

**ASSESSMENT OF ACADEMIC PERFORMANCE OF LEARNERS WITH HEARING IMPAIRMENT IN SELECTED SPECIAL PRIMARY SCHOOLS IN KENYA**

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**Abstract**

The purpose of the study was to assess the academic performance of learners with hearing impairment in special primary schools in Kenya. The study was carried out in five selected special primary schools across five counties in Kenya. The study targeted a population of three hundred and sixty nine respondents: five head teachers, one hundred and eleven teachers, and two hundred and fifty three learners. A sample size of one hundred and twelve respondents was selected: five head teachers, fifty seven teachers, and fifty learners. Purposive sampling was applied to select counties, schools, head teachers and learners, while a simple random sampling procedure was applied to select teachers in each school. The instruments used for data collection included questionnaires, interview guides, and document analysis guides. Data obtained from questionnaires were analysed quantitatively, using descriptive statistics while data collected using interviews and observations were coded, quantified, categorized and analysed following themes derived from the research objectives. Both data were integrated to get the findings of the study. The study found that the use of Kenyan Sign Language to instruct learners with hearing impairment had led to an improved in their academic performance. Head teachers and teachers felt that learners' performance after the official introduction of Kenyan Sign Language (KSL) in 2004 was better compared to performance prior to that. While KSL as a subject was found to be the best performed, the scores in certain subjects, such as Social Studies were very low and performance of learners with hearing impairment was still below average as compared to their hearing counterparts. The study recommends that the regular primary curriculum be modified and made easily understandable especially in Social Studies and Religious studies to suit learner's needs and interests. The research findings therefore, will be useful to curriculum developers and policy makers, and will provide information that can be used to enhance and promote the education of learners with hearing impairment; which will lead to improved academic performance, consequently resulting in better transitions.

**Keywords:** Academic performance, Kenyan Sign Language, Hearing Impairment, Deaf, Special Schools

## Introduction

Like in many other countries, deaf learners in Kenya have consistently trailed behind their hearing counter parts in academic performance (Omutsani, 2012). According to Ministry of Education Science and Technology (MOEST), ((2005b)) report, academic performance in national examinations like Kenya Certificate of Primary Education (KCPE), continues to be an indicator of the quality of education for learners with hearing impairment. Majority of these learners rarely score above 250 (out of a possible 500) marks, and their pass mark to join secondary schools of their choice is usually lowered to 130 marks or below. Only a small percentage of these learners in Kenya, who acquire primary education, proceed for further education at secondary schools and university levels (MOEST, 2005b). The report further revealed that deaf learners performed better in Mathematics and English and worst in Kiswahili resulting in drastic drop in the overall performance. Inquiries conducted pointed out to teachers' lack of competence in the language of instruction as one of the major obstacle to their academic development (Adoyo, 2004).

To address this, the government of Kenya has officially adopted the use of Kenyan Sign Language (KSL) as a medium of instruction for hearing impaired learners after the use of various other modes failed to meet the communication needs of the learners (MOEST, 2004d). This study therefore, was carried out to establish the academic performance of learners with hearing since the inception of KSL as a medium of teaching/instruction in special schools in Kenya.

## Academic Performance of Learners with Hearing Impairment (HI)

Studies assessing the academic performance of learners with hearing impairment have routinely found them to lag far behind their hearing peers, and the gap in achievement usually widens as they get older (American Speech-Language-Hearing Association (ASHA), 2001a). Various other studies have found that low achievement is a characteristic of learners who are deaf (Heine & Slone, 2008; Marschark, Lang, & Albertini, 2002); they average 3-4 years below their age-appropriate grade levels. In United States of America, approximately 30% of deaf students were found to be functionally illiterate when they left school, compared to less than 1% of hearing students (Heward, 2006). In India, a 2005 study conducted by the National Association of the Deaf (NAD), found that education for the Deaf was characterized by hearing impaired students lagging behind their hearing age mates substantially in all measures of achievement (Denmark, 2013).

Research on the performance of the students who are deaf or hard of hearing, which has used standardized reading comprehension tests suggests that on average, the learners encounter great difficulty in processing Standard English that is in print (Friend, 2008). This was also seen in a study conducted by Anita, Jones, Reed, and Kreimeyer (2009) who looked at deaf students' school achievement. Over a 5-year period, scores on standardized assessments of reading, language, and mathematics, as well as demographic and communication data were obtained from 197 Deaf and Hard of Hearing (DHH) students enrolled in mainstream classrooms for at least 2 hours daily. The results indicated that over that period, many students achieved average or above average levels. Of the students followed, 48–68% achieved average or above average levels in reading, 55–77% in language/writing, and 71–79% in mathematics.

Marschark, Sapere, Convertino, Mayer, Wauters and Sarchet (2009) showed that students who do not perform as well as peers in language arts, reading and writing have a disadvantage and lack knowledge and experience with formal and informal language. Although majority of learners who are deaf or hard of hearing struggle to become fluent readers, some learners have been found to

perform far much better (in terms of grades achieved) compared to their hearing peers (Erickson, 1987; Geers & Moog, 1989). The factors found to explain those students' success include the quality and quantity of interactions with significant others, parents participation in their education, supportive early educational environments, and high quality education programs (Marschark, Convertina, & LaRock, 2006). However, Studies still document, and persistently report that deaf students find the learning of English quite difficult and generally lag behind their hearing peers (Luckner & Handley, 2008; Morenzo-Perez & Rodriguez-Qtiz, 2015; Wilbur, 2000). In general, students who have hearing impairment achieve better grades in Mathematics than in reading or writing (Friend, 2008).

### **Sign Language as a Medium of Instruction**

In countries that have adopted the use of national sign languages as the medium of instruction in schools for the deaf, an unprecedented success has been achieved in the education of the deaf. In Sweden, the Swedish Sign Language became the language of instruction as well as a teaching subject in 1995 (Chupina, 2006). Since then, special schools as well as mainstream schools use the same curriculum, which includes sign language as a subject. Deaf students in schools study the sign language as well as lessons conducted in written Swedish. This has helped improve the academic performance of the students. Smith and Ramsey (2004) described the classroom practices of a deaf teacher who had thirty five years of experience. The teacher used American Sign Language (ASL) as the medium of instruction in a fifth-grade classroom in a residential school. An analysis of three lessons illustrated the use of ASL linguistic features to encourage student participation. Their analysis confirmed that teachers' sign language fluency and experience interacted to yield an effective strategy for increasing student involvement. These findings are consistent with the views expressed by other studies on the same topic (Albertini & Lang, 2001).

In Kenya, KSL was adopted, in 2004, as a medium of instruction for learners with HI after various modes were tested out but failed to fulfil the communication needs of the learners (Ministry of Education (MoE), 2004). This study therefore, sought to establish the academic performance of learners with hearing impairment since the inception of KSL as medium of instruction in Special Schools for the Deaf.

### **Methodology**

The study employed descriptive survey design. This design was used in this study to establish the academic performance of learners with Hearing Impairment in special primary schools in Kenya.

The study was carried out in five selected special primary schools for learners with HI in Kenya. These were: St. Martins Mumias in Kakamega, Nyangoma in Siaya, Machakos in Machakos, Ngala in Nakuru and St.Kizito in Kericho. The study targeted all head teachers, teachers and learners in standard 7 and 8 from the five schools for deaf learners. The schools are found in 5 selected counties in Kenya, that is; Kakamega, Siaya, Machakos, Nakuru and Kericho. The population comprised; 5 head teachers, 111 teachers and 253 learners in standard seven and eight getting a total of 369 respondents. The sample size was 112 respondents comprising 5 head teachers, 57 teachers and 50 learners.

Purposive and simple random sampling techniques were utilized in this study. Purposive sampling was employed to select the five counties, the five schools, five head teachers and the fifty learners from these schools that were included in the study. Ten learners were purposively selected from

classes seven and eight from each of the schools included in the study. From each class, five learners; three boys and two girls, were selected based on a criteria on their academic performance as given by the class teachers. KCPE results analysis from 2010-2014, as shown in Appendix 1, was also analysed and included in the study. The study only analysed the results for these particular years (2010-2014) because KSL as a medium of instruction was implemented in 2004 and was first examined as subject nationally in 2010 KCPE (MoE, 2009a). Simple random sampling was utilized to select the fifty-seven teachers included in the study. For purpose of this study, Questionnaires, interview guides and document analysis guides were utilised.

Reliability and validity of the instruments was determined through a pilot study with similar population who did no form part of the study. Content validity was done through expert judgment approach. The pilot study involved 12 teachers, the head teacher and 10 learners in class 7 and 8. Reliability of the instruments was determined by test-retest method on the pilot sample. It involved administering the instruments to the pilot subjects twice with a break of two weeks maintaining the same initial conditions.

### **Data Collection**

The questionnaire was administered to the teachers of learners with HI. Open and closed ended questions, designed based on the objectives of the study, were constructed by researcher. Interviews were administered on the head teachers and learners. Two sets of structured and semi-structured interview schedules were designed: one set to collect data from head teachers and another one to collect data from the learners. Document analysis guide was to record KCPE results from 2010 to 2014, for each subject across the five schools. This was done to ascertain the performance in each subject and the general performance of hearing impaired learners since the introduction of KSL as a mode of instruction in 2004 and later (since 2010) as an examinable subject. The use of questionnaires, interviews, and documents combined together generated data that provided in-depth information to inform the objective of study.

### **Data Analysis**

The questionnaires were used to collect both quantitative and qualitative data. The data obtained from closed-ended items in the questionnaires and the document guide were analysed quantitatively, while qualitative data generated from open-ended questions included in the questionnaires were grouped according to the themes of the study, coded and quantified. The Statistical Package for Social Sciences (SPSS) software was used for data analysis and to generate tables and graphs using descriptive statistics. Data collected by use of interview were transcribed, organized according to the objectives of the study, quantified and analysed using descriptions and thematic text.

### **Findings and Discussions**

#### **Demographic Information**

Demographic data was collected from the head teachers and teachers included in the study. The demographic characteristics were analysed across the following variables: gender, professional qualification and years of teaching experience. The statistics are summarised in Table 1.1.

Table 1.1 above shows that majority of the head teachers 4(80.0%) interviewed were male; there was only 1(20%) female head teacher. These findings suggest that the top management of special

primary schools could be male dominated; and that there was no gender balance in the administration of special schools. While there was a male dominance in top management, the results showed that majority of teachers were female; 34(61.8%) of all teachers included in the study were female, and 19(34.5%) were male. Only 1(3.6%) teacher did not give a response to the question. The results indicate that there were more females who teach in deaf schools than there are males. Thus, gender may be seen as an important factor in determining the most involved in teaching of students with hearing impairment in deaf schools.

Table 1.2 reveals that almost all the head teachers 4(80%) had a diploma in SNE with only 1(20%) having a degree, while majority of the teachers 34(63%) had a degree in SNE. Those who had a masters' degree in SNE and certificate in SNE were the minority 5(9.3%) and 4(7.4%) respectively as shown in Table 1.2. The high proportion of teachers with a degree and masters in SNE could support the proposition that the professional level of education of the teachers could lead to KSL knowledge hence improved performance. There were fewer respondents (teachers) with certificate and diploma qualification in SNE, which may mean that they have a basic understanding of the various techniques and strategies used in KSL. The findings indicate that, generally, the respondents were qualified professionals and had knowledge on educating learners with Hearing Impairment.

Table 1.3 shows the number of years that the respondents had taught learners with hearing impairment. Over a third of the teachers 19(35.2%) had an experience of between 11 to 15 years teaching deaf learners, while only 6(11.1%) of them had an experience of between 0-5 years. The results reveal that majority of the respondents (both teachers and head teachers) had taught for more than 10 years hence they had a wealth of experience and knowledge in teaching learners with Hearing Impairment.

The more the years of experience, the higher the likelihood of teachers understood the educational trends on academic performance of these learners. It is also believed that the higher the number of years that a teacher has used KSL as a mode of instruction, the higher the likelihood that they would come across varying academic performance of learners with hearing impairment. This is supported by the views of Smith and Ramsey (2004) where they described the classroom practices of a deaf teacher with thirty-five years of teaching experience. The use of ASL by the teacher, as the mode of instruction, showed that the ASL linguistic features did encourage student participation.

The research findings also show clearly that majority of the head teachers had been in the teaching field for a long period and their interaction with the learners with HI enabled them to explain the possible impacts of KSL on learners' academic performance. Evidently from the interviews conducted in the five schools, more than half of the head teachers had experience of above 20 years. Similar findings were observed by Albertini and Lang (2001) who confirmed through analysis of the ASL that teachers' sign language fluency and experience interacted to yield an effective strategy for increasing student involvement. Chupina (2006) also found that the level of experience leads to positive results.

## Academic Performance of learners with hearing impairment

The researcher sought to establish the academic performance of learners with hearing impairment. For all the five schools, KCPE results from 2010 to 2014 were analysed for each subject. The findings are shown in Figure 1.1.

The results indicate that KSL subject had the best performance with an average score of 50% in 2014, followed by Mathematics and Science both of which had more or less the same mean over the 5 years. Throughout, except in 2011, the least performed subject was Social Studies with the lowest mean score; in 2014, the average score was 19%. The average score in Maths, English, Social Studies and Science was less than 50% throughout the 5 year period.

From the table above, it is interesting to note that since the introduction of KSL, the students have generally performed better in that subject than in other subjects for the 5 years under consideration. This could be an indication of success of the subject; it can be speculated that the deaf students would be interested in learning the subject more than other subjects. For this reason, KSL being a primary language seems to be consistently performing better for all the years under consideration. However, it should be noted that for the year 2012, there was a relative drop in performance for all the subjects, which elicits discussions about the internal and external factors that could have been in play during the period.

Further results from interviews with the head teachers revealed that academic performance of learners with hearing impaired in their schools had improved, with the best performed subject being KSL while Social Studies was the least performed. Head teachers claimed that the academic performance in their schools was good and many students had done well in class performance and attained good grades proceeding to secondary education. For example, one head teacher stated that:

*12 out of 17 learners joined secondary schools in 2016 and even one pupil scored 301 marks in KCPE. Performance is not the same as before when KSL had not been introduced in schools as a medium of instruction and also as an examinable subject. KSL has contributed a lot to the positive performance of deaf learners.*

Responses from learners interviewed also revealed that KSL was their favourite subject in terms of performance, compared to other subjects. Learners complained that social studies was too difficult to learn. These results show a deviation from an earlier study by MOEST (2004d) which showed that learners with hearing impairment scored low marks and few proceeded for further education at secondary school and university levels. This deviation is attributed to the adoption of KSL, as a mode of teaching in 2004 and the language being made examinable in 2010, in the education curriculum of hearing impaired learners as a way to improve their performance.

However, these findings also support a study by Friend (2008) which showed that learners with HI encounter great difficulty in processing Standard English but achieve high grades in Mathematics than in reading or writing. Additionally, Omutsani (2012) pointed that deaf learners have consistently trailed behind their hearing counterparts in academic performance



## Conclusions

The objective of the study was to establish the academic performance of learners with hearing impairment. The study found that, between 2010 -2014, results from the national examinations showed that the academic performance of learners had improved. The respondents (teachers and head teachers) pointed out that learners performed generally well and that improvement had been witnessed where the performance had been poor before. Due to improved performance in KCPE, many learners proceeded to secondary education level. The findings show that schools began witnessing these improved performance with the introduction of KSL.

As a subject, KSL was the best performed, compared to other subjects such as mathematics and science. There were tremendous improvements noted in mathematics and science performance as well, something which was attributed to the use of KSL in classes to explain concepts. However, there was generally a low performance in social studies and in contrast with their hearing peers, learners with hearing impairment still performed below average in academics. Head teachers and learners interviewed revealed that social studies curriculum was too wide and its concepts were too abstract to be understood.

## Recommendations

Based on the study findings and conclusions, the following recommendations have been made:

- i. Kenya Institute of Curriculum Development (KICD) should modify the curriculum to suit the needs and interests of learners with HI, and make it easily understandable especially in subjects like Social Studies and Religion which have especially proven challenging to these learners. KICD should develop signs for abstract concepts.
- ii. Kenya National Examinations Council (KNEC) should modify examination questions in all subjects to suit the abilities of hearing impaired learners for easy understanding. This will contribute to improved performance in all subjects.

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## TABLES AND FIGURES

**Table 1.1: Gender of Respondents (N=59)**

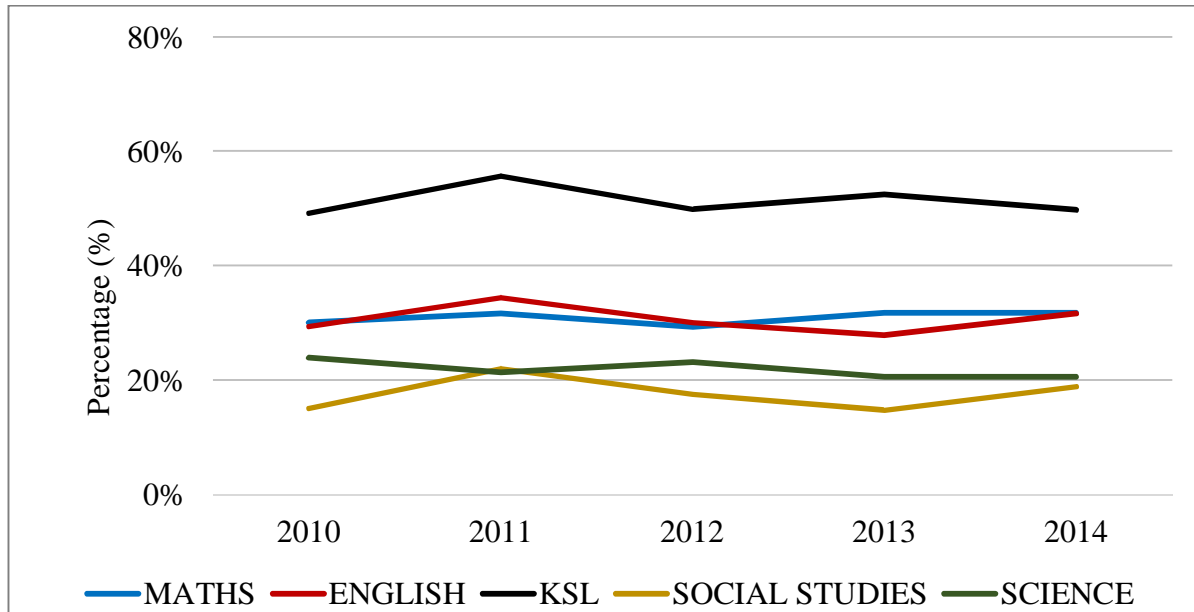
		Male	Female	No response	Total
Head teachers	Frequency	4	1	0	5
	Percent	80.0%	20.0%	0.0%	100%
Teachers	Frequency	19	34	1	54
	Percent	34.5%	61.8%	3.6%	100%

**Table 1.2: Professional Qualification (N=59)**

		Certificate in SNE	Diploma in SNE	Degree in SNE	Masters in SNE	Total
<b>Head teachers</b>	Frequency	0	4	1	0	5
	Percent	0.0%	80.0%	20.0%	0.0%	100%
<b>Teachers</b>	Frequency	4	11	34	5	54
	Percent	7.4%	20.4%	63%	9.3%	100%

**Table 1.3: Years Working as a Teacher for Deaf learners (N=59)**

		<b>0-5 years</b>	<b>6-10 years</b>	<b>11-15 years</b>	<b>16-20 years</b>	<b>Above 20 years</b>	<b>Total</b>
<b>Head teachers</b>	Frequency	0	1	1	0	3	5
	Percent	0.0%	20.0%	20.0%	0.0%	60.0%	100%
<b>Teachers</b>	Frequency	6	13	19	7	9	54
	Percent	11.1%	24.1%	35.2%	12.96%	16.7%	100%



**Figure 1.1: KCPE subjects' performance analysis (2010-2014)**

**Source:** Sampled Special Schools (2017)