

**TOTAL COMMUNICATION TEACHING APPROACH AND ITS INFLUENCE
ON TRANSITION OF CLASS THREE LEARNERS WITH HEARING
IMPAIRMENT IN SPECIAL SCHOOLS IN KISII COUNTY, KENYA**

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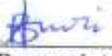
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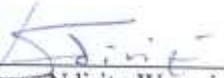
DECLARATION

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DEDICATION

This document is dedicated to my family and friends who inspired me throughout my thesis and offered me all the support and guidance I needed. Many thanks to you all

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ABBREVIATIONS AND ACRONYMS

AAC	Augmentative and Alternative Communication
HI	Hearing Impairment
IEP	Individualized Educational Program
KCPE	Kenya Certificate of Primary Education
KICD	Kenya Institute of Curriculum Development
KISE	Kenya Institute of Special Education
KNEC	Kenya National Examination Council
KSL	Kenyan Sign Language
QAS	Quality Assurance and Standards
SEE	Signed Exact English
SLCN	Speech Language and Communication Needs
SNE	Special Needs Education
SPSS	Statistical Package for Social Sciences
TC	Total Communication
WHO	World Health Organization

ABSTRACT

The purpose of this study was to investigate how Total Communication teaching approach influences transition of class three learners with hearing impairment in special primary schools in Kisii County, Kenya. The objectives of the study were to: to identify the influence of Total Communication techniques applied in the teaching of learners with hearing impairment in special schools in Kisii County, to establish the influence of teacher's characteristics on transition of learners with hearing impairment in special schools in Kisii County and to find out the influence of teaching and learning resources on transition of learners with hearing impairment in special school in Kisii County. The study was guided by B.F Skinner's Theory of Motivation of Learning. The study used a descriptive survey design. The target population comprised of all the class three learners with HI together with their head teachers and teachers. Purposive sampling technique was used to identify the sample. The sample comprised of 60 class three learners with HI, (6) teachers, and (3) head teachers. Data was collected using questionnaires, interview guides and observation schedule. The data collected was analyzed both qualitatively and quantitatively. The results were presented in form of tables, charts and graphs. The findings of the study revealed that speech reading was the most commonly used mode of TC followed by lip- reading and cued speech. However, it was also noted that sign language, finger spelling and body language were consecutively preferred by learners with HI. It was further observed that 73% failed to transit while only 27% of the learners with HI were able to progress from class three to four. The study recommended that teachers teaching learners with HI should be given frequent workshops and seminars to keep them abreast with the current trends of the education of learners with HI. They should also attend short courses in sign language in order for them to be more proficient.

CHAPTER ONE: INTRODUCTION AND BACKGROUND CONTEXT OF THE STUDY

1.0 Introduction

In this chapter the researcher discusses the background to the study and the statement of the problem. Also presented is the purpose of the study, the research objectives and research questions. Further presented in this chapter is the significance of the study, delimitations and limitations of the study. Finally, the assumptions of the study, the theoretical and conceptual framework and the operational definition of terms are also presented.

1.1 Background to the Study

The global campaign for primary education has led to the increase of learners with learning challenges including those with hearing impairment. The majority of these learners with hearing impairment find it hard to transit to, and subsequently succeed in secondary and tertiary education (UNESCO, 2009). Most of the time, this is brought about by lack of support and motivation in their transition to the higher levels. They may not transit to the next level at all, or drop out after they transit. This might be due to their new teachers who may be not able to use the correct teaching approach. The learning environment may not support them sufficiently hence unable to motivate the learners with HI to successfully pursue their studies. This may therefore, lead to poor performance which may cripple transition to the next class or facilitate dropping out altogether (McCloy & DeClou, 2013).

The movement of learners from one class of learning to another is an important part of a learner's educational achievement. UNESCO (2009) indicates that there is a

disparity in the movement of learners with HI among different countries of the world. Similarly, Kapp (1991) contends that the learners with hearing impairment face problems in acquiring and understanding moral behaviour codes because it is mainly through language that they are transferred from one level to another. Their socialisation is deficient because inability to hear deprives the learner of the most meaningful guidelines for moulding of behavior.

According to McCloy & DeClou (2013) and Participation and Activity Limitation Survey (2006) the learners with HI may not transit to next level and those who may move take longer to complete. They are also less likely to attain higher achievements that make them eligible for transition to next levels. This occurrence was associated with the failure by teachers to employ appropriate approaches to the needs of the learners. These sentiments are supported by the Canadian Hearing Society that claims that “there has been a significant decline in enrolment of Deaf and hard of hearing Canadians at educational institutions since 2000” (Canadian Hearing Society 2000).

The United States has the only total communication university in North America and many smaller college campuses that offer courses and programming options to the learner with hearing impairment (Ladd, 2003; Menchel, 1995). Such arrangements have seen enrolment numbers increase south of the border, as more learners with hearing impairment are supported in their pursuit of education with a variety of different communication approaches and environment (Hall, 1992; Menchel, 1995). The same resources are not found in Canada. Canada does not have a domestic bilingual university and have travel to the United States to pursue their studies as it has a more accessible learning environment.

According to Dalebout, Martinez and Hallahan (2014) learners with hearing impairment in the USA use communication modes such as; American Sign Language, a manual language that is quite different from English. For instance one may use sign language and speaking at the same time, finger spelling or listening and speech. Relatively a few number of learners use Cued Speech, which enhances speech reading that helps learners to understand and hence high transition.

It has been clearly demonstrated that high transition rates come about when more than one method of communication is used with learners. This is referred to as a mixed method (Reed, 2009). Such a method involves for example American Sign Language (ASL) and some form of oral. Eisner (2012) shows that in Texas schools for learners with hearing impairment use a mixed method consisting of Sign Language, Speech and Speech reading which results in high levels of transition to higher education levels.

In Europe, a study by Wilson (2013) showed TC in Scotland improved communication of learners and transition rates. Further, TC positively influenced learners' participation in class by providing means through which they could share their ideas. It also helped them to build relationships and promote attachment that fosters learning. Changes into use of TC improved transition levels to 78%.

A study by Hyjankova (2010) on grade A learners with hearing impairment in Czech Republic revealed high preference for TC (TC-70%, Sign language-20% and oral communication-10%). A combined use of sign language, written and oral interaction, lip-reading, mime, facial expression, finger spelling and all the possible visual material helped in teaching of English.

Dixon (2014) in a study on the learning challenges faced by learners with HI in Africa observed that over years, in countries like Kenya, South Africa, Nigeria and Ghana, schools with learners with HI used a mixture of similar teaching methods; lip reading, sign language, finger spelling and oral communication. Additionally, Dixon noted that the major problems in education for the deaf were parental failure to communicate better with learner's deafness, lack of finance for resources and few sign language teachers.

While free basic education has led to high enrolment of learners with HI in Kenyan primary schools, very few are able to transit to higher levels. This is may be associated with insufficient support given to the transition of learners from pre-primary to the proceeding levels of education (UNESCO, 2010). Oral communication dominated as communication approach for learners with HI in Kenya from 1958 until 1988 when total communication was introduced (Ayiela ,2012). In the application of oral/ aural approach, most of the learners with hearing impairment scored poorly in their KCPE examinations and mainly joined vocational training or dropped out of school. Further, still transition rates were very low with only five percent of the learners proceeding on to secondary school. According to MoEST (2004) only a small percentage of learners with hearing impairment transited to upper classes in Kenya. Communication is a main limitation that learners with hearing impairment face. One may not avoid the curiosity of asking whether there is any challenge between language, learning and hence transition and what language issues impact the acquisition of literacy skills among the learners with hearing impairment.

Kihingi (2014) in a study on factors barring teaching and learning activities for learners at Karen Technical Institute for learners with HI revealed a high prevalence of Kenyan Sign Language (56%) which was used by learners. This created a challenge as only 8% were knowledgeable in the use of KSL. In general, only 15% of teachers were qualified in education for learners with hearing impairments. She also found out that 68% of the respondents indicated that there was strained communication during the teaching and learning process causing problems in understanding instructions, receiving or expressing one. The study recommended training of more teaching personnel and provision of hearing devices to support teaching. However, the researcher did not go ahead to propose TC as one of teaching approaches improving education of learners with HI.

In overall, Dixon (2014) in an observation in Kenya revealed that there was poor learning environment as children with hearing impairment were crowded together, with several age groups being taught in one classroom by several teachers at the same time. State owned schools did not have learning resources (no sign language books, no posters, no computers and few blackboards). Comparatively private owned schools had enough resources with computers with relevant software programs and recreational facilities. However, he noticed improvements in resources by state owned schools (use of visual aids, posters, bright colours and books). Sound-proofing had also been done in classrooms.

Given the existing situation, TC which supports a combination of many approaches has high probability of improving performance of the learners hence facilitating their transition to higher levels (Reed, 2009). It is on the basis of this background that there is need of critical review of total communication to determine its contribution toward

transition rates of class three learners with hearing impairments in special primary schools in Kisii County. Kisii County's three special primary schools offering education for learners with HI are Gianchere, Kerina and Nyangome.

Class three was chosen because it is the transition point from lower to upper primary level in the Kenyan system of education. It is where strong impact on the foundation of primary education is felt. This implies that learners have been readied to take more academic challenges as it is required in the upper classes in primary school (Uwezo, 2011).

The transition rates in these schools from class three to class four for the last three years has been above average but not satisfactory. In Gianchere, the transition rate in 2012 was 30%, 2013 was 24%, and in 2013 was 55%, in Kerina, the transition rate was 15% in 2012, 20% in 2013 and 30% in 2014 and in Nyankome, it was 10% in 2012, 20% in 2013 and 25% in 2014 (MOE Kisii County, 2014). The information show that there might be marked disparities in transition rates of learners with HI among different countries of the world and that in many countries; the majority of learners with HI may struggle to transit to, and subsequently succeed in secondary and tertiary. The studies suggest that this depends on the teaching approaches and resources used by teachers. It is on this basis that the current study hoped to understand influence between TC learning-teaching approach and transition within the context of class three learners with HI in Kisii County.

1.2 Statement of the Problem

Despite the government placing emphasis on inclusive education, it recognizes the role of special schools as suitable environments for the teaching and learning of learners with visual, hearing, intellectual impairments, and serious mobility challenges (MoEST, 2009). Low transition rates of learners with HI in Kenya over the years have been noted with many challenges. Considering the communication handicap of deafness, it is obvious that the individuals with hearing impairment are less advantaged because of communication approaches used during lessons. This therefore calls for a study whose focus is to understand what influence a communication approach has on transition of learners with HI from one class to another. Learners with HI in Kisii have a transition rate of 25% compared with about 75% of those learners who are not similarly challenged. The transition rates in the three Kisii County schools offering education to learners with HI have always been above average but not satisfactory for many years and as a scholar and teacher in special needs education, this has always been of concern to the researcher. A report by MoEST (2004) noted that only a small percentage of learners with hearing impairment in Kisii who acquire lower primary school education proceed for upper primary and post secondary levels of education. The study therefore sought to establish the influence that TC teaching-learning approach has on performance and transition of learners with HI.

1.3 Purpose of the Study

The purpose of the study was to find out whether total communication teaching approach influence transition of class three learners with HI in special primary schools in Kisii County.

1.4 Objectives of the Study

The objectives of the study were:

- i. To identify the influence of using Total Communication techniques in teaching learners with hearing impairment in special schools in Kisii County.
- ii. To establish the influence of teacher's characteristics on transition of learners with hearing impairment in special schools in Kisii County.
- iii. To find out the influence of teaching and learning resources on transition of learners with hearing impairment in special school in Kisii County.

1.5 Research Questions

- i) What is the influence of TC techniques applied in teaching of learners with HI in special schools in Kisii County?
- ii) What is the influence of teacher's characteristics on transition of learners with HI in special schools in Kisii County?
- iii) What is the influence of teaching and learning resources on transition of learners with HI in special schools in Kisii County?

1.6 Significance of the Study

The study anticipated that the findings may be used by teachers to evaluate their understanding and use of total communication in teaching and learning processes and gain insight into the needs of learners with HI in order to improve transition levels.

The findings of this study may be used by teachers and teacher trainers to find solutions to ever changing needs and interests of learners with HI and appreciate the

significance of the use of total communication modes in the teaching learning of learners with HI in relation to transition.

The study anticipated that the findings may be used by the Ministry of Education (MOE) and Kenya Institute of Curriculum Development (KICD) when making policies regarding the communication approaches for learners with HI, curriculum for special education teacher training, instructional environment and interventions to improving performance and transition of learners with HI.

1.7 Limitations and Delimitations

1.7.1 Limitations

This study focused on class three learners with HI instead of all the classes. A sample was used to provide data on status of learners in special schools in Kisii County. Time and finances were also limiting factors for the study.

1.7.2 Delimitation

This study was delimited to three primary schools in Kisii County and it focused on the effect of total communication approach on transition.

1.8 Assumptions of the Study

The study was carried out with the following assumptions:

- i. Teachers employed total communication when teaching class three learners with HI.
- ii. Facilities and equipment were available in the school to aid use of total communication in teaching learners with hearing impairment.

- iii. That class three teachers were professionally qualified in applying total communication to teach learners with HI.
- iv. Educational administrators at all levels would be willing to permit the researcher to conduct the study in their respective institutions

1.9 Theoretical and Conceptual Framework

1.9.1 Theoretical Framework

This study used Skinner's theory of Motivation of Learning. The theory's central proposition is that learners are motivated to undertake a task depending on expected rewards. In this regard, a positive reward incorporates a positive motivation and consequently high achievement, while a negative reward leads to negative attitude and hence underperformance. It also implies that teaching influences the learner's high performance; experiences and qualifications of the teachers, instructional resources and teaching approaches enhance teaching and learning process (Orodho, 2005). The interaction strategies will translate into learner's high performance and thus transition. Learners with hearing impairment have been understood to benefit in properly resourced settings where support in the form of sign language, hearing aids and other audio visual services are availed. With all these support facilities, the hearing impaired can benefit if at all the teacher is conversant with the techniques of communication.

Motivation is regarded by all teachers as a pre-requisite for effective learning and the greatest hurdle many teachers face is to make their learners motivated to learn. If learners are unwilling to learn, their effective learning will be affected thus they may end up learning virtually nothing. If teachers were equipped with skills and knowledge of how to motivate learners, they can hugely improve their rate of teaching (Petty, 1993).

This theory is more appropriate to this study because total communication approaches, if well applied, influence and motivate learners with HI in the teaching and learning process. This implies that they can be fully engaged in the classroom and therefore enhance understanding, examination performance and hence transition. The theory may also bring about the understanding of the various TC techniques in the form of sign language, hearing aids and other audio visual services. These are necessary depending on the degree of hearing loss. On addition, TC eases the pressure on teachers in applying one technique over another. The attitude and motivation of teachers is promoted towards learners with HI. This promotes interaction between the two which foster learner understanding and performance, hence transition. The theory of Motivation of Learning guided this study on determining classroom communication techniques, teacher's characteristics and teaching and learning resources. For instance, a teacher who has the mastery of content and is able to apply TC teaching techniques well may help learners to understand it better and this is a motivation to learners in itself. Teaching and learning resources help learners to associate concepts with reality and hence their interests aroused in practical learning activities. This motivates and enhances academic performance of learners with hearing impairment leading to their transition.

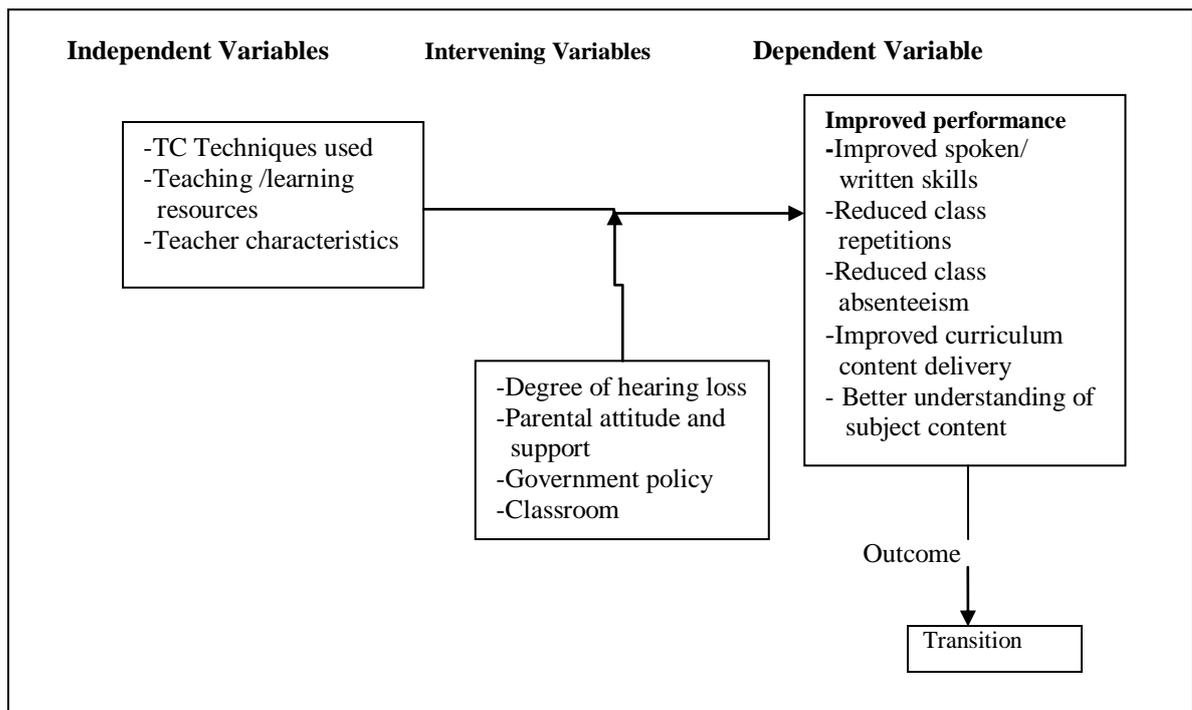
1.9.2 Conceptual Framework

The main objective of primary education in Kenya is preparing learners for higher education levels. This can be achieved if only the learners are supported to make academic progression (transition) through the various levels and classes. Total communication techniques such as sign language, Speech, writing, lip reading and miming) are the independent variable which when applied rightly under a supportive

environment and together with positive intervening variables that include teachers' attitude and level of hearing loss enhances teaching and learning process for improved performance of learners with HI. Improved performance positively influences transition (dependent variable) of learners with HI to the next level resulting to high graduation rates of class three learners. Total Communication is variable that allows the learner to enjoy communication approach that is most suitable for him/her (Kaplan, 1996).

McFadden (1999) advocates for inclusion of modes of total communication because they are successful fashion which include listening, speech reading, facial expression and sign language. This influence of modes and transition of learners with HI is summarized in Figure.1

Figure 1. 1: Conceptual Framework



Source: Author (2016)

1.10 Operational Definition of Terms and Concepts

These definitions are given as they were used in the study

TC Techniques: This incorporates all means of communication used in teaching/learning of learners with hearing impairment that include body language, finger spelling, lip reading and Cued speech.

Teaching/learning resources: This refers to educational materials that teachers use in the classroom to support learners with hearing impairment to learn and meet the objectives, as set out in lesson plans. They include: videos, charts, pictures, amplification systems, textbooks hearing aids, FM devices (frequency modulated radio waves), infra-red devices, loop induction, and hard wired devices.

Total Communication: These are techniques that use more than one mode of communication

Transition: This is the process of learners advancing from one level of schooling to the next.

Teacher Characteristics: These are the teaching attributes possessed by class three teachers that influence learner's achievement and transition.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

The review literature was presented here. Specifically, it presents literature pertaining to total communication techniques applied in teaching HI learners, classroom environment, teacher characteristics that facilitate total communication learning approach, and status of learning in special schools in Kisii County.

2.1 Total Communication Techniques Applied in teaching of learners with HI

Total Communication techniques are modalities that are used to educate learners with HI (Ayiela, 2012). Techniques such as finger spelling (the Sign Language alphabet), mime, writing, pictures, lip-reading, gestures and oral speech may be used. The use of residual hearing via amplification such as hearing aids, cochlea implants, and FM systems may be encouraged.

Different approaches have been applied in the world over an effort to develop the language of learners with hearing impairment. Manually coded sign systems have been in use to represent speech in form of gestures, signs that follow the grammar of a language. These signs are a combination of signs from 'natural' sign languages and invented signs to represent grammatical aspects of the spoken language (Stredler-brown, 2010). The signs are commonly referred to as Total Communication which uses variety of communication patterns and different strategies in teaching learners with HI (Moores, 2001; Stredler-brown, 2010). The signs are a combined use of the learner's own gestures, sign language, speech, finger spelling, manually coded sign systems, drawing, imitating, and lip reading (Werner, 1987). In a Kenyan school setting, teachers are free to use any or all of these to achieve effective communication.

Wauters, Knoors, Vervloed, and Aarnoutse (2001) research cited in Herman, Giladi, Gruendlinger and Hausdorff (2007) revealed that learners with hearing impairment gain reading skills from the use of TC techniques when developing and comprehending the new words. The study was carried on sixteen learners with HI aged between five and ten years. First, a picture was shown to learners followed by the teacher's pronunciation, after which learners received the labels of pictures to speech read them. Second, speech and sign was used that comprised of the picture and its written word. Then, the teacher pronounced the word showing the sign in sign language.

Wauters et al. (2001) found out that learners with hearing impairment memorized a number of words in 'speech and sign' compared to speech. Further, Rottenberg (2000) carried out a study in a public primary school in the UK with seven pre-school learners with hearing impairment. The seven learners were placed in different classroom situations. The first situation used techniques that primarily involved the use of sign language, lip reading, and speech. In the second situation, sign language, lip reading, and speech were omitted. The first setting used four learners who had moderate hearing loss while the second used three who had severe losses. It was found that those learners who participated in the Total communication class gained reading skills and were able to understand the difficult vocabulary, while those who didn't were not able to perform well.

Rottenberg (2000) reported that learners from the settings were attentive and improved in their literacy. On the process, the learners became independent and active. The learners displayed their decisions to reading and writing activities showing a higher degree of interest, participation as well as negotiating and cooperating with others in

activities. He further, reported that offering learner's time to select the literacy activities that are interesting to themselves cause them to be keenly involved in learning literacy.

In 1985, Ndurumo, a Kenyan educator who had hearing impairment, campaigned for the introduction of the use of sign language (Ndurumo, 1993). Consequently, Machakos School for learners with hearing impairment was established in 1986 and the Ministry of Education chose it to be the first school to apply sign language in learning process. Ndurumo introduced total communication techniques at the school.

The Ministry of Education conducted a study aimed at assessing the impact that had been made by this initiative and found out that the use of total communication facilitated faster learning and that once introduced at an early age it was more effective and was reported to improve cognitive growth than when introduced in later years of school. In 1986, the government introduced the use of sign language and Signed Exact English under the philosophy of total communication in all schools and units for learners with hearing impairment.

Studies by Luckner and Handley (2008) that focused on instructional practices used for reading comprehension by the learners with HI report that the sample populations in these studies used one or more of the communication modes that included Oral Communication, Total Communication, Cued Speech, Manually Coded English, and ASL.

According to studies by Ruiz (1995) and Williams (1994), learners with hearing impairment use finger spelling technique to remember words that are in print. Learners with HI use the finger spelling to change words into written language. This is one of the modes of total communication used to express words that do not have their sign.

Ayiela (2012) in a study on communication by the learners with HI reported, Signed English/ Written English Approach as the application of written English across the curriculum. She further asserted that Signed Exact English (SEE) use the sentence structure of English with the visual signs of sign language. It is a manually coded language. Written English is used to write chalkboard summary and to carry out some learning activities during the lesson while sign language is used to explain difficult concepts during lessons (Ayiela, 2012).

Most of the studies considered in this study were mostly carried out in the developed countries since their education systems had equipped special schools with all the TC modes mentioned. The studies indicate that with TC, many modes such as finger spelling (the Sign Language alphabet), mime, writing, pictures, lip-reading, gestures and oral speech is used in reading and writing. The studies did not consider how these techniques influenced transition. It only explored how the various modes were combined by teachers in class in order to know whether teachers had the knowledge to apply these techniques in class and thus how this influenced their transition to standard four. The reviewed studies have revealed that not all TC teaching techniques were used, however in developed countries they were widely used than in less developed countries. This study, therefore, was to find out the TC techniques used in teaching learners with HI and their influence in transition of learners with HI in special schools in Kisii County.

2.2 Teacher's Characteristics on Transition of learners with HI

The activity of teaching and learning of learners with HI is a qualification which is likely to promote classroom understanding and hence high learners' overall academic achievement that enhance transition to next level. In a Kenyan study done by

Kinyanjui (1984), it was concluded that teachers' quality in teaching form important input variables, which can greatly create an impact on school results. It implies that the teacher's professionalism may hugely contribute to learners' performance and hence transition. Kinyanjui (1984) supports Raju (1973), who in his study on rural schools in Kenya found that most of them lacked properly trained teachers.

In another study Roald (2002) noted that teachers with hearing impairment associate competency in sign language, mastery of subject matter, establishment of clear expectations and teacher characteristics as necessary for academic success of learners with HI. One of the teachers expressed the need for a teacher to have good mastery of the subject content together with fluency in the language. Moreover the knowledge of the subject as well, is a great advantage as one feels confident in handling the subject content and make one a good teacher.

The participants who had HI in both studies emphasized effective communication as an important ingredient to achieve effective teaching. The importance of good mastery of sign language among teachers of learners with HI was expressed by the participants in the study conducted by Roald (2002). This was in agreement with observation made during this study.

Heugh (2006) in his study of teacher characteristics stated that academic expertise in use of instructional language among teachers goes beyond an acquisition of signs for teachers of learners with HI. He proceeded to assert that for a language to be used effectively as a language of instruction for both teachers and learners there is need to be proficient in it. On good teacher-learner relationship as a characteristic for teachers to enhance effective teaching of learners with HI, preference was given to teachers with hearing impairment than hearing ones. Teachers with HI would be expected to be

more sensitive to their learners and more flexible in adapting their teaching to suit the learners' diverse needs and strengths. Marschark, Sapere, Convertino & Pelz (2008). They further asserted that the teachers with HI would be expected to enhance motivation in learners with HI because learners may identify with them more than hearing teachers due to the fact that their instruction would be made more effective by their fluency in sign language, lip reading and speech.

A research conducted by Lewis (2009) found TC was applied in 30 learning institutions out of 70 for learners with HI in Kenya. It indicated that there was some level of transition due to the use of TC. However, Owiko (2009) found that further research was needed on TC. Lewis and Owiko's studies are in agreement that TC was not adequately applied in all institutions. This required for a study to find out the influence of TC teaching approach on transition of learners with HI. On addition, Bunyasi (2010) was in support and reported that teachers' knowledge and skills in applying TC were insufficient and lacked enough resources in classroom environments for learners with HI.

The reviewed studies targeted generally the learners with hearing impairment and not a specific group, class or level of learning. Also none of the studies considered the level of proficiency in TC techniques used by teachers, experience of teachers, and professional training in special needs education in relation to transition of learners with HI. It is also worth noting that Owiko (2009) recommended for a study on measures to enhance the application of TC in teaching learners with HI to improve in performance. This calls for a study to find out teacher's characteristics that influence transition of learners with HI, adequacy of trained teachers and how this influence transition from class three to four.

The question to be answered was which teacher attributes, in relation to the literature above, do class three teachers have to apply in the use of TC in the three special institutions for learners with HI to improve performance and hence transition in Kisii County? This was the essence of studying teacher characteristics in order to establish their influence on learner performance and their transition from class three to four in special schools in Kisii County.

2.3. Teaching and learning Resources and Transition of Learners with HI

Availability of appropriate teaching and learning resources in sufficient amounts influence performance and thus transition. Hence ensuring that the resources are appropriate and sufficient for all learners to motivate and help them to develop interest in learning activities. They enhance practical learning and eradicate abstract learning where learners are unable to associate learned concepts with reality.

A study conducted by Eshiwani (1985) asserted that lack of school resources negatively impacts on learning. The factors that are specified under school resources include: size of the class, textbooks, library, and visual aids among others. Eshiwani's study informs this study on the usefulness of school resources which lead to appropriate performance and hence encourages transition to the next level to occur. Teachers and learners may not be able to acquire by themselves all resources. In some instances they may need to improvise and involve stakeholders of the institution and other interested parties. This ensures that there is adequate and effective teaching and learning opportunities. A study by Coombs (1995) assert that teaching materials enhance learning and motivates adding value to the teaching and learning which relates from one content to the next. Insufficient materials and equipments have huge negative repercussions on learners with hearing impairment

particularly the assistive devices. These materials therefore should be appropriate enough to allow learners to effectively use them.

In a study on inclusion of learners with HI in the education system, Sharilyn (2011) suggests that in order for the learners to succeed there should be advanced devices such as amplification systems and captioned services which are essential to boost their hearing levels. Further, Leve (2009) in his study on factors enhancing education of learners with HI, the presence of instructional materials, utilization of audio-visual aids and preparation of charts and pictures do enhance faster taking in what is being taught. It was noted that the application of assistive listening devices and hard wired devices may boost the hearing level of learners with HI and hence their transition.

Kyle (2005) also advanced that, the use of chalkboard, captioned films, videos, and laser disks in learning environments are useful in the process of teaching. It is true that assistive devices like the mentioned above do assist learners with HI a lot hence improve performance and transition. In Nigeria, Fuandai (2009) observed the availability of hearing aids and earphones for learners with residues of hearing are ways of coping with learners with HI. Similarly, Russel-Fox (2001) pointed out that visual and tactile aids should be used in the classroom. These studies emphasize the importance of using teaching and learning resources in any special education setting including that of learners with HI.

In a study on factors influencing performance of learners with hearing impairment in Kenya, it was noted that learners with HI needed educational resources such as charts, pictures, individual hearing aids, ear moulds, speech-training units and note-taking

devices, amplification systems, textbooks hearing aids, FM devices, loop induction devices for them to learn effectively (Maina, 2009).

From this literature review, it is evident that all of these studies agree that availability of teaching resources influence effective learning, performance and thus transition. This study, therefore, sought to find out whether the teaching and learning resources had influence on the performance and transition of learners with HI in special schools in Kisii County, Kenya.

2.4 Summary of the Gaps Identified

Most of the studies on TC modes were conducted in developed countries whose education system had equipped special schools with all the TC modes mentioned. Additionally, it was clear from reviewed literature that none of the authors had a discussion on how the different TC techniques were combined by teachers in class so as to understand the number of TC techniques used by every teacher in class, whether some were preferred to others and some teachers used one or two without using the rest. This study explored how the various modes were combined by teachers in class in a bid to know whether teachers had the knowledge to apply these modes in class to improve classroom understanding, performance and improve the rate of transition to the next class.

The literature reviewed on teacher characteristics, targeted teachers teaching learners with HI generally and not a specific group, class or level of learning. Also none of the studies that were reviewed considered the level of proficiency in TC techniques, experience of teachers, and professional training in special needs education in relation to transition of learners with HI.

On learning resources, the researcher sought to find out which ones were present and whether they were present in sufficient amounts. From the literature review, it was evident that availability of appropriate teaching resources in sufficient amounts influence performance and thus transition from one level of learning to the other. The studies targeted learners with HI generally without considering their age, class of study or level of learning for example primary, secondary or tertiary levels. This study was to find out the influence of teaching and learning resources in transition of learners with HI in special schools in Kisii County.

The gaps identified above prompted the current study to establish the influence of TC approach on transition of class three learners with HI in special schools in Kisii County, Kenya

CHAPTER THREE: RESEARCH METHODOLOGY

3.0 Introduction

In this chapter, the researcher presents the methodology and procedures applied in this study. The chapter is organized into sub-headings which include; the research design, the target population, sampling procedures and sample size. The researcher further describes the research instruments, pilot study, validity, reliability, data collection and data analysis procedures. Lastly, the researcher describes the logistical and ethical considerations.

3.1 Research Design

The study employed descriptive survey design to obtain the required information. The design was preferred because it provides information regarding the situation of a given setting as it is. Kumar (2005) notes that descriptive survey research design provide a picture of situations as they occur naturally and describe what is prevalent in respect to the problem under study.

It was preferred because it was not expensive, easy to apply, time-saving, allowed the use of triangulation as a collection procedure and results can be generalized (Ogada, Oracha, Matu & Tyeng'o 2014). Descriptive survey research design was, therefore, used to seek opinions and find out facts on Total Communication teaching approach and instructional tools for teaching class three learners with HI.

3.2 Variables

The study had three variable. They included the independent, dependent and the intervening variables which are described as follows:

3.2.1 Independent Variables

The independent variable for this study were TC teaching techniques which included: sign language, body language, finger spelling and speech / lip-reading. Teacher characteristics included: teacher competency, fluency in sign language and mastery of content, and teaching and learning resources which included: pictures, charts, hearing devices and classroom environment facilities.

3.2.2 Dependent Variables

The study had transition which was measured by improved spoken / written skills, reduced class repetitions / absenteeism, improved curriculum content delivery and understanding of subject content.

3.2.3 Intervening Variables

According to Mcleod (2008), an intervening variable is that which enhance the teaching and learning process for improved performance of learners with HI but do not form part of the study. These variables include the degree of hearing loss, parental attitude and support, government policy and classroom environment.

3.3 Location of the Study

The study was conducted in Kisii County, Kenya. The schools were Gianchere, Kerina and Nyankome. Kisii County is located in South-western Kenya in the former Nyanza Province. The location was purposively chosen due to the low transition of learners with HI in the County. The studies conducted in the area have indicated that there has been low transition rates for instance that of Uweso(2011) and MOE(2014).This study therefore sought to find out the influence TC teaching approach on performance of learners and their transition from class three to four.

3.4 Target Population

A target population is a whole population selected for a study (Orodho 2005). It comprised of all class three learners with HI in the three Special schools (Gianchere, Kerina and Nyankome) in Kisii County together with their head teachers and teachers. The total population targeted for this study was 69 which comprised of 60 class three learners with HI, 6 teachers and 3 head teachers. Class three learners were targeted in the study because at this class learners are expected to have gained the knowledge and skills that may enable them to transit to class four.

According to Uwezo (2011) by the end of third term class three learners should exhibit reading skills and comprehension to enable them to learn and achieve better grades. Additionally, the choice of class three learners was premised on the assumption that class three was the transition point from lower to upper primary level in the Kenyan system of education, and it was where strong impact on foundation of primary education was felt.

3.5 Sampling Techniques and Sample Size

3.5.1 Sampling Techniques

The study would be expensive in terms of period taken and money spent to survey the whole populations. For this reason, one uses a sample as a representation of the whole population to save on the money and time one spends. A sample should be a representation of the whole population to be useful for the intended study. In some cases to survey the entire population is a challenge. The target population may be very large to include every member in the study and this call for selection of a few members whose results may be inferred to the entire population. Ethidge (2004)

indicates that a set of a sample should be at least 10% or more of a population if it is going to be credible.

Chandran (2004) argued that if the population of the study is small and readily accessible, a census study is more appropriate. Based on this, the study conducted a census including all the target population elements into the study. The researcher purposively censured all the class threes learners with HI. The researcher also did a census of all the class three teachers and head teachers of the three schools because they were few and hence there was no need of sampling.

The researcher did the census because the targeted population had characteristics that were instrumental to the study. The study applied purposive sampling technique that all the head teachers, 3, class three teachers, 6 and class three learners, 60 in the three schools (Gianchere, Kerina, Nyankome) were used. This technique gives a researcher a leeway to make decisions on appropriate population of study (Bernard, 2002).

3. 5.2 Sample Size

The sample comprised of 60 class three learners with HI, 6 teachers, and 3 head teachers resulting to a sample size of 69 respondents.

3.6 Research Instruments

Data was collected using interview guide, questionnaires, and observation guide. The tools were chosen as the most adequate in gathering of exhaustive and extensive data.

3.6.1 Interview Guide for Head teachers

An interview guide was prepared to gather data from head teachers of the three schools (Gianchere, Kerina, and Nyankome) for learners with HI. The researcher used English and Ekegusii for interviews. Interviews were used to collect data with a total of 13 interview guide questions being used. The interviews involved probing many open ended questions in obtaining relevant information that was quite useful in the study (Gall, Borg & Gall, 1996). The researcher interviewed the head teachers during breaks. This was done in three different days. The main issues to be gathered was Total communication teaching approach and its influence on Transition of class three learners with Hearing impairment in Special schools, Kisii County.

3.6.2. Questionnaire for Teachers of Class Three

A questionnaire is a research tool that gathers information over a sample (Kombo & Tromp, 2006). The study used them to help elicit opinions and also make suggestions. It also used questions which intended to give room for descriptions and details of the objectives. The respondents provided information on their day to day teaching experiences thus enhancing TC in teaching and learning hence transition.

3.6.3. Observation guide

This guide was used to gather information from class three learners of three schools and other aspects of the school. It was used to obtain in-depth information about the level of participation of learners, learners' involvement with teaching and learning resources. According to Peril (1995), an observation guide help in gathering data concerning the status of the school facilities, equipment and in examining the general situation of the learning environment.

The observation items were used to find out teachers' use of Total Communication as an approach of teaching and instructional materials they used in class three in the three primary schools with HI. Much was learned by observing what teachers were actually doing and how they do it. This provided a range of reliable data as the researcher was able to see the teaching and the interactions with the learners under various environments both in and out of class. To complete the observation checklist properly, the researcher stayed in each institution for a period of time (about 30 minutes) in order to fill it. This enabled the researcher to get a more accurate data as per the objectives.

3.7 Piloting

Piloting of the research tools was carried out in Kuja school for learners with HI in Migori County a month before the actual date of data collection. The essence of piloting ensured clarity and the suitability of the language used hence ascertain the accuracy to measure and consistence of research tools. After the pre-test, the instruments were made and relevant items captured as well as correcting the wrong ones.

The researcher picked one head teacher for interview and two teachers and administered the questionnaires. This is 4.3 % of a sample size of 69 which is sufficient for pre-test. Mugenda and Mugenda (2003) estimated that the pretest sample is sufficient from 1% to 10% depending on the sample size of the target population. The researcher used observation guide to collect information concerning the status of the school facilities, equipment and the situation of the learning environment.

According to Wiersma (1985), piloting the instruments helps eliminate ambiguity, misunderstanding and inadequate items.

3.7.1 Validity

It is important to use a suitable tool that can accurately measure the variable of interest. This study carried out how accurate an assessment or measurement tool is tested and used. This was preferred in the study because of its contribution in developing tools that aid practitioners to assess. Content validity was achieved through the results and comments from the pilot study. Items that did not measure the variables the intended to measure were excluded and others removed. Opinions of experts including the researcher's supervisors were also sought to ascertain whether or not the instruments met required standards.

3.7.2 Reliability

Reliability is the consistency of an instrument yielding the same results once used (Kombo and Tromp 2006). Reliability was achieved by pre-testing the research instruments. Pretesting was undertaken to ensure protection against wrong questions, that people could not answer or violate the rules (Babbie, 2001).

In order to enhance the reliability of the findings, the collected data was verified using triangulation and respondent validation. Triangulation was done by comparing collected data using different instruments (Questionnaires, interview guide, observation guide) to ascertain whether or not they collaborate. To establish reliability further, the researcher employed test- retest technique. In this the researcher administered the same instruments to the same group of respondents after three weeks.

To determine the correlation co-efficient, Spearman rank correlation was used. The computation of correlation co-efficient was shown below

$$R = 1 - (6\sum D^2) / N(N^2-1) \text{ where } R - \text{Rank correlation co-efficient}$$

D- Difference of rank between paired items in series

N - Total number of observations

$$= 1 - (6 \times 40) / 20(400-1)$$

$$= 0.97$$

A correlation co-efficient of 0.97 was found. A correlation co-efficient of 0.75 and above was acceptable. The study therefore, observed that the instruments were reliable for the study.

3.8 Data Collection Procedures

The researcher pre-visited every school that was sampled to present copies of the research permit and the introduction letter for research from the university. Permission was sought to conduct research in those schools and booked appointments from the head teachers before the actual study. The researcher visited the head teacher's office on the appointment date to collect data. First, class three teachers were given the questionnaires to which they responded and handed them to the researcher.

The researcher then interviewed the head teacher and carried out classroom observations. The researcher spent about thirty minutes interviewing each respondent while taking short notes. Each class was attended two times to observe the various activities taking place. The researcher took notes on the teaching methods, learner involvement and conduciveness of the learning environment.

Lastly, observations of physical environments was done on different days for the three schools with learners with HI. Observations were made on the techniques of teaching

and instructional materials, facilities, equipment used during teaching and learning process, displayed performance list of learners and individual hearing devices.

3.9 Data Analysis

The primary data collected from the field were first edited to remove errors from responses written which were not required. Coding was done to summarize the data, which were assigned to each of the research questions. The coded items were analyzed with the aid of computer software for analyzing data, Statistical Package for Social Sciences (SPSS version 22). Both quantitative and qualitative data analysis techniques were used to analyze data as per the study objectives. Quantitative data collected from questionnaires were analyzed, presented and interpreted using frequency tables, absolute percentages, and bar graphs, while qualitative data from the interviews and observation guide were presented thematically according to the objectives of the study.

3.10 Logistical and Ethical Considerations

The researcher obtained an introductory letter from the Dean of Graduate School, Kenyatta University which was addressed to the National Commission for Science Technology and Innovation to grant permission to carry out a research: With permission from NACOSTI, the researcher proceeded to Migori County Education office and sought permission to visit the pilot school. Upon a successful pilot study, the researcher sought an introduction letter from the Office of the Director of Education Kisii County to conduct a research in the three schools. The heads of schools were visited. The researcher sought permission from parents through the head teachers to permit their learners to take part in the study. This was possible because the researcher had arranged with the head teacher to be invited to school when there

was an academic day. Then, the researcher sought permission from parents who attended the academic day. The researcher sought for informed consent from all participants in the study. Confidentiality of the information and anonymity of the respondents was assured since respondents' names were not disclosed in the research instruments. The researcher ensured minimal interference with the school programme during the study and the respondents were protected by not being asked questions which could cause stress or harm. The participants were not exploited. Their materials were not published to cause any arrest or loss of a job or part of their income. The research was in agreement to what Rubin (2012) asserted "doing no harm means not revealing information which they would consider embarrassing". Other issues such as good grooming and rapport were observed during data collection.

CHAPTER FOUR: DATA PRESENTATION, ANALYSIS OF RESULTS AND DISCUSSION

4.0 Introduction

The chapter deals with presentation of research findings, discussion and interpretation of the findings. The study sought to investigate total communication teaching approach and its influence on transition of class three learners with hearing impairment in special schools in Kisii county, Kenya.

After the administration of the questionnaires, interview guides and observation guide, the researcher organized data in a way that presented analysis according to the research objectives. The presentation started with the responses given by teachers, followed by the information given by the head teachers and finally from the observation guide.

The qualitative data was analyzed using descriptive statistics which was determined by frequencies and percentages. The data collected was analyzed using percentages, frequencies, tables and figures. The results of the study were presented and discussed in the following sub-headings.

4.1 Demographic Data

4.1.1 Gender of Teachers and Head teachers

The teachers were asked to say their gender. Table 4.1 displays the results

Table 4.1: Gender of Teachers (N=9)

School	Male	Female	Frequency	Percentage
School A	1	2	3	33.3
School B	1	2	3	33.3
School C	0	3	3	33.3
Totals	2	7	9	100

The study found out that there was gender disparity in the targeted schools. Out of the six teachers and three head teachers, seven were females while two were males, indicating that the majority of teachers in the special schools were females. The findings concur with the findings of Ayiela (2012) who reported that majority of teachers in special schools were females. The findings reveal that more female teachers are attracted to teaching in special schools than male teachers due to the fact that female teachers provide care and support to learners in their earlier stages of growth and development than male teachers.

4.1.2 Age Bracket

In establishing the age of teachers, the result is as displayed in Table 4.2. The results show that all the respondents (100%) age lies between 41 and 50 years. This reveals that merely all the teachers in special schools for learners with HI in the study schools had taught for some years and hence had experience to teach children with special needs. Experience is a critical factor that helps an individual to internalize and execute duties with ease. Experienced teachers would by all means support learners to transit as they identify strengths and weaknesses and offer support. They may provide weak learners with more learning activities and may carry out individualized educational

programmes (IEP). This was contrary to the findings of Adoyo (2008) who found out that most of his respondents were youths aged below 35 years.

Table 4.2: Age bracket of Respondents of Head teachers and Teachers (N=9)

Respondent Category Age bracket	Teachers		Head teacher		Total	Percentage
	Male	Female	Male	Female		
20-30 yrs	0	0	0	0	00	00
31-40 yrs	0	0	0	0	00	00
41-50 yrs	1	5	1	2	9	100
51-60 yrs	0	0	0	0	00	00

This reveals that teachers who taught in the special schools under study fall between ages 41 to 50 years (9) in Kisii County. The study noted that they were of middle age which may imply that they were in a better position to handle learners with special needs.

4.1.3 Professional Qualification of Respondents

The researcher asked teachers and head teachers to indicate their level of education and their responses are presented in table 4.3.

Table 4.3: Professional Qualification of Respondents

Educational Levels	Teachers			Head teachers		
	Male	Female	%	Male	Female	%
Primary	-	-	-	-	-	-
Secondary	-	-	-	-	-	-
Diploma	1	3	67	-	1	33
Degree	-	2	33	1	1	67
Masters	-	-	-	-	-	-
Totals	1	5	100	1	2	100

Table 4.3 show that out of the three schools the highest qualification was degree level. The data in table 4.3 also show that both head teachers and teachers had the knowledge and skills of teaching learners with HI. Three teachers and one head teacher had diploma qualification while three teachers and two head teachers were degree holders. It was observed that most of these teachers had knowledge and skills on special needs education but not trained in teaching learners with HI. This findings support Adoyo (1999) who reported that teachers of learners with HI were holders of diploma in special needs from Kenya Institute of Special Education (KISE) and degree holders from Kenyatta and Maseno Universities most of whom were not specialized.

The study also sought to find out whether teachers were actually trained in special education, and more specifically in the area of hearing impairment. Table 4.3 shows the responses of the respondents in regard to professional training of teachers and head teachers. The study found out that there were four diploma holders (representing 67%) while only two were experts special needs holding degree (representing 33%) of the teachers. Trained teachers were expected to perform teaching duties well, in the area of their training, because they were equipped with the knowledge and skills which was necessary for appropriate professionalism. 33% represent a low number of teachers whose effect may not be felt towards higher achievement of learners with HI. It revealed that learners with hearing needs may be attended at individual level and this boosts learner performance and thus making it easy to transit to the next level. Penny (2000) argues that teachers' training need to develop and acquire knowledge and skills in systematic ways that they can account for in the special education they are giving their learners.

In addition, teachers are asked to teach special needs learners without having received any form of training as well as administrative assistance. Without support, teachers who do not have sufficient background knowledge in special education are at a loss on what to do and don't help the learners under their charge to achieve anything academically. The study observed that it was necessary for all teachers to be trained and develop positive attitudes towards helping learners with disabilities such as HI.

4.1.4 Teaching Experience

In order to establish teachers' teaching experience, respondents were requested to indicate the length of time they had been in the teaching profession and the results were presented in Table 4.4.

Table 4.4: Teaching Experience of Teachers and Head teachers

Teaching years	Teachers Male	Female	Head teachers Male	Female	Percentage
0-5 years	-	-		-	-
6-10 years	2	4	1	2	100
10 years and above	-	-	-	-	-
Total	2	4	1	2	100

The results presented in Table 4.4 indicate that teachers managing the three special schools in Kisii County had teaching experience of between 6-10 years. The study found out that the teachers were averagely experienced. This finding support Lang (2002) who reported that inadequate experience may lead to inadequate academic preparation and challenges of learning through support services, which may create barriers in truancy, program lengths, and note taking assistance, preferential seating, classroom amplification, the use of total communication modes thus dissatisfaction of social life and therefore transition to higher levels.

When the respondents were asked to indicate the duration their training took in special needs education, 67% had received training for two years while 33% of the teachers said that they had trained for four years. The study found out that the average performance that prevailed among learners with HI was enhanced by teachers who trained in SNE. It was also observed that with enhanced training and provision of resources performance may improve, which eventually will translate into higher rates of transition.

4.1.5 Proficiency in Use of Total Communication techniques

To determine the status of the use of total communication techniques, the respondents were requested to state whether the use of total communication were very proficient, proficient or not proficient. The findings were as presented in the Figure 4.1.

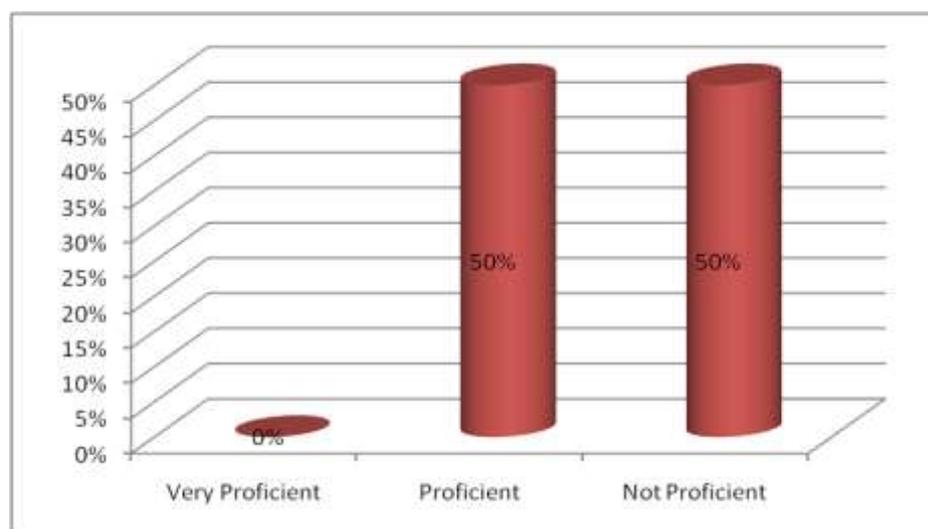


Figure 4.1 Proficiency in use of TC techniques by Teachers

Figure 4.1 indicates that 50% of the teachers teaching in Special Primary Schools were not proficient in their use of the various TC techniques, while another 50% were proficient and therefore none of the teachers was very proficient.

According to Table 4.3 on the professional qualifications, all of the teachers had training in Special Needs Education. At the same time, fifty percent of the teachers were not proficient in communicating using sign language. Although sign language is not the only mode of teaching learners with HI, it is very important for a teacher to effectively use it. This is because learners with HI learn the same way as those who hear if given access to the things they need to learn. However, this needs to be done in a language they understand. This calls for the need of teachers who are proficient in using sign language for example Kenyan sign language.

Those teachers who are not proficient in sign language may hinder the effectiveness of learning of learners with hearing impairment and limit them from their academic transition since they are also competing with their hearing counterparts as well as following the regular curriculum. Therefore, those teachers who are not proficient hinder effective learning of these children. Those who are not proficient may be facilitated to attend in-service training to be effective and hence promote transition. This may interfere with effectiveness of teaching due to the fact that they do not know the technicalities involved especially in sign language which is among the main modes of communicating with learners with HI. A major outcome of lack of a proper and effective mode of instruction is that many learners with hearing impairment may have low educational achievements and low aspiration for secondary and tertiary education (Mukangu, 2008).

4.1.6 Transition of Learners with Hearing Impairment from Class Three to Four

In order to find out the trend of movement from one level to the other for learners with hearing impairment, the study used a time series data of year 2012, 2013 and 2014. The gathered data was grounded on learners who successfully progressed from class three to four. The results are displayed in Table 4.5

Table 4.5: Transition Rate per School from Class Three to Four

School	Year	Successful transition		No transition		Total
		Learners	%	Learners	%	
Gianchere	2012	5	31	11	69	16
	2013	3	25	9	75	12
	2014	7	35	13	65	20
Kerina	2012	2	20	8	80	10
	2013	3	21	11	79	14
	2014	5	33	10	67	15
Nyankome	2012	1	17	5	83	6
	2013	2	20	8	80	10
	2014	3	25	9	75	12
Total		31	27	84	73	115

From the Table 4.5 shows that the largest proportion (73%) failed to go through successful transition from class three to four while only 27% of the learners with HI were able. The study further shows that Gianchere special school recorded the largest transition rate followed by Kerina then Nyankome. The findings of this study differs slightly from the report by MOE, Kisii County , (2014) showed that the transition rates from class three to four for the three years under study was above average; Gianchere (2012 -31%, 2013-25%, 2014-35%), Kerina (2012 -20%, 2013 -21%, 2014 33%) and Nyankome (2012 -17%, 2013 -20%, 2014-25%). The ministry may have used the wrong data or may have relied on reports from school heads hence lacking proper evidence.

The study observed that there was a low rate of transition as shown in the table above (table 4.5). For instance Gianchere had 16 learners but only 5 learners transited to the next level. Similarly, Kerina had 10 learners and only 2 learners transited to next level. This may evidently be attributed to lack of adequate use of Total Communication teaching approach in the teaching and learning process. When TC techniques are appropriately applied by professionally qualified teachers within a least restrictive environment, learners may perform well and thus proceed to next levels.

4.2 Total Communication Techniques applied in Class three

The first objective was to identify the influence of using TC techniques in teaching learners with HI in special schools in Kisii County. In HI settings, techniques that may be used include: sign language, body language, finger spelling, bliss symbols, gestures, speech reading/lip-reading, and pantomime, mimicry, drawing and pointing. The study required teachers to indicate the TC techniques they used in teaching class three. It further sought to establish the number of teachers who used TC techniques in teaching and learning experiences for class three learners with HI in Special schools in Kisii County. Their responses are presented in Table 4.6

Table 4.6 Total Communication Techniques Used by the Respondents

Respondents	Sign Language	Body Language	Finger Spelling	Speech Reading/ Lip-reading	Gestures	Cued-speech	Drawing	Pointing
1 st	√			√	√	√	√	√
2 nd	√			√			√	√
3 rd			√	√	√	√	√	√
4 th			√	√	√	√	√	√
5 th		√		√	√		√	√
6 th		√		√		√	√	√

The first respondent used six techniques which included sign language, speech – reading/ lip – reading, gestures, drawing, pointing and cued speech. The second respondent used sign language, drawing, pointing and speech reading/ lip-reading. The third respondent used finger spelling, speech reading/ lip reading, gestures, cued speech, drawing and pointing. The fourth respondent used finger spelling, speech reading/ lip – reading, gestures, cued speech, drawing and pointing. The fifth respondent used body language, speech reading/ lip reading, gestures, drawing and pointing while the sixth respondent used body language, speech reading/ lip-reading, cued speech, drawing and pointing.

The study revealed that most of the respondents used more than four techniques of TC. As observed from Table 4.6, speech reading/lip-reading, drawing and pointing were the most commonly used modes of TC. However, these techniques were not the most preferred modes of TC for learners with HI. This findings support Adoyo (1999), who

reported that majority of teachers in special schools are not trained on teaching learners with HI.

The findings also support Muiti (2010) who recommended that the government should hold workshops and seminars for teachers in sign language and other modes of TC and provide instructional materials for effective learning. The head teachers were also in support of what the teachers said. During the classroom observation sign language, finger spelling and body language were highly preferred by learners while speech/ lip – reading were the least preferred. The observation made from Table 4.6 shows that some modes/techniques of teaching are less commonly used in class such as sign language, finger spelling and body language. This findings support Porter (2009) who notes that majority of teachers lack sign language skills which creates barriers for learners with HI in their learning program.

4.3 Teacher’s Characteristics influencing Transition

The second objective of the study sought to establish the influence of teachers’ characteristics on transition of class three learners with HI in Kisii County. To achieve this objective, the study sought information concerning various aspects from interviewees and respondents. The head teachers were interviewed while the teachers were issued with questionnaires which had items that solicited information from them.

The study revealed that most of the teachers had knowledge and skills on special needs education but not trained in teaching learners with HI. One of the head teachers (H2) said:

‘All my teachers have knowledge in special needs education, even though they did not specifically train in HI but in inclusive education’.

This findings support Adoyo (1999) who observed that teachers of learners with HI were diploma holders in special needs education from Kenya Institute of Special Education (KISE) and degree holders from Kenyatta and Maseno Universities most of whom were not specialized in HI.

The study also sought to find out whether teachers were actually trained in special education, and more specifically in hearing impairment. Penny (2000) argues that teachers' training need special knowledge in developing systematic ways that may account for the education they offer their learners and therefore good teaching practice which may become more widely accepted. In addition, teachers were assigned to teach learners with special needs without having received any specialization. Those who may not have sufficient knowledge in special education may not help the learners under their charge to achieve anything academically. The study observed that it was necessary for all teachers to be trained and develop positive attitudes towards helping learners with disabilities such as HI.

4.4 Teaching and Learning Resources used in transition of learners

The third objective was on finding out the influence of teaching and learning resources on transition of learners with HI in class three to four. The resources included charts, pictures, amplifying systems, textbooks, hearing aids, FM devices, infra-red devices and loop induction devices. The study was set to establish the level to which resources were used in the teaching and learning process. The responses are presented in Figure 4.2.

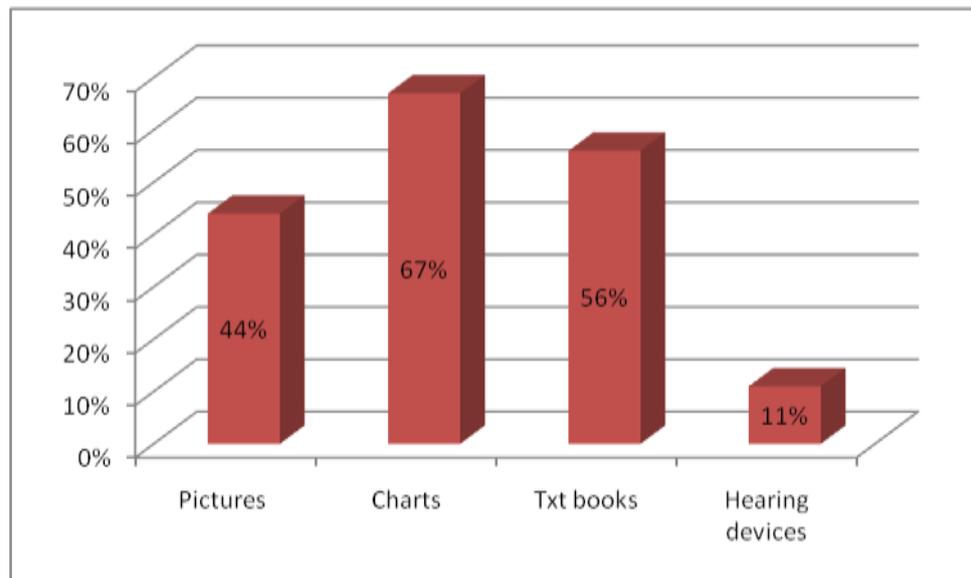


Figure 4.2 Teaching and learning resources

The study revealed that text books (67%) were the most used resources followed by charts (56%), pictures (44%) and hearing devices (11%) while amplifying devices, FM devices, infra red devices and loop induction were not available in the schools. The study noted that teachers used only four resources even though at varying levels. The resources utilized at a higher level may have been readily available than those utilized at lower levels.

It might also depend on the degree of hearing impairment of the learner. Leve (2009) suggested that the use of listening devices such as hearing aids, FM devices (frequency modulated radio waves), infra-red devices, loop induction devices, and hard wired devices, could boost hearing level of learners with HI. Resources reinforce the learnt content and the learner may remember for a long time after exposure. They create reality and bridge the gap between abstract concepts and the real world. This findings

support Maina (2009) who notes that learners with HI need educational resources for their effective learning.

The study observed that resources had a significant influence in improving the performance of learners with HI. This was a common response from all head teachers of the three schools. For instance, the head teacher of school A, when she was interviewed she said:

“When we provide more resources and encourage teachers to use them, the performances of learners with HI improve drastically”.

The study observed that teaching and learning resources were necessary to improve performance and enable effective transition to take place from class three to class four in special schools in Kisii County, Kenya.

4.4.1 Classroom environment

The study sought to find out if the classroom environment supported total communication techniques for class three learners with HI. Under this section the study examined lighting, ventilation, noise control in classroom and classroom seating arrangement. In relation to classroom environment, 90% of teachers said that classroom environment was supportive to a large extent while 10% said it was not supportive at all. The study revealed that, the classrooms were spacious enough to accommodate a maximum of 25 learners at most in any given time. This size enabled enough ventilation, lighting and one-on-one teaching interaction with the learners.

When noise is not well managed in the classroom, learners with hearing impairment tend to be irritated. Many learners who have mild hearing fail to make use of their residual hearing because of environmental barriers such as classroom environment which is not friendly for use. The study revealed that classrooms lacked resources that

could enable the environment to be restrictive. These findings support Ekwama (2003) who found out that to accommodate learners with HI who use hearing aids, it was necessary to minimize noise. Doors must be shut if there is noise from outside. These measures reduce background noise. The study revealed that background noise, reverberation and distance from the teacher were real challenges for learners with HI, even those with mild hearing losses who were able to hear. This included noises such as those made by traffic on nearby roads and noise outside the classroom or in the corridor. Reverberation and background noise can be minimized by making sure that, the windows have some covering and learners keep noise at minimum.

The study observed that in relation to the seating arrangements, most learners could not see the teacher or their fellow learners clearly from where they sat. It was very important that learners with HI are seated where they can see both the teacher and their fellow learners as much as possible. By so doing, learners are able to see the various signs, lip-read and read body language as they are in full view of everybody in the classroom. Similarly, learners should not be isolated by seating arrangement. This implies that seating arrangement determine active participation by learners with hearing impairment.

The seating arrangement negatively affected the performance of learners with HI. Further, some learners with hearing impairments also had visual impairments. The learners needed to have a very clear view of the teacher, peers and chalkboard without which the learners may be more challenged. The findings of the study support a study conducted in Zambia by Malunga (2007) on the use of sign language and oral language by regular teachers teaching learners with H1 which showed that, in relation to the learning environment, the best possible conditions should be in place, for

instance quietness and good lighting in class. This allows learners with HI to concentrate and follow what is being lip-read. Just like communication modes play vital role in enhancing academic performance, classroom environment is vital in enhancing classroom communication. If classroom environment is to take a positive role in the academic performance of learners with HI, certain accommodations need to be made in the classroom. Accommodations such as small class sizes, spacious classroom, good ventilation and good lighting, all positively may affect the learner's performance and finally transition

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This study sought to investigate total communication teaching approach and its influence on transition of class three learners with hearing impairment in special schools in Kisii county, Kenya. It was guided by the following objectives; to identify the influence of Total Communication techniques applied in the teaching of learners with hearing impairment in special schools in Kisii County, to establish the influence of teacher's characteristics on transition of learners with hearing impairment in special schools in Kisii County and to find out the influence of teaching and learning resources on transition of learners with hearing impairment in special school in Kisii County.

This chapter therefore, gives the summary of the study, conclusions and recommendations. To achieve the objectives teachers responded to the questionnaires, head teachers gave their responses through interview and observation was done in the classrooms by the researcher. Findings were analyzed accordingly and the results presented in figures and tables according to the objectives.

5.1. Summary of Findings

The outcome of this study was summarized according to the research objectives.

The findings of the study revealed that at least every respondent used four TC techniques. The most commonly used were: speech reading/ lip-reading, drawing and pointing and none of them used less than four modes of TC. However, it was noted that sign language, finger spelling and body language were consecutively preferred by learners with HI.

Most of the teachers were academically and professionally qualified and trained in Special Needs Education with a percentage of 33% having been trained for four years. Out of the three schools, the highest qualification was degree level. Out of the three schools, four teachers and one head teacher had diploma qualification while two teachers and two head teachers were degree holders. It was observed that most of these teachers had knowledge and skills on special needs education. All the teachers managing the three special schools in the county had teaching experience of between 6 to 10 years. The findings of the study show that the teachers were averagely experienced. Fifty per cent of them teach in the Special Primary School and were not proficient in their communication using sign language, while another fifty per cent were proficient.

Teaching resources were averagely available as the charts and text books were mostly used than other resources. The researcher noted that, during observation teachers did not make well use of all instructional materials in teaching (maps, models real objects) despite their usefulness in enhancing teaching and learning activities.

Generally, there were very few teaching aids being used by teachers in the teaching and learning process during the lessons. The few that were present in some classes were not fully utilized. For instance, some charts were very old even though they were hanged on the walls. The failure to incorporate such teaching aids does not motivate learners with hearing impairments, that is, they have an auditory deficit and yet the eye is one of their active senses. Furthermore, some of these learners' attention span is relatively short and therefore the need to arouse their interest in order to sustain it and boost their academic performance.

The performance list indicated that 73% of the learners with HI failed to progress while 27% were able to go through a successful transition from class three to four. The study further shows that Gianchere special school recorded the largest enrolment followed by Kerina. The findings of the study show that transition of learners with hearing impairment had been low throughout the period under study. It was observed that transition had always been below 50%. Moreover, transition of these learners had recorded very low numbers in some years like 2013 (Gianchere 24%, Kerina 20% and Nyankome 20%) as in Table 4.5.

Enrolment had been generally reducing over the period under study. However, the results indicated that there were fluctuations between 2012 which recorded high rates and 2014 which also had an increase in enrollment while 2013 showed a reduction for all the schools. Similarly, transition had the same trends, implying that the rate of enrollment may influence the rate of transition. This may be due to the nature of learners enrolled from time to time. For instance some learners at times may be admitted with low entry behavior. Consequently this may affect transition of the learner from one level to another.

Findings of the study revealed that to some extent, the classroom was supportive while in some situations it was not supportive at all. The schools reportedly did not have adequate lightning and the classrooms did not have enough ventilation, as almost all classes had windows that were covered and could not let in fresh air. With regard to seating arrangements the majority of the learners could not see the teacher clearly from where they sat. Class sizes were large while classrooms were small. Therefore teachers could not move around in class and it was also difficult to observe signs from the

learners and teachers. This could have contributed negatively to the learners' academic performance and hence hinder appropriate transition to the next level of learning.

5.2 Conclusions

The findings of this study show that Total communication teaching approach influences the transition of learners with hearing impairment. This is so because when Total communication teaching approach is appropriately used, it may lead to high performance which is a prerequisite for transition to occur. It observed that whereas proficiency in sign language among teachers plays a great role in the education of learners with HI, it was not sufficient in offering quality education to the HI. What matters most is the use of language as a tool for enhancing dialogue between teachers and learners and among the learners themselves. The learners' acquisition of knowledge is accelerated when the language of communication was utilized to facilitate meaningful interactions that provide learners with opportunities to think and reason together.

This study revealed that a combination of conducive learning environment, good TC teacher characteristics, TC modes and provision of educational resources that are relevant for all learners and HI-specific interventions for learners with HI would support the learners to achieve more in their learning and hence transit to other levels.

The study concluded that TC teaching approaches facilitate literacy activities like reading and writing among learners with HI. It was observed that teachers were able to identify modes of TC and how to use them to curb the problem of poor academic achievement and consequent transition of learners with HI. However, teachers did not make use of instructional materials and even improvise teaching resources to make

use of the other active senses when one has hearing loss, for instance, the use of sense of sight and touch.

On this note, a concerted effort was needed to alleviate problems of using TC teaching approach as the best approach of teaching learners with HI in special schools of learners with HI. The stakeholders should play a proactive role in ensuring that appropriate measures are in place in order to enhance the use of TC teaching approach thus improving academic achievement and the transition of learners with HI from one class three to four.

5.3 Recommendation of the Study

Based on the findings of this study, the researcher observed hindrances to effective learning of learners with HI which could be enhanced by ensuring all the concerned beneficiaries do the following:

- i. The teachers teaching learners with HI should be given training in the education of learners with HI. They should also attend short courses in modes of TC in order for them to be proficient. This will enhance academic achievement and easier transition of learners in the next levels.
- ii. Head teachers should organize TC teaching approach lesson presentation at school level to enable effectiveness in the teaching and learning process.
- iii. The government should deploy teachers, especially those who have trained in HI, to special schools to boost the performance of learners with HI and hence their transition.

- iv. The MOE should facilitate the use of TC teaching approach by supplying relevant and sufficient instructional materials to schools.

5.4 Suggestions for Further Research

- i. Conducting a study to investigate the effectiveness of ICT in facilitating the use of TC teaching approach in special schools for learners with HI.
- ii. A study investigating the influence of parents in the use of TC teaching approach in teaching learners with HI.
- iii. A study to establish the relationship between TC teaching approach, performance and transition of learners with HI in post primary levels.
- iv. Conducting studies on other categories of disabilities to determine their rates of transition to the next levels of learning.

REFERENCES

- Adoyo, P. A. (1999). Educating deaf children in an inclusive setting: Challenges and considerations. *Electronic Journal for Inclusive Education*, 2(2), 16-20.
- Adoyo, P. A. (2008). *Educating deaf children in an inclusive setting in Kenya: Challenges and considerations*. Nairobi: University of Kenya.
- Ayiela, O. J. (2012). *Factors affecting KCPE performance of learners with hearing impairments in special schools in selected counties*. Nairobi: Kenyatta University.
- Babbie, E. (2001). *The basics of social research*. U.S.A.: Thomson Wadsworth Publication.
- Bernard, H. R. (2002). *Research methods in Anthropology: Qualitative and quantitative methods* (3rd ed.). Walnut Creek, California: AltaMira Press
- Bunyasi, B. A., (2010). *Relationship between self-esteem and academic achievement for girls with hearing impairment in Kenya*. (Published Doctoral dissertation) Kenyatta University Nairobi, Kenya.
- Canadian Hearing Society (2000). *Submission in Response to the Ontarians with Disabilities Act Consultation Tour hosted by MPP Steve Peters, Liberal Disabilities Critic*
- Chandran, E. (2004). *Research methods: Quantitative approach, with illustration from Christian* (2010). *Basic research methods for librarians* (5thed.). New York: Greenwood Publishers Group.
- Coombs, W.T. (1995) Choosing the right words: The development of guidelines for selection of the “appropriate” crisis response strategies. *Management Communication Quarterly*, 8,447-476.
- Dalebout, S., Martinez E. A., & Hallahan, D. P. (2014). *Hearing impairment: School programs, teaching methods*. Retrieved from State University.com, 2014.
- Dixon, W. N. (2014). *The education of children who are deaf in Africa*. www.deafchildworldwide.info.
- Eisner, N. (2012). *Engaging deaf and hard of hearing students in the school library: A handbook for teacher-librarians*. Urbana: University of Illinois.
- Edward T. (1992). *An Anthropology of Everyday Life*. New York: Doubleday/Anchor Books
- Ekwama, M. B., (2003). *Communication Systems used with Hearing Impaired with defective educational practices in special education*. *The special educator*, 3(1): 46-51.

- Ethidge, K. (2004). *Proposal and thesis writing: An introduction*. Nairobi: Paulines Publications Africa
- Fuandai, C. (2009). Catering for children with special needs in the regular classroom. *Edo Journal of Counseling*, 2(1),112-119.
- Eshiwani, G (1985). *The Education in Kenya: 1975 – 1984*. Nairobi Bureau of Economic Research, Kenya University.
- Gall, D.M., Borg, R.W & Gall, J. P. (1996). *Educational research. An Introduction* (6th Edition). New York: Longman Publishers.
- Herman T, Giladi N, Gruendlinger L & Hausdorff JM (2007) Six weeks of intensive treadmill training improves gait and quality of life in patients with Parkinson's disease: a pilot study. *Arch Phys Med Rehabil* 88:1154–1158
- Heugh, K. (2006) Theory and Practice – Language Education Models in Africa: Research, Design, Decision making, and Outcomes, in: H. Alidou, A. Boly, B. Brock-Utne, D. Satina, K. Heugh, & H. E. Wolff (Eds.) *Optimizing Learning and Education in Africa – the Language Factor: A Stock-taking Research on Mother Tongue and Bilingual education in Sub-Saharan Africa*, (Paris: ADEA).
- Hyjankova, E. (2010). *Hearing impaired learners and their learning styles in English language*
- Kaplan, R. S. (1996) "The balanced scorecard: translating strategy into action." *Harvard classroom. Kenya: International Deaf Children Services (IDCS). Business Press, . Norton.*
- Kapp, J. A. (1991). *Children with problems: An Orthopedagogical Perspective*. Pretoria: Ivan Schank Marschark N, (1993). *Removing the Barriers in Deaf Education, Australian Journal of Education of The Deaf*, 12 (2):23-19
- Kihingi, C. K., Mugo, K. J., & Orodho, A. J. (2008). *Factors hindering teaching and learning activities for hearing hearing-impaired students at Karen technical training institute for deaf*. Kenya: Department of Special Education.
- Kinyanjui, K. (1984). *The distribution of education resources and opportunities in Kenya*, University of Nairobi, Institute of Secondary Schools of Kenya; Unpublished PhD Dissertation Dept of Secondary Education.
- Kombo, D. K., & Tromp, D. L. A. (2006). *Proposal and thesis writing: An introduction*. Nairobi: Paulines Publication Africa.
- Kumar,R. (2005) *Research Methodology: A Step-by-step Guide for Beginners*. Sage Publications

- Kyle, W. (2005). Inclusive education for hearing impaired. *Education Core Studies Journal*, 53(3), 223-226.
- Lang, H. (2009). Higher education for deaf students: Research priorities in the new millennium. *Journal of Deaf Students and Deaf Education*, 2, 112-116.
- Ladd, P. (2003). *Understanding Deaf Culture: In Search of Deafhood*. Clevedon, England: Multilingual Matters Ltd
- Leve, J. (2009). *Use of visual aids in classes with learners with hearing impairment*. Retrieved From <http://www.visualaids/hi.legacy.vahi.110.htm>
- Lewis, M.P., (ed) (2009). *Ethnologic; languages of the world 16th edition*. Retrieved on 23/05/2010 from <http://www.ethnologue.com>
- Luckner, J. L., & Handley, C. M. (2008). A summary of the reading comprehension research undertaken with students who are deaf or hard of hearing. *American Annals of the Deaf*, 153(1), 6-36.
- Maina, E. N. (2009). Presentation on *factors influencing performance of deaf students in mathematics in Kenya Certificate of Secondary Education* (Unpublished master's thesis). *Maseno University, Kenya*.
- Malunga T., (2007). *An Investigation on the use of sign language and oral language by regular teachers. Teaching Hearing impairment children*; unpublished master's thesis – University of Oslo – Norway.
- Marschark, M., Sapere, P., Convertino, C., & Pelz, J. (2008). Learning via direct and mediated instruction by deaf students. *Journal of Deaf Studies and Deaf Education*, 13(4), 546-561.
- McCloy, U. & DeClou, L. (2013). *Disability in Ontario: Postsecondary education participation rates, student experience and labour market outcomes*. Toronto, Canada: Higher Education Quality Council of Ontario. Retrieved from <http://www.heqco.ca/en-ca/Research/ResPub/Pages/Issue-Paper-No-14-Informing-policy-through-analysis-of-current-research.aspx>
- Ministry of Education (2014). *Kisii County Annual Report*
- Ministry of Education, Science and Technology (MOEST, 2004) 'Development of Kenya in national report from Kenya International Conference on Education', 47th Session, Geneva
- Ministry of Education (2009) *The National Special Needs Education Policy Framework*, Nairobi, Government Printers
- Moore, D. (2001). *Educating the deaf: Psychology principles and practices* (5th ed.). Boston: Houghton, Mifflin.

- McFadden, D. Z. (1999). Total communication in the classroom. *The Hearing Journal*, 52(1), 242-248.
- McLeod, S. A. (2008). *Qualitative and quantitative methods*. Retrieved from www.simplypsychology.org/qualitative-quantitative.html
- Menchel, R. S. (1995). *Deaf students attending regular four-year colleges and universities* (Unpublished Doctoral dissertation). Harvard University, Massachusetts.
- Mugenda, O.M., & Mugenda, A.G.(2003). *Research Methods*. Nairobi, Kenya: ACTS.
- Mukangu, G. M. (2008) *Resource and Pedagogical Constraints to Teaching Social Studies at Kerugoya School for the Hearing Impaired*, unpublished MA thesis, Kenyatta University.
- Muiti, J. M. (2010). *Hindrances to effective learning of pupils with hearing impairments in Meru North District, Kenya*. (Unpublished Masters thesis). Kenyatta University, Nairobi, Kenya.
- Ndurumo, M. M. (1993). *Sign language interpreting with special reference to Swahili*. Kenya: Moi University.
- Ogada, R., Oracha, P. A., Matu, P. M., & Tyeng'o, M. (2014). Languages used in teaching and learning English composition writing among learners with hearing impairments in Nyanza. Province, Kenya. *International Journal of Social Sciences and Entrepreneurship*, 2(12), 161-168.
- Orodho, A. J. (2005). *Essential of education and social science research methods*. Kenya: Masola Publisher
- Owiko, C. O., (2009) *Factors contributing to poor performance in mathematics at KCPE among standard eight pupils in primary schools for learners with hearing impairments in Nyanza Province, Kenya*. (Unpublished Master thesis) Kenyatta University; Nairobi Kenya.
- Participation and Activity Limitation Survey (2006). Analytical Report*. Social and Aboriginal Statistic Division Jean Talon Building, 7th Floor, 170 Tunney's Pasture Driveway Ottawa, Ontario K1A 0T6 Statistics Canada.
- Penny, M. (2000) *School Access – Children with Loco motor disabilities in Rural Uganda*, CIDA Award Program for Canadians
- Peril, M. (1995): *Social science research methods. A handbook for Africa*. Nairobi: East African Educational Publishers.
- Petty, G. (1993) *Teaching a Practical Guide*. Nelson Thomas.
- Porter, G.I (2009) *Disability and Inclusive Education*. Santiago: USA.

- Raju, V. R. R. (1973) *Strength and structural behaviour of foundations under concentrated loads*: Ranganatham B V
- Reed, C. (2009). *ASL, Total communication and oralism: Identifying shared characteristics of school-based writing intervention programs for deaf and hard of hearing students*. Washington DC: Seton Hall University.
- Roald, I. (2002) Norwegian Deaf Teachers' Reflections on their Science Education: Implications for Instruction, *Journal of Deaf Studies and Deaf Education*, 7, 1, pp. 57-73.
- Rottenberg, S. (2000) Resource Allocation and Income Distribution in Professional Team Sports, *Journal of Sports Economics*, Vol. 1, No. 1, pp 11-20
- Rubin, H. J., & Rubin, S. (2012). *Qualitative interviewing: The art of hearing data*. U.S.A: SAGE Publications Inc.
- Ruiz, N. T. (1995) A Young Deaf Child Learns to Write: Implications for Literacy Development: Source: *The Reading Teacher*, Vol. 49, No. 3, Teachers' Choices for 1995: Best New Children's Books (Nov.), pp. 206-217. International Reading Association
- Russel-Fox, J. (2001). Together is better: Specific tips on how to include children with various types of disabilities. *Annual Editions, Educating Exceptional Children*, 2(2), 337- 339.
- Sharilyn, V. (2011). *Inclusion strategies for teaching learners with hearing impairment*. Retrieved from <http://www.inclusionstrategies.107htm>
- Special Education Support Service. (2014). *Hearing impairment*. Ireland: Free Press
- Stredler-Brown, A. (2010). Communication choices and outcomes during the early years: An assessment and evidence-based approach. In M. Marschark and P. Spencer (Eds.), *The Oxford handbook of deaf studies, language, and education* (Vol. 2, pp. 292–315). New York: Oxford University Press.
- UNESCO. (2009). *Overcoming inequalities in Education: Why governance matters, regional overview: Sub-Saharan Africa*. Paris: UNESCO
- UNESCO (2010). *Education for All Global Monitoring Report. Reaching the Marginalized*. Oxford: Oxford University Press.
- Uwezo Kenya. (2011). *Are our children learning? Annual learning assessment report, Kenya*, Nairobi: Uwezo.
- Wauters, L.N, Knoors, H.E.J, Vervloed, M.P.J, & Aarnoutse, C.A. (2001). Sign facilitation in word recognition. *Journal of Special Education*, 35, 31 – 40.

Werner, D. (1987). *Disabled Village Children: A Guide for community health workers, rehabilitation workers and families*. Hesperian Foundation.
http://www.dinf.ne.jp/doc/english/global/david/dwe002/dwe00208.html#part1c_hap6.

Wiersma, W. (1985). *Educational Research: Competencies for Analysis and Application (4th Edition)*. New York; Rehabilitation International.

Williams, L. M. (1994) *Journal of Consulting and Clinical Psychology*, Vol 62(6), Dec, 1167- 1176.

Wilson, M.G. (2013). Disrupting the pipeline: The role of school leadership in mitigating exclusion and criminalization of students. *Journal of Special Education Leadership* 26(2), 61-70

APPENDICES

Appendix I: Respondent Consent Letter

Dear Sir/Madam,

REQUEST FOR PARTICIPATION IN RESEARCH

I am Margaret Nyaata, a postgraduate student of Kenyatta University, pursuing Masters of Education degree. I am carrying out a study on **Total Communication teaching approach and its influence on transition of class three learners with hearing impairment in special schools in Kisii County, Kenya**. I kindly request you to participate in this study by completing the attached questionnaire as briefly and accurately as possible.

To ensure that the information you provide remain confidential, please do not include your name anywhere on the attached research questionnaire. You are requested to participate voluntarily without feeling forced since all information given will be used for the purpose of this study only and will be kept confidential.

Thank you in advance for participating

Appendix II: Questionnaire for Standard Three Teachers

This questionnaire is intended to seek information on total communication teaching approach and its influence on the transition rates of learners with hearing impairment. Please feel free and answer all the questions as accurate as possible. The information that you will provide shall be treated with a high level of confidentiality and strictly used for the purpose of this research study.

1. Gender
Male Female
2. Age of the teacher (Tick appropriately)
20- 30 Years 31-40 Years 41-50 Years 51-60 Years
3. Type of school
Special board primary
Special integrated program
Special day primary
Special unit
4. Number of learners in class three _____
5. What was the duration of your training in Special Needs Education?
3 month certificate
Diploma certificate
Degree certificate
Masters certificate
Others certificate _____

6. Teaching experience in teaching learners with HI (Tick appropriately)

0-5 years

6-10 years

10 years and above

7. Please list the categories/hearing loss of learners with HI in your class

(a) Hard of hearing Mild _____ Moderate _____	
(b) Deaf Severe _____ Profound _____	
Total	

8. Do you have knowledge and skills of teaching using TC?

Yes No

(b) If yes tick the modes of TC that you employ

i. Sign language

ii. Finger spelling

iii. Speech reading

iv. Up-reading

v. Body language

vi. Cued speech

9. Indicate how frequently you use the modes you have ticked above

	5	4	3	2	1
Sign language					
Finger spelling					
Speech reading					
Lip-reading					
Body language					
Cued speech					

(i) Do you encounter any challenge with the modes you use above?

Yes

No

(ii) Give reasons for your answer.

(iii) State the challenges you encounter .

(iv) Which modes do your learners prefer?

10. Please give ways in which hearing loss has affected academic achievement of learners with HI in the following areas:

a. Language Development

b. Speech development

c. Academic achievement

d. Personality and social adjustment

11. Please indicate the instructional materials you use in facilitating the use of TC teaching approach

(i) State whether the instructional materials facilitate the use of TC Teaching Approach and performance. _____

12. Please indicate by ticking the modes of TC teaching approach you use in facilitating academic achievement and consequent transition of learners with HL

- | | |
|-----------------|--------------------------|
| Sign language | <input type="checkbox"/> |
| Finger spelling | <input type="checkbox"/> |
| Speech reading | <input type="checkbox"/> |
| Lip reading | <input type="checkbox"/> |
| Cued speech | <input type="checkbox"/> |
| Body language | <input type="checkbox"/> |
| Miming | <input type="checkbox"/> |
| Written work | <input type="checkbox"/> |

(ii) Which one in order of priority) give reasons please

(iii) Indicate how proficient you are in the use of the above TC modes.

Very proficient () Proficient () Not proficient ()

Thanks you for your participation

Appendix III: Interview Guide for Head Teachers

The interview guide is intended to seek information on total communication teaching approach and its influence on the transition of learners with hearing impairment. Please feel free and answer all the questions as accurate as possible. Note that the response you give here will not in any way be used for any other purpose other than for this study.

- 1) How long have you been teaching learners with HI?
- 2) What is your education level?
- 3) Do you have enrollment records of your learners in each class?
- 4) What is the enrollment record of class three?
- 5) Do you have records of the past 4 years?
- 6) Which categories of learners with hearing impairment do you have in your class three?
- 7) Do you keep merit list of performance of learners in class three?
- 8) How many learners with HI in class three transit to class four each year?
- 9) Do your teachers have knowledge and skills of teaching using TC?
- 10) Which modes of TC do you use in the school?
- 11) Do you think hearing losses of learners affect their academic achievement?
- 12) Which materials available in the school that facilitate the use of TC teaching approach?
- 13) Which modes of TC teaching approach do you employ in the school?

Thank you for your participation

Appendix IV: Classroom Observation Guide

1. Which of the following resource materials are in class and how are they used in assisting learners with hearing impairment?

Resources	Effectively used	ineffectively used
Text books	()	()
Chart	()	()
Models	()	()
Teacher made reason plans	()	()
Real objects	()	()
Individual hearing aid	()	()

2. Modes of Total Communication Used

	Effectively used	ineffectively used
Sign language	()	()
Finger spelling	()	()
Speech reading	()	()
Lip – reading	()	()
Cued speech	()	()
Body language	()	()

3. Format of Teaching Using TC

	Effectively used	ineffectively used
Demonstration	()	()
Class discussion	()	()
Question/answer	()	()
Diagrams/charts/graphs	()	()
Peer tutoring	()	()
Experiment	()	()

4. Class Environment

- a) Is there enough lighting in the classroom? Yes () No ()
- b) Do learners see the teacher clearly from their seats? Yes () No ()
- c) Which teaching and learning resources are used in class three learners with HI?

Thank you for your participation

Appendix V: Research Permit – Front Page

CONDITIONS

- 1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit**
- 2. Government Officers will not be interviewed without prior appointment.**
- 3. No questionnaire will be used unless it has been approved.**
- 4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.**
- 5. You are required to submit at least two(2) hard copies and one(1) soft copy of your final report.**
- 6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice.**


REPUBLIC OF KENYA


National Commission for Science, Technology and Innovation

RESEARCH CLEARANCE PERMIT

Serial No. A 6382

CONDITIONS: see back page

Appendix VI: Research Permit – Back page

THIS IS TO CERTIFY THAT:
MS. MARGARET KWAMBOKA NYAATA
of KENYATTA UNIVERSITY, 0-40200
KISII, has been permitted to conduct
research in Kisii County

on the topic: TOTAL COMMUNICATION
TEACHING APPROACH AND ITS
INFLUENCE ON TRANSITION OF
LEARNERS WITH HEARING IMPAIRMENT
IN SPECIAL SCHOOLS IN KISII COUNTY,
KENYA.

for the period ending:
31st October, 2015

.....
Applicant's
Signature

Permit No : NACOSTI/P/15/7981/7001
Date Of Issue : 21st August, 2015
Fee Received :Ksh 1,000



.....
Director General
National Commission for Science,
Technology & Innovation

Appendix VII: Research Authorization Letter - NACOSTI



**NATIONAL COMMISSION FOR SCIENCE,
TECHNOLOGY AND INNOVATION**

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

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No.

Date:

21st August, 2015

NACOSTI/P/15/7981/7001

Margaret Kwamboka Nyaata
Kenyatta University
P.O Box 43844-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *“Total communication teaching approach and its influence on transition of learners with hearing impairment in special schools in Kisii County, Kenya,”* I am pleased to inform you that you have been authorized to undertake research in **Kisii County** for a period ending **31st October, 2015.**

You are advised to report to **the County Commissioner and the County Director of Education, Kisii County** before embarking on the research project.

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


SAID HUSSEIN
FOR: DIRECTOR-GENERAL/CEO

Copy to:


COUNTY COMMISSIONER
KISII COUNTY

The County Commissioner
Kisii County.

The County Director of Education
Kisii County.


COUNTY DIRECTOR OF EDUCATION
KISII COUNTY
P. Authority for
Date. Visit the subject
Granted: _____

