pero sólo el 25% tienen formación en KSL como sujeto. Con base en los hallazgos de la investigación, se recomienda que el TSC debe publicar sólo los profesores con formación en KSL para enseñar KSL a los estudiantes con entre HI y que las universidades deben presentar KSL como una disciplina de enseñanza junto a otras disciplinas como las matemáticas, Inglés y kiswahili.

Palabras Clave: Escuela, Aprendizaje, Lenguaje en Escuelas Primarias.

Fatores escolares que afetam a aprendizagem da língua de sinais de quenianos nas escolas primárias para deficientes auditivos em Embu e municípios de Isiolo, Quênia

RESUMO. Este estudo se caracteriza como uma pesquisa descritiva que pretendeu apontar os fatores escolares que afetam a aprendizagem de Língua de Sinais Queniana nas escolas primárias para os alunos com deficiência auditiva nos municípios de Embu e Isiolo, no Quênia. A população-alvo foi todos os professores que ensinam nas escolas primárias para os alunos com deficiência auditiva nos dois municípios. Para a seleção das escolas, de forma aleatória o estudo selecionou 2 professores principais e 8 professores assistentes, respectivamente. Foram utilizadas entrevistas para obter dados dos professores principais, questionários para os professores assistentes, e também foi utilizada a observação, com o objetivo de obter dados sobre a natureza geral do ambiente escolar, lócus desta pesquisa. Os dados quantitativos coletados foram analisados por meio de estatísticas descritivas e tabulados em tabelas de frequência, gráficos de barras e gráficos de pizza enquanto os dados qualitativos foram analisados e apresentados em forma de narrativa. Os resultados do estudo revelaram que todos os entrevistados da amostra tiveram formação em educação especial, mas apenas 25% tinham formação em KSL como sujeito. Baseando-se nas conclusões do pesquisador, recomendamos que a TSC deve postar apenas os professores com formação em KSL para ensinar KSL entre os alunos com HI e que as universidades devem apresentar KSL como uma disciplina de ensino ao lado de outras disciplinas como Matemática, Inglês e Kiswahili.

Palavras-chave: Escola, Aprendizagem, Linguagem em Escolas Primárias.

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. 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.

Background to the Study

For normal development of all human beings, language is an essential element. Linguistic proficiency is one of the central requirements for human life (Magnuson, 2000). The *British Medical Journal* reports that inability to develop effective and sophisticated language at an early age negatively affects all aspects of children's mental health and psychological development (Hindley & Parks, 1999). From this study and others, Magnuson (2000) concluded that "the deaf children who are the most competent in their social, cognitive and linguistic development are those who have participated in active linguistic interaction with their parents from an early age."

The children who have an accessible language learn through active use and through informal exposure, but children who are deaf cannot. It is impossible for them to acquire a spoken language in the same way that a hearing child would, that is, subconsciously through the informal context at home, through interaction in society, watching television or listening to the radio. Various scholars have argued that children who are deaf have a greater need to be taught

Sign language, which is their natural language. Wilbur (2008) as quoted in Brown (2009) asserts that natural languages are those that can be acquired and learnt without formal intervention and teaching. This process however naturally takes place in a normal environment where there are plenty of adult role models from whom children can naturally learn the rules and conventions of that language. The environment of the children with deafness is not normal for they cannot hear. Hence s/he cannot be exposed to language through normal means but only through formal teaching of that language.

Since the famous work of William Stokoe in 1960, Sign language has come to be accepted as a true and complete language. Professional linguists who have studied many different Sign languages have found them to have every linguistic

aspect to be categorized as a true language. This realization has therefore necessitated the teaching and learning of Sign Languages in schools.

The school environment, where learning of Sign Languages takes place, is made up of the school based factors such as the school infrastructure, curriculum instructional materials used by the teachers, teacher training and competency in Sign Language 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.

In this respect, many countries have recognized sign language as an official language and further introduced it as a taught subject in their schools.

On the global platform, Chupina (2006) reports that in 1995, Swedish Sign Language became a taught subject as well as the language of instruction in Sweden. Since then, the same curriculum which includes Sign language as a subject is used by special education schools and mainstream schools. Learners with deafness at school study Sign Language together with lessons in written Swedish. Classes of students who are hard of hearing similarly learn Sign language and spoken language as well as Swedish. This has contributed to good literacy for all Swedish students who are hard of hearing and Deaf. Students with deafness learn grammar at school and they can compare written Swedish with Swedish Sign Language. These students learn about grammar and the variations in these languages. According to Chupina (2006), in order to learn good Swedish, one ought to learn good Sign language.

In almost all the American States, American Sign Language classes are offered at all school levels i.e. elementary, secondary and post-secondary levels. American Sign Language is recognized as an autonomous natural language fully developed with distinct syntax, art form and grammar. ASL is a visual gestural language whose grammar and syntax are unique (Klima & Bellugi, 1979; Baker & Battison, 1980; Baker & Cokley, 1980). ASL is not based on American English. Rather, it is indigenous to the culture of the Deaf in Canada and the United States.

American Sign Language has all the obligatory components of a language: syntax, structure, relatively arbitrary and dynamic and used by a community (Hoeman, 1986).

Regionally, the Zambian government embarked on a language policy called New Break Through to Literacy (NBTL) in 2003. According to this NBTL policy, children are supposed to be taught literacy in their mother tongue languages in the first year of school. The pupils are then expected to use the familiar language (mother tongue) to learn the second language, English. Pupils have to learn the culture, vocabulary and grammar of their mother tongues before proceeding to learning the second language, English.

In Kenya, Okombo (1994) points out that the teaching and learning of Kenya Sign Language ought to be addressed since, although children who are Deaf may acquire Sign language in their natural environment provided by the school community, the degree of competence that they require for the purposes of education and for complex discourse during their adult life after school cannot be achieved from a mere language exposure whether signed or spoken. This seems to concur with the British and American government policies whereby although English is a mother tongue which many children acquire naturally, they are still required to learn it formally in schools.

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. Throughout the years that pupils have sat for the KSL Paper at the KCPE level, results have shown discrepancies among various schools in the performance of KSL. Some schools were seen to post excellent results while others posted average and poor results. This made the researcher assume that there must be some school based factors that brought about these variations and so the need for this study.

The researcher came across no studies on school based factors affecting

learning of KSL since previous studies conducted dwelt on the effects that sign language as a mode of instruction has on the acquisition of English affixes by the learners with hearing impairment in form 2 (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 the strategies that facilitate Kenyan sign language progress in primary schools for learners with hearing impairments (Imbiti, 2012). Thus, the findings of this study have brought to light the school based factors that affect learning of KSL.

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. Thus it emerges that there could be school based differences that could be contributing to these variations. This brings in a knowledge gap which the researcher was out to fill by examining closely on these school based factors that affect the learning of KSL in the schools where the learners with hearing impairments attend and seek to relate these with their learning level as evidenced in the end of the cycle examinations.

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

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 curriculum instructional materials by teachers on the learning 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.

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 curriculum 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?

Theoretical Framework

This study was based on the Relational Frame Theory (RFT) (Hayes, Barnes-Holmes, Roche, 2001). RTF provides a learning account of the origin and development of language competence and complexity. RFT, which is based upon the Skinnerian behaviorism principles, argues that children acquire language purely through interacting with the environment. RFT further posits that the building block of human language and higher cognition is 'relating', i.e. the human ability to create links between things. This can be contrasted with Associative Learning, which discusses how animals form links between stimuli in the form of the strength of associations in memory. Relational frame theory focuses on how humans learn language through interactions with the environment. Empirical studies supporting the predictions of RFT suggest that children learn language via a system of inherent reinforcements (Anderson, 1992).

The above theory was viewed ideal and relevant for the study since the learning of KSL takes place 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.

Graph 1: Conceptual Framework.

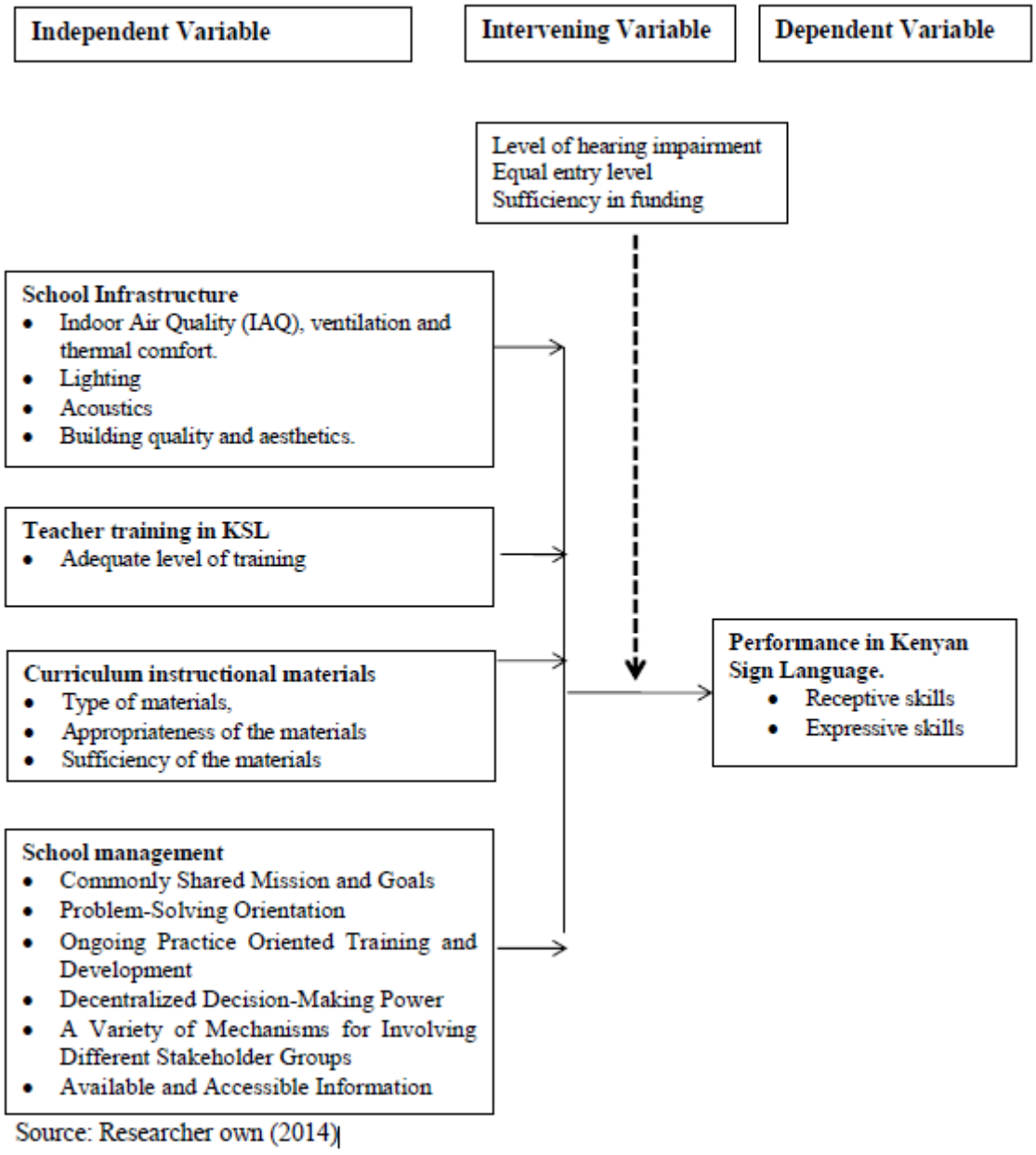


Figure 1. School based factors affecting the learning of KSL.

Research Methodology

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.

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.

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.

Table 1: Sample size matrix.

School	Target population (inclusive of head teacher)	Sample size			Total sample size
		Head teacher	Teacher teaching KSL in class 8	Teacher teaching KSL in class 4-7	
Isiolo school	14	1	1	3	5
St. Luke's school	15	1	1	3	5
Grand total	**29**	**2**	**2**	**6**	**10**

For the qualitative inquiry, the intent is not to generalize the result to a population but to develop an in-depth exploration of a central phenomenon (Creswell, 2005). 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.

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.

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.

Observation Schedules

Kothari (2004) says that under this method, through own direct observation the investigators can seek information without consulting the respondents. Under observation the information obtained relates to what is currently happening and it is not complicated by either the past behavior or future intentions or attitudes. Naturalistic observation where the subject is in its natural habitat or set up and without the knowledge of being observed, presents the most accurate and actual data/information. 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.

Pilot Study

Robson (1993) argues that piloting provides opportunity for the researcher to test his/her confidence in identifying difficulties and obstacles that could affect the actual collection of useful data. 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 2: Pilot school KSL performance.

KSL mean score				
County/year	**2010**	**2012**	**2013**	
Meru (Njia primary for HI)	*61.1*	*45.1*	*53.3*	

(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. The pilot study was aimed at establishing the presence of any weaknesses in the instruments and checking for clarity of the questions or items from respondents which would assist in the improvement and modification of the instruments for improved validity and reliability. Piloting enabled the researcher to detect flaws in the administration of the research instruments. After piloting, all corrections and alterations, both typographical and content, on the instruments were made and discussed with the researcher's supervisor and other experts in the area of special needs for approval. The piloted school was not used in the main study.

Validity

Validity is the ability of a tool to measure that which it is intended to. It 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.

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. The procedure for conducting the test-retest was as follows:

(i) The developed questionnaires were given to three identical subjects (one head teacher, one teacher teaching KSL at class eight level and any other teacher teaching KSL in any other upper primary – class 4-7).

(ii) The answered questionnaires were scored manually.

(iii) The same questions were administered to the same group of subjects after a period of two weeks. The questionnaire responses were scored manually.

(iv) A comparison between answers obtained in roman (ii) and (iii) above was made.

(v) A Pearson's product moment formula for the test-retest was employed to compute the correlation coefficient in order to establish the extent to which the contents of the questionnaire were consistent in eliciting the same responses every time the instrument was administered. A correlation coefficient of 0.75 was achieved and that was enough evidence to judge the instruments as reliable for the study.

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.

Data Analysis

Qualitative data was organized using 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.

Findings, Interpretation and Discussions
Teachers' training in KSL

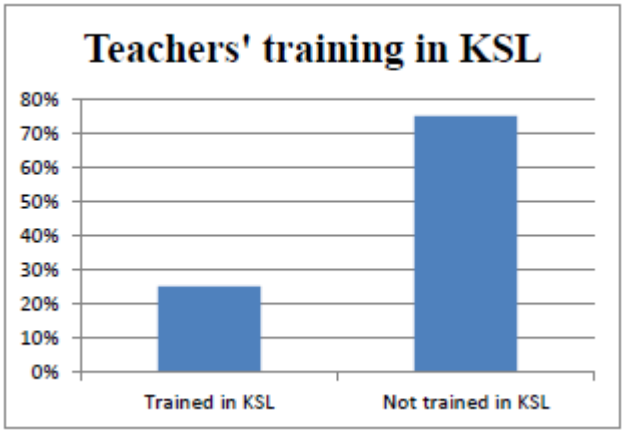
The third objective sought to establish if heads of schools and the teachers teaching KSL in schools for learners with HI in Embu and Isiolo counties had training in KSL. The teacher's professional role is a demanding one; it stretches from curriculum development, pedagogical material preparation, classroom teaching, examination processing and evaluation to learners' behavior modeling as well as acting as role models to the society. 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. Harris and Bennet (2001) say that if teachers have inadequate subject knowledge or an insufficient level of training, the quality of output will be greatly impaired. The lack of adherence to a minimum nationwide standard of employment of teachers, they add, is not good for quality as the degeneration of a teacher competence in psychology, subject methods and practical training adversely impacts on the quality of educational experiences on learners. A management handbook by the Teachers Service Commission (TSC) (1999, p. 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.

Findings from this research 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, in order to bring harmonization in the rules of grammar that govern KSL, 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. Without such training, KSL teachers will continue exposing their learners to variations of the same language which lack standardization.

The data on teachers' training in KSL was summarized in the bar graph below.

Graph 2: Teachers' training in KSL.



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. The findings also agree with Mulonda (2013) in his study on a situational analysis on the use of sign language in the education of the deaf in Zambia: a case of Magwero and St Joseph schools for the deaf**,** the study revealed that the majority of the teachers felt that they did not receive adequate training in Sign language. The study by Mulonda revealed that out of the 35 teachers that responded, 25 of them stated that they did not undergo any comprehensive training in Sign language. This represented a percentage figure of 71 percent. Only 8 out of 35 teachers responded that they underwent comprehensive training in Sign language representing a total of 23 percent.

During this study, the researcher 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 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.

Such training will ensure that all teachers teaching KSL will expose the hearing impaired learners to similar KSL grammar thus creating an equitable platform for all learners learning KSL. This will also enhance equitable competition among these learners in the national exams thus reducing variations in the subject performance. Makau in 1986 noted that the academic and professional qualifications of teachers were crucial factors in influencing performance. The differences in teaching affect performance and those schools with best qualified teachers tended to be the most successful in examinations. Research indicates that the current situation in Zambia is that most teachers of the Deaf are not very competent in Sign language. Because of lack of adequate training in Sign language, Wakumelo (2009) observes that teachers mainly depend on learners where they write words and the learners give the teachers the signs. Wakumelo (2009) notes that in such cases "the pupil who is supposed to be the learner now becomes the teacher." This is a strange system in a country where Deaf schools and Deaf education has been in existence for some time. Sometimes they resort to the use of aids/objects/apparatus for the children to see what they are referring to. The success of such an approach depends on whether pupils know what is in the picture because if they do not know they have no concept and hence no sign for the object. The problem of lack of enough Sign becomes more acute when it comes to the teaching of science subjects and mathematics at high school level. The few teachers who are familiar with Sign language only know basic Sign language and are unable to sign concepts that are technical. This delays teaching and slows learning. When the teacher fails to formulate appropriate concepts they resort to oral speech while pupils have to resort to lip reading which may not be helpful sometimes (Wakumelo, 2009). This seems to be a similar case in Isiolo and Embu counties since most of the teachers lacks training in KSL.

Summary, Conclusions and Recommendations Summary of the Findings

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 75% (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.

Recommendations

- 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.

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