

Challenges Faced By Pupils With Hearing Impairment And Teachers In Using Kenyan Sign Language In Public Primary Schools In Kenya

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ABSTRACT

Consistent poor academic of learners with hearing impairment in national examinations prompted this study. The study established problems faced by pupils and teachers in the use of Kenya Sign Language (KSL) in regular primary schools in Western Kenya. Specific objectives were; to investigate the influence of availability of trained teachers on the use of KSL, establish the influence of adequacy of educational resources on the use of KSL, and determine the influence societal stereotypes and negative culture on the use of KSL. Research design was Ex- post facto. Both qualitative and quantitative data was collected. 12 Head- teachers, 93 class room teachers and 108 pupils with hearing impairment were selected using saturated sampling technique, being a sample size of 213 respondents. Questionnaire and interview schedule were data collection instruments. Quantitative and qualitative data were analysed using descriptive and inferential statistics and as emerging themes respectively. The study established a significant relationship between challenges faced using KSL during learning and teaching in special needs education at $p=0.03<0.05$, therefore, it was concluded that challenges faced by learners with HI and teachers in using KSL significantly influences academic performance. The results are important as they indicate hindrances to effective use of KSL as a medium of instruction in schools.

Keywords: Challenges, Hearing Impairment, Learning and Teaching, Kenya Sign Language

1.0 INTRODUCTION

Education is fundamental to all human beings despite their standing in society or physical disability (Utoba, 2014). All children regardless of their disability are entitled to the right to education. The government of Kenya through global treaties on disability and special needs education such as the 1948 Universal Declaration of Human Rights, 1993 UNESCO Framework for Action on Special Needs Education, UN Standard Rules on Equal Opportunities for Disabled and 2002 Education for All has made tremendous efforts to provide education to all regardless of their status.

Despite various organizations being engaged in education of the disabled, these children and specifically those with HI still face many learning challenges and constraints. Khomera, Fayiah & Gwayi (2020) say that learners with special needs education have a shortage of hearing aids, communication barrier from the community surrounding the school, get negative attitude from the community, poor water supply, little funding, abandonment by parents and relatives, lack of transportation facility and shortage of trained teachers. These problems have long term and short term negative impact on academic performance of learners with special needs in education.

Eccarius (1997) and El- Zraigat (2010) say educating learners with HI is a demanding activity that requires accurate placement, choosing the right mode of learning, modified curricula, using audiological technology, schools and family services and use of psycho- educational and audiological assessment to identify strengths and weakness of the learners and it is affected by home and school factors such as negative attitude, number of qualified and skilled teachers available, quantity and quality of services offered, favourable schools and family environments, type and degree of hearing loss, language and speech abilities and other additional disabilities.

Globally, 15% of the world population is disabled with hearing impairment being the most common with about 360 million cases. Studies further indicate Africa has more cases of hearing impairment compared to other countries of the world (Agyire-Tettey et al. 2017; WHO, 2012). According to Kodiango & Syomwene (2016) and Ndurumo (1993), hearing impairment affects children's early ages' development in cognitive, psychomotor and affective domains and later on also influencing their educational achievement.

Hearing loss is often classified into seriousness (from mild, moderate, severe and profound). The use of sign language and other cultural elements separates pupils from general learners who are unheard of or hard to hear. Hearing loss significantly influences language and speech development of HI learners which in turn affects academic achievement, social and emotional interaction and cognitive domain (Moores, 2001; El-Zraigat, 2010). Generally, pupils with a substantial loss of hearing find it difficult to understand and use the ordinary language as their peers, hence the need for the sign language.

1.1 Statement of the Problem

In Western Kenya, learners with hearing impairment perform poorly compared to the 'normal' pupils in national examinations, a situation attributed to inadequate resources and low number of competent teachers of KSL to implement curriculum. The issue of poor performance signifies a critical concern to many education stakeholders, hence the need for this study.

1.2 Purpose of the Study

The purpose of this study was to establish the problems faced by learners and teachers when using Kenya sign language in selected public primary schools in Western Kenya

1.3 Specific Objectives

- i To investigate influence of available trained teachers on the use of KSL.
- ii To establish influence of adequacy of instructional resources on the use of KSL
- iii To determine the influence societal stereotypes and negative culture on the use of KSL

1.4 Null Hypothesis

The study tested the following null hypothesis:

H₀₁ There is no significant relationship between challenges faced when using KSL and academic performance of learners with HI.

1.5 Empirical Review

In a study by Lewis (2009), KSL has been used for HI learning in Kenya in 32 out of 71 institutions. The use of the Kenyan sign language is therefore optimistic. But Owiko (2018) shows that more research on KSL is required. In order to enhance the teaching efficiency of HI learners, he proposes inquiries into steps to make use of KSL. Bunyasi (2010) reflects on these views, revealing that the capacity of professors in KSL in schools for students with HI is inadequate and lacks sufficient support. This leads to the need to examine KSL level of education for students, material / human capital and KSL criteria. The response is what steps have been taken since its 2004 adoption to promote the use of KSL in schools for HI learners.

As a means of education, language collects information that affects diverse aspects of life such as social, moral, and cognitive growth to be obtained and interpreted. Therefore, the loss of hearing and speech is a crucial shortfall for HI students. These students use sign language as their first language, based on culture, climate, but they should be taught in their schools in a second language. For these students, this is a great challenge. HI students around the world have confronted problems with the sign method for their classroom instruction (Gray, 2011). In Kenya, different modes were employed in the 1970s and 1980s, for instance Signed English (SE), Signed Exact English (SEE), and Absolute Contact (TC), but the learners would be referred back to KSL to clarify the concepts (Ndurumo, 1993).

Researchers have found gaps such as; some schools not using KSL frequently (Ndurumo, 2008); lack HI teachers and HI sign language interpreters and insufficient teaching tools (Mukangu, 2008; Bunyasi, 2010). UNESCO (2007) notes that tools, for example, are crucial to good results, such as textbooks, auditioning aids and writing materials. These results required the completion of the present study whose aim was to find the appropriate teaching strategy for learners using KSL as a medium of instruction in schools integrated with learners with HI.

1.6 Theoretical Framework

The study was guided by Piaget's (1964) theory of cognitive Development which maintains that intelligence is rooted in two biological attributes found in all people: organization and adaptation. According to this theory each stage in the learning of KSL provides the foundation for the next stage permitting progressively complex and effective adaptations to the skill.

Piaget says that when children mature mentally, they pass sequentially through four major stages namely; Sensory motor; Pre-operational or intuitive; Concrete operations and Formal operations. Each stage has learning that is quantitatively different from the preceding stage in this case learners at grade 1 have merely basic skills of Kenya sign language while those in grade 8 are perceived to have mastered the Kenya sign language.

Each stage is a major transformation in thought processes compared to the preceding stage. The stages are sequential and follow an invariant sequence. Curriculum planning for KSL should revolve around the subject matter, the society and the learner. The orientation must consider his interests and felt needs, as she/he moves through the various classes. The

teaching methodology and teaching materials, and the learning activities be those that are appropriate to each of the cognitive developmental stages of the learners.

Teachers as instructional managers should use the hierarchy to understand and to help the children master intellectual processes at the appropriate age. This means for instance that a standard one pupil may not endure a seventy-minute double period (Anita 2004). For successful academic performance to be realized by learners with hearing impairment, they should be able to use Kenya Sign Language in their learning. This is possible if the learners have positive and good attitude towards Kenya Sign Language and motivate these learners to learn Kenya Sign Language by ensuring that the learner has revision resources while at home or an expert who will guide them.

2.0 MATERIALS AND METHODS

2.1 Research Design

Since this study explored challenges faced by learners with hearing impairment and teachers when using Kenya sign language

during learning and teaching process in special education schools, it was determined that an ex post facto study was the most appropriate research design to use in order to answer the research questions and to test the hypotheses. Ary et al. (2010) note that an ex post facto research design is useful when one wants to investigate relationships between the dependent and independent variables when randomization or manipulation of independent variable is not possible

2.2 Participants and Settings

Participants were 213, (108) pupils, (93) teachers and (12) head teachers from 3 special needs Primary Schools in western Kenya. Of the 213 participants 52% weremale and 48% female

2.3 Data Collection Instruments

The instruments that were employed in data collection are questionnaires and unstructured interviews. The questionnaire was administered to pupils and teachers and interview schedule was administered to head

teachers. The use of the two instruments was for data triangulation. Content, criterion and construct validity of the instruments were ascertained by expert judgment of the two supervisors and piloting done in one special school in Trans Nzioa County. The reliability of the instruments was determined using Cronbach's Alpha and reliability coefficient of 0.80 was obtained using test-retest technique of the research instruments.

2.3.1 Questionnaire

Primary data was obtained using a Likert scale self – administered questionnaires. Questionnaires were helpful in finding out if availability of trained teachers, adequacy of teaching and learning resources and societal stereotypes and negative culture were challenges that influence the use of KSL by learners with visual impairment in the sampled schools. The questionnaire consisted of four parts:

- Part A, the general information of the participants,
- part B, contains the details of lack of properly trained KSL teachers,
- Part C, has details on availability of resources,
- Part D, has details of societal stereotypes and negative culture on pupils with HI.

2.3.2 Interview schedule

Interviewing head teachers from the target schools was the most appropriate for establishing and gathering more information. Interviews have vast advantages during the research. Firstly, interview questions are useful in providing detailed information about the personal feelings, perceptions and opinions of the individual (Avalo, 2020). Secondly, the interview questions allow the researchers to record the actual words of the respondents. Furthermore, the interview question was essential in achieving a high response rate while collecting data.

The researcher also recorded the behaviours of the participants through observation. Behaviours, in most of the occasions, determine the attitude of the respondents during the research.

3.0 RESULTS AND DISCUSSION

The findings of the study have been presented in context of the research questions and themes. The main objective was to determine the problems faced by learners with hearing impairment and teachers using of Kenyan Sign Language during learning teaching process in primary schools in Kenya. The results obtained are as discussed herein.

3.1 Shortage of Trained KSL Teachers

Table 1 is a summary of responses from the questionnaire administered to the teachers in regard to shortage of trained KSL teachers.

Table 1: Lack of Properly Trained KSL Teachers and use of KSL

| | Frequency | Percent | Valid Percent | Cumulative Percent | Frequency |
|--------------|-------------------|---------|---------------|--------------------|-----------|
| Valid | Strongly disagree | 13 | 14.0 | 14.0 | 14.0 |
| | Disagree | 19 | 20.4 | 20.4 | 34.4 |
| | Undecided | 9 | 9.7 | 9.7 | 44.1 |
| | Agree | 25 | 26.9 | 26.9 | 71.0 |
| | Strongly agree | 27 | 29.0 | 29.0 | 100.0 |
| | Total | 93 | 100.0 | 100.0 | |

The findings revealed that 27 (29.0%) of the teachers strongly agreed that lack of properly trained teacher in KSL affects the ability of teachers to perform well in their professional work, 25 (26.9%) agreed while 9 (9.7%) were undecided. The researcher also noted that 19 (20.4%) of the teachers disagreed that lack of properly trained teachers in KSL affects learner's ability to perform well in their academics while 13 (14.0%) of the teachers strongly disagreed. The study revealed that there was a consensus between heads and teachers that inadequate staffing affects performance of pupils with HI. Dipaola and Hoy (2008) argue that professional development improves a teacher's ability to teach.

3.2 Inadequate Teaching and Learning Resources

Responses from teachers and pupils with HI on availability of teaching and learning resources are summarised in table 2.

Table 2: Availability of Resources and Academic Performance of Pupils with HI

| | | Frequency | % | Valid% | Cumulative Percent |
|-----------------|-------------------|-----------|-------|--------|--------------------|
| Pupils | | | | | |
| Valid | Strongly disagree | 5 | 4.6 | 4.6 | 4.6 |
| | Disagree | 8 | 7.4 | 7.4 | 12.0 |
| | Undecided | 13 | 12.0 | 12.0 | 24.1 |
| | Agree | 14 | 13.0 | 13.0 | 37.0 |
| | Strongly Agree | 68 | 63.0 | 63.0 | 100.0 |
| | Total | 108 | 100.0 | 100.0 | |
| Teachers | | | | | |
| Valid | Strongly disagree | 8 | 8.6 | 8.6 | 8.6 |
| | Disagree | 15 | 16.1 | 16.1 | 24.7 |
| | Undecided | 13 | 14.0 | 14.0 | 38.7 |
| | Agree | 28 | 30.1 | 30.1 | 68.8 |
| | Strongly agree | 29 | 31.2 | 31.2 | 100.0 |
| | Total | 93 | 100.0 | 100.0 | |

The study revealed that 68(63.0%) of the pupils strongly agreed that there were inadequate or scarce teaching and learning resources hence affecting their academic performance, 14(13.0%) of them agreed while 13 (12.0%) were undecided. Further, 8(7.4%) disagreed while 5 (4.6%) strongly disagreed. The study further indicates that 29 (31.2 teachers strongly agreed that inadequate relevant teaching and learning materials negatively affects learners with Hearing Impairment making them unable to perform well in academics, 28 (30.1%) of the respondents agreed while 13 (14.0%) of the teachers were undecided. The study shows that 15 (16.1%) of the teachers disagreed while 8(8.6%) strongly disagreed. The results indicate majority of the respondents believe greatly that availability or lack of resources affect performance. Owiko, Omoke&Mwebi (2018) observe that schools should provide adequate resources to support teaching and learning processes. These findings concur with Bunyasi (2010) and Mwanjuma (2016) who say that as much as teachers' skills and experience in KSL are important, inadequate resources in class to support teaching and learning of learners with HI are key in academic performance.

3.3 Societal Stereotypes and Negative culture on Pupils with HI

Respondents were also asked to state whether societal stereotypes and negative culture on pupils with HI affects their learning of KSL. Table 4.3 shows the results that were obtained.

Table 3: Societal Stereotypes and Negative Culture on Pupils with HI on their Academic Performance

| | | Frequency | % | Valid % | Cumulative% |
|-----------------|-------------------|-----------|-------|---------|-------------|
| Pupils | | | | | |
| Valid | Strongly disagree | 15 | 13.9 | 13.9 | 13.9 |
| | Disagree | 4 | 3.7 | 3.7 | 17.6 |
| | Undecided | 11 | 10.2 | 10.2 | 27.8 |
| | Agree | 15 | 13.9 | 13.9 | 41.7 |
| | Strongly Agree | 63 | 58.3 | 58.3 | 100.0 |
| | Total | 108 | 100.0 | 100.0 | |
| Teachers | | | | | |
| Valid | Strongly disagree | 11 | 11.8 | 11.8 | 11.8 |
| | Disagree | 19 | 20.4 | 20.4 | 32.3 |
| | Undecided | 6 | 6.5 | 6.5 | 38.7 |
| | Agree | 33 | 35.5 | 35.5 | 74.2 |
| | Strongly agree | 24 | 25.8 | 25.8 | 100.0 |
| | Total | 93 | 100.0 | 100.0 | |

It was established that 63 (58.3%) pupils strongly agreed that stereotypes and negative culture in the society over children with HI affects their academic performance, 15 (13.9%) agreed, 11(10.2%) were undecided. The researcher also noted that 4 (3.7%) of the pupils disagreed while 15 (13.9%) strongly disagreed. Also, 24 (25.8%) of the teachers strongly agreed that stereotypes and negative culture affects academic performance of the pupils with HI, 33 (35.5%) agreed, while 6 (6.5%) were undecided. The other 19 (20.4%) disagreed while 11 (11.8%) strongly disagreed. This statistic shows that societal stereotypes and negative culture have a bearing on learning of KSL thereby impacting on academic performance of the pupils with HI. Mwanyuma (2016) attributes poor performance at Sahajanand School of the deaf in Kilifi County to the societal stereotype attitude towards the deaf in the general society.

The study further aimed at establishing if there is a significant relationship between challenges faced in the learning of KSL and academic performance. The results are as summarized in table 4.4.

Table 4: Relationship between Challenges Faced In the Use of KSL and Academic Performance

| | | Below average | Average | Above average | Total | Statistics test |
|-------------------------|-----------|---------------|-----------|---------------|-----------|--|
| Challenges faced | Disagreed | 12(11.1%) | 0(0.0%) | 0(0.0%) | 12(11.1%) | $\chi^2 = 16.153$, df= 4, p = 0.003 |
| | Neutral | 22(20.4%) | 13(12.0%) | 20(18.5%) | 55(50.9%) | |
| | Agreed | 16(14.8%) | 12(11.1%) | 13(12.0%) | 41(38.0%) | |

Table 4.4 show that out of 12(11.1%) of learners who disagreed on challenges faced 12(11.1%) scored below average in their previous exam. Also, of 55(50.9%) of the learners who were neutral on challenges faced 22(20.4%) scored below average in their previous exam, 13(12.0%) scored average and 20(18.5%) scored above average. Finally of 41(38.0%) of the learners who agreed on challenges faced 16(14.8%) scored below average on their previous exam, 12(11.1%) scored average and 13(12.0%) scored above average.

The results in table 4.4 indicate a p value of 0.003 and since in this case $p = 0.003 < \alpha = 0.05$, the researcher rejected the null hypothesis H_{03} . This implies that there is significant relationship between learners with HI faced with challenges in KSL and their academic performance. El-Zraigat&Smadi (2012) state that teachers must ensure that the SNE program is of high quality and those sufficient physical facilities are provided. Khomeraetal. (2020) argue that the scarcity of hearing aids, poor communication with the community, lack of teachers and stigma have affected the quality and quantity of teaching and learning in schools.

In a report on educational materials and academic success in the district of Bondo, Owiko (2018) concludes there is a strong link between teaching and learning resources and performance in mathematics. Kochung (2003) states that special HI pupil schools and units lack the tools required to promote effective education and learning.

4.0 CONCLUSION

The study established that inadequate training of teachers in KSL affects pupils learning by hampering effective communication. Pupils with hearing Impairment face challenges in regard to mastery of KSL hence affecting their academic performance. Most of the respondents indicated that there is shortage of trained KSL teachers, there is inadequate teaching and learning resources and there are social stereotypes and negative culture on pupils with hearing

impairment. Also, the chi-square test revealed a p value of 0.003; hence the researcher concluded that challenges faced by learners in using KSL significantly affect their academic performance.

5.0 RECOMMENDATIONS

Based on results, schools should enhance teachers training and provision of adequate educational materials to promote mastery of KSL.

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REFERENCES

1. Agyire- Tetty, E.E., Cobbina, M., & Hamenoo, E.S. (2017). Academic challenges of students with hearing impairment (SHIs) in Ghana. *Disability, CBR & Inclusive Development* 28(3), 127-150.
2. Anderson, L. M., Shinn C., & Fullilove, M. T., (2018). The effectiveness of early childhood development programs. A systematic review. *Am J Prev Med.* 24(3), 32-46?
3. Ary, D., Jacobs, L. C., & Sorensen, C. K. (2010). *Introduction to research in education.* (8th ed.). Belmont, CA: Wadsworth.
4. Creswell, J.W. (2013). *Qualitative inquiry and research design: choosing among five approaches.* (3rd ed.) United Kingdom: Sage
5. Eccarius, M. (1997). ED414668 1997- 08- 00 educating children who are deaf or hard of hearing: Assessment. *ERIC Digest* #550.
6. El- Zraigat, I. & Al- Emam, M. (2005). The problems of students who are deaf and hard-of- hearing and its relation to some variables. *Journal of faculty of education L/ Al- Mansorah University*, 2(58), p. 155-181.
7. El-Zraigat, I. (2010). Assessing reading skills among hearing- impaired students in Jordan and its relation to some variables. (in press)
8. El- Zraigat, A. I. & Smadi, Y. (2012). Challenges of educating students who are Deaf and Hard- of -hearing. *International Journal of Humanities and Social science* vol.2 No.8 [Special Issue- April 2012]
9. Gay, L., Miles, G., & Airasian, p. (2009). *Educational research: Competencies for analysis and applications.* Upper Saddle River: Pearson Education
10. Gray, J. (2011). Why don't some hearing parents of deaf children use sign language? In *American Annals of the deaf*, 135, 211-215.
11. Hallahan, D. P., & Kauffman, J.M. (1994). *Exceptional children: Introduction to special education.* Boston: Allyn and Bacon.
12. Heward, W. L. (2000). *Exceptional children: An introduction to special education.* New Jersey: Prentice.
13. Johnson, B., & Christensen, L. (2008). *Educational research: Quantitative, qualitative and mixed approaches.* (3rd Ed.). Thousand Oaks, CA: Sage.
14. Johnson, C.D. (1987). Educational management of the hearing-impaired child. In J.G. Alperin, and P.A. McCarthy, (Eds.) *Rehabilitative audiology: Children and adults.* Baltimore Williams and Wilkins. pp. 89-107.
15. Kalya, J. K. (2020). Effect of Kenyan Sign Language on Academic Performance of Learners with Hearing Impairment: Case of Kedowa Special School, Kericho County, Kenya.
<https://ir.library.ku.ac.ke/bitstream/handle/123456789/21323/Effect%20of%20kenyan%20sign%20language....pdf?sequence=1&isAllowed=y>
16. Kimani, C. W. (2012). *Teaching deaf learners in Kenyan classrooms.* Diss. University of Sussex. Available at <http://sro.sussex.ac.uk/>
17. Khomera, W. S., Fayiah, M., & Gwayi S. (2020). Challenges faced by learners with hearing impairments in a special school environment. A case study of Embangweni primary school for the Deaf, Mzimba District, Malawi. *World Journal of Vocational Education and Training*, 2(1), pp 21- 36.
18. Kodiango, W.O., & Syomwene, A. (2016). Challenges faced by hearing impaired learners in composition writing and in answering comprehension questions in English language lessons. *European Journal of Education Studies*, 2 (10), 1-13.

19. Kothari, C. R. (2004). *Research Methodology: Methods and Techniques*. New Delhi: New Age International Publishers.
20. Lewis, J. (2009). *Work- family balance, gender and policy*. Edward Elgar Publishing.
21. Marschark M. Shaver D. M. Nagle K. M., & Newman L. A (2015). Predicting the academic achievement of deaf and hard-of-hearing students from individual, household, communication, and educational factors. *Exceptional Children*, 81, 350–369. Doi: 10.1177/0014402914563700.
22. Moors, D. (2001). *Educating the deaf: Psychology, principles, and practice*. Boston: Houghton Mifflin Company.
23. Mugenda, O. M., & Mugenda, A. G. (1999). *Research Methods*. Nairobi: Acts Press.
24. Mugenda, O. M., & Mugenda, A. G. (2003). *Research Methods*. Nairobi: Acts Press.
25. Mukangu, P. M. (2009). *An assessment of the extent implementation of basel II accord in Kenyan commercial banks and its implication on their profitability*. Unpublished masters thesis, Nairobi University.
26. Ndurumo, M. M. (1993). *Exceptional children: Developmental consequences and intervention* (pp.1-352). Nairobi, Kenya: Longman, Kenya.
27. Ndurumo, M. M. (2008). *Special Education*. Nairobi: University of Nairobi.
28. Owiko, C. C., Omoke, C., & Mwebi, B. (2018). Influence of teaching and learning resources on Mathematics performance among learners with hearing impairment in special secondary schools. *International Journal of Nievel research in Education and learning*, 5(4), pp 89-103.
29. Utoba, H.A. (2014). *Challenges faced by teachers when teaching learners with development disability*. Master's Thesis Submitted to the University of Oslo for partial fulfilment for the Award of Masters in Art. Oslo, USA.
30. UNESCO, (2010b), *UNESCO National Education Support Strategy (UNESS) for the Republic of Kenya 2010-2011*. Paris: UNESCO.
31. UNICE. (2013). *The state of the world's children 2013: Children with disabilities*. Retrieved from <https://www.unicef.org/publications/index6937html>.
32. WHO. (2005). *World report on disability*. Retrieved from <https://www.who.int/disabilities/world-report/2011/report/en/>
33. World Bank. (2011). *Ministry of irrigation and water development national water development programme environmental and social management framework*. Republic of Malawi March