

Total Communication Techniques Applied in Teaching of Learners with Hearing Impairment and Its Influence on Transition Rate in Special Schools in Kisii County, Kenya

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Abstract:

While free basic education has led to high enrolment of learners in Kenyan primary schools, very few with HI 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. The purpose of the study was to investigate total communication techniques applied in teaching of learners with hearing impairment and its influence on transition rate in special schools in Kisii County, Kenya. The objective of the study was to: to establish total communication techniques applied in teaching of learners with hearing impairment and its influence on transition rate in special schools in Kisii County, Kenya. The study was guided by Skinner's Theory of Motivation of Learning. The study used descriptive survey design. The target population comprised of all the 60 class three learners with HI, 3 head teachers and 6 teachers. Simple random sampling technique was used to select 52 class three learners with HI (Krejcie and Morgan's table for determining sample size). Purposive sampling technique was used to select 3 head teachers and 6 teachers. The instrument for data collection was Total Communication Questionnaire (TCQ), interview guides and observation schedule. Data collected were analyzed both qualitatively and quantitatively. The results were presented in form of frequency 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. In light of the findings, the researchers recommend that the 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.

Key words: Hearing Impairment, Learners, Total Communication Techniques, Transition Rate, Special Schools

BACKGROUND OF THE STUDY

UNESCO, (2010) defines Total Communication Technique (TCT) as philosophy of educating children with hearing loss that incorporates all means of communication consisting of a wide variety of communication methods including: Visual information (timetables, object signifiers, 'talking walls,' pictures on doors, possession boxes); Visual choices (PECS, photos, symbols, eye pointing, Talking Mats) Signing (Signalong, Makaton, British Sign Language, on-body signing); Multi-sensory and creative approaches (smells, textures, song signifiers, Intensive Interaction); Profiling (communication passports); Person centred approaches (Social Stories) and Presentation (body language, facial expression, voice tone, positioning, attitude). UNESCO (2009) indicates that 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. 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.

According to McCloy and 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).

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.

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 transitioned to upper classes in Kenya. 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). 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 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 study established total communication techniques applied in teaching of learners with hearing impairment and its influence on transition rate in special schools in Kisii County, Kenya.

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. Considering the communication handicap of deafness, it is obvious that the learners with hearing impairment are less advantaged because of communication approaches used during lessons. The majority of pre-school learners with hearing impairment have communication impairment; however, difficulties with communication are not limited to children with disabilities. In spite of this the importance of communication is often overlooked. Low transition rates of learners with HI in Kenya over the years have been noted with many challenges. A report by MoEST 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 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. This therefore calls for a study whose focus is to establish Total Communication techniques applied in teaching of learners with hearing impairment and its influence on transition rate in special schools in Kisii County, Kenya.

Purpose of the Study

The purpose of the study was establish Total Communication techniques applied in teaching of learners with hearing impairment and its influence on transition rate in special schools in Kisii County, Kenya.

Objectives of the Study

The objective of the study was:

To establish Total Communication techniques applied in teaching of learners with hearing impairment and its influence on transition rate in special schools in Kisii, Kenya.

Theoretical Framework

This study used Skinner's theory of Motivation of Learning. The theory's central preposition is that learners are motivated to undertake a task depending on expected rewards. The interaction between teachers and learners will translate into learner's 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.

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.

RESEARCH METHODOLOGY

Research Design

The study employed descriptive survey design to obtain the required information.

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.

SAMPLING TECHNIQUES AND SAMPLE SIZE

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.

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.

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.

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.

DATA PRESENTATION, ANALYSIS OF RESULTS

AND DISCUSSION

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.

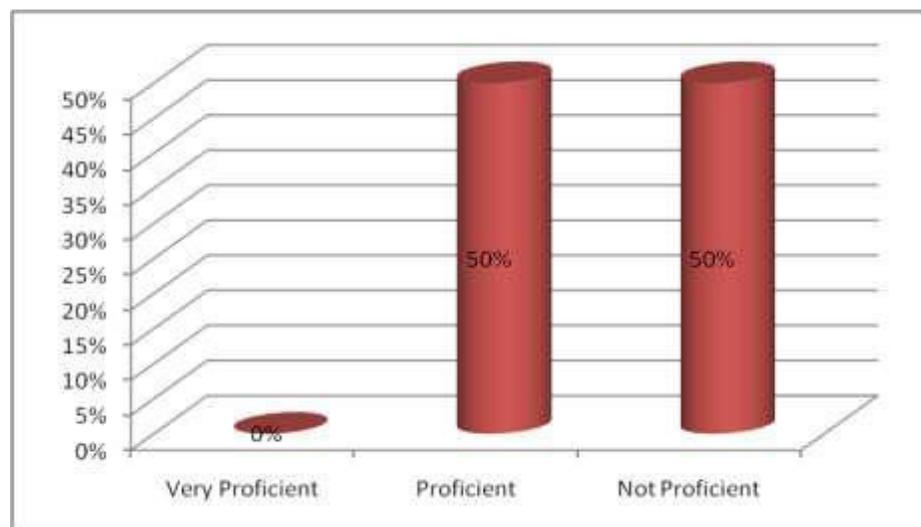


Figure 4.1 Proficiency in use of TC techniques by Teachers

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).

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.

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.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary of Findings

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

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.

Conclusions

The findings of this study show that Total communication teaching techniques influences the transition of learners with hearing impairment. This is so because when Total communication teaching techniques are 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 in enhancing transition for learners with HI. The learners’ acquisition of knowledge is accelerated when the language of communication is utilized to facilitate meaningful interactions that provide learners with opportunities to think and reason together. The study concluded that TC teaching techniques 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. The teachers agree that TCT helps learners’ to grasp what is being taught, recall what is learnt and follow what is going on in the classroom. It also

makes for healthy classroom interaction among the teachers, students with hearing impairment and their hearing counterparts; however they consider it difficult to use due to their lack of skills and the difficulties they encounter when they want to use TCT to communicate ideas or concepts that do not have specific signs.

Recommendation of the Study

Based on the findings of the study the following recommendations were done:

- i. Head teachers should organize the application of TC teaching techniques during lesson presentation at school level to enable effective teaching and learning process.
- ii. The MOE should facilitate the use of TC teaching techniques by supplying relevant and sufficient instructional materials to schools.
- iii. Additionally, they recommend capacity building of in-service general education teachers through workshop and seminars to acquaint them with the skills of using this technique in teaching in inclusive schools.