

## **IMPACTS OF PERCEPTIONS OF LEARNERS WITH HI ON TEACHER-PUPIL INTERACTION ON PERFORMANCE IN EXAMINABLE SUBJECTS IN PRIMARY SCHOOLS: UASIN GISHU COUNTY.**

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### **Abstract**

This research explored the perceptions of learners with HI toward the teaching-learning process (pupil-teacher interactions) and their impacts on performance in examinable subjects in Eldoret Primary School for the HI in Uasin Gishu County. To accomplish the aim of the research, the closed ended questionnaire was used to collect the required data. The targeted population for this research comprised of 153 learners with HI in one fully fledged primary school and five units for the HI in Uasin Gishu County. In this research the primary data was collected using structured questionnaires. The collected data was analyzed through the SPSS software and data was presented using percentage distribution. The data was presented in pie charts, bar graphs and cross-tabulations. The relation between the students' perception of teachers' competencies and their subsequent academic performance was computed to give the inferential statistic index. Chi-square correlation coefficient was calculated to determine the significance of the relationships. One way ANOVA was also computed to test if the use of instructional materials influence on academic performance of learners with HI differed in the selected primary schools. The analysis of the data indicated that the overall mean score for all learners with HI was 34.18 (SD 9.40) of the five subject done in primary education level. There was a significant relationship between teacher pupil interaction and academic performance.

**Keywords:** Academic performance, impairment, perception, interaction

### **INTRODUCTION**

Hearing Impairment (HI) refers to the inability of the ear to receive and give meaningful interpretation to a message or sound (Okuoyibo, 2006). Hearing impairment is an umbrella concept applied to describe all aspects of disorder affecting the auditory system ranging from mild to profound. For the purpose of this study, hearing impairment is a condition whereby the sense organ of hearing (ear) is deficient in receiving sound waves to process and interpret message. Children with hearing impairment thus are children that have problem that inhibits the effective functioning of their ears. They usually learn feign conception with the end result being that the children may not have optimal learning opportunities. This explains why Ugwuanyi (2009) advocated for the use of sign language to improve the use of sign language to improve the education of children with hearing impairment. The World Health Organization (WHO, 2010) estimates that approximately 600 million people (ten per cent in any country) in the world experience impairment of various kinds including hearing impairments (HI).

Children with hearing impairment may possess partial or total hearing loss in one or both ears (Hardman, Drew & Egan, 2009). The learning behaviour of learners with HI depends on the degree of hearing loss and the onset of that loss. The earlier the manifestation of hearing loss in a child, the more difficult he/she may have in developing the spoken language (Chimedza & Petersen, 2003). Impaired or total lack of language has serious implications for the child's development and consequently performance in academics. Adoyo (2008) opines that the characteristics of a child with mild hearing loss are in many ways more similar to a hearing child than to a deaf-child's characteristics.

It is acknowledged that deafness itself does not affect a person's intellectual capacity to learn and that deaf children have normal range of intelligence when tested on performance rather than on verbal tests (Moores, 2001, as cited in Ayiela, 2005). Generally, it seems that the child's social development, through socialization, is closely associated with his or her normative cognitive development. If the child's cognitive functioning is limited, or development is hampered by certain conditions like hearing impairment, social and normative development will likewise be wanting since the insufficient acquisition of insight into what is acceptable and acceptable will cause issues (Adoyo, 2008).

With full time utilization of hearing aids the child may be judged as a less competent learner, leading to poor self concept, social immaturity and sense of rejection. However, most hearing impaired learners can succeed in school if stereotypes associated with HI is discouraged since every child has unique characteristics, interests, abilities and learning needs (Al-zyoudi, 2006). Local Sign Language (LSL) is a sign system established and used by children with HI and is very easy to use and assist children with HI accomplish their academic work (Abang, 2005). Ugwuanyi (2009) revealed that children with HI perform significantly poorer than their normal hearing counterpart when tasks were presented to them in English through the use of American Sign Language.

The Academic performance of learners with HI depends on the perceived learning experiences and on teachers' commitment. A competent teacher is able to develop a social relation with an individual pupil, to direct the teaching work of the class and have the content of the subject (Nordenbo, Larsen, Tiftikçi, Wendt & Østergaard, 2008). A social relation such as teacher-pupil interaction and teachers' use of instructional time are some of the variables that the inventory for data collection will measure.

When the teacher is enthusiastic, caring, firm, democratic and establishes efficient routine, high level of learning occurs (Fisher, 2011). The combined effort in clear signing, use of media, structured lesson material, the involvement of learners with HI and the use of additional questions throughout the lessons have been found to be important in terms of performance (Lang, 2005). As a result, discussions of effective education for learners with hearing impairments have turned towards the perceptions of these teachers towards their learners and how this affects the teaching and learning process. However, not much is known about the perceptions of learners with HI towards their teachers' competencies in terms of learner-teacher interactions and how this influences the academic performance in examinable subjects among learners with hearing impairments. This study sought to fill this research gap.

### **Statement of the problem**

Studies have indicated that learners with HI have not been performing very well in schools due to insufficient acquisition of language (Fgatabu, 2013; Feryal, 2010, Olaleye, 2010; Adediwura & Tayo, 2007). These studies have been carried out on learners without disabilities; the focus of this study is on learners with Hearing Impairment. According to Adoyo (2004), there is increasing dissatisfaction with academic performance in Kenyan Schools for the deaf. Findings over the years

have shown that the learners with hearing impairment in Kenya have consistently trailed their hearing counterparts in academic performance (Ndurumo, 1993; Okombo, 2010; Adoyo, 1995). Kenya Certificate of Primary Education (KCPE) examination results indicate that performance of pupils with hearing impairment has been low.

In the years 2009, 2010, 2011 and 2013, primary schools for the learners with HI in Uasin Gishu County registered mean scores of 102.29, 129.54, 131.67 and 144 respectively in KCPE examination (KCPE results registers, Education office Uasin Gishu, County, 2014). These mean scores were far below the means registered by their fellow learners in regular schools. This is an alarming state considering that these learners need to compete favourably for opportunities in secondary schools, universities and subsequent job opportunities. Stakeholders in the education sector have been attributing this dismal performance to school factors and particularly teacher factors. This study sought to establish the impacts of perceptions of learners with hearing impairment on teacher-pupil interaction and on performance in examinable subjects in primary schools in Uasin Gishu County.

### **Aim of Research**

The study sought to investigate the impact of perceptions of learners with hearing impairment on teacher-pupil interaction on performance in examinable subjects in primary schools in Uasin Gishu County.

### **Objectives of the study**

1. To determine the performance of learners with hearing impairments in examinable subjects in primary schools for the HI in Uasin Gishu County.
2. To establish the relationship between perceptions of learners with hearing impairments on teacher-pupil interaction and their academic performance in primary schools for the HI in Uasin Gishu County.

### **Theoretical Framework**

This study was guided by the Ecological Systems Theory of Human Development, by Bronfenbrenner (1975). The Ecological Systems Theory of Human Development identifies four levels that affect children's learning outcomes. These are the microsystems, which is the immediate context of the child like in the school, classroom and home, the exosystem, which is about the outside demands that affect children, *Mesosystem* which is a set of microsystems connected with one another where interaction between the peer group, school and family systems take place, and the macrosystem, which is about the cultural beliefs or institutional policies that affect individuals' behaviours.

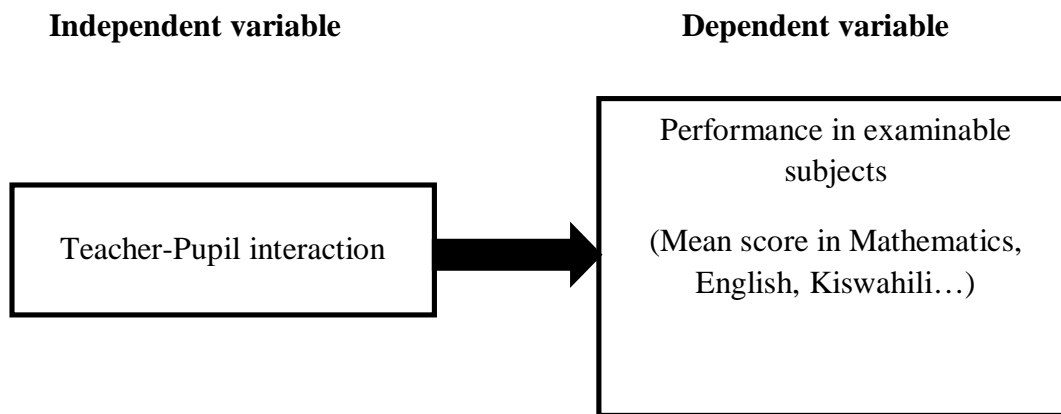
Understanding the environment can reduce the effects of a learning difficulty and enhance performance and self-esteem (Reed, 2004). Based on the context of this study, there are two groups of hearing impaired learners, those wearing hearing aids and those whose hearing disability does not require them to wear assistive devices. Hearing aid users have residual hearing and the hearing aid brings their hearing almost to a normal level through the amplification process. In an environment which is unsympathetic in acoustic terms, the hearing aids will pick up and amplify every detail of sound, irrespective of its relevance (Chimedza & Peterson, 2003).

Bronfenbrenner (1979) opines that ecological theory of development is the relationship in the immediate microsystem breaks down then the child will not have tolls to explore the other parts of his/her immediate surroundings to perform academically well in examinable subjects. The break

down has a direct implication on the practice of teaching. The ecological theory of development was relevant to this study in that it makes teachers and the entire school community realize the importance each plays making the child with HI achieve his/her academic goals. The successful implementation of learning for the HI is, to a large degree, dependent on the development of an effective education support structure. If learners with HI form negative perceptions about social relations of their teachers, then learning for such pupils is likely to be hampered.

### Conceptual Framework

A conceptual framework is defined as a network or a plane of associated models. Conceptual analysis offers a procedure of theorization for building conceptual frameworks based on grounded theory method. The conceptual framework of the study is given as,



**Figure 1: Conceptual Framework of the Study**

**Source:** Adopted from Suthir (2016)

According to the conceptual framework the pupil-teacher interaction represents the independent variable while the performance in examinable subjects acts as dependent variable. The model shows the factor that influence and enhances learning process in examinable subjects among learners with hearing impairment. It is argued in this conceptual framework that the perception of learners towards teacher-pupil interaction is significant in determining the learning process and the subsequent academic achievement of the learner with HI.

Additive model is used in this case. The linear equation for the representation of the models is given as

$$Y_i = \beta_0 + \beta_i X_i + \varepsilon_i$$

$Y_i$  -represents the dependent variable,  $\beta_0$  denotes the constant,  $\beta_i$  is a regression coefficient of variables,  $X_i$  represents the independent variable and denotes the random error.

### METHODOLOGY

In this study, a descriptive survey design was used and it provided the opportunity for full, rich and deep descriptions of the participants' perceptions. The target population for this study comprised 153 learners with HI from one fully fledged primary school and five units for the HI in Uasin Gishu County (Edoret School for the Deaf, Kandie, Kamagut, Kipsomba, Kiplombe and Kapkoi units for the Deaf). Random sampling technique was used to select a total sample of 82 pupils who constituted the sample of learners for the study. Questionnaires which consisted of a number of

both open-ended and closed-ended questions were used to enable the researcher to gather data within a shorter time since most of the information was easily described in writing.

The pilot study was conducted in the non-sampled school for learners with HI in Nandi County, Kapsabet School for the Deaf to assess the reliability and accuracy of the tools and the feasibility of the whole study. After data collection process, the information gathered was coded and entered into a computer and analyzed descriptively using Statistic Packages for Social Sciences (SPSS). The data was presented in pie charts, bar graphs and cross-tabulations. The relationship between the students' perception on teacher-pupil interaction and their subsequent performance in examinable subjects was computed to give the inferential statistic index. Chi-square correlation coefficient was calculated to determine the significance of the relationships.

## DATA ANALYSIS AND FINDINGS

### Demographic Profile of Respondents

Demographic information of the respondents was important since it gave the researcher the general overview of the learners with HI in the sampled schools. As indicated, 70 questionnaires were filled and used for analysis purposes. Of these questionnaires, 59 were obtained from Eldoret School for the Deaf, 7 from Kandie Unit and 4 from Kamagut. Table 1 gives a summary of demographic information.

Table 1: Distribution of respondents in class and gender

School	Class					
	Six		Seven		Eight	
	Boys	Girls	Boys	Girls	Boys	Girls
Eldoret School for the Deaf	8 (13.6%)	4 (6.8%)	14 (23.7%)	9 (15.3%)	10 (16.9%)	14 (23.7%)
Kandie	1(14.3%)	1(14.3%)	1(14.3%)	1(14.3%)	2 (28.6%)	1(14.3%)
Kamagut	1(25.0%)	0	0	1(25.0%)	1(25.0%)	1(25.0%)
<b>Total</b>	<b>10</b>	<b>5</b>	<b>15</b>	<b>11</b>	<b>13</b>	<b>16</b>
<b>Age bracket (Years)</b>						
		<b>Boys, %</b>		<b>Girls, %</b>		
Below 15		3 (4.3)		2 (2.9)		
15-17		30 (42.9)		28 (40)		
18-20		4 (5.7)		2 (2.9)		
Over 20		1(1.4)		0 (0)		
<b>Total</b>		<b>38</b>		<b>32</b>		

Table 1, shows that there is minimal difference between the enrollment of boys and girls in the primary schools for deaf. This could be attributed to the fact that there is heightened awareness among communities to treat girls as much as they treat boys in matters of education. Besides, this scenario could be attributed to the intensified call toward Education for All (EFA) by the Ministry of Education in Kenya. Respondents were also asked to indicate their ages in years. Age of respondents was classified in ranges of below 15, 15-17, 18-20 and over 20 years. Majority (82.9%) were aged between 15 and 17. This is attributed to the fact that majority of learners with HI begin

school one or two years later than their hearing counterparts or repeat classes in primary schools because of the hearing impairment condition.

### **Academic Performance of Learners with Hearing Impairment**

The researcher sought to determine the academic performance of learners with HI in examinable subjects. The data is presented in Table 4.2.

**Table 2: Academic performance mean based on learners' gender**

<b>Gender</b>	<b>Mean</b>	<b>N</b>	<b>Std. Deviation</b>
Boys	35.0179	38	11.03031
Girls	33.1419	32	6.88834
<b>Total</b>	<b>34.1871</b>	<b>70</b>	<b>9.40832</b>

Findings in Table 4.2 show that the overall mean score for all learners in the sampled schools was 34.18 (SD 9.40) in the five subjects done at primary education level. Boys had a mean score of 35.02 (SD 11.03) while the girls had a mean score of 33.14 (SD 6.88) (KCPE results, 2009-2013). There was a low mean difference in the mean scores of boys and girls.

Semmel and Frick, (2010) observe that academic performance can be examined through several frames of reference: normative academic status, classroom academic status, and academic progress. Normative academic status refers to learners' standing compared with national or state norms and can be obtained through scores on national or state standardized academic achievement tests. Classroom academic status refers to learners' achievement in comparison with classmates.

Classroom status can be measured by obtaining teachers' perceptions of learners' achievement and ability to learn expected academic content. Academic progress refers to the change in academic achievement from one year to the next and can be measured both by looking at gains on achievement tests and teachers' perception of learner change. In establishing the academic achievement of learners with HI in the sampled schools, this study considered the three frames of reference. This is because each of these frames of reference is important in a learner's academic life.

Clearly, the means obtained by the sampled learners with HI was far below the average mark. According to the usual assessment, any score above 40% is regarded average and that below is below average and above 50% is above average score. Traxler (2010) adds that by high school, about 50% of a national sample of HI students performs at a below-basic proficiency level in reading comprehension and mathematics problem solving. With this kind of performance of the sampled learners with HI, then this is likely to be the scenario by the time they get to high school, if interventions are not put in place.

The finding of this study is also in line with what Bess et al., (2012) found in their study that learners with hearing impairment tend to do badly in most academic subjects because they score lower on measures of verbal Intelligence Quotient than in measures of performance. This means

that hearing loss impose serious hindrances on the academic performance of pupils with hearing impairment.

### Perception of Learners with HI on Teacher-Pupil Interaction in Relation to Academic Performance

The researcher intended to find out the perception of learners with HI on teacher-pupil interaction in relation to academic performance. Respondents were first asked to indicate the level at which they agreed with given statements on teacher-pupil interaction. A five-point Likert scale was provided as follows: (SA) – Strongly Agree, (A) – Agree, and (UD) – Undecided, (D) – Disagree and (SD) Strongly Disagree. Table 3 presents a summary of the findings on this attribute.

**Table 3: Teacher-Pupil Interaction**

Statement	SA (1)	A (2)	UD (3)	D (4)	SD (5)	Mean
Teachers monitor students behavior frequently	2	3	7	40	18	<b>3.9</b>
Teachers ask questions and give immediate answers	11	12	0	30	17	<b>3.4</b>
Teachers have no rules for class activities	0	0	2	22	46	<b>4.6</b>
Teachers encourage pupils to participate	21	19	6	20	4	<b>2.5</b>
Teachers use cooperative learning strategy	2	3	13	30	22	<b>3.9</b>
Pupils are punished for not getting the correct answers	2	4	11	33	20	<b>3.9</b>
Teachers are enthusiastic and have a sense of humour	4	5	17	37	7	<b>3.5</b>
Teachers are tolerant towards pupils own initiatives	8	11	12	29	10	<b>3.3</b>
Teachers use reinforcement/ praise/or rewards	6	5	9	35	15	<b>3.7</b>
<b>Aggregate mean</b>						<b>3.6</b>

With an aggregate mean of 3.6, teacher-pupil interaction among learners with HI and their teachers in the sampled schools was ranked at an average value. This means that a lot more effort needed to be done to alter the perceptions of learners with HI on how they interacted with their teachers.

From the analysis, 55 respondents (78.6%) had a positive perception of teacher-pupil interaction (perception score greater than 27) while 15 respondents (21.4%) had a negative perception (perception score less than 27) as shown in Table 3.

Of those who had positive perception 26 respondents had an academic mean score between 31 and 40, 20 had mean of 30 and below, seven had a mean between 41 and 50. Only two learners had a mean above 50. From those who had a negative perception of teacher pupil interaction, six respondents had a mean score between 31 and 40, six had a mean of 30 and below, three had a mean between 41 and 50. There were no respondents who had a negative perception with a mean above 50.

**Table 4: Perception of learners on teacher-pupil interaction**

Perception on teacher-pupil interaction	Academic performance (Mean)				Total
	Above 50	41-50	31-40	30 and below	
Positive	2	7	26	20	55
Negative	0	3	6	6	15
<b>Total</b>	<b>2</b>	<b>10</b>	<b>32</b>	<b>26</b>	<b>70</b>

It is apparent from the finding in Table 4 that attitude of learners with HI towards their interaction with their teachers was a significant component in their academic performance. Learners with HI who perceived their interaction with their teachers to be positive tended to perform better academically. On the contrary, those learners with HI who perceived their interaction with their teachers to be negative tended to perform dismally. Mwaniki (2008) in a related study argues that healthy interpersonal relationship amongst the personnel in the school setting help to promote favorable environment for teaching-learning situation.

The healthy relationship was to attract and sustain the academic interest of the learners. Teachers in special schools had the choice either to impact the students' self-concept positively by creating an environment of mutual support and caring or negatively through an environment of sarcasm and ridicule.

**Table 5: Teacher-pupil interaction and academic mean scores**

	N	Mean	Std. Deviation
Academic performance	70	34.1286	9.43616
Teacher- pupil interaction	70	28.0571	3.27434

From Table 5, the mean score of students' perception of teacher-pupil interaction was found to be 28.06 (SD 3.27) and the mean of academic performance in the five subjects was found to be 34.13(9.44).

Chi square correlation coefficient was computed to test the correlation between perceptions of learners with hearing impairments on teacher-pupil interaction and their academic performance.



**Table 6: Correlation between perceptions of learners with hearing impairments on teacher-pupil interaction and their academic performance**

<b>Correlations</b>			
		Perceptions learners	of Academic performance
Perceptions of learners	Chi-square Correlation	1.000	.789
	Sig. (2-tailed)		.003
	N	70	70
Academic performance	Chi square Correlation	.789	1.000
	Sig. (2-tailed)	.003	
	N	70	70

The measure of association between teacher-pupil interaction and academic performance was found to be:  $\chi^2$  (3, N= 70) =.789,  $p= 0.003$ . The  $p$ -value is less than the significant level, 0.05. The study found a significant relationship between teacher pupil interaction and academic performance.

## CONCLUSIONS

From this study the following conclusions were drawn;

The study found out that the performance of learners with HI in the sampled schools was below average. The study also found out that there was a significant relationship between the learners' perceptions of teacher-pupil interaction and the subsequent academic performance of the learners. Learning is a process that happens under observable and ideal conditions to the extent that situation in which learners with HI are placed deliberately or otherwise had great effects on them.

## RECOMMENDATIONS

According to the findings, the following recommendations were made:

- Efforts should be made by the quality assurance and standard division in the Ministry of Education in organizing for relevant in-service programmes for all teachers and head teachers in the special schools where they would be enlightened and sensitized on communication approaches, sign language and even instructional materials. This would facilitate academic performance.
- Teachers should provide opportunities in class and support to pupils with hearing impairments to enable them participate in the teaching and learning processes in a bid to create healthier teacher-pupil interactions and enhance learners' academic performance
- With improved technology, appropriate experiments can be undertaken to investigate the effectiveness of computer technology in teaching learners with hearing impairments.

## BIBLIOGRAPHY

### **Published Books**

- Adesina, S. (2009). *Some Aspects of School management*. Ibadan: Board publications.
- Adoyo, P.O. (2004). *Kenya sign language and communication: differential effects in memory and comprehension in deaf children in Kenya*. Lake Publishers, Kisumu Kenya.
- Adoyo, P.O. (2008). *Educating Deaf Children in an Inclusive setting in Kenya: Challenges and Considerations*. Nairobi: University of Kenya.
- Brofenbrenner, U. (1979). *The ecology of human development*. Cambridge: Harvard University Press.
- Chickering, F., & Gawson, L. (2011). *Language and Deafness*. University of Illinois, College: Hill Press.
- Chimedza, R. and Peters, S. (2003). *Disabilities and Special Needs Education in an African Setting*. Harare: College Press.
- Fisher, D (2011). Teaching behaviours Academic learning time, and student achievement an overview. Inc. N.A. Nwagwu et al, (eda) *Current issues in Educational management*.
- Frymark, P.O. (2010). *Fundamentals of Special Education and Vocational Rehabilitation*. Ibadan: Codat.
- Hardman, M. I. Drew, G. L. and Egan, M. W. (2009). *Human Exceptionality in Society, School and Family*. Boston: Allyn and Bacon.
- Moores, D.F. (1996). *Educating the Deaf: Psychology, Principles and Practices* (4th Edition). Boston: Houghton Mifflin Company.
- Ndurumo. M. (1993). *Exceptional children, development consequences and interaction*. Nairobi Kenya: Longman Ltd.
- Reed, G. (2004). *Learning Styles and Inclusion*. London: Paul Chapman Publishing
- Rubangunya, D.F. (2011). *Educating the Deaf Psychology Principles and Practices* (4<sup>th</sup>ed.). Washington: Gallaudet University Press.
- Tibatengeneza, D.F. (2009). *Educating Deaf Psychology Principles; Educating Children who are deaf or hard of hearing: Assessment*. Washington: Gallaudet University Press.

### **Published Journals**

- Adoyo, P.O. (1995). An investigation of Kenyan Sign Language Development. Unpublished PGDE dissertation, University of Bristol, U.K. Ahlgren and Hyltenstan I.K. (Eds). *Bilingualism in deaf education*. Hamburg: signum, 37-54.
- Al-Zyoudi, E. (2006). Teachers' Attitudes towards Inclusive Education in Jordanian schools, *International Journal of Special Education*, 21 (2): 23-31.
- Anita, S. D.; Jones, P.B.; Susanne, P. & Kremeyer, S. (2009). Academic status and progress of Deaf and hard of hearing students in general education classroom. *Journal of Deaf Studies and Deaf education*. 14 (3).
- Feryal, C. (2010). Student teachers' perceptions of teacher competence and their attributions for success and failure in learning. *The Journal of International Social Research* Volume 3 / 10 Winter
- Lang, H. (2005). Higher education for deaf students: Research priorities in the new millennium. *Journal of Deaf Studies and Deaf Education*, 7(4), 267-280.
- Maina, P., Oracha N. & Indoshi, F. (2011). Curriculum factors influencing performance of deaf students in mathematics. *Educational Research* (ISSN: 2141-5161) Vol. 2(3) pp. 956-964.

- Nordembo, M., Larsen, S., Tiftikci, H., Wendt, M. & Swart, E. (2008). The attitudes of primary school educators towards inclusive education. *South African Journal of Education*, 20(3): 200-204.
- Olaleye, F. O. (2010) Teachers characteristics as a predictor of academic performance of students in secondary schools in Osun state-Nigeria. *European journal of educational studies* 3(3).
- Semmel, K. & Frick, P. (2010). Attitudes of parents and educators toward mainstreaming. *The Exceptional Child*, 35(1): 31-37.
- Zalme, A. S., Kieszak, S. M., Holmes, A., Esteban, E., Rubin, C. & Brody, D. B. (2007). Prevalence of Hearing Loss among Children 6 to 19 Years of Age. *Journal of the American Medical Association*, 279(14), 1071-1075.

### **Published Reports**

- Okombo, O. (2010): Kenyan sign language. Some attitudinal and cognitive issues in the evolution of a language community". In Wekesa, A. N, (2010). Bending the private- public gender norms; negotiating schooling for young mothers from low income households in Kenya. MA thesis. In <http://oathesis.eur.nl/ir/repub/asset/8766/wekesa-alice-SB0605-final-RP.pdf>.
- Okuoyibo, J. M. (2006) Introduction to the education and Psychology of the hearing impaired child. A 3-Day capacity Building Workshop for Teachers of children with special needs in Enugu state, held at Development Education Center. 31st October-2nd Nov.
- The World Health Organization (WHO, 2010). *Persons with disabilities*. WHO Report, 2010.

### **Unpublished Reports**

- Ayiela O.J. (2005). "Factors Affecting KCPE Performance of Learners With Hearing Impairments in Special Schools in Selected Counties, Kenya.". Unpublished M.Ed Thesis, Kenyatta University.
- Fgatabu, I. (2013). "Perception of the factors that influence performance of pre-school children with HI: A case of Kaaga school, North Imenti". Unpublished MED Thesis, Kenyatta University.
- Mohammed, I. M. S. (2007). "The effect of sign writing on the achievement acquisition of vocabulary by deaf student at 'Al-Mal school for the deaf in the city of Amman- Jordan." Unpublished Ph.D Dissertation presented to the Department of Graduate School, Jordan University.
- Opiyo P. J. (2013). "Influence of Socio-Economic and Cultural Factors on Academic Performance of Hearing Impaired Pupils at St. Martin Primary School, Kakamega County, Kenya." Unpublished Med Thesis, the Catholic University of Eastern Africa.
- 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.

**Online Sources**

Adediwura, A. A. and Tayo, B. (2007). Perception of teachers' knowledge, attitude and teaching skills as a predictor of academic performance in Nigerian schools. *Educational research and review* vol 2(7) pp. 165-171, July 2007 available online at:

<http://www.academicjournals.org/ERRISSN19903839@2007.Academicjournals>

Ademokoya, J.A & Shittu, B.A (2007). Onset of hearing loss, gender and self concept as determinants of academic achievement in English Language of students with hearing disability in Oyo State, Nigeria [www.usca.edu/essays/vol222007/ademokoya.pdf](http://www.usca.edu/essays/vol222007/ademokoya.pdf) Retrieved on 6/5/2011.

Moeller, M.P. (2000). Early intervention and language development in children who are deaf and hard of hearing. *Pediatrics*, <http://pediatrics.aappublications.org/content/106/3/e43.abst>.