



Communication Strategies Among Children with Hearing Impairment and their Hearing Family Members in Port Harcourt Metropolis of Rivers State

Olayinka-Osho, Olufunto

Department of Educational Psychology, Guidance and Counselling, Faculty of Education, Postgraduate School, Ignatius Ajuru University of Education

Phone: 08037098824, Email: funt3@yahoo.com

DOI: <https://doi.org/10.55248/gengpi.5.0224.0418>

ABSTRACT

This study investigated the communication strategies among children with hearing impairment and their hearing family members in Port Harcourt metropolis of Rivers State. The study adopted descriptive survey design. Five research questions and four hypotheses were used to guide the study. The population comprised 50 children with hearing impairment from special schools in Port Harcourt metropolis and 100 hearing family members. Block sampling was used. Instrument for data collection was a questionnaire designed by the researcher and titled "Communication Strategies Questionnaire" (CSQ). Research questions were answered using mean score and standard deviation while hypotheses were tested using independent t-test at 0.05 level of significance. Based on the findings, the data was analysed and interpreted. It was observed that there is no significant difference in the oral, manual and total communication strategies of hearing impaired children and their hearing family members. In the light of this finding, recommendations were made which include that the children with hearing impairment should be constantly motivated by their family members using oral, manual and total communication strategies.

Keywords: Communication, Strategies, Children, Hearing Impairment, Family Member

Introduction

Hearing loss or hearing impairment is one of the most prevalent chronic conditions worldwide. Nigeria is no exception as there are citizens living with hearing impairment, some completely deaf and some with hard of hearing meaning they have residual hearing. Dr. Eneche Audu- country director, International Centre for Prevention of Deafness and Rehabilitation of Hearing Impaired Persons (ICPDRHIP) stated in an article in "The Guardian" newspaper of 30th June 2016 reported that about 11.39 million Nigerians have hearing impairment. Children are not exception to this problem.

Children with hearing impairment are often side-lined and are discriminated against by most families and those around them due to poor communication strategies. They may not believe in their abilities. Some parents go as far as denying them the educational opportunities because of shame, embarrassment and labelling. The society also discriminates against them because they do not use oral language due to inappropriate communication strategy. Information available to the rest of the family as well as the public is not conveyed to them. They cannot even attend or socialize freely with other non-hearing impaired children without being embarrassed or without the help of someone who can interpret to them in the form of demonstration using signs. Educationally, they have very low opportunity and literacy making it difficult for most of them to communicate meaningfully. Nortey (2010) agreed with the above and stated that children living with hearing impairment are frequently excluded from educational opportunities, and often go unnoticed because their impairment is not visible and as such have communication problems.

Alade (2005) stated that the ability to hear and turn sounds into meaning is an assumption of life to many living souls. It is an ability we often take for granted. The organ of hearing is one of marvellous gifts of God. The ear is very important because it is one fundamental way we learn about the thoughts, ideas and feelings of others by listening to them. However, in the society most children are living with hearing impairment which indeed posed challenge to development of language. According to Ugwuanyi (2009), children living with hearing impairment are children who due to accident or diseases are either born with hearing loss (congenital) or developed hearing loss later in life (adventitious). Alukwu (2011) added that when an individual has a hearing loss, he or she might not detect much sound. Expressing similar view, Olawole (2000) states that hearing impaired persons are those who have lost some but not all of their hearing ability and who can or cannot benefit from the use of hearing aids in order to understand and use speech. A child is therefore said to be hearing impaired, if such child finds it difficult in hearing any form of sound or noise which could result in partial or total deafness. This means that hearing impairment could be hard of hearing for those who may benefit from hearing aids and total deafness depending on the degree of hearing loss or the class of the hearing loss.

Hardman (2005) stated that children living with hearing impairment may have partial or full hearing loss on one or both ears. The characteristics exhibited by the children living with hearing impairment depend on the degree of hearing loss and the onset of that loss. According to Chimedza & Petersen (2003) the earlier the hearing loss manifests itself in a child, the more difficult he or she will find it developing spoken language. It is worth noting that the characteristics of a child with mild hearing loss are in many ways more similar to a hearing child's than to a deaf child's characteristics. It causes a number of other serious problems that are linked to the inability to receive or express messages and thoughts (Adoyo, 2008). The author agreed that because of its insidious and hidden nature, hearing loss can be devastating. It can be particularly traumatic because it is often mistaken for absent mindedness or senility. For most children, having a hearing loss threatens their self-image and manifest as feelings of inadequacy, being constraining to other people, being abnormal or handicapped. These may lead to bullying, loss of confidence, lack of motivation and so on. Therefore, the application of appropriate communication strategy can benefit the child living with hearing impairment and their hearing family member to interact effectively.

A communication strategy is the means by which the child and family members receive and express language. The choice of a communication strategy that facilitates language development and allows the child who is hard of hearing or deaf to readily engage in communication interchanges with family and caregivers is a primary issue throughout childhood. Kemper (2014) stated that when these problems occur, family and caregivers manage to overcome them by employing what is known as communication strategies in order to fill in the gap between their communication intentions with the hearing impaired child. While there may be debate regarding specific communication strategies for children living with hearing impairment, few question the concept that every child who is hard of hearing or deaf needs to develop language early in life and that the child and family members need a strategy to communicate which facilitates natural, meaningful, and abundant interchanges (Judith & Jessica, 2003). They suggested that the most commonly adopted communication strategy for children living with hearing impairment and their hearing family members are speech and lip reading, sign language and total communication strategies.

Sign language, an aspect of manual communication is a language that is used by people with hearing impairment to communicate. It is a language that uses manual symbols to represent ideas and concept. According to Riekelhof cited in Ezema (2013), it is a term used to describe the language used by deaf people in which both manual signs and finger spelling are employed. Family members who are familiar with the sign language communication strategy can easily communicate with the children living with hearing impairment if such children understand it. Therefore, the children communicate with family member by watching. Apart from the use of sign language as a strategy for communicating with the hearing impaired, Riekelhof emphasized the use of total communication. Total communication strategy involves the use of any or all means of communication to promote language development in impaired children and enable family members the opportunity to communicate effectively.

Baker (2011) noted that oral communication strategy involves different approaches such as use of speech, facial expression, lip reading or cue speech. Ling & Ling (2008) opined that the deaf can read facial expression and body expression very greatly. The children with hearing impairment exposed to the use of oral communication strategy as reported by the findings of Percy (2008) have a greater probability of scoring higher on speech and language assessments than children exposed to some degree of either sign support or sign language. This maybe one of the reasons, why hearing family members often use oral communication to communicate with the hearing impaired children.

Manual communication strategies have also received attention among scholars. Habtu (2014) opined that manual communication contains finger spelling, hand positions and physical movements and that finger spelling plays a balancing role to signs; it can considerably increase the understanding of sign language among the children with hearing impairment and their hearing family members. Alemayehu (2003) also opined that finger spelling plays a complimentary role to signs.

A classical study by Ugwuanyi (2009) on total communication strategy for children with hearing impairment revealed that hearing impaired children stand a better chance to grasp what is being said either through the combination of signs, finger spelling, voice, gestures, lip reading, facial expression and so on. There is no doubt that the proper use of total communication among the hearing impaired children and hearing family members will invariably increase their verbal and communication abilities. Therefore, this study intends to discover the communication strategy used by children with hearing impairment and their hearing family members in Port-Harcourt metropolis of Rivers State.

Statement of the Problem

Communication among children living with hearing impairment appears to be one of the most complex activities that hearing parents and family members undertake. However, it has been observed that most family members continue to have difficulties in communicating with the hearing impaired child. In a situation where communication becomes ineffective, it implies that the wrong sign is conveyed to the child living with hearing impairment. It is therefore suspected that the poor communication among children living with hearing impairment and their hearing family members might be caused by some factors and prominent among these factors is ineffective communication strategies used by the hearing family members at home to interact with the child living with hearing impairment. There is no doubt that the use of the wrong communication strategies such as wrong signs, wrong finger spelling, wrong speech and lip reading might result in ineffective development of language which might also cause confusion between children living with hearing impairment and their hearing family members.

In Port-Harcourt metropolis of Rivers State, there seem to be no study that focuses more on communication strategies among children living with hearing impairment and their hearing family members. This lack of investigation made it difficult for parents and family members to be aware of the best strategy to adopt while communicating with the hearing impaired child. Based on the above, the researcher has discovered that while some communication strategies such as total communication and sign language strategy or lip reading may work well for some children with slight hearing impairment it might

not work well for those with profound or severe hearing impairment. The problem of this study therefore is to find out communication strategies among children with hearing impairment and their hearing family members in Port Harcourt metropolis of Rivers State.

Purpose of the Study

The major purpose of the study is to determine the communication strategies among children living with hearing impairment and their hearing family members in Port-Harcourt metropolis in Rivers State. Specifically, this study seeks to:

1. Determine the oral communication strategies among children with hearing impairment and their hearing family members.
2. Ascertain the manual communication strategies among children with hearing impairment and their hearing family members
3. Determine the total communication strategies among children with hearing impairment and their hearing family members.

Research Questions

To guide this study, the following research questions were formulated:

1. What are the oral communication strategies among children with hearing impairment and their hearing family members?
2. What are the manual communication strategies among children with hearing impairment and their hearing family members?
3. What are the total communication strategies among children with hearing impairment and their hearing family members?

Hypotheses

The following null hypotheses were formulated to guide the study and will be tested at 0.05 level of significance.

1. There is no significant difference in the mean rating of respondents on oral communication strategies among children with hearing impairment and their hearing family members
2. There is no significant difference in the mean rating of respondents on manual communication strategies among children with hearing impairment and their hearing family members
3. There is no significant difference in the mean rating of respondents on total communication strategies among children with hearing impairment and their hearing family members

Methodology

The research design adopted in the study is a descriptive survey. The population of the study comprised all children living with hearing impairment in special schools in Port Harcourt metropolis and their hearing family members. The reason for this is that, it is assumed that at school age, they would have acquired enough knowledge of sign language that will help them to apply communication strategies in interaction with their hearing family members. Block sampling technique was used since all the children with learning impairment in these schools were studied. The sample for the study comprised 50 children with hearing impairment and 100 parents selected from special schools in Port Harcourt metropolis of Rivers State. Data was collected using a researcher developed questionnaire titled; Communication Strategy Questionnaire (CSQ). The instrument was made by the researcher with the help of related literature. CSQ consists of a thirty items. The instrument were divided into two sections: Section 'A' deal with bio-data information of respondents while section 'B' contains 30 items. Section B made up of three clusters namely; oral communication strategies of children living with hearing impairment and their hearing family members with 10 items, manual communication strategies of children living with hearing impairment and family member 10 items and total communication strategies of children living with hearing impairment and family members with 10 items. The face validation of instrument was ensured by presenting the draft questionnaire to three experts, one in special education, one in guidance and counselling and one in measurement and evaluation. The reliability of the instrument was ascertained by using test re-test method. The reliability coefficient was 0.82. The researcher with two teaching members of staff of the schools under study administered the instrument to the respondents. The staff were educated on the modalities for administering and collection of the instrument. Through the schools, the researcher got in touch with the parents of these hearing impaired children to administer questionnaire to them. Data was analysed using mean and standard deviation to answer the research questions. The null hypotheses were tested using independent t-test at 0.05 alpha level of significance.

RESULT

Research Question 1: What are the oral communication strategies among children with hearing impairment and their hearing family members?

Table 1: *The mean ratings and standard deviation of children with hearing impairment and their family members on oral communication strategy used.*

(n = 150)

S/N	Oral communication strategy used	Mean	SD	Decision
1.	Use of speech enhances communication	3.30	0.90	A
2.	Lip reading helps during communication	3.23	.72	A
3.	Cue speech helps as a mode of communication			
4.	Reading helps as a means of communication	3.16	.91	A
5.	Facial expression and watching mouth of others increases means of communication	3.00	1.08	A
6.	Spoken language heightens means of communication	3.26	.90	A
7.	Speech enhances understanding during communication	2.96	.88	A
8.	Oral language improves communication ability of children with hearing impairment	3.43	1.17	A
9.	Oral communication motivates children with hearing impairment	2.90	.72	A
10.	Speech enhances auditory ability	2.76	1.22	A
	Grand Mean/Standard Deviation	3.10	0.94	

Data presented on Table 1 above, shows that oral language improves communication ability of children with hearing impairment with mean (x) of 3.43. This is followed by use of speech enhancing communication with mean (x) of 3.3. Spoken language heightens means of communication has a mean score of 3.26, lip reading has mean of 3.23, reading as a means of communication has mean (x) Cue speech as a mode of communication has mean of 3.03, facial expression and watching mouth of others 3.00, speech enhances understanding during communication has mean of 2.96, oral communication motivates has mean of 2.90, while speech enhances auditory ability has mean of 2.76. However, the grand mean of 3.10 shows that the oral communication strategies as listed in table 2 are being used by children with hearing impairment and their hearing family members. Similarly, the standard deviations on the items are found to range from .90 to 1.17. This indicates that there is no wide discrepancy among the respondents in their opinion on their oral communication strategy.

Research Question 2: What are the manual communication strategies among children with hearing impairment and their hearing family members?

Table 2: *The mean ratings and standard deviation of children with hearing impairment and their family members on manual communication strategy used.*

(n = 150)

S/N	Manual communication strategy used:	Mean	SD	Decision
1.	Demonstration with hands during discussion heightens communication	3.06	.94	A
2.	Sign language helps as a means of communication	3.00	1.08	A
3.	Blinking of eyes to express increases communication	3.03	1.09	A
4.	Body posture is a means of communication	2.96	1.05	A
5.	Nodding of head shows understanding during communication	2.83	1.06	A
6.	Shaking of the head and other body part is a strategy of communication	3.10	1.06	A

7.	Finger spelling and sign is a strategy of communication	2.96	1.06	A
8.	Usage of physical object to pass idea across is a strategy of communication	3.13	.93	A
9.	Writing to siblings and other family members is a means of communication	3.15	.97	A
10.	Finger spelling enhances communication	3.10	.86	A
	Grand mean/standard deviation	3.03	1.01	

Data on table 2 shows that writing to siblings another family members has the highest mean of 3.15, this indicates writing as a manual means of communication between hearing impaired children and their family members. Usage of physical object to pass idea across as a manual communication strategy has a mean of 3.13 followed by fingers spelling as a way of enhancing communication and shaking of head and other body parts. These items have the same mean of 3.10. Demonstration with hands during discussion has a mean of 3.06, blinking of eyes to express idea has a mean of 3.03, sign language as a way of communication has mean of 3.00. While body posture and finger spelling with sign has the same mean (\bar{x}) of 2.96. Nodding of head to show understanding has mean (\bar{x}) of 2.83. The grand mean of 3.03 for manual communication strategies imply that all manual strategies listed in the table are being used by children with hearing impairment and their hearing family members.

Research Question 3: What are the total communication strategies among children with hearing impairment and their hearing family members?

Table 3: *The mean ratings and standard deviation of children with hearing impairment and their family members on total communication strategy used.*

(n = 150)

S/N	Total communication strategy used:	Mean	SD	Decision
1.	Sign and speech combined is a means of Communication	3.03	.99	A
2.	Pantomime is used as a means of communication	2.63	1.15	A
3.	Gestures is used as a means of communication	2.93	.86	A
4.	Sign with speech is easier as a means of communication	2.70	1.05	A
5.	Difference modes of passing ideas increases understanding of language	3.23	.93	A
6.	Total communication enhances relationship between hearing impaired children and family members	2.96	.86	A
7.	Signing alone as a means of communication is easy to understand for the child with hearing impairment	3.26	.90	A
8.	Using more than one technique to communicate consume more time	3.13	.97	A
9.	Total communication is a means of increasing verbal and manual communication ability	2.90	.95	A
10.	Using more than a medium to pass ideas across to family members is stressful	3.16	.91	A
	Grand mean/standard deviation	2.99	0.96	

Data on table 3 shows that signing alone as a means of communication is easy to understand for a child with hearing impairment. This reflected in the mean (\bar{x}) score of 3.26 followed by different modes of passing ideas which increases understanding of language with mean score of 3.23. Using more than a medium to pass idea has a mean of 3.16 while using more than one technique to communicate has mean of 3.13. sign and speech as a way of communication and total communication enhancing relationship between hearing impaired children and their hearing family members has mean of 3.03 and 2.96 respectively. Gesture as a way of communication has mean of 2.93. Total communication as a way of increasing verbal and manual communication ability has mean of 2.90. Sign with speech being easier has mean of 2.70 while pantomime as a way of communication has mean of 2.63.

However, a grand mean of 2.99 indicate that all total communication strategies listed in the table are being employed by children with hearing impairment as well as their hearing family members.

Hypotheses Testing

Ho₁: There is no significant difference in the mean rating of respondents on oral communication strategies among children with hearing impairment and their hearing family members

Table 4: Summary of the independent t-test on significant difference in the mean rating of respondents on oral communication strategies among children with hearing impairment and their hearing family members

Variables	N	Mean	SD	t-cal	t-crit	Df	Decision
Hearing impairment children	50	3.20	0.92				
				1.59	1.97	148	Not significant
Family embers	100	3,45	1.23				

The t-test result in Table 4 revealed the opinions of children with hearing impairment and their hearing family members on whether there is significance difference in their oral communication strategy. The hypothesis tested on the table shows that the calculated t-value is 1.59 while the t-critical value is 1.97; the degree of freedom is 148 at 0.05 alpha level of significance. Since the critical t-value is greater than the calculated t-value the null hypothesis as stated is therefore retained that there is no significant difference in the mean rating of respondents on oral communication strategies among children with hearing impairment and their hearing family members

Ho₂: There is no significant difference in the mean rating of respondents on manual communication strategies among children with hearing impairment and their hearing family members.

Table 5: Summary of the independent t-test on significant difference in the mean rating of respondents on manual communication strategies among children with hearing impairment and their hearing family members

Variables	N	Mean	SD	t-cal	t-crit	Df	Decision
Hearing impairment children	50	2.90	1.26	1.07	1.97	148	Not Significant
Family members	100	2.61	.75				

The t-test result in Table 5 revealed the significance difference in the mean rating of respondents on manual communication strategies among children with hearing impairment and their hearing family members. The null hypothesis tested on the table shows that the calculated t-value is 1.07 while the t-critical value is 1.97; the degree of freedom is 148 at 0.05 alpha level of significance. Since the critical t-value is greater than the calculated t-value, the null hypothesis as stated is therefore retained. Hence there is no significant difference in the mean rating of respondents on manual communication strategies among children with hearing impairment and their hearing family members.

Ho₃: There is no significant difference in the mean rating of respondents on total communication strategies among children with hearing impairment and their hearing family members

Table 6: Summary of the independent t-test on significant difference in the mean rating of respondents on total communication strategies among children with hearing impairment and their hearing family members

Variables	N	Mean	SD	t-cal	t-crit	Df	Decision
Hearing impairment children	50	3.13	.097	1.52	1.97	148	Not Significant
Family members	100	2.70	1.05				

The t-test result in Table 6 revealed the significance difference in the mean rating of respondents on total communication strategies among children with hearing impairment and their hearing family members. The hypothesis tested on the table shows that the calculated t-value is 1.52 while the t-critical value is 1.97; the degree of freedom is 148 at 0.05 alpha level of significance. Since the critical t-value is greater than the calculated t-value, the null hypothesis as stated is therefore retained. Hence there is no significant difference in the total communication strategies of hearing impaired children and their hearing family members.

Discussion of Findings

The result of the study clearly indicated that the children with hearing impairment and their hearing family members have used different communication strategies. The findings showed that the respondents agree to have used oral, manual and total communication strategies. Some of the oral communication strategies used by the children with hearing impairment and their hearing family members as indicated by the findings of the study include the following: use of speech, use of lip reading, use of cue speech, reading and use of facial expression which help to heighten their understanding during communication. Also, it was revealed that the use of oral communication strategies by children with hearing impairment and their hearing family members improve communication ability of the hearing impaired children, motivate them and enhance auditory abilities. The mean rating on the agreement of the children with hearing impairment and their hearing family members in using oral communication strategy ranges from the use of oral languages to improve communication of children with hearing impairment, with mean score of (3.43) to how the use of speech enhances auditory ability of the hearing impaired children with mean score of (2.76) which includes all the 10 items in table 1. This is in harmony with the findings of Baker (2011) that oral communication strategy involves different approaches such as use of speech, facial expression, lip reading or cue speech. It is also in tandem with findings of Ling & Ling (2008) that the deaf can read facial expression and body expression very greatly. The children with hearing impairment exposed to the use of oral communication strategy as reported by the findings of Percy (2008) have a greater probability of scoring higher on speech and language assessments than children exposed to some degree of either sign support or sign language. This maybe one of the reasons, why hearing family members often use oral communication to communicate with the hearing impaired children.

The findings in table 2 also revealed that children with hearing impairment and hearing family members made use of manual communication strategy. The manual communication strategies used by the respondents as indicated in table 3 include; use of hands to demonstrate, use of sign language, blinking of eyes, body posture, nodding of head, shaking of head, use of finger spelling, writing to siblings and use of physical objects to communicate. The mean rating of agreement on the use of manual communication strategy by the children with hearing impairment and hearing family members ranged from writing to siblings with mean score of 3.15 to use of finger spelling to communicate with mean scores of 2.83. This finding supports the views expressed by Habtu (2014) that manual communication contains finger spelling, hand positions and physical movements and that finger spelling plays a balancing role to signs; it can considerably increase the understanding of sign language among the children with hearing impairment and their hearing family members. It is also in agreement with Alemayehu (2003) who opined that finger spelling plays a complimentary role to signs.

Furthermore, table 3 revealed the total communication strategies used by the children with hearing impairment and their hearing family members. The result as contained in the table indicates that the respondents agreed to have used total communication strategies to communicate. Some of these strategies as revealed by the findings include; the combination of signs and speech to communicate, use of pantomime to communicate and the use of gestures. The findings also showed that the respondents agreed that the use of total communication strategy such as sign and speech as a way of communication. This finding is in harmony with the views expressed by Ugwuanyi (2009) that hearing impaired children stand a better chance to grasp what is being said either through the combination of signs, finger spelling, voice, gestures, lip reading, facial expression and so on. There is no doubt that the proper use of total communication among the hearing impaired children and hearing family members will invariably increase their verbal and communication abilities.

Conclusions

The following conclusions were drawn from the result of the study:

1. Using oral communication strategy such as speech, lip reading, facial expression, watching of mouth and cue speech will improve communication and auditory ability of children with hearing impairment and their hearing family members.
2. Using manual communication strategy such as demonstration with hands, sign language, body posture, physical object, writing, and finger spelling enhances understanding of discussion among children with hearing impairment and their hearing family members.
3. Communicating with children with hearing impairment and their hearing family member through the use of total communication strategy will improve the child verbal and manual communication abilities.

Implication for Counselling

The findings of this study have educational implication for counselling to children with hearing impairment, family members (parents and significant others), teachers in special education schools, and curriculum planners in special education. The result of the study has shown that when children with hearing impairment are exposed to the appropriate communication strategy to use such as oral, manual and total communication techniques on regular basis it will help them to improve their auditory and manual abilities in the acquisition of speech.

The implication of this is that children with hearing impairment should be exposed to the use of oral, manual and total communication techniques. This is because these three modes of communication for the hearing impaired involve all the senses through which they acquire spoken language. The finding of the study has shown that curriculum planners should modify curriculum in all schools starting from kindergarten to tertiary institutions. They can do this by incorporating communication strategies such as oral communication, manual communication and total communication as a unit of study in all the teachers training colleges and department of education in all the universities in the country. When they acquire the knowledge, they will be able to teach these children at their different levels of their study.

Recommendations

From the findings made from this study and its accompanying implications, the following recommendations were made:

1. The children with hearing impairment and their hearing family members should be exposed to the use of oral, manual and total communication whether male or female. When they acquire this knowledge it will help them to develop their potentials and also make them participate effectively within the family and in the larger society.
2. The children with hearing impairment should be constantly motivated by their hearing family members when using oral, manual and total communication strategies. This will help the child to feel confident and improve their verbal and manual abilities in the acquisition of language.
3. Family members such as parents and significant others should endeavour to attend counselling sessions with specialists in hearing impairment. This will expose them to understand the appropriate communication techniques to use based on the age of the child and it will ensure optimal performance of the child.

REFERENCES

- Adoyo, P. O. (2008). *Educating deaf children in an inclusive setting in Kenya: Challenges and considerations*. University of Kenya.
- Alade, E. B. (2005). Hearing impairment in Onwuchekwa, J. A. *Comprehensive textbook of special education*. Agbo Areo Publications.
- Alemayehu, O. (2003). Communication experiences of pre-lingual deaf students in the special classes. *The Ethiopian Journal of Education*, 23(1), 50-62.
- Alukwu, N. P. (2011). *Conquering disability*. Deep Spring Printing Press.
- Baker, K. (2011). Oral communication versus American Sign Language. <http://www.drury.edu/multinl/story.cfm?id=9901&nlid=166>
- Chimedza, R. & Peters, S. (2003). *Disabilities and special needs education in an African setting*. College Press..
- Ezema, E. O. (2013). Effect of total communication on academic Achievement of pupils with hearing impairment in Enugu state. A dissertation to the Department of Educational Foundations university of Nigeria, Nsukka in partial fulfilment of the requirements for the degree of masters of Education (M.Ed) in Special Education.
- Habtu, A. (2014). The perception of teachers and students towards academic performances of students with hearing impairment in a primary school of Limat Behibret at Asella. Thesis is submitted to the Department of Special Needs Education in the partial fulfilment of the requirements for MA Degree in Special Needs Education.
- Hardman, M. I. (2005). *Human exceptionality in society, school and family*. Allyn and Bacon.
- Judith, S. & Jessica, O. (2003). Communication options for children with hearing loss. *Mental Retardation and Developmental Disabilities Research Reviews*, 9, 243-251.
- Kemper, E. (2014). The family with a child with hearing loss: Coping strategies. *Journal of Mental Retardation and Developmental Disabilities Research*, 13(4), 291-292.
- Ling, D. & Ling, A. (2008). *Speech and the hearing impaired child: Theory and practice*. Alexander Graham Bell Assn.
- Nortey, D. A (2009). Barriers to social participation for the deaf and hard of hearing in Ghana. Thesis submitted in partial fulfillment of the requirements for the degree of master of philosophy in health promotion university of Bergen.
- Olawole, S. G. (2000). *Counselling exceptional children: A handbook for professionals and parents working exceptional children*. Emoici Press.
- Percy, S. (2008). Supporting language and communication: A guide for school support staff. PCP.
- Riekehoff, L. L. (1993). *The illustrated guide to mastery of sign language and manual alphabets*. Springfield Gospel Publishing.
- Ugwuanyi, L.T. (2009). Effect of the three sign language modes on the reading comprehension of pupils with hearing impairment in Enugu State primary school for the deaf. Unpublished PhD Thesis, University of Nigeria, Nsukka.