COMMUNICATION TRAINING SKILL FOR IMPROVEMENT OF ORAL/AURAL COMMUNICATION AMONG LEARNERS WITH HEARING IMPAIRMENTS IN PRIMARY SCHOOLS FOR THE DEAF IN WESTERN REGION OF KENYA

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ABSTRACT

*Deafness can adversely affect a learner's educational performance in the areas of oral communication and experiential learning. The greatest problem of learners with hearing impairment whose hearing loss range from 16 – 55 dB HL, and who depend on residual hearing and lip - reading as their primary mode of communication is inability to communicate orally. This calls for audiological rehabilitation (AR) process which aims at reducing communication deficits that are secondary to hearing impairment. AR process basically equips a deaf and the hard of hearing learner with skills to enable him/her orally communicate with the wider hearing society. The AR programs were contained in the Provisional Curriculum and Guidelines for the hearing impaired children in the stages I, II, and III, all containing specialist subjects For unknown reasons, this trend started to decline around 1988 and various reasons have been speculated for such a decline (Abila, 1988). Limited research has been carried out to establish the reasons for deterioration of communication training skills in the schools. The objective of this study was to find out related communication training skills taught to children with hearing impairments for improvement of their oral/aural communication in schools for the deaf in Western region of Kenya. Audiological Rehabilitation model advanced by Stephens and Kramer (2011) which furnishes a deaf learner with communication tools to enable him/her acquire oral communication skills was adapted for this study as a conceptual model. Descriptive survey and correlational research designs were used in this study. Target population comprised 18 head teachers, 188 teachers, and 318 hearing impaired learners. Saturated sampling technique was used to select 15 head teachers, leaving out three for piloting, while purposive sampling technique was used to select 56 teachers and 95 children with hearing impairments. Data was collected using questionnaires and interview schedules. Validity of the instruments was established by experts in the area of the study. Reliability of the instrument was determined through a pilot study using test re-test method involving 3 head teachers, and 9 teachers. Reliability coefficient for head teachers' questionnaire was .89; teachers' questionnaire was .87, all significant at $p<.01$indicating that the instruments were reliable. Data analysis was done using descriptive statistics. Quantitative data was analyzed using descriptive statistics and reported using statistical tools such as frequency counts, percentages, graphs, charts and tables while qualitative data was put into various categories, reported according to emergent themes and sub-themes. The findings of this study showed that. Specialist subjects are taught only once in a week with a percentage approval ranging between 78.6% and 55.4%. The researcher recommended that in-service training courses be provided to teachers, during which, teachers are equipped with modern skills of teaching specialist. Specialist subjects to be taught to learners with hearing impairment on daily basis.***

Keywords: Hearing Impairments (HI), Oral communication, Amplification, Cross sensory modalities.

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INTRODUCTION

Deafness can adversely affect a learner's educational performance in the areas of oral communication and experiential learning. Communicating with a learner with hearing impairment is of the utmost importance and one may find that creating a communication mode for such a learner to use if he/she does not understand a lesson is the best strategy. The greatest problem of children with hearing impairments is inability to communicate orally. This calls for audiological rehabilitation (AR) process which aims at reducing communication deficits that are secondary to hearing impairment (Stephens and Kramer, 2011). AR process, which focuses on teaching of specialist subjects, basically equips the deaf and the hard of hearing (HoH) learner with skills to enable him/her orally communicate with the wider hearing society (Ericka, 2012). The function of AR process is to furnish a hearing impaired learner with communication tools with which to offset his/her hearing disability to an optimum degree. Communication skill areas that can improve oral/aural communication among children with hearing impairments include auditory training, individual speech training, articulation readiness, speech reading among others.

Communication Training Skills

The greatest problem of learners with hearing impairments is inability to communicate orally. Communication being the crux of AR process, takes into account the components of information provision, skill building, and instrumental modifications. Effective communication training popularly referred to as teaching of specialist subjects, basically equips the deaf and (HoH) learner with skills to enable him/her orally communicate with the wider hearing society. The salient related communication skill areas which can improve oral/aural communication among learners with hearing impairments include; auditory training, speech reading (lip-reading) and auditory verbal therapy (AVT) among others.

Auditory Training

Ericka (2012) explained auditory training (AT) as a means of teaching an individual with hearing impairment how to use his/her residual hearing, aiming at maximizing the use of speech and non-verbal cues. While teaching auditory training, the teacher considers the extent of hearing ability of the learner. A learner with hearing levels in the mild to moderately severe range would work on sound discrimination skills, while one from severe to profound would work to improve on sound detection, including environmental sounds. Chermak and Musiek (2002) said that AT approaches are categorized as formal and informal, conducted by a professional in a controlled setting which employs acoustically controlled tasks using tones and speech elements as well as language-based tasks. It is designed to improve auditory perceptual skills through language-based tasks.

According to Ministry of Education (2008), auditory training skills that were practiced in Kenyan schools in earlier days had different approaches. As contained in the Provisional Curriculum and Guidelines for children with hearing impairments, the approaches basically emphasized training sound discrimination, speech discrimination, etc. conducted in a classroom setting. Chermak and Musiek (2002) however, outlined modern approaches designed to improve auditory perceptual skills through language-based tasks conducted in a controlled setting.

Auditory - Verbal Therapy

Closely connected to lip reading is Auditory Verbal Therapy (AVT), a modern communication training method for teaching a deaf learner to listen and speak using his/her residual hearing in addition to consistent use of amplification such as hearing aids, FM devices and cochlear implants. AVT approach emphasizes the use of speech and listening by

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the learner in an attempt to develop his/her hearing on an active sense such that listening becomes automatic as he/she seeks out sounds in life. Hearing and active listening therefore become an integral part of communication, recreation, socialization, education and work (Hogan, Stokes, White, Tyszkiewicz, and Wedger, 2009)

Lip Reading according to Lander and Davies (2008) is a method of training a learner with hearing impairment to read the speech of others by watching movement of the lips and mouth of the speaker. Lip-reading, also called speech reading basically focuses on reading of lips, facial expressions and body language/gestures that add somewhat to the level of comprehension. Familiar faces can be lip-read more easily than unfamiliar faces. Lip reading is a 'silent talker' dimension with which observers (speech readers) become familiar to facilitate speech perception.

Lander and Davies (2008) continue to say that in lip reading, learners with hearing impairments become familiar with facial features and visible mouth characteristics thus allowing the process more easily. In addition, Rosenblum, Miller and Sandez (2007) outlined 'Talker Facilitation Effects', as another possibility which supports information for the HoH learners. In this approach, the learner becomes familiar with the talker's general articulatory style that can be reflected in both auditory and visual signal. The idiolect information of 'talker facilitation effect' becomes a modal to motivate the teachers thus enabling them pursue an examination of talker familiarity effect in a cross-sensory context.

As asserted by Swanwick and Marshark (2010), lip-reading (Speech reading) is not normally used by itself, but is a copying skill used to communicate effectively with amplification or other assistive listening devices. Lip reading alongside other specialist subjects are skills that must be learnt, and a learner with hearing impairment who lip reads, also uses residual hearing and vision to enable him/her maximize understanding of what is being said. Neely (2005) conducted a study on the important roles that vision plays in face-to-face communication. In his study, he quantified the visual contribution to speech intelligibility in a high intensity noise environment (inclusive setting) in terms of angle and distance from the speech reader to the speaker. Results indicated that: (i) Visual cues resulted in a significant increase in listener-intelligibility scores; (ii) The angle at which the speech readers observed the talker influenced their listener-intelligibility scores; and (iii) the distance of the listener from the talker did not have a significant effect on listener-intelligibility scores within 3 to 9 foot limits.

Sanchez, Dias and Rosenblum (2013) also conducted a study on speech reading to investigate whether cross-sensory transfer of talker experience could occur: (i) from auditory to lip-reading speech; (ii) with subjects not screened for adequate lip-reading skill; (iii) when both familiar and unfamiliar talkers are presented during lip-reading; and (iv) for both old (presentation set) and new words. Results showed that subjects who lip-read from the same talker they had heard before, performed better than those who lip-read from a different (or strange) talker, regardless of whether the words were old or new. These results add further evident that learning of a modal talker information can facilitate speech perception across modalities and also suggests that the information is not restricted to previously heard words.

The foregoing reviews of trends of communication training, specifically teaching of lip-reading, are faced with certain critical challenges. Berka (2014) for example, criticized that although lip-reading can help one understand the need to write words on paper, it does not in any way replace written or visual communication. Even the best lip readers can miss a good bit of information because only 30% – 40% of the speech is visible. Many letters and words look the same on the lips, which can easily cause misunderstanding for example, "P(ail)" and "M(ail)".

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Ericka (2012) also observed similar challenging issues on the teaching of lip reading, and reported that only 30% of English sounds are visible on the lips, and 50% are homophonous (i.e. look like something else). For example, in saying the words 'kite', 'height', and 'night', the lip reader will see almost no changes on the speaker's lips to distinguish among the three words. In addition, the words: 'may be', 'baby', and 'pay me', look exactly alike on the lips.

It is therefore the researcher's view that no one approach of teaching a particular specialist subjects can ultimately guarantee success for every individual deaf child. Teachers who decide to teach auditory training for example, need to understand the four critical factors; early interventions, skill in using the approach, appropriate training, and the need for high-level teacher involvement which can make a difference between success and failure.

In Kenya, effective communication training skills had been an ongoing phenomenon in schools for the deaf since the inception of education for deaf children in Kenya in 1960s. The earlier trends focused on a close – knit fashion with emphasis on which particular skill was most pertinent for individual learner. A number of learners with residual hearing though benefited from such rigorous concentrated training programs by consistent use of hearing aids, failed to get modern training skills such as cross sensory modalities for learning lip-reading which emphasized on 'talker facilitation effect' as pointed out by Rosenblum et al (2007). Unfortunately, for unknown reasons, the earlier trends, before improvement, started to decline around 1988 and various reasons have been speculated for such a decline.

From the foregoing researches on communication training skills for improvement of oral/aural communication among learners with hearing impairments, the aspect that still remains unclear is the extent to which specialist subjects were taught to the learners. In addition, limited study has been carried out in Kenya to find out the extent of teaching specialist subjects. Based on the above information, the current study sought to find out communication training skills and the extent to which they were taught with a view to improve oral/aural communication among the learners in schools for the deaf in Western region of Kenya.

RESEARCH METHODOLOGY

The study adopted both descriptive survey and correlational research designs. The study was carried out in 9 counties in Western region of Kenya, officially called the Republic of Kenya. The study population comprised of 18 head teachers, 188 teachers, and 318 hearing learners whose hearing loss range within 16 - 55 dB HL. Sampling frame comprised of 15 head teachers (83%) selected through saturated sampling technique, 56 (30%) teachers, and 95 (29.8%) learners with hearing impairments Questionnaire and interview guide were used as data collection instruments for this study. Content and face validity of the instruments were determined by experts in the area of the study. Reliability of the instruments was determined through pilot study using a test re-test method to estimate the degree of reliability of the instruments. Data obtained from the respondents was collated, put into excel spread sheet and imported into statistical package for social sciences (SPSS) version 19. Quantitative data obtained through questionnaires was analysed by using descriptive statistics, and presented using statistical tools which entails frequency counts, means, graphs, charts, and percentage

RESULTS AND DISCUSSIONS

Communication Training

The objective of this study focused on communication training skills taught to learners with hearing impairments. This objective was answered by analyzing the information gathered from head teachers' and teachers' questionnaires, and also learners' interview. The analysis

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was done, considering the teaching of specialist subjects, and how the skills acquired can be used to improve the practice of AR services among the learners with hearing impairment. To meet this objective, there was need to ascertain frequency to which specialist subjects were taught to learners with hearing impairments. Specialist subjects referred to here include; Auditory Training, Speech Reading, Articulation Readiness, Speech Readiness, Individual Speech, and Group Speech. Practitioners were asked to indicate the frequency to which specialist subjects were taught.

Frequency of Teaching Specialist Subjects

Head teachers, teachers, and the learners were asked to provide information on the frequency to which specialist subjects were taught per week in all the sampled schools. The results are presented in Tables 1, 2, and 3.

Table 1. Head Teachers' Rating on Frequency of Teaching Specialist Subjects (N = 15)

Specialist Subjects	*Not at all f(%)*	*Once f(%)*	*2times f (%)*	*3times f(%)*	*4times f(%)*	*5 times f(%)*	*Total f(%)*
AT	0(0.0)	12(78.6)	1(7.1)	1(7.1)	1(7.1)	0(0.0)	15(100.0)
SR	1(7.1)	12(78.6)	1(7.1)	1(7.1)	0(0.0)	0(0.0)	15(100.0)
AR	0(0.0)	12(78.6)	2(14.3)	1(7.1)	0(0.0)	0(0.0)	15(100.0)
SRd	1(7.1)	10(64.3)	2(14.3)	1(7.1)	1(7.1)	0(0.0)	15(100.0)
I S	0(0.0)	9(57.1)	2(14.3)	2(14.3)	2(14.3)	0(0.0)	15(100.0)
GS	0(0.0)	10(64.3)	2(14.3)	1(7.1)	1(7.1)	1(7.1)	15(100.0)

KEY: AT =Auditory Training **SR** = Speech Reading **ARd** = Articulation Readiness
IS = Individual Speech **GS** = Group Speech

Results in Table 1 shows head teachers' responses on the frequency to which specialist subjects were taught to learners with hearing impairments in class three in their various schools. Group speech was taught five times a week as indicated by 1 (7.1%) teacher. Individual speech was taught 4 times a week as shown by 2 (14.2%) of the teachers. Auditory training, Speech Readiness and Group Speech were taught four times a week as shown by only 1 (7.1%) teacher. Individual speech was taught three times a week as shown by 2 (14.2%) of the teachers. Auditory Training, Speech Reading, Articulation Readiness, Speech Readiness and Group Speech were taught three times a week as shown by only 1 (7.1%) teacher. Articulation Readiness, Speech Readiness, Individual Speech, and Group Speech were taught twice a week as indicated by 2 (14.2) of the teachers. Articulation Readiness and Speech Reading were taught twice as indicated by 1 (7.1%) teacher. Individual Speech was taught once a week as shown by 9 (57.1%) of the teachers. Speech Readiness and Group Speech were taught once a week as indicated by 10 (64.3%) of the teachers. Auditory Training, Speech Reading and Articulation Readiness were taught once a week as indicated by 12 (78.6%) of the teachers and finally, Speech Reading and Speech Readiness were not taught at all as indicated by 1 (7.1%) teacher. From the above tabulated results, findings generally indicated that specialist subjects are only taught once a week.

These findings seem not to gain support from other studies. Ericka (2012) for example reported daily communication training for the learner with hearing impairment as the utmost

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importance and one may find that creating a model for the learner to use it on daily basis is the best strategy. Consistent communication training equips the deaf learner with skills to enable him/her orally communicate with the wider hearing society. Abila (1988) also reported that in Kenya, daily effective communication skills had been an ongoing phenomenon in schools for the deaf. All specialist subjects were taught on daily basis and by the end of the program, the learner was able to acquire skills to detect sound signals, use their residual hearing, purposeful listening and speaking with amplification. A number of learners with residual hearing benefited from such rigorous concentrated training programs by consistent use of hearing aids. To confirm the head teachers' ratings on the frequency of teaching specialist subjects, teachers were also asked to rate the frequency to which they teach specialist subjects. This was tabulated, analyzed and presented in Table 2.

Table 2. Teachers' Rating on Frequency of Teaching Specialist Subjects (n = 56)

Specialist Subjects	*Not at all f(%)*	*Once f(%)*	*2times f(%)*	*3times f(%)*	*4times f(%)*	*5 times f(%)*	*Total f(%)*
AT	6(10.7)	44(78.6)	5(8.9)	1(1.8)	0(0.0)	0(0.0)	56(100.0)
SR	7(12.5)	32(57.1)	9(16.1)	4(7.1)	2(3.6)	2(3.6)	56(100.0)
AR	4(7.1)	31(55.4)	10(17.9)	8(14.3)	3(5.4)	0(0.0)	56(100.0)
SRd	7(12.5)	32(57.1)	10(17.9)	6(10.7)	1(1.8)	0(0.0)	56(100.0)
IS	7(12.5)	40(71.4)	5(8.9)	3(5.4)	1(1.8)	0(0.0)	56(100.0)
GS	0(0.0)	40(71.4)	6(10.7)	2(3.6)	4(7.1)	4(7.1)	56(100.0)

KEY: AT = Auditory Training **SR** = Speech reading **AR** = Articulation Readiness

SRd = Speech readiness **IS** = Individual Speech **GS** = Group speech

Table 2 shows teachers' responses on the frequency to which they teach specialist subjects to learners with hearing impairment in class three. Group Speech and Speech Reading were taught five times a week as indicated by 4 (7.1%) and 2 (3.6%) of the teachers respectively. Group Speech, Articulation Readiness and Speech Reading were taught four times as indicated by 4 (7.1%), 3 (5.4%)and 2 (3.6%) of the teachers respectively. Speech Reading and Individual Speech were taught 4 times as indicated by 1 (1.8%) teacher in each case. Articulation Readiness, Speech Readiness, Speech Reading, Individual Speech, Group Speech and Articulation Readiness were taught three times as indicated by 8 (14.3%), 6 (10.7%), 4 (7.1%), 3 (5.4%), 2 (3.6%) and 1 (1.8%) of the teachers respectively. Articulation Readiness, Speech Readiness, Speech Reading, Group Speech and Articulation Readiness were taught twice as reported by 10 (17.9%), 9 (16.1%), 6 (10.7%) and 5 (8.9%) respectively. Auditory Training, Individual Speech, Group Speech, Speech Reading, Speech Readiness and Articulation Readiness were taught once as indicated by 44 (78.6%), 40 (71.4%), 40 (71.4%), 32 (57.1%) and 31 (55.4%) of the teachers respectively. On the average, all the six specialist subjects were taught only once in a week, with a percentage ranging between 78.6% and 55.4%.

Frequency of Learning Specialist Subjects by Learners in Class

To confirm the head teachers' and teachers' ratings on teaching of specialist subjects, the learners in class three who are the beneficiaries of the program were also asked to rate the

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frequency to which they were taught specialist subjects. The findings are presented in Table 3.

Table 3. Learners' Ratings on Frequency to which they are Taught Specialist Subjects (n = 95)

Specialist Subjects	*Not at all f(%)*	*Once f(%)*	*2 times f(%)*	*3 times f(%)*	*4times f(%)*	*5 times f(%)*
AT	25(26.8)	64(66.0)	3(3.6)	3(3.6)	0(0.0)	0(0.0)
SR	24(25.0)	54(57.1)	10(10.7)	7(7.1)	0(0.0)	0(0.0)
AR	28(28.6)	51(53.6)	8(8.9)	8(8.9)	0(0.0)	0(0.0)
SRd	29(30.4)	49(51.8)	10(10.7)	7(7.1)	0(0.0)	0(0.0)
IS	25(26.8)	54(57.1)	14(14.3)	2(1.8)	0(0.0)	0(0.0)
GS	24(25.0)	54(57.1)	10(10.7)	7(7.1)	0(0.0)	0(0.0)

KEY: AT = Auditory Training **SR =** Speech reading **AR** = Articulation Readiness

SRd = Speech readiness **IS** = Individual Speech **GS** = Group speech

Table 3 shows the learners' ratings on the frequency to which they were taught specialist subjects in class in a week. Findings revealed that Auditory training was taught once in a week as observed by 64 (66.0%) of the learners. Generally, specialist subjects were taught only once with a frequency and percentage ranging between 49 (51.8) and 88 (92.9) as seen from the data collected from the learners. A few school however noted that none of the subjects was taught.

From the findings, it was observed that significant number of teachers 44(78.6%) and 32 (57.1%) rated auditory training and lip-reading respectively as taught once every week. Similar responses were reflected by the learners on the frequency to which they were taught the subjects. Although the frequency of teaching the subjects seems to be generally low, Ericka (2012) supported teaching of auditory training and lip-reading by reiterating that they are the salient communication training areas that improve oral/aural communication among learners with hearing impairments. The two subjects also serve as valuable intervention tools particularly for individuals with language impairments and auditory processing disorders as supported by Chermak and Museik (2002).

.Berka (2014) on the contrary, criticized teaching and learning lip-reading by explaining that it does not in any way replace written or visual information since only 30 – 40% of the speech is visible. Ericka (2012) also lent support to this critical view by stating that only 30% of English sounds are visible on the lips and 50% are homophonous. Despite criticisms on teaching and learning specialist subjects particularly lip-reading as mentioned in the background, the subject form message system most often used in human communication thus allows the hearing impaired learner easy linguistic interaction in an inclusive society.

Equipment Suitable for Teaching Specialist Subjects

For effective communication training skills, there is need for specific teaching and learning recourses. In an attempt to establish effective communication training, teachers were asked to indicate the equipment available for teaching specialist subjects in the schools. The findings are shown in Table 4.

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Table 4. Equipment Available for Teaching Specialist Subjects (N = 56)

Equipment available	*F*	*%*
Hearing aids	36	64.3
Speech Training Unit	6	10.7
Drums	43	76.8
Shakers	36	64.3
Jingles	21	37.5
Mirror	4	7.1
Paper balls	3	5.4
Bells	3	5.4

Source: Data 2014

Table 4 shows the available equipment suitable for teaching specialist subjects in the schools as indicated by 56 teachers. Findings revealed that the most available equipment were drums as indicated by 43 (76.8%) of the teachers, hearing aids and shakers indicated by 36 (64.3%) and jingles indicated by 21 (37.5%) of the teachers. Speech Training Unit was indicated by 6 (10.7%) of the teachers while mirror was indicated by 4 (7.1%) of the teachers and only 3 (5.4%) of the teachers indicated, paper balls and bells respectively.

Findings further showed that all the equipment indicated were no longer in use in the schools. It was therefore noted that generally, schools for the deaf lack equipment for teaching specialist subjects. These results are not in line with Mashie, Moseley, Scott, and Lee, (2006). (2006) whose research findings revealed modern equipment such as Auditory Training Units, Radio Microphone Systems, Loop Systems, and simple equipment like cardboard tubes and modern hearing aids. Furthermore, consistent with other studies that reported modern types of equipment like cardboard tubes to make the teacher's voice louder, and which have been used successfully to amplify sounds with minimum background noise, there is a reducing effect of poor acoustic emissions common to most classrooms as well as reducing auditory effects of the distance or barrier between the teacher and the learner (Airken, Buultjens, and Clark, 2013).

Limited research concerning equipment available for teaching specialist subjects has been carried out in Kenya. Furthermore, teachers only reported equipment available for teaching specialist subjects, many of which are outdated and no longer in use in the schools. It can therefore be concluded that sufficient equipment for teaching specialist subjects are not available, and this significantly contributes to non-teaching of specialist subjects in schools for the deaf.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary of the Findings of the Study

The objective of the study was to find out related communication training skills taught to learners with hearing impairments in schools for the deaf in Western region of Kenya. Communication training basically involves teaching of specialist subjects such as Auditory

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training, Speech reading, Articulation readiness, Speech readiness, Individual speech, and Group speech. Based on the objective of the study, the study demonstrated that:

1. Generally, specialist subjects were taught only once in a week, implying that audiological rehabilitation in terms of communication training skills was practiced to a very low extent.
2. The teacher being the primary catalyst in ensuring effective communication training skill development for learners with hearing impairments, and based in the findings, it can be stated that most of the teachers were neither adequately trained, nor knowledgeable with skills of teaching specialist subjects.

RECOMMENDATIONS

Based on the findings, the researcher recommends that:

1. Teachers should be given in-service training programs in order to equip themselves with modern knowledge and skills in teaching specialist subjects.
2. Specialist subjects should be taught to learners with hearing impairments on daily basis.
3. There is need to provide schools for learners with hearing impairments with modern equipment for teaching specialist subjects.

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