International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

International Journal

of

Sign Language Interpreting

and

Deaf Education (IJ-SLIDE)

Volume 1, No. 1

International Journal of Sign Language interpreting and Deaf Education

First Published August, 2020

ISSN: 2756 - 3219

Sign Language Interpreters Association of Nigeria (ESLIAN)

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE)

Volume 1, Number 1, August 2020

A Publication of Educational Sign Language Interpreters Association of Nigeria (ESLAIN)

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

Editorial Review

The second edition of the International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) has continued to emphasize professionalism as a key focus of the Educational Sign Language Interpreters Association of Nigeria (ESLIAN), which produces the journal.

A couple of articles in this edition headlined the need for sign language interpreters to deepen their expertise in sign language interpreting, demonstrate qualities expected of them and advance advocacy to widen the awareness of and support for this young but noble profession.

There are also articles reporting research outcomes to illustrate impact of sign language interpreting on academic performance of its beneficiaries. This also lends credence to some other articles whose emphasis are on the insistence to include sign language interpreters in the teaching teams in all schools, Colleges and Universities where Deaf students are enrolled. An inference from the foregoing illustrates how sign language interpreting reinforces the advancement of deaf education.

I am delighted to note that this edition is an improvement on the previous to showcase the ideals of a focussed and determined Association which strives to place sign language interpreting on a remarkable platform amidst other professions. It is my wish, therefore, that every reader joins the Association in this noble aspiration.

Professor Julius Abiola, Ademokoya; *FNAEC, FIMC, MNAE*
Editor-in-Chief.

Guidelines for Prospective Authors

Page v

The journal is the official publication of the Edu Language Interpreters Association of Nigeria, (ESLIAN), whose headquarters is premised at the Federal College of Education (Special), Oyo, Nigeria. It accepts articles all round the year from authors and researchers with focus on sign language interpreting and deaf education. After paired-review and other editorial processes, the scholarly articles are published in the corresponding issue of the journal.

Therefore, it is advised that authors consider the following guidelines to easily cross the huddles of acceptability of their articles:.

Language

- English

Topic/title should focus on:

- Sign language interpreting
- Deaf education
- All areas of human endeavours but must be linked with sign language interpreting or deaf education/welfare

Manuscript Preparation

1. All manuscript are to be typed in Microsoft word doc. format, double line spaced, 1" margin with fonts style; Times New Roman, 12 size
2. The paper must not exceed 14 pages, including references and abstract but cover page

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

3. The manuscript must be page numbered 'bottom left'7th edition of APA format of referencing and citation must be strictly followed
4. Title page must contain name(s) of the author(s) and the following features: name, position, affiliation, official mail address, email and phone numbers.

Page vi

5. For multiple authors, the name of lead author shou Automatically, the first Author in the list is picked to receive correspondences from the editorial committee. So, be guided to be deliberate in the serial arrangement of authors
6. In the case of distant author, submission via Gmail is strongly recommended for easy access, review and editorial feedback

Submission process

7. All articles are to be submitted in full, including abstract, title page and references
8. Pictures are accepted in black/white where applicable
9. For hard copy submission, three copies of printed work as specified with a softcopy on labelled rewritable compact disc are to be submitted.
10. For softcopy only, the full work is to be submitted to eslianinfo@gmail.com and copy oluphemmy54@gmail.com and talktooladipupowumi@gmail.com.
11. Submission should be made with a non-refundable 5,000.00NGN (Nigerian) or 20USD or its equivalent in naira (non-Nigerian). Nigerian authors submitting only softcopy will be requested to pay additional 1,000NGN for the production of hardcopies by the editorial team
12. All payments are to be made to the Association corresponding accounts as detailed below and payment proof sent along with the manuscript.

Thanks,

Olufemi Timothy, Adigun Ph.D
Managing Editor

Accounts:

1. NGN: **2032773134**
2. USD: **2032813276**

Name: **Educational Sign Language Interpreters As Nigeria**
Bank: **First Bank Nigeria Ltd**

For further enquiries, write:
The Editors,
International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE),
Sign Language Interpreters Association of Nigeria,
Federal College of Education (Special), Oyo, Nigeria,
PMB 1089.
+234(0)-803-341-2883, +234(0)805-476-5286

About the Journal

Sign language interpreting (SLI) is an integral part o intervention and an approach of educational provisio especially, in an inclusive or mainstream school system. Though, the profession has a long-standing standard professional ethical practices being followed by many developed countries, many of these are realities that are just faintly staring at us as Africans and other developing countries of the world.

Indisputably, sign language interpreting suffers a long year of total neglect in developing and underdeveloped countries. This in turn, undermines the influence of the profession. Not only this, it halts and retards the growth expected of it. It was noticeable, that earlier than efforts of Educational Sign Language Interpreters Association of Nigeria (ESLIAN) to publish on the subject matters of interpreting, many African and developing countries did not have any publication that addresses sign language interpreting within the local context or realities. Consequently, with the aim to merge the reality with the expectations, there was the need for a build-up to the body of knowledge; providing reputable materials on the profession with the local and individual countries realities. IJ-SLIDE became a veritable tool in addressing this very dire need.

At the other hand, deaf education already has giant scholars who have prolifically written and published on diverse areas of the profession. However, having a journal specifically dedicated to that was not common, if at all it exists earlier than now. Moreover, educational interpreting, which is the Association core value, does not exist independent of deaf education. Therefore, it was highly expedient to marry the dual professional focuses in the publication of this journal.

From the foregoing, International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) comes to provide a link

between the source and the target; providing the existing but unavailable academic resource materials needed for professional knowledge acquisition and upgrade that can drive a standard professional practices. The journal prioritises credible research outcome and experience based write-ups that address any of the areas within sign language interpreting and deaf education.

The editorial team accepts articles all round the year and publish the viable ones after such are found to be of good academic quality by the reviewers who are scholars within the professions around the world, and, the editorial team. From this edition onward, published articles will be made available as hardcopy and softcopy on the official website of the Association; www.eslian.org.

Currently, the publication attracts a fee of twenty thousand naira only (N20,000.00) for Nigerian authors or two hundred U.S. dollars ($200) or its equivalent in naira for non-Nigerian authors. The fee covers two (2) copies of the issue where article is published, including postage to the address provided and the cost of hosting same on the website.

Publishing on the journal is an advantage to immortalize one's academic prowess and identity, serving as endless blessing to humanity. You are invited to contribute to this great effort to better the lots of many under these covers.

Thank you,

Oladipupo Wumi, Omobosola
ESLIAN National President,
Coordinating Editor

Notes on Contributors

List of Contributors.

- Lawrence Gbele, **Musa** is an adjunct instructor, Department of Business, Gallaudet University, Washington, DC 20002, USA
- Alfred A. **ADEGOKE,** PhD is **a** Professor of Psychology; Former Dean, Faculty of Education, University of Ilorin; Former Director, Centre For Supportive Services for the Deaf, University of Ilorin, Ilorin, Nigeria
- Olubiyi Johnson**, Ezekiel,** Ph.D & Oladipupo Wumi **Omobosola** are Chief Lecturer in the Department of Integrated Science and Senior Principal Education Officer (Interpreting) at the Directorate of Sign Language Interpreting, respectively at Federal College of Education (Special), Oyo, Nigeria.
- Yetunde Olanike**, Bolaji,** PhD is the Head, Department of Communication and Behavioural Disorder, School of Special Education, Federal College of Education (Special), Oyo, Nigeria
- Olufemi Timothy, **Adigun,** PhD is a Postdoctoral Research Fellow, University of Zululand, KwaZulu Natal Province, South Africa
- Shaeed Olawale **Olatunji** and Olabisi Kafayat **Olatunji-Olawepo** are Lecturer in Department of Early Childhood and Care Education and Education Officer (Interpreting) in Directorate of Sign Language Interpreting (respectively) from Federal College of Education (Special), Oyo, Nigeria.
- Bernice Adebimpe, **Oyeleke** is a Post higher Degree (PhD) researcher at Department of Special Education University of Ibadan, Ibadan, Nigeria.
- Joseph Toyin, **AMEHO**; Temitope Rasheedat, **ARANMOLATE** and Ebi Kalu, **UGBO** are Sign Language Interpreter from Alnangsgatan 4B LGH 1201, 7062, Orebro, Sweden; Lecturer,

Department of Educational Psychology, Guidance and Counselling, Michael Otedola College of Primary Education, Moforija Epe, Nigeria and Lecturer, Department of Communication and Behavioural Disorder, Federal College of Education (Special), Oyo, Nigeria respectively.

- Adebayo Adekunle, **AKINOLA** and [2]Chidi Topaz, **OLUJIE** are Lecturer, Department of Rehabilitation Education, Federal College of Education (Special), Oyo, Nigeria and Northcentral University, San Diego, CA., USA. respectively.
- Kafayat Olawumi **FATAI** and Samuel**, BELLO** are both Lecturers in Department of Rehabilitation Education, Federal College of Education (Special), Oyo, Nigeria.
- Yisa A., **Lawal** is an Education Officer at Federal Government College, Yaba, Lagos, Nigeria.
- Mary Damilare, **Olakulehin** and Oluwasegun Abiodun, **Olakulehin** are Administrative Officer at the Federal College of Education (Special) and an Entrepreneur, in Oyo, Nigeria respectively
- OLUWATOBI JOHN, **AKINTOBI** is a Lecturer in Department of General Studies, Federal College of Education (Special), Oyo, Nigeria
- Moses Olu., **Oyawole** and Dorcas O., **Oyawole** are Director, Directorate of Sign Language Interpreting and Lecturer, Department of Biology Education (respectively) at Federal College of Education, (Special), Oyo, Nigeria.
- Emmanuel Olanrewaju, **OJEDAPO** is a Lecturer in the Department of Primary Education Studies, Federal College of Education, (Special), Oyo, Nigeria
- Ruth Titilayomi, **Akolade** writes from Distance Learning Centre, University of Ibadan, Ibadan, Nigeria.
- Joy Ayomide, **Ajamu** is a Sign Language Interpreter, University of Ibadan, Ibadan, Nigeria

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

- Kehinde O. **Ogunbiyitan** is a classroom Teacher, Ijesa School for The Special Needs Children, Osun, Nigeria.
- Thomas Olumide, **Alawode** is a Chief Lecturer, Department of Education for Learners with Hearing Impairment and School of Special Education, Federal College of Education, Oyo, Nigeria.
- Sulaiman Saka, **Dagbo** and **Taiwo Monsuru**, **Akangbe** write from the Department of Education of Learners with Speech and Hearing Impairment, Federal College of Education (Special), Oyo, Nigeria
- Tawa Yusuff, **Abdulkareem** writes from the Department of Education of Learners with Speech and Hearing Impairment, Federal College of Education (Special), Oyo, Nigeria
- Edward Gift, **Chinwendu** and Bukola A., **Olawale** write from the Department of Special Education, and Distance Learning Centre, University of Ibadan respectively.

TABLE OF CONTENTS

Page xiii

Contents

- **Editorial Board** **iii – iv**
- **Editorial Review** **v**
- **Guideline to Publication** **vi – viii**
- **About the Journal** **ix – x**
- **Notes of Contributors** **xi – xiii**
- **Table of Contents** **xiv – xvii**

1. THE IMPORTANCE OF ACCURATE INTERPRETING TO ACADEMIC ACHIEVEMENT OF DEAF STUDENTS IN AN INCLUSIVE SCHOOL SETTING
   Lawrence Gbele, **Musa** **1 - 4**

2. PROFESSIONALIZING SIGN LANGUAGE INTERPRETING FOR SUSTAINABLE DEVELOPMENT OF DEAF EDUCATION IN A DEVELOPING NATION
   Professor Alfred A. **ADEGOKE** **5 - 15**

3. EFFECT OF SIGN LANGUAGE INTERPRETATION ON ACADEMIC ACHIEVEMENT OF DEAF STUDENTS IN BASIC SCIENCE
   OMOBOSOLA, O. W. & EZEKIEL O. J. Ph.D **&** **16 - 38**

4. PROFESSIONAL COMPETENCIES REQUIRED OF SIGN-LANGUAGE INTERPRETERS IN HANDLING CHILDREN WITH COMMUNICATION DISORDERS
   Y.O., **BOLAJI** Ph.D 39 - 48

5. SIGN LANGUAGE INTERPRETATION: A PROFESSION OR VOLUNTEER SERVICE?
   Olufemi Timothy, **ADIGUN** Ph.D 49 -62

6. EARLY SIGN LANGUAGE INPUT OF CHILDREN WITH HEARING IMPAIRMENT AND SUSTAINABLE DEVELOPMENT IN NIGERIA.
   Olatunji Saheed**, OLAWALE** &
   Olabisi Kafayat, **OLATUNJI-OLAWEPO** 63 - 80

7. PROFESSIONAL COLLABORATION BETWEEN SIGN LANGUAGE INTERPRETERS AND DEAF TEACHERS IN INCLUSIVE SCHOOL FOR SUSTAINABLE DEAF EDUCATION
   Bernice Adebimpe, **OYELEKE** 81 - 92

8. ACQUISITION OF SIGN LANGUAGE SKILLS FOR SUSTAINABLE DEVELOPMENT OF DEAF EDUCATION IN NIGERIA
   Joseph Toyin, **AMEHO,** Temitope Rasheedat, **ARANMOLATE &** Ebi Kalu, **UGBO** 93 - 99

9. THE IMPACT OF ON-THE-JOB TRAINING ON ACHIEVING SIGN LANGUAGE INTERPRETERS' PRODUCTIVITY FOR SUSTAINABLE DEVELOPMENT OF DEAF EDUCATION IN A DEVELOPING NATION
   Adebayo Adekunle, **AKINOLA &**
   Chidi Topaz, **OLUJIE** 100 - 113

10. EFFECT OF COMMUNICATION DEFICIENCY IN THE SOCIAL ADJUSTMENT OF INDIVIDUAL WITH CONGENITAL DEAF-BLINDNESS
    Kafayat Olawumi, **FATAI &** Samuel**, BELLO** 114 - 123

11. THE NEED FOR SIGN LANGUAGE INTERPRETERS' SERVICES FOR SUSTAINABLE DEVELOPMENT OF DEAF EDUCATION
    Y. A., **LAWAL** 124 - 138

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

12. SUBSIDIARY ROLES OF EDUCATIONAL SIGN LANGUAGE INTERPRETERS: CLOGS IN ACHIEVING OBJECTIVITY OF PURPOSE AND PROFESSIONALISM
Mary Damilare, **OLAKULEHIN &** Oluwasegun Abiodun, **OLAKULEHIN** 139 - 146

13. APPROPRIATE SIGN LANGUAGE INTERPRETING POLICY FRAMEWORK IN MATHEMATICS FOR SUSTAINABLE DEVELOPMENT OF DEAF EDUCATION
Oluwatobi John, **AKINTOBI** 147 - 157

14. SIGN LANGUAGE INTERPRETING AND TECHNICAL SUPPORT AS DETERMINANTS OF ACADEMIC ACHIEVEMENT OF LEARNERS WITH HEARING IMPAIRMENT IN FEDERAL COLLEGE OF EDUCATION (SP), OYO
Moses Olu, **OYAWOLE &** Dorcas O. **OYAWOLE** 158 - 172

15. COLLABORATION: A PANACEA FOR SUSTAINABLE DEVELOPMENT OF DEAF EDUCATION IN BASIC SCHOOLS IN NIGERIA.
Ojedapo Emmanuel, **OLANREWAJU** 173 - 180

16. RELEVANCE OF SIGN LANGUAGE INTERPRETERS IN THE EDUCATION OF STUDENTS WITH HEARING IMPAIRMENT
Ruth Titilayomi, **AKOLADE** 181 - 188

17. COGNITIVE DECODING AND DELIVERY OF SIGNED INSTRUCTIONS BY SIGN LANGUAGE INTERPRETERS
Joy Ayomide, **AJAMU** 189 - 197

18. INTERPRETERS' CERTIFICATION AND TRAINING PROGRAMME FOR SUSTAINABLE DEVELOPMENT OF DEAF EDUCATION IN NIGERIA

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

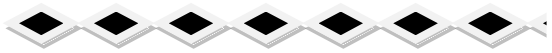
Kehinde .O, **OGUNBIYITAN** 198 - 214

19. SIGN LANGUAGE INTERPRETERS EFFORTS AND CHALLENGES IN INCLUSIVE SCHOOLS
Thomas Olumide, **ALAWODE** 215 - 227

20. A COMPARATIVE STUDY OF SIGN LANGUAGE FLUENCY OF BOADING AND DAY SCHOOL PUPILS WITH HEARING IMPAIRMENT IN ILORIN METROPOLIS
Suleiman Saka, **DAGBO** Adebayo Adekunle, **AKINOLA** Taiwo Monsuru, **AKANGBE** 228 - 244

21. CREATING OPPORTUNITY FOR ACCESSIBLE AND QUALITY EDUCATION FOR LEARNERS WITH HEARING IMPAIRMENT THROUGH EARLY CHILDHOOD EDUCATION
Tawa Yusuff, **ABDULKAREEM** (MRS) 245 - 254

22. INSTRUCTIONAL AND INSTITUTIONAL CHALLENGES FACED BY STUDENTS WITH HEARING IMPAIRMENT IN OPEN AND DISTANCE LEARNING IN IBADAN
Gift Chinwendu, **EDWARD,** Bukola A., **OLAWALE** 255 - 259



THE IMPORTANCE OF ACCURATE INTERPRETING TO ACADEMIC ACHIEVEMENT OF DEAF STUDENTS IN AN INCLUSIVE SCHOOL SETTING

By

Lawrence Gbele, **Musa**

Abstract

In inclusive educational settings, sign language interpreting is essential for Deaf students to fully participate in school activities, both inside and outside the classroom Like the teacher in the classroom, for efficient and effective interpreting, preparation, familiarity with the interpreting needs of the students, and knowledge of the content of the materials being presented are required. Good interpreting can provide Deaf students full access to learning and open opportunities for a career.

This article is on my personal perspective and observations as a classroom teacher with over ten years of experience. I am currently employed at Gallaudet University in Washington, DC, USA. Gallaudet University, for those of you who are unfamiliar with it, is the world's only accredited four-year liberal arts university whose programs and methods of delivery are designed specifically for Deaf and Hard-of-Hearing persons. Gallaudet has over 150 years tradition of academic excellence and an unparalleled focus on instruction that is direct, visual and interactive.

Sign language interpreting is a useful way to support Deaf students in inclusive educational settings as it provides communication and information access. A friend of mine paid a visit to an inclusive school in Lagos sometime in July 2016. His observations of what transpired in the class with an interpreter echoes what I have observed on my

various excursions to Nigeria. My friend was invited to visit a class that had Deaf students taught by a teacher who can hear. This class was provided with an interpreter. The subject matter for the hour was the concept of mathematical **mean**. A mathematical **mean** is, for example, when you add all the student's scores on a test to get the total and then divide this total by the number of students in the class. The result is known as the **mean**, or the average. In an environment like Nigeria, where we do not currently have a standardized or codified Nigerian Sign Language Dictionary or research into Nigerian Sign Language, what the interpreter signed in the class for the mathematical **mean** is the same sign we use every day for "mean" or "meaning" (the index and middle fingers rotating on an open palm). Did the interpreter use the appropriate sign to allow the Deaf students in the class comprehend the concept of mathematical mean being taught? In the context of Nigerian Sign Language, what is the appropriate sign to use for mathematical **mean**? Note that there was only one interpreter in the class.

Interpreting, of course, involves making sense of a message composed in English, which, as you all know, is not the first language for many of us; "while simultaneously constructing and articulating the same message" into the relevant signed (or spoken) language in real time, and vice versa, mistakes are bound to happen because the execution involves blending sensory, motor and cognitive skills, which in my discussions with many interpreters, can task the brain.

Does the interpreter have both languages (English and the signed language of the country) with the versatility and nuances to properly execute the task? From the scenario narrated above, it seems that the interpreter was only prepared for the start and end of the lesson in the classroom. Here, in my over 10 years of classroom experience, I am always required to provide in advance my lecture materials whenever an interpreter will be present. This is to ensure that the interpreter becomes familiar with the course content that will be discussed cum the related words and phrases needed to convey them in sign language.

Lack of sign language versatility and fluency on the part of interpreters means that many Deaf children in inclusive educational settings are denied access to proper classroom information that students who can hear get, through direct communication with the

instructor. Like a classroom teacher who is poorly trained or deficient in the requisite knowledge of the subject matter, poor fluency on the part of the interpreter can cause persistent academic underachievement.

Effective interpreting

A study conducted by Klein C. C. (2007) shows that educational underachievement irreparably causes millions of dollars lost economic of gain for the impacted population. One cause of the underachievement is lack of proper access to information both in and outside the classroom.

How much does a Deaf student learn in a classroom with an interpreter given the nature of Nigeria's educational system, where absolute obedience to the teacher is expected? It is quite impossible for a student to raise his/her hand in class if materials are not understood. An interpreter's poor skills, lack of developed sign fluency, knowledge, vocabulary, jargon and technical language of the subject matter can undermine how much a Deaf student understands or learns. In a classroom where instruction and the subject matter may be hard to understand, an interpreter with minimal understanding of the subject and the proper signs to convey it leads to underutilization of the classroom teacher's instructions and the Deaf students' comprehension of the materials being taught.

In terms of effectiveness as well as doing the right thing, it is incumbent on the interpreter to identify the subject matter that will be interpreted and determine whether or not the assignment can be carried out and interpreted accurately. The interpreter should identify his/her vulnerabilities, as they concern. Concepts used in the presentation with which they are unfamiliar, and all preparation needed to ensure the interpretation is accurate and well-articulated. They should also have a team interpreter present to offer insight/correction during the interpretation. Alas, I have often found that interpreters are interpreting alone with no team with whom to switch at timed intervals and support them during their work. Currently, to the best of my knowledge, no interpreter training program exists in Nigeria. An interpreter training program would go a long way to improve both interpreters' skills and Deaf students' classroom learning, and interpreters' commitment to further training

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

and advancement. Interpreting provided by a skilled interpreter will lead a Deaf student to acquire almost the same vocabulary as his/her hearing peers. I have found that a Deaf student who understands a classroom presentation with interpreters is motivated to further his/her learning, keeps up with assigned readings and uses textbooks more, thereby reducing the classroom comprehension deficit. Interpretation promotes access, as well as Deaf students' abilities to achieve optimal equity with their peers and prevent inequities in educational achievement. A Deaf student with high educational achievement will have marketable skills, leading to a better future, better job prospects or furtherance of their education.

References

Botempo, K., Napier, J., Hayes, L., & Brasheer, V. (2014). Does personality Matter? An international study of sign language interpreter disposition. *Translation and Interpreting: The International Journal of Translation and Interpreting Research*, 6(1), 23-46.

Gilani, N. S., Traum, D., Merla, A., Hee, E., and Walker, Z., Manini, B., Gallagher, G., & Petitto, L. (2018). Multimodal Dialogue Management for Multiparty Interaction with Infants. *arXiv e-prints*. Retrieved from: https://ui.adsabs.harvard.edu/abs/2018arXiv180901581N

Klein, C. C. (2007, April). *Efficiency versus Effectiveness: Interpreting Education Production Studies* (Middle Tennessee State University Department of Economics and Finance Working Paper Series). Retrieved from https://www.academia.edu/22707508/Efficiency_versus_Effectiveness_Interpreting_Education_Production_Studies

Powell, B. A., Gilleland, D. S., & Pearson, L. C. (2012). Expenditure, Efficiency, and Effectiveness in U.S. Undergraduate Higher Education: A National Benchmark Model. *The Journal of Higher Education.* 83 (1),102-127

OECD (2012), *Equity and Quality in Education: Supporting Disadvantaged Students and Schools*, OECD Publishing. *http://dx.doi.org/10.1787/9789264130852-en* Opinion | Why Mistranslation Matters. (2018, August 7). Retrieved from

https://www.nytimes.com/2018/07/28/opinion/sunday/why-mistranslation-matters.html

PROFESSIONALIZING SIGN LANGUAGE INTERPRETING FOR SUSTAINABLE DEVELOPMENT OF DEAF EDUCATION IN A DEVELOPING NATION

By

Professor Alfred A. **ADEGOKE**

Introduction

The need to professionalize a career such as Sign Language Interpreting cannot be over emphasized in this 21st century. Sign language interpreting opens a door of communication for the Deaf community and provides the Deaf and Hard of Hearing with equal access to a wide variety of essential services. It promotes inclusiveness and helps those who are challenged with their hearing to enjoy the same quality of life with everyone else. Sign language interpreting plays a pivotal role in the life of persons with hearing impairment, and it is for this reason that every step taken to professionalize sign language is a step in the right direction.

Sign Language

Different scholars have defined Sign Language, these definitions point to the fact that sign language is a "language" Sokale (2009), defined Sign Language as the system whereby signs are used to represent particular letters, words, ideas, values and concepts. He further stressed that it is the use of gestures by a person to convey meaning to another. The system does not involve the use of hands alone but the use of the whole body to present and describe ideas. Odusanya (2006) also defined sign language as the native language

used mostly in the Deaf community. Sign languages are languages that use manual communication to convey meaning. This can include simultaneously employing hand gestures, movement, orientation of the fingers, arms or body, and facial expressions to convey a speaker's ideas (Wilkipedia). Ameho (2016) posited that the Deaf and Hard of Hearing persons use a language distinct from the spoken language, he stressed that sign language is a language on its own. Wherever communities of Deaf people exist, sign languages have developed, and are at the cores of local deaf cultures. Many nations of the world especially the developed nations have accepted sign language as an official, recognized language of the Deaf, Nations like Sweden, U.K, U.S, Italy even our African Neighbors like Uganda, South Africa etc. have passed Sign Language into law. Sign language is the key to inclusion of the Deaf people in our society.

It is also worthy of note that different countries have different sign languages. This is mainly because sign language is not necessarily a system invented and then handed over to the deaf community as an assistive device, but sign languages, like most spoken languages, developed naturally out of people interacting with one another. Sign languages develop within Deaf communities and as such can be independent of the surrounding spoken language. For instance American Sign Language (ASL) is quite different from British Sign Language (BSL), despite the fact that both countries speak English language. It is also important to mention here that there is a lot of contacts between sign language and spoken language. Deaf people lip-read and write or lip-read in the surrounding language, and a lot of the sign language reflect this.

Sign language is thus essential and of vital importance for Deaf people. Without sign language Deaf persons would be really handicapped and limited in their possibilities to participate in the society. It is sad that there are still people in Deaf pedagogies that are not convinced of the importance of sign language for deaf children and adults. We should also note that without sign language, there are simply no equal opportunities for Deaf people, let alone deaf children. It is important to state unequivocally here that the Deaf people are then truly handicapped without Sign Language.

Sign Language Interpreting

Sign language interpreting is the act of professionally translating between spoken and sign language. A sign language interpreter is a professional who is fluent in two more (sign) languages and interprets between source language and a target language and mediates across cultures. The interpreter's task is to facilitate communication in a neutral manner; ensuring equal access to in[illegible] participation. sign language interpreters can be b[illegible] Hearing but should always carry appropriate si[illegible] interpreter qualification from the respective country. A Sign Language Interpreter is bound to a Code of Ethics; ensuring impartiality, confidentiality, linguistic and professional competence, as well as professional growth and development.

Deaf Education

Deaf education is the education of students with any manner of hearing impairment, which addresses their differences, and individual needs. This process involves individually – planned, systematically – monitored teaching methods, adaptive materials, accessible setting and other interventions, designed to help students achieve a higher level of self sufficiency and success in the school and community than they would achieve with a typical classroom education. A number of countries focus on training teachers to teach Deaf students with a variety of approaches and have organizations to aid deaf students. In many developing nations, sustainability—at times seems far away from deaf education. Different views of education for deaf children have existed for a long time and have been in conflict with each other. In this conflict, the interests of deaf children are often forgotten, thus threatening their right to a high-quality education.

Statistics show that there is need to ensure sustainability in Deaf education across the country. The number of deaf children who leave secondary school with a diploma or equivalent certificate, thus giving them access to higher or university studies remains scandalously low. The number of students in vocational secondary education remains comparatively high. We have known for a long time that deaf children are statistically seen as not as smart as their hearing counterparts. This explains why a lot more deaf children have ended up in vocational education, their capabilities thus remaining greatly untapped. This trend is not helpful to society. No society develops by

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

excluding any segment of its population no matter what. It is evident that little attention is being paid to the emotional and social well-being and development of our deaf children, which should be going hand-in-hand with their intellectual development. Added to this problem is the fact that about 95% of Deaf children grow up in hearing families who are not familiar with deafness and how to handle Deaf children. Family members continue to think and work from a hearing frame of reference without taking into account that the frame of reference for deaf children is completely different. Invariably spoken language is not as accessible to deaf children as is sign language and Deaf children thus encounter many obstacles when they interact with the environment around them, which is often predominantly hearing. People too often assume that deaf children can take care of themselves and that they will do just fine. Deaf children indeed have to learn how to function in a predominantly hearing world, but this does not mean that we should ignore their needs. They are visually oriented, and they have a real need for a sign language environment, even when they are doing just fine and it looks like they do not need it.

It is a sign of respect for the uniqueness of deaf children to take into account their difference and make sure that we really offer them full access to communication—not only the language of their environment (that is, spoken language), but also sign language. I think it is rather strange that hearing children are being encouraged by all means to acquire more than one language while the same reasoning is not applied to deaf children. Knowing a sign language provides a real added value to deaf children. Even more importantly, through sign language, these deaf children can become members of a larger social group, namely the Deaf community. In a world where identity and language are so determining, we do not have the right to keep deaf children away from their roots. It is our duty to ensure that all deaf children have the opportunity to become rooted in both the hearing and the Deaf communities and develop a strong identity as a deaf sign language user in a predominantly hearing world, Goedele, De Clerck, and Paul V.Paul (2016).

Deaf Education in Nigeria

The beginning of Deaf Education in Nigeria (a developing Nation) can be traced to the visit of the Late Dr. Andrew Foster to Africa and Nigeria in particular. He was on a Christian Mission to the Deaf Africans but met communication barrier. He thus opted to teach the Deaf sign language and some other educational subjects before introducing Christianity. When he got to Nigeria, he established the first Deaf school in Ibadan, then in other parts of the c

then Deaf education has grown and has taken root ir
education domain in Nigeria. There exists at least
catering for deaf children in the majority of big Nigerian cities today. The schools follow one or more of the following Educational arrangement (Ajavon, 2003)

- Schools for persons with Special Needs: Deaf children are educated alongside persons with other special needs. Emphasis is placed on academic and vocational training.
- Schools for the Deaf: Education for Deaf children is provided separately from other children. All children admitted into schools for the deaf are Deaf. Emphasis is usually placed on academic achievement and vocational training.
- Deaf Units: Units for the Deaf are established within a regular school environment. Deaf children are either mainstreamed in regular school programme or taught in self-contained classrooms. Education and Social inclusion is practiced.

Professionalizing Sign Language Interpreting

Different authors have defined the word profession. A profession is something a little more than a job, it is a career for someone that wants to be part of society, who becomes competent in their chosen sector through training; maintains their skills through continuing professional development (CPD); and commits to behaving ethically, to protect the interests of the public (Total Professions.com). Wikipedia defines a profession as a vocation founded upon specialized educational training, the purpose of which is to supply disinterested objective counsel and service to others, for a direct and definite compensation. Jekayinfa (2002) defined a profession as an occupation that claims the exclusive technical competence and which also adheres to the service ideals and allowed ethics of professional conduct. Hoyle and Megarry (1980) claimed that a profession is an

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

occupation that asserts an exclusive monopoly of knowledge, having definite standards and possesses the ability to convince the generality of the public that its services are unique. Falade (1995) also posited that a profession contains essential characteristics such as an occupation that carried with it a great responsibility and that member of a profession possess special skills and competencies based upon a long period of theoretical and practical training. According to Hoyle and Megarry (2002), in Europe, until the 18th Century, the word profession was exclusively preserve of four groups of occupations: the clergy, medical doctors, lawyers, army and naval officers. They opined that with time, other occupational groups such as accountants, engineers, technicians and architects have become elevated to professional status. This is also urgently expected of Sign language interpreting. There are many characteristics, which are identified as the criteria for judging a profession, and they vary from one scholar to the other. Some of the characteristics of a profession are knowledge, professional code of conduct or ethics, professional organization, legal recognition, freedom to practice, controlled entry into the profession, services to members.

For Sign language interpreting to be recognized as a profession, it should possess the following characteristics:

- **Knowledge:** For sign language interpreting to be recognized as a profession, it should require specialized knowledge to equip the practitioners with the basic mental skills and sound practical foundations of interpreting. This knowledge must be acquired through specialized intellectual study and training. The knowledge is acquired through attendance of formally recognized institution of learning. The mastery of the core relevant knowledge requires high intelligence and long period of intensive training.
- **Professional Code of Conduct or Ethics:** Sign language interpreting should have laid down standards, which ensure control of entry into the occupation. The code should guide the behavior of members. This code of conduct includes traditions, customs and standards of practice identified as good enough for the profession which practitioners are expected to rigidly adhere to. Examples of such conduct are-Sign language interpreters should be versed in their areas of specialization; they should not

exploit the ignorance of their clients but be ready to use their exposure for benefits of clients. According to Svensson and Evetts (2003) the professional code contains the 'dos' and 'don'ts' of the profession. For sign language interpreting to be taken seriously as a profession it should have legal backing so that members who flout any of the ethics may be expelled and license to practice revoked.

- **Professional Organization:** A profession should have a strong organization aimed at protecting or fostering its professional interest. In Nigeria, we have the Nigerian Medical Association (NMA), the Nigerian Bar Association (NBA) and the Nigerian Union of Teachers (NUT) as strong professional organizations. Educational sign language interpreting should not be an exempt. Practitioners should come together to form an organization and register it with appropriate governmental bodies. I am aware of a few ones, ESLIAN, ASLIN.
- **Legal Recognition of the Profession by the Government and the Public:** The public should recognize a typical profession. For example, doctors, lawyers, engineers and teachers are highly recognized and respected in the society. The public trusts their judgment and skills. The society believes that a nation cannot do without the services of doctors, lawyers, engineers and teachers because of their outstanding services to humanity. All the afore-mentioned professionals cannot interpret for the deaf nor can they be useful in an educational setting. The public and government must, therefore, recognize Sign language interpreting as a profession. The government also gives legal recognition to profession through act of parliament or decree. The Nigerian Medical Association (NMA), the Nigerian Bar Association (NBA) and the Nigerian Union of Teachers (NUT) all have government legal recognition. For example Decree No. 31 of May 1993 gave legal recognition to teaching as a profession. Educational sign language interpreters should fight tooth and nail until government grants them legal recognition (Jekayinfa, 2002).
- **Freedom of Practice:** There should be absolute and complete freedom to practice sign language interpreting as a profession. A Sign language practitioner will derive psychological satisfaction and personal pride, and displays excellent and quality job as a result of high degree of autonomy granted him to make decision on his or her client as he or she thinks fit. There should, therefore, be a freedom to practice for Sign language interpreting to be accorded the status of a profession.
- **Entry into the Profession is Strictly Controlled:** Setting and enforcing standard for selection, training, licensure and certification guide this. There should always be an entry qualification. For instance, nobody can belong to the profession of law unless he had been called to the Bar and enrolled as an advocate. Nobody should, therefore, be allowed to practice as an educational sign language interpreter if such a person does not possess relevant training in a recognized institution as well as relevant entry requirements. A Profession provides in- services and Professional Growth for Practitioners: Various professional organizations institute conferences, seminars, workshops and lectures to update their skills. Knowledge is not static, as such there should be innovation to maintain standard. If educational sign language interpreting units in the various institutions of learning in Nigeria have not been organizing trainings for the practitioners, now is the time that they should wake up so that full recognition could be granted to them.
- **Period of Internship or Apprenticeship:** In the process of professional practice, the professional should acquire absolute knowledge needed to practice the occupation. For example, a doctor requires at least one year of housemanship, a pharmacist requires one year of internship, a teacher requires at least 12 weeks of teaching practice, an engineer requires at least one year of industrial training experience and a lawyer requires at least one year of practical experience in the law school to qualify as professionals.

Sign Language Interpreting as a Profession

For sign language interpreting to be fully recognized as a profession, it should be something a little more than a job, it should be a career for everyone who wants to be part of the society, who becomes competent in their chosen sector through training; maintains their skills through continuing professional development (CPD); and commits to behaving ethically, to protect the interests of the public.

We all rely on professionals at many points of our lives – from dentists to teachers, from pension managers to careers advisers, from town planners to paramedics. We rely on professionals to be experts and to know what to do when we need them to. Back in the nineteenth century, the professions were defined as law, religion, and medicine. Nowadays, the number of professions is much wider and ever-increasing, as occupations become more specialized in nature and more 'professionalized' in terms of requiring certain standards of initial and ongoing education – so that persons from automotive technicians to web designers can be defined as professionals. A profession is a calling, requiring specialized knowledge and often long and intensive academic preparation. It can also be regarded as the whole body of persons engaged in a calling. Sign language interpreting should be no exemption. Specialized knowledge must be compulsory and practitioners must be fully committed to the cause just as is the case with other specialized professions.

The differences between professions and occupations are differences of degree rather than kind. Professionalism in occupations and professions implies the importance of trust in economic relations in modern societies with an advanced division of labour. In other words, lay people have to place their trust in professional workers (electricians and plumbers as well as lawyers and doctors) and some professionals must acquire confidential knowledge. Professionalism in sign language interpreting, therefore, requires those working as professional sign language interpreters to be worthy of that trust, to put clients first, to maintain confidentiality and not use their knowledge for fraudulent purposes. For educational sign language interpreting to be recognized as a profession, practitioners should have areas of focus or specialization.

For most researchers, professions are regarded as essentially the knowledge-based category of service occupations, which usually follows a period of tertiary education and vocational training and experience. A different way of categorizing professions is to see them as the structural, occupational and institutional arrangements for work associated with the uncertainties of modern lives in risk societies. Professionals are extensively engaged in dealing with risk, risk assessment and, through the use of expert knowledge, enabling customers and clients to deal with uncertainty. To paraphrase and

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

adapt a list in Olgiati (1998), professions are involved in birth, survival, physical and emotional health; dispute resolution and law-based social order; finance and credit information; educational attainment and socialization; physical constructs and the built environment; military engagement, peace-keeping and security; entertainment, the arts and leisure; religion and our negotiations with the next world. Sign language interpreters are included among the professionals in education of learners with hearing impairment. Practitioners must be ready to take risks for its continuous survival and be conscientious in displaying their duties and responsibilities.

Professionalism in sign language interpreting means behaving in an ethical manner, conducting one's affairs in such a way as to engender trust and confidence in every aspect of the work. It means having the requisite ability to be worthy of the confidence others place in you. Perhaps most importantly, professionalism in sign language interpreting means, in every situation, willfully gathering responsibility rather than avoiding it. Doing so is important because if sign language interpreters do not acknowledge and assume the onus of responsibility in every aspect of their work they will seldom, if ever; make the right choice to do what is necessary to achieve consistent success for their employer, clients, or themselves. Quite simply, if the buck does not stop with you, you are not a professional.

Conclusion

The need for this unique profession to be professionalized cannot be overemphasized. Government needs to partner with the Nigerian National Association of the Deaf, Sign Language Interpreters in Nigeria, especially those in Education, and all other stakeholders to put in place strategic training to enable those available Interpreters to become professionals. A bill should be sent to the house to professionalize sign language as a matter of urgency. All stakeholders should rally round and ensure that such a bill is immediately passed into law. There should be collaborations with other professionals from different countries such as the US, UK, Sweden, Australia, and Canada etc. in order to establish and develop Interpreters Training in Nigeria. Government should make Sign language the acceptable language of the Deaf, involve the Deaf while making policies for them, and establish an institute for Interpreters

training so as to have highly skillful Interpreters in the country and in Africa in general.

References

Ajavon, P.A. (2006). An overview of Deaf education in N

Ameho, J.T. (2016). Sign Language: The effective c
medium between the Hearing and Deaf co-work
presented at the in-house seminar organized by Lagos State Sport Commission on basic Sign Language and the Deaf co-workers. Lagos, April 1st.

Dingwall, R., & Lewis, P. (2002). The sociology of the professions: Lawyers, doctors and others. London: Macmillan.

Falade, G. (1995). Trade unionism and teacher professionalism as impetus to national Development. A paper presented at the National Conference on Education and NTI. Kaduna, 26-28 September.

Freidson, E. (2001). Professionalism: The third logic. London: Polity Press.

Goedele, A.M. De Clerck, & Peter, V.P. (eds). (2016). Sign Language, sustainable Development and equal opportunities: envisioning the future for the Deaf students.

Hoyle, E., & Megarry, J. (eds). (1980). Professional Development of Teachers: Year Book of Education. New York: Kogan Page Publishers.

Jekayinfa, A.A. (2002). Teaching as a profession: characteristics of professions. In Abimbola, I.O (Ed.) Fundamental Principles and Practice of Instruction. Ilorin: Belodan [Nig] Enterprises & Tunde-Babs Printers.

Lane, J.E. (2000). New public management. London: Routledge&Kegan.

Odusanya, O.A (2006). Basic Sign Language. Oyo: D'laurels Nig. Ltd

Olatunji, J.O. (1996). Professionalization of teaching in Nigeria: How Realistic. Andrian Forum 9 (1), 81-84.

Olgiati, V. (1998). Professions, identity and order in comparative perspective .Onati: The International Institute for the Sociology of Law.

Sokale, A.A (2009). Talking Fingers. Oyo: Gloryland Publishing Co.

Svensson, L., &Evetts, J. (2003). Conceptual and comparative studies of continental and Anglo-American professions (Goteborg studies in sociology, Vol. 129) Goteborg: Goteborg University.

EFFECT OF SIGN LANGUAGE INTERPRETATION ON ACADEMIC ACHIEVEMENT OF DEAF STUDENTS IN BASIC SCIENCE

By

Oladipupo Wumi, **OMOBOSOLA**

&

Olubiyi Johnson, **EZEKIEL** Ph.D

Abstract

Deaf education in Nigeria is characterized by significant poor performance. More worrisome is their performance in science related subjects. Though, a lot of factors have been attributed to this academic lopsidedness, they all point down to language problem or incompetency. However, the influence of Sign Language Interpreter been used in the inclusive classroom is supposed to bridge the academic language and communication lacuna producing the undesirable results in Deaf education. The persistence deviant in academic outcome of Deaf students from their hearing counterparts exposed to the same teaching situations and conditions therefore queries the effectiveness of the Interpreter and challenges the justification for his continuous involvement in the education of Deaf persons, particularly in science related subjects in basic schools. To this end, this study investigated the effect of Sign Language Interpretation in the Education of Deaf Students in Basic Science in Junior Secondary Schools. The study made use of pretest-posttest

control groups quasi experimental research. Using gender and age of onset of hearing loss as moderating variables. Seven (7) research questions were used using analysis of covariance (ANCOVA) at 0.005 level of significance while Scheffe postHoc was used to established the point of significance. The result shows that interpretation and age of onset of hearing loss have significant effect on academic outcome of Deaf students in Basic Science. Prelingual hearing loss was found to be consequential to poor academic performance while gender has no significant effect, sign language interpretation was therefore affirmed to be effective in teaching Basic Science to Deaf Students. Nevertheless, the research found some loopholes in the language, teachers' approach and classroom situations which form the basis of the recommendation made to include: 1. Interpreters should consider the topic in the choices of word (sign), 2. Teachers/Interpreters should give more and better attention to the complicated language deficiency of congenital/prelingual Deaf students; 3. Interpreters should ensure strict compliance with the proper professional conduct of interpreting; 4. Classroom situation must be made interpreting/deaf friendly.

Introduction

Science is a field that revolves around all human endeavours; its existence makes human living so complex and at the same time simplifies it. The study of science is the basis for a simple worthy and healthy living. It is therefore an exigent cause for humanity to ensure the younger generation are built with in-depth of scientific knowledge right from the foundation levels of her educational system without leaving anyone behind. It is also pertinent to ensure every gap is bridged between learners categorized by abilities, educational needs and other variations.

Goldemberg (2003) posited that developing countries should not expect to follow the research model that led to the scientific enterprise of the United States and elsewhere. Rather, need to adapt and develop technologies appropriate to their local circumstances, help strengthen their education, and expand the Scientists roles as advisers in both government and industry. In this way, the brain-drain that results when scientists are not in touch with the problems of their

home countries or when they face indifference and poor financial support from their governments would be prevented. Invariably, Nigeria as a Nation needs to breed a local content science curriculum that must be inculcated to all her citizens without variation or exclusion of disability class.

However, it has been observed that as the global scientific strides improves, the learning of science is becoming more challenging than ever before. This apart from factors inherent in the learners, is due to a number of other secondary factors, ranging from insensitivity of teachers, parents, government and the society at large to science learning needs of the students as well as the complexity science is characterized by. For instance, the learning needs of individuals with special educational needs (SEN). Take for instance, Deaf students have significantly been underperforming in science achievement tests. Buttressing these, Sopekan and Banire (2016), opined that method of teaching science at basic schools is too rigid with rote learning, such that teaching science is boring and uninteresting to learners. While relating this with the difficulties deafness presents to its victim, it is not an overstatement to state that, without adequate communicative measure, that is provided by sign language interpreting, teaching of science is a double jeopardy for deaf learners.

Empirical studies have confirmed that Deaf learners are still presented with difficulties in understanding the concepts of science which in return is causing them to fall behind and obtain poor results in science can be attributed to not only rigid curriculum but also, language barriers and inadequate support services, principal of which is Sign Language Interpreting (Zakia, Sunardi & Yamtinah 2018). According to Marshack, Covertino, Noble, Veruloed, Burham, Sapere, Leigh, Stinson and Knoors (2006), deaf students enrolled in general educational settings frequently require classroom support services if they are to realize their academic potential. Though these support services are numerous, Sign Language interpretation is a crucial one.

This must be attended to as a matter of importance. For effectiveness of science learning in inclusive class therefore, a deaf

learner must be provided accurate sign language interpretation which stands to transfer the same auditory learning content to the deaf students simultaneously and spontaneously with their hearing counterparts, (Oyawole (2017, Omobosola & Fatai (2018).

So worrisome, while basic science is taught in an inclusive school system in Nigeria today, more often than none, the communicative and learning needs of persons who are Deaf and hard of hearing are often neglected. Consequently, they are left behind while still assumedly part of the classroom target. Meanwhile, a Deaf child in an inclusive classroom is already positioned with a multifaceted challenge than complicating it with a neglect in basic science teaching experience. It is no gain saying that his educational needs is to be addressed in a multidimensional perspectives and with blended educational approaches that cater for deaf learners' language, psycho-social, and emotional needs. Hence, to successfully impart science knowledge to learners in basic inclusive schools requires some approaches that prioritize Sign Language Interpreting. Oseni (2017) reiterated that the availability of a sign language interpreter will go a long way in averting the significant academic failure of deaf students which is already far below their counterparts. According to him, deaf students in an inclusive interpreted teaching will benefit directly from the same teaching exposure with the regular, hearing and other learners with different needs. This would not only boost his inclusion to the wider society but also help him access direct and correct information on the subject of discussion.

Though, El-Zarigat and Samdi (2012) opined that challenges deaf learners encounter include lack of remedial and educational programs, insufficient teachers, unequipped schools, and a lack of instructional and assessment tool, Zakia, Sunardi and Yamtinah (2018) extended the causes to include lack of support services for teaching basic science to Deaf Students while he emphasized the later over the formers.

Background theory: constructivism theory Jean Piaget (1896–1980)

The scientific implication of learning and science learning itself are two inseparable elements. The fact that science itself is about life and

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

the realities around it is enough to conclude that learning the science cannot but be justified and viewed in a scientific approach. Hence, this study considered the constructivism theory of science learning as a diagnostic view of constraints encountered by Deaf students in learning it. Basically, the constructivism theory of science learning focuses on the relationship between the subject matter and how learners are able to internalize the core of the lesson, especially, relating such with personal experiences. Beyond this, the theory maintains that teaching is not just given in an abstraction but practical to allow learners examine the realities of it. It also establishes the big picture of relationship between the part and whole as well as students involvement in the learning processes. Constructivists believe that an effective science teaching should put the interests, choices, mood, attribute, attitude and emotions of students in the big picture while teaching as these go a long way to determine the extent of success of such teaching efforts. Most importantly, constructivism theory believes that teacher's role should be interactive with the students, to help them construct their own knowledge rather than making efforts to transfer his (Bada 2015)

Contrarily, language problem of the Deaf students as well as their psycho-social behaviour hamper mutual relationship and smooth interaction between Deaf and teachers, even though the communication is facilitated between the teacher and students by the interpreter, how smooth can it be? How well can this serve to drive home the vocal points of constructivism theory even if the teacher wants to explore it in teaching science to the Deaf students. Constructivism theory advocates that students should be allowed to move in learning at own pace, how well can interpreting in an inclusive education school conform with this? Hence, we hypothesise a margin, loophole and significant lacuna in science teaching to the deaf through this model.

From the foregoing, it became highly pertinent to investigate the extent to which sign language interpreting affects the learning of basic science among Deaf and hard of hearing students in junior secondary schools. The study therefore concentrated in comparing the academic achievement of deaf students exposed to some concepts of basic science given the same learning conditions but

different learning approaches. To be able to elicit the level of significance, two groups of deaf students (an experimental and control groups) were taught differently while students in experimental group were provided with sign language interpreted teaching, the control group was only given regular/oral teaching.

Statement of the problem.

Learning of science related subject is becoming a threat to the global communities in the current generation of learners. Despite unwavering efforts of the United Nations (UN) and many other international organizations to ensure there is equity both in developmental milestone and interpersonal relationship among all regardless of any or all dividing factors, it is observed that Deaf learners still significantly lag behind their learning counterparts in science learning and academic achievement. the need to challenge the challengers therefore pose inquisitiveness to Teachers, Interpreters, administrators and other stakeholders on how to best manage academic achievement of deaf learners in basic science. Though, Sign Language Interpreting is often simultaneously used in the regular teaching in an inclusive classroom to cater for the communicative needs of the Deaf Students, it is still evident that many Deaf students perform below expectation and sub-averagely bellow their hearing mates.

It is hypothetical to acknowledge the interconnectivity of diverse factors as determinants of academic achievement of deaf science learners, the need to affirm the effectiveness of each of the approaches and measures given to educating these category of learners is imperative. Contingent upon this, the study was purposed to examine the level of effect Sign Language Interpreting has on teaching learning outcome of deaf Students in Basic Science. This was done,

Methodology

Research design

The research adopted the pretest-posttest, control groups quasi experimental research. A 2x2x2 factorial matrix was used:

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

simultaneous interpreted teaching and an oral teaching (control group) approaches with gender and time of onset of deafness at two levels.

The design is thus expressed

Experimental group (E): O_1 X_1 O_3
Control group (C): O_2 X_2 O_4

And O_1 and O_2 represents the pretest scores of both and control groups respectively and O_3 and O_4, represe scores of both groups accordingly; X_1 is the interpre (treatment) and X_2 is the regular teaching (oral) as control group.

Data analysis: inferential statistics of analysis of covariance (ANCOVA) and Scheffee-post HOC to determine the level of academic improvement when used Sign Language Interpretation alongside the regular teaching and effects of gender and age of onset of deafness on academic performance. The ANCOVA will be used to determine the null hypotheses at 0.05 level of significance.

Selection of participant

The participants for the study were twenty (20) Deaf Students, from two inclusive schools in Oyo, namely: Sped International Secondary School and Durbar Grammar School. These schools were selected base on the proximity to the researchers. More so, Deaf Students in those schools had been found to be deficient in Basic Science. Twenty (20) students from each of the schools were purposively selected randomly from junior secondary school (JSS) classes and were exposed to the teaching on four concept in basic science for a period of four weeks

Research instruments

Basic science partial assessment tool (BS-PAT)
Basic science partial instructional guide (BS-PIG)

Validity of research instruments

Though, research instruments were drawn from the basic school curriculum for JSS classes where the participants were drawn, they

were subjected to validity check by basic science teachers at two levels. This was to validate the aptness of the extractions of the part adopted and assessment tools set based on the extractions. Both experts assert validity to the instruments.

Procedure for test administration

Page 22

The researchers pre-visited the selected schools for ... and mission expression. They met with the school ... including the basic science teachers and explained their mission. The researchers explained their views and observation as regards Deaf learning outcomes in basic science and established the need for the study. Therefore, they solicited for the support of the school management, Teachers and Interpreters which was unanimously granted by all. The treatment was thereafter applied for a period of six (6) weekly sessions. Each of the sessions lasted for forty five (45) minutes, the first session was used for familiarization with the Participants (Deaf students) on the purpose of the study after which pre-test was administered. The subsequent four [4] weeks were used for treatment application while the sixth (6^{th}) week was used to wrap up the study and post-test administration. the data collected were analysed using analysis of covariance (ANCOVA) and scheffe post-hoc analysis to elicit areas of significant differences.

Variables:

1. Dependent variable: Academic Achievement of Deaf Students in Basic Science
2. Independent variable: Sign Language Interpretation
3. Moderator variables:
   - Gender thus categorized
     - M for Male gender and
     - F for Female gender
   - Age of onset of deafness
     - L_1 for Prelingual/congenital deafness and
     - L_2 for Postlingual/adventitious deafness

Research hypothesis

Page 23

- H_1 There is no significant main effect of treat... on ...

Variables		Frequency	Percentage
Treatment	Experimental Group	20	50.0
	(Control Group)	20	50.0
	Total	**40**	**100.0%**

outcome of deaf students in basic science
- H_2 There is no significant main effect of gender on test outcome of deaf students in basic science
- H_3 There is significant main effect of age of onset of deafness on test outcome of deaf student in basic science
- H_4 There is no significant interaction effect of treatment and gender on test outcome of deaf students in basic science
- H_5 There is no significant interaction effect of treatment and age of onset of deafness on the test outcome of deaf students in basic science
- H_6 There is no interaction effect of gender age of onset deafness academic outcome of deaf student in basic science
- H_7 There is no significant interaction effect of treatment gender and age of onset of deafness on academic outcome of deaf student in basic science.

Result of Findings

This chapter presents the result of the findings. Seven research hypotheses were tested. The demographic data were analyzed using frequency counts, percentages, while Analysis of Covariance (ANCOVA) was used for the hypotheses to determine the level of

significant difference. The summary of data analysis shall be discussed under two sub-headings;

i. Analysis of the demographic data
ii. Analysis of Hypotheses

4.1 Socio-Demographic Characteristic of Respondents

Table 4.1: Frequency distribution of Treatment

Table 4.1 revealed frequency distribution according to treatment with equal percentage of group for treatment 20(50.0%) such as Experimental Group and Control Group. This implies that equal percentage of the treatment group used for the study

Table 4.2: Frequency distribution of Respondents by gender

Variables		Frequency	Percentage
Gender	Male	24	60.0
	Female	16	40.0
	Total	**40**	**100.0%**

Table 4.2 revealed frequency distribution according to gender with high percentage of male 24 (60.0%) and female was 16 (40.0%) respectively. This implies that female have high percentage of the gender used for the study

Table 4.3: Frequency distribution of Respondents by Age of Onset

Variables		Frequency	Percentage
Age of Onset	L1(Pre-Lingual)	19	47.5
	L2(Post-Lingual)	21	52.5
	Total	**40**	**100.0%**

Table 4.3 revealed frequency distribution according to age of Onset of deafness with high percentage of L2(Post-lingual) are 21 (52.5%)

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

and L1(Pre-lingual) are 19 (47.5%). This implies that majority of the respondents are L2(post-lingual) are used for the study

4.2 Hypotheses

H_1 There is no significant main effect of treatment on test outcome of deaf students in basic science

Table 4.4.: ANCOVA Summary of Treatment, Gender, age of Onset on Academic Achievement of Deaf Students in Basic Science

Source of Variance	Sum of Squares	DF	Mean Square	F	Sig.	η^2
Corrected Model	6799.112	8 1	849.889	23.98	.000 .000	.861 .402
Intercept		1		7		
Pre-Test	737.797		737.797		.000	.529
Main Effect:		1		20.82	.000	.604
Treatment	1234.945	1	1234.94	3	.272	.039
group			5		.005	.225
Gender				34.85		
Age of	1672.470	1		4	.627	.008
Onset		1	1672.47		.138	.070
2-way	44.266	1	0		.976	.000
Interactions				47.20		
:	319.794	31	44.266	2	.270	.039
Treatment x		**40**				
Gender			319.794	1.249	.	
Treatment x	8.519					
Age of				9.0		
Onset	82.335		8.519	26		
Gender x						
Age of	.031		82.335			
Onset				.24		
3-way			.031	0		
Interactions	44.722					
:				2.324		
Treatment x	1098.388		44.722			

Gender x Age of Onset	**33400.000**		35.432	.001		
Error				1.262		
Total						

From Table 4.4 it was shown that there is a significant main effect of treatment on test outcome of deaf students in basic science ($F_{(1/31)}$ = 47.202, p <.05,η^2=.60). Null hypothesis rejected. This implies that the use of the experin Experimental group and control Group had positive influ test outcome of deaf students in basic science. To find out the mean score obtained by each of the experimental group and the control group, the estimated marginal mean was computed. The result shown is presented Table 4.5

Page 26

Table 4.5: Estimated Marginal Means test outcome of deaf students in basic science by Treatment Groups

Treatment Groups	Mean	Std. Error
Experimental Group	31.95	1.507
Control Group	17.88	1.386

Table 4.5 showed the estimated marginal mean scores of test outcome of deaf students in basic science. The participants in the Experimental group obtained the highest mean score of ($\overline{\chi}$=31.95), followed by the Control group had the low mean score of ($\overline{\chi}$= 17.88).This means that the experimental strategies used for the treatment group had a positive effect of Sign Language Interpretation with Deaf Students (Experimental group) being the best instructional for academic achievement among the two strategies. Further, the Treatment Pair-wise post-hoc test was carried out and the result are summarised on table 4.6.

Table 4.6: Treatment Pair-Wise Post-hoc Comparison of School Adjustment of pupils with blindness in Post-Test by Treatment

Treatment(I)	Treatment Groups(J)	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Experimental Group	Control Group	14.065*	2.047	.000	9.890	18.241
Control Group	Experimental Group	-14.065*	2.047	.000	-18.241	-9.890

The mean difference is significant at the 0.5 level

Table 4.6 showed that there are pair-wise significant differences between, Experimental Group and control group, that is, experimental group and control group have pair-wise significant differences existed between the treatment.

Ho_2: There is no significant main effect of gender on test outcome of deaf students in basic sciences.

From table 4.4, it was shown that there was no significant main effect of gender on test outcome of deaf students in basic s =1.249, p >.05,η^2=.039). The null hypothesis is theref This means that the gender had no influence on test outcome of deaf student in basic science. To find out the mean score obtained by the two levels of male and females, the estimated marginal mean was computed. The result shown in Table 4.7

Page 27

Table 4.7: Estimated Marginal Means of effect of gender on test outcome of deaf students in basic sciences by Gender

Gender	Mean	Std. Error
Male	26.07	1.249
Female	23.76	1.636

Table 4.7 showed the estimated marginal mean scores of effect of gender on test outcome of deaf students in basic sciences. This result revealed that the male participants had the slight high mean score ($\overline{\chi}$=26.07) while the female participants had lower mean score ($\overline{\chi}$=23.76) respectively when academic performance was considered.

Ho_3: There is significant main effect of age of onset of deafness on test outcome of deaf student in basic science

From table 4.4, it was shown that there was a significant main effect of age of onset of deafness on test outcome of deaf student in basic science ($F_{(1/31)}$ =9.026, p <.05,η^2=.225). The null hypothesis is therefore rejected. This means that the age of Onset had influence on test outcome of deaf student in basic science. To find out the mean score obtained by the two levels of ages of L1 (Pre-lingual) and L2 (Post-lingual) the estimated marginal mean was computed.

The result shown in Table 4.8

Table 4.8: Estimated Marginal Means of effect of age of onset of deafness on test outcome of deaf student in basic science

Age of Onset	Mean	Std. Error
L1 (Pre-lingual)	21.02	1.774
L2 (Post-lingual)	28.81	1.519

Table 4.8 showed the estimated marginal mean scores of effect of age of onset of deafness on test outcome of deaf student in basic science. This result revealed that the participants with L2 (Post-lingual deafness) had the high mean score ($\overline{\chi}$=28.81) while the participants with L1 (Pre-lingual deafness) had lower mean score ($\overline{\chi}$=21.02) respectively when on test outcome of deaf student in basic science was considered.

Ho_4: There is no significant interaction effect of treatment and gender on test outcome of deaf students in basic science

From Table 4.4, it was shown that there was no significant interaction effect of treatment and gender on test outcome of deaf students in basic science $F_{(1,31)}$= .240, p >.05,η^2=.008).The null hypothesis is therefore accepted. This implies that the treatment and gender had no interaction influence on test outcome of deaf students in basic science. To find out the mean score obtained by the two levels of Treatment and Gender, the estimated marginal mean was computed. The result shown in Table 4.9

Table 4.9: Estimated Marginal Means of interaction effect of treatment and gender on test outcome of deaf students in basic science

Treatment Group	Gender	Mean	Std. Error
Experimental Group	Male	33.62	1.698
	Female	30.28	2.491
Control Group	Male	18.53	1.846
	Female	17.24	2.130

The table 4.9 showed the estimated marginal mean score of treatment and gender on test outcome of deaf students in basic science which revealed that the male of Gender in Experimental group had highest mean score ($\overline{\chi}$= 33.62), and t

Gender in Experimental group had lower mean sc followed by the participants in Control group with male of gender had a bit higher mean score ($\overline{\chi}$=18.53) to that of female of Gender in the group which had the mean score($\overline{\chi}$=17.24).

Ho_5: There is no significant interaction effect of treatment and age of onset of deafness on the test outcome of deaf students in basic science

Table 4.4, it was shown that there was no significant interaction effect of treatment and age of onset on test outcome of deaf students in basic science ($F_{(1,31)}$ = 2.324, p >.05,η^2=.070).The null hypothesis is therefore accepted. This implies that the treatment and age of onset had no significant interaction influence on the test outcome of deaf students in basic science. To find out the mean score obtained by the two levels of age of onset, the estimated marginal mean was computed. The result shown in Table 4.10

In table 4.10 Estimated Marginal Means of interaction effect of treatment and age of onset of deafness on the test outcome of deaf students in basic science

Treatment Groups	Age of Onset	Mean	Std. Error

Experimental Group	L1(Pre-lingual) L2 (Post-lingual)	26.43 37.47	2.593 2.183
Control Group	L1(Pre-lingual) L2 (Post-lingual)	15.62 20.15	2.170 1.859

The table 4.10 showed the estimated marginal mean scores of interaction effect of treatment and age of onset of deafness on the test outcome of deaf students in basic science. The table above showed that age of Onset of participants with L2 (Post-lingual deafness) in the Experimental Group had the slight highest mean score ($\bar{\chi}$ =37.47), while the L1 (Pre-lingual deafness) had the lower mean score of ($\bar{\chi}$ =26.43). Accordingly, the Age of onset of participants in Control group performed in the following L2 (Post-lingual deafness) had the mean score of ($\bar{\chi}$ score is a bit higher than that obtained by the L1 (Pre-lingual deafness) in the group which had the mean score of ($\bar{\chi}$ =15.62). Age of onset of participants in the experimental group with L2 (Post-lingual deafness) had higher mean score ($\bar{\chi}$ = 37.47) than the control group from the same group with the mean score ($\bar{\chi}$ =20.15).

H_6 There is no interaction effect of gender, age of onset of deafness on the test outcome of deaf students in basic science

From table 4.4, it was shown that there was no significant interaction effect of gender, age of onset of deafness on academic outcome of deaf student in basic science ($F_{(1,31)}$ =.001, p >.05,η^2=.000). The null hypothesis is therefore accepted. This implies that the treatment, gender and age of onset of deafness had no interaction influence on the test outcome of deaf students in basic science. To find out the mean score obtained by the two levels of gender and age of onset of deafness estimated marginal mean was computed. The result shown in Table 4.11

Table 4.11 Estimated Marginal Means of interaction effect of gender, age of onset of deafness on the test outcome of deaf students in basic science by Age of Onset and Gender

Gender	Age of Onset	Mean	Std. Error
Male	L1(Pre-lingual) L2 (Post-lingual)	22.15 30.00	1.857 1.974
Female	L1(Pre-lingual) L2 (Post-lingual)	19.90 27.62	2.803 2.045

Table 4.11 showed the estimated marginal mean scores of the interaction effect of gender, age of onset of deafness on the test outcome of deaf students in basic science. Male Participant with L2 (Post-lingual deafness) had higher mean score ($\bar{\chi}$ =30.00) and the L1 (Pre-lingual deafness) had lower mean score of ($\bar{\chi}$ =22.15) and also the marginal mean of the Female participants with the L2 (Post-lingual) had the higher mean score of($\bar{\chi}$ =27.62) and L deafness) had the lower mean of ($\bar{\chi}$ =19.90).

H_7 There is no significant interaction effect of treatment, gender and age of onset of deafness on academic outcome of deaf student in basic science.

From Table 4.4, it was shown that there was no significant interaction effect of treatment, gender and age of onset of deafness on academic outcome of deaf students in basic science ($F_{(1,31)}$= 1.262, p >.05,η^2=.039). The null hypothesis is therefore accepted. This implies that the treatment, gender and age of onset of deafness had no influence on academic outcome of deaf students in basic science. To find out the mean score obtained by the three levels of treatment, gender and age of onset the estimated marginal mean was computed. The result is shown in Table 4.12.

Table 4.12: Estimated Marginal Means of Performance of interaction effect of treatment, gender and age of onset of deafness on academic outcome of deaf student in basic science

Treatment Groups	Gender	Age of Onset	Mean	Std. Error
Experimental Group	Male	L1(Pre-lingual) L2 (Post-lingual)	26.90 40.33	2.408 2.962

	Female	L1(Pre-lingual) L2 (Post-lingual)	25.96 34.60	4.328 2.814
Control Group	Male	L1(Pre-lingual) L2 (Post-lingual)	17.40 19.66	2.526 2.664
	Female	L1(Pre-lingual) L2 (Post-lingual)	13.840 20.64	3.456 2.636

The table 4.12 above showed the estimated marginal mean scores of gender and age of onset of deafness on academic outcome of deaf Students in basic science. The marginal mean score further revealed that there is no significant interaction effect of treatment, gender and age of onset on academic outcome of deaf Students in Basic Science.

Discussion of findings

Main effect of treatment on learning outcome of Dea basic science.

The study found a significant main effect of treatment on learning outcome of Deaf students in basic science. The null hypothesis was therefore rejected. This implies that the treatment has an influence on learning basic science among Deaf students. It also established the proposition that Sign Language as a mode of classroom communication for the Deaf is significant in achieving the goals of teaching science in Junior Secondary School (JSS) class. To establish and determine the actual level of the observed significance effect in ANCOVA, a scheffe post HOC analysis was carried out on the post-test mean scores of the two groups. The pair-wise and the post HOC multiple comparison showed that the performance of all the participants from the two groups increased, however, the treatment group shows a clear significant increase than the control group. Therefore, it was established that Sign Language interpreted teaching, being a combined approach for teaching Deaf students in an inclusive school was more suitable for teaching Basic Science to Deaf students to achieve an optimum results in basic science learning achievement. Though, this finding negates the finding of Marschark etal (2006) who found real-time text more effective in teaching Deaf students than Sign Language interpretation, it corroborates with the findings of Marschark (2005), Rumjanek & Flores (2015) both who found sign language Interpretation to be

highly significant in academic achievement of Deaf Students in both Primary school pupils and Secondary school students.

Main effect of gender on basic science learning achievement of Deaf students.

The results showed that there was no significant main effect of gender on academic achievement of Deaf students in basic science. The null hypothesis was therefore accepted. This implies that gender is not a significant determining factor in of academic outcome of Deaf students in basic science. Furthermore, it was observed that there was no significant variations in academic performance across groups based on gender differences.

Main effect of age of onset of deafness in academic achievement of deaf students in basic science. The results however contradicts the report of Parveen (2017) who found gender to be significant in science learning achievement of Deaf Students. In his used 5E approach to teach science to Deaf studen therefore showed that female Deaf Students performed higher than their male counterparts. This might be due to situational effect.

Main effect of age of onset of deafness on academic achievement of deaf students in basic science.

The study reported a significant main effect of age of onset of deafness on basic science learning outcome of Deaf students. The null hypothesis was consequently rejected. It was confirmed that there was a significant variation between the two categories of deaf students in basic academic achievement. The results show that, Deaf students with post lingual/adventitious deafness performed significantly better than those who presented prelingual/congenital deafness. This implies that the time at which deafness occur in an individual determines significantly, the level at which such victim will be able to cope with basic science learning tasks with even with interpretation. The result corroborate many research outcomes of similar studies, including: Dobie and Hemel (2004), Zakia, Sunardi & Yamtinah (2018), Marschark, Nogle, Newman and Shaver (2015).

Interaction effect of treatment and gender on academic achievement of Deaf students in basic Science.

The results show that there was no significant interaction effect of treatment; Sign Language interpreted teaching and gender on the

academic achievement of deaf students in basic science. This implies that regardless of gender differences, the effect of the treatment remains dominant across the two gender types. Hence, the null hypothesis was accepted. The results therefore confirms that gender notwithstanding, the approach is suitable to teach basic science to Deaf students.

Interaction effect of treatment and age of onset of deafness on academic achievement of Deaf students in basic science.

The study shows that there is no significant interaction effect of effect of treatment and age of onset of deafness on the academic achievement of deaf students in basic science. The result implies that regardless of the type of deafness as regards whether prelingual/congenital or postlingual/adventitious, the effectiveness of the treatment remains sacrosanct. The null hypothesis was therefore accepted. The study also reinforced the use of interpr as the right approach for effective teaching of basic sc students for optimum performance.

Interaction effect of gender and age of onset of deafness on academic achievement of deaf students in basic science.

The study reveals that there was no significant interaction effect of gender and age of onset of deafness on academic achievement of deaf students in basic science. This implies that regardless of gender and age of onset of deafness, the learning outcome of Deaf students in basic science remain dominant. The null hypothesis was therefore accepted.

Interaction effect of treatment, gender and age of onset of deafness on academic achievement of Deaf students in basic science.

The study reveals that there was no significant interaction effect of treatment, gender and age of onset of deafness on academic achievement of Deaf students in basic science. This confirm that the treatment was effective for all categories of Deaf students across the various dividing factors. Hence, the null hypothesis was accepted.

Conclusion.

The treatment shows a significant effect on learning outcome and academic achievement of Deaf students in basic science. This confirms it as a suitable approach to combat the poor academic achievement of deaf students in basic science. It is also affirm the

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

importance of Sign Language as the suitable communication in teaching of basic science to the Deaf students. Though, expertise and effectiveness in the interpretation cannot be left out, it is however sacrosanct that its influence in achieving the goals of teaching basic science to students who are deaf and hard of hearing cannot be overemphasized. It is also good to reiterate the communicative perspective of educational needs of the Deaf students for optimum performance in basic science. The approach also significantly took cognizance of the least restrictive environment, which is a key factor to an effective inclusive education. It was also conclude that the age of onset of deafness remains dominant factor in determining the extent of effectiveness in teaching basic science to the Deaf. It is concluded that students with postlingual/adventitious deafness stand a better chance in learning basic science easier and faster with lesser efforts compared with their counterparts with prelingual/congenital type. Therefore, more efforts and commitment should be paid to the congenital ones in order to ensure no one is left behind. Also, the goal four (4) of the Sustainable Development Goals (SDGs) that focuses on equitable quality education for all, regardless of any militating factor such as deafness would be mirage if teaching of basic science excludes these categories of learners. Therefore, the conclusions from this study should be given a prime consideration. It was however concluded that gender is not part of the intricacies of learning of basic science to deaf students. Then, all forms of discrimination against gender differences should be avoided and both types be given equal attention and treatment.

Recommendations

1. Effective Sign Language interpretation should be prioritized in teaching basic science to deaf students to ensure optimum academic performance;
2. Deaf students should be identified with their class of deafness as regards their age of onset of deafness;
3. Students with prelingual/congenital deafness should be given more and special attention in basic science inclusive classroom to ensure they are not left behind in science learning;

4. Sign Language interpreter should take into cognizance, the class classroom situations: students', teacher and subject's peculiarities in his choice of (Sign) Language and ensure he maintains a blend in all intricacies.

References

Bada S. O. (2015). Constructivism Learning Theory: A Paradigm for Teaching and Learning. OSR Journal of Research & Method in Education (IOSR-JRME) e-ISSN: 2320–7388,p-ISSN: 2320–737X Volume 5(6), I Pp. 66-70

Dobie R. A., and Hemel S. V. (2004). Hearing Loss: Determining Eligibility for Social Security Benefits, Committee on Disability Determination for Individuals with Hearing National Academy Press, Washington, D., C.

El-Zraigat I. A., and Smadi Y., (2012). ***Challenges of Educating Students Who are Deaf and Hard-Of-Hearin*** *International Journal of Humanities and Social* (Special Issue)

Flores, A. C. F., & Rumjanek, V. M. (2015). Teaching Science to Elementary School Deaf Children in Brazil. Creative Education, 6, 2127-2135. http://dx.doi.org/ 10.4236/ ce. 2015.620216

Goldemberg, J., (2003). What Is the Role of Science in Developing Countries?. Retrieved from: http://www.sciencemag. org/cgi/content/full/279/5354/1140

Marschark, M., Sapere, P., Convertino, C., Seewagen, R. (2005). In Marschark, M., Peterson, R., & Winston, E.A., (Eds.), Interpreting and interpreter education: Directions for research and practice. New York: Oxford University Press

Marschark, M., Leigh, G., Sapere, P., Covertino, C., Stinson, M., Knoors, H., Mathijs, P. J., Noble, W., & Burnham, D., (2006). Benefits of Sign Language Interpreting and Text Alternatives for Deaf Students' Classroom Learning. *Journal of Deaf Studies and Deaf Education* 11:4. Oxford University Press

Marschark, M., Sapere, P., Covertino, C., Seewagen, R. (2005). Access to Postsecondary Education through Sign Language

Interpreting. *Journal of Deaf Studies and Deaf Education*. 10(1) Oxford University Press.

Marschark, Shaver, Nagle and Newman (2015). Predicting the Academic Achievement of Deaf and Hard-of-Hearing Students From Individual, Household, Communication, and Educational Factors. Retrieved from https://www. ncbi.nlm.nih.gov/pmc/articles/PMC4634639/ on 18/06/2010:02:18

Omobosola, O. W. And Fatai K. O., (2018). *Educating Deaf Students in An Inclusive Classroom System; Strategies and Accommodation for Professional Preparation.* In Achieving Sustainable Development and Self Reliance in Special Needs Education, Pp. 7-19. Adeyoung Prints.

Oseni, I. A., (2017). Responsibilities of Educational Sign Language Interpreters in the Education of Learners with Hearing Impairment with Learning Disabilities. In Ademokoya J. A.; Contemporary Issues in Sign Language Interpr 81. Glory-Land Publishing

Oyawole D. O. (2017). Roles of Sign Language ıı , Teaching Biology to Learners with Hearing Impairment. In Contemporary Issues in Sign Language Interpreting, Pp. 30-39. Glory-Land Publishing Company.

Parveen, Z., (2017), Educational Effectiveness of The 5E Model For Scientific Achievement of Students With Hearing Impairment. *Journal of Baltic Science Education*, Vol. 16, No. 5. Zakia, S. D. L., Sunmadi, & Yamtinah S., (2018). The Challenges Of Science Education For Deaf Children Learning https://publikasiilmiah.ums.ac.id/bitstream/ handle/11617/ 923 2/E54.pdf?sequence=1&isAllowed=y on 18/06/2019:00:25 harmonize the fonts with others.

PROFESSIONAL COMPETENCIES REQUIRED OF SIGN-LANGUAGE INTERPRETERS IN HANDLING CHILDREN WITH COMMUNICATION DISORDERS

By

Y.O., **BOLAJI** Ph.D

Abstract

Serving children with communication disorders better often requires professional personnel with a unique, specialized set of knowledge and skills. In other words, children with communication disorders require sign language as an alternative to express their ideas, thoughts, feelings and many more through the help of sign language interpreters. Hence, this paper explores the issue of professional competencies required of sign language interpreters in handling children with communication disorders in a developing nation. It covers the concept of communication disorder; its impacts on affected children; concept of educational sign language interpreters, duties and codes of conduct that will aid them in coping with challenges of communication, so as to be accorded professional integrity and dignity like other professionals. It recommends that government should appreciate the input of sign language interpreters towards education of children with communication disorders by giving them special allowances; society should be sensitized on the impact of sign language interpreters and sign language interpreters should portray their profession well like other counterparts.

Keywords: *Professional, communication, communication disorders, sign language interpreters, developing nation.*

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

Introduction

Communication may appear simple but in fact the most difficult activity a human can perform. As the p speaking involves the coordinated activities of the stomach, mouth and lips then there is the truly complicated part of communication that is, having something to say. This requires a host of abilities, from understanding what someone else just said, to organizing what one wants to say, how to say it and putting words together meaningfully to make a sentence. Bloom (1997) in Omugor (2007) defined communication as a process by which individuals exchange information and convey ideas. It is an active process that requires the sender who formulates (encodes) a message, and a receiver who comprehends (decodes) the message. In communication, each partner is expected to be alert about the needs of the other for effective message delivery and understanding of any given information. On the other hand, communication could be hindered and communication may not be forth coming. Hence there is a communication disorder and this could be as a result of several factors. Communication disorder is an impairment in the ability to receive, send, process and comprehend concepts or verbal, non-verbal and graphic symbol systems. It may be evident in the processes of hearing, language and / or speech and it may range from simple sound repetitions such as stuttering to occasional

misarticulation of words to complete inability to use speech and language. (American Speech – Language Hearing Association, 2013)

There are several/different types of communication disorders, they include the following as described by Johnson (1991):

1. Expressive language disorder- Expressive language disorder identifies language disorder and difficulties in the ability to produce speech.
2. Mixed receptive-expressive language disorder. Mixed language disorder identifies developmental delays and difficulties in the ability to understand spoken language and produce speech. It may be developmental or acquired, individuals may demonstrate one or any combination of communication disorders; may result in a primary or secondary disability. Hence the services of a sign language interpreter is needed in order for the individual to express himself or herself and then to communicate w

speaker as if he or she is speaking directly.

Sign language is one of the systems mostly used ... interactive communication with or by persons who experience difficulties in oral communication. Sign language has a linguistic structure which can be learnt through interaction with people with hearing impairment communication disorders, and with other users. Sign language is a visual-gestured language which involves the use of hands, eyes, mouth, mimics and body movements (World Federation of the Deaf, 2013). It is a language recognized as fully developed human language independent of oral languages (Bernstein and Tigerman, 1993).

Interpreting is a highly specialized professional field. Knowing how to sign or simply knowing sign language does not qualify a person as an interpreter (Marschark, 2005). Therefore, fundamental role of an interpreter, regardless of specialty or place of employment, is to facilitate communication between persons or children who are having communication (speech and language) disorders. Educational sign language interpreters communicate between children with communication disorders and others. For example service providers, teachers, care givers siblings, parents and peers within the educational environment.

Impact of Communication Disorders on Affected Children

Children with communication disorders differ from non-communication disordered children because the former enter school with effective ways of communication (Bernstein and Tigerman 1993). They are able to receive, express and process language and as a result have extensive vocabularies. Usually, children with communication disorders do not enter school with the same language background as their hearing peers. Their unique language and communication needs present special challenges to educators regarding appropriate programming and placement. Without adequate communication skills, a child will be severely limited in language development and may lack appropriate social skills and opportunities for meaningful interaction with peers. For many children with communication disorders placed in the general classroom environment, educational interpreting is the main support service that allows them have equal access to instructi

benefit from the overall school experience (Joh

Educational sign language interpreting is given by a prof

language interpreter. This support service provides these children, their parents, non communication disordered children, the school Heads and other school personnel, the communication bridge necessary to allow full participation in the educational and social activities in the school.

Serving children with communication disorders often requires personnel with a unique, specialized set of knowledge and skills. Hence, this paper focuses on the professional competencies required of sign language interpreters in handling children with communication disorders.

Concept of Educational Sign Language Interpreters

Educational sign language interpreters are trained professionals who are able to listen to another person's choice of words, inflection and intent while simultaneously interpreting them into the visual language of signs using the mode of communication requested. They are also able to comprehend the choice of signs, inflection and intent of the person signing and simultaneously speak articulate and appropriate English. (Einar, 2004). Educational sign

language interpreters apply specialized knowledge and skills to facilitate effective cross-cultural communication accurately and impartially between people using spoken and signed languages (Registry of Interpreters for the Deaf, 2013).

Educational sign language interpreters provide communication access across all educational environments, including extra-curricular activities, recreational activities to children who have communication problems. They are fluent in the languages, gestures, symbols used by children with communication disorders and their non disordered counterparts using sign language/communication systems and spoken languages in public / private school settings. Sign language interpreters provide access to the general curriculum, classroom dynamics, extra-curricular activities and social interactions.

Furthermore, it is expected of the sign language interpreter to recognize and shape the children's communication attempts into a more formal system and accurately relay information f

and the children's peers. This relayed information teacher to appropriately set goals and monitor social a achievement.

Simultaneously, the interpreter trains the children to focus on them. Trust is established as the children discover the interpreters share all important happenings in the classroom by teachers, peers, and others with them, their conditions not withstanding.

Code of Conduct for Sign Language Interpreters

The following are the expected conduct from sign language interpreters according to the Registry of Interpreters for the Deaf (2013).

1. Accuracy

a. It is expected of sign language interpreters to provide an interpretation that meets the linguistic needs of the children. It is recognized that the children may require clarification, elaboration or adjustments in an interpreted message due to differences in knowledge base, culture and language experience. It may be necessary to seek consultation and training from people well versed in the particular culture of the children.

b. Effective interpreting requires the interpreter to prepare for classroom academic content-previewing textbooks, teacher's lesson plan or electronic presentation slides or films, and learning technical vocabulary.

c. To deliver the content and spirit of the teacher's or speaker's communication, the interpreter needs to convey the same register, emotion and melody of the speaker's /teacher's message (Antia and Kreimeyer 2011).

2. Impartiality

a. The sign language interpreter clarifies his / her role in the classroom as situations arise. For example;

i. He/she gives clues needed for successful interaction and development of children independence.

ii. He/she may expand cultural concepts in order to meet the child's linguistic needs and bridge cultural issues

iii. He/she may explain culture behaivours to the

and children.

iv. He/she may be called upon to clarify, review and reinforce concepts presented.

3. Professional Conduct

a. A sign language interpreter needs to maintain an appropriate wardrobe that will provide appropriate visual contrast. The following considerations should be made;

i. Dark colours for persons with light skin (black, blue, navy green, brown);

ii. Light colours (off white, light peach); …

iii. Slid coloured clothing (avoid stripes, polka dots, shiny materials);

iv. High necklines (no scoop necks or low v-necks);

v. Jewelry that is not visually distracting;

vi. Avoid rings, bracelets and necklaces and decorative nails

vii. Ensure good personal hygiene –avoid body odour or excessive use of perfume and so on.

b. All sign language interpreters should portray non-patronizing and positive attitude.

c. He/she may conduct professional development for staff regarding communication with the said children and use of interpreting services.
d. He/she should maintain professional boundaries, respect children's privacy and foster their independent learning. (Seal, 2004)

4 Confidentiality

a. The sign language interpreter can discuss student's information only with other members of the student's educational team. (e.g interpreters, parents, teachers, supervisors) who are directly responsible for the student for whom the interpreter service is provided in the educational setting (Omugor, 2007).
b. He/she should report directly to the classroom teacher or designated adviser or supervisor.
c. Private conversations should be treated confid
among students or between professional

d. He/she is expected to participate in the IEP tea
provide information regarding the children's communication access within educational environments.

5. Professional Development

In order to be respected as a member of the educational team, and to provide children access to the classroom, interpreters should improve their skills and knowledge continually through their career. Interpreters should improve on their skills, knowledge, and professionalism through routine training and through participation in Registry of Interpreters for the Deaf. The use of a comprehensive written professional development plan will guide the educational interpreters in meeting professional goals, including that of certification. The Registry of Interpreters for the Deaf (2013) gave the following as the duties of sign language interpreters:

1. Providing interpreting services for students with communication problems.
2. Providing voice interpreting as needed

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

3. Serving as a liaison to promote good public relations between the deaf, hard of hearing students, hearing peers, staff and parents.
4. Providing interpreting for tutoring done by regular classroom teachers.
5. Exhibiting an interest for self improvement in signing ability, interpreting skills and establishing a better understanding of the educational process.
6. Providing interpreting for school functions outside the classroom, during regularly scheduled school hours.
7. Assisting in maintaining equipment used in the classroom including auditory trainers.
8. Participating in the instructional team to provide continuity of instruction for students as identified in their individual education plan or as assigned by the teacher of the students with communication problems.
9. Conferring with regular classroom teachers and teachers of the students with communication problems in c
prepare for interpreting services.

10. Attending in-service programmes to improve ski
to deal with students who are with communication problems in their programmes.
11. Assisting with the collection and correlation of materials used with the regular students and those who are with communication problems in learning.

Recommendations

- Sign language interpreters should be allowed to express their opinions about their work, as objectively as possible in order to maintain progressive communication and dialogue.
- Government should appreciate the input of sign language interpreters towards education of children with communication disorders by giving them special allowances and scholarship to study abroad in the specific area.
- Interpreters working in schools and other institutions of higher learning face a different challenge which is unnoticed due to limited knowledge on interpreter code of ethics / conduct.

- The general public and families of children who are with communication disorders should be sensitized on the significance of sign language interpreters and the need to adhere to their code of conduct.
- The policy makers, stakeholders, employment agencies should be informed about sign language interpreting services as to accord them better treatment by their employers.
- Also, there should be social and professional relationship among other service providers in schools, workplace, public places.
- All stakeholders are expected to gain a deeper understanding of the value of interpreting and sign language interpreters in the educational sector.

Conclusion

From the statements above, it is obvious that th responsibilities of sign language interpreters are ne success of children with communication disorders in all Hence, sign language interpreters need to furnish or equip themselves with their codes of ethics/conduct, update professional development, be current and make sure they are relevant in order to be competent in this era of inclusive and sustainable development. This will keep them relevant in their various sectors/ fields and refute the wrong saying that interpreters were labelled as "people with no jobs".

References

Antia, S.D. and Kreimeyerm K.H. (2011). The role of interpreters in inclusive classrooms. American Annals of the deaf: Vol. 146 355-365 Gallaudet University Press.

American Speech Language Hearing Association (2013) Definitions of Communication Disorders/Variations (relevant paper). Available from www.asha.org/plicy.

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

Bernstein, D.K. and Tigerman, E. (1993). Language and Communication Disorders in Children. Allyn and Bacon: New York.

Bloom, L. (1997). Language development and language disorder. John Willy and Sons: New York.

Einar, Sletmo (2004). Unpublished Summer School Lecture Notes. Oslo Norway.

Johnson, K. (1991). Miscommunication in an Interpreted Classroom Interaction *Sign Language Studies,* 70,1-34.

Marschark, M. (2005). Access to post-secondary education through sign language interpreting" *Journal of Deaf Studies and Deaf Education;* 38-50.web

Omugor, J.P. (2007). Sign language interpretation services for children with hearing impairment in inclusive secondary high schools, Uganda. A thesis submitted in partial fulfillment of the requirements for the Degree of Master of Philosophy in Special Needs Education, Faculty of Education, University of Oslo, Norway.

Registry of Interpreters for the Deaf. (2013). Standard practice papers. www.tinyjurl.com/interpreting SPP.

Seal, Brana Chafin (2004). *Best Practices in Educationa* New York: Pearson Educational. Inc. 50-70.

World Federation of the Deaf (2013). "Scientific commission on sign language". Report on the status of sign language. Helsinki Finland; Miktor.

SIGN LANGUAGE INTERPRETATION: A PROFESSION OR VOLUNTEER SERVICE?

By

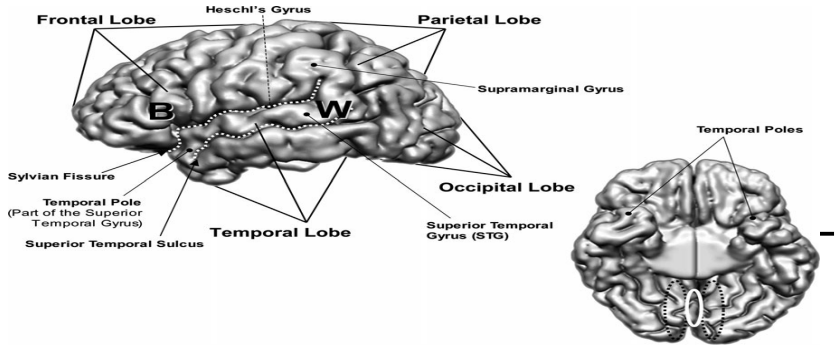
Olufemi Timothy, **ADIGUN** Ph.D

Abstracts

Communication is an integral component that is required in a standard environment for a sustainable development. However, some members of the society whose sense of hearing is non-functional for the ordinary purpose of life are not left out in the societal ecosystem. In other words, the Deaf who requires sign language, an alternative for verbal mode of communication needs a sign language interpreter to relay their thoughts, ideas, feelings and many more to the hearing members of the community. Basically, Sign Language Interpreters (SLIs) use all available strategies to ensure that the communication gaps between the Deaf and the hearing are bridged. While on this duty, many SLIs suffer varied degree of musculoskeletal injuries, headaches and dizziness after rigorous sessions of sign language interpretation. Unfortunately, despite the stress associated with sign language interpretation, it is saddening that SLI is yet to be given the recognition it deserves and obviously not well compensated for the stress- laden job which give solace to the Deaf and the hearing who requires the services of an interpreter. This treatments against an interpreter leaves a lot of questions which are yet to be answered. Therefore, this paper presents an exposé of issues of sign language interpretation, the musculoskeletal activities involved vis-a-vis the brain of SLIs. The paper concluded by highlighting how sign language interpretation in Nigeria can become an enviable profession in Nigeria.

Introduction

Deafness as a condition has a long history in the existence of mankind. Individuals living with this condition lack the ability to responds to auditory-verbal stimulus, hence, they primarily rely on gesture, pantomime and sign languages. Sign lar contrast to the auditory and vocal form of spoken lan they use the visual and gestural medium to exchan which is created in an area around the signer, called *sign space*. Within this space, hand shape, location and movement are responsible for utterance (Hafer & Wilson, 1996). Thus the form of hands, the placement of them as well as its way of movement are essential features of sign language. In addition, a manual alphabet and manual numbers help to gain better access to the language. Since the existence of man, signed languages have been widely used among the Deaf who are regarded as “Native Signers”. In other words, they use sign language as a means of communication within the Deaf communities. However, communication within this



communities is not sufficient in itself but it does when they (the Deaf) interact with "hearing communities". In order to sustain communication between the Deaf and the 'hearing" individuals, families, friends and neighbours have over the years serve to bridge the communication gaps between the Deaf and the hearing communities using what can be referred to as Pidgin Signed Language. Hence, these sets of uncertified individuals without any recourse to standardization and certification were being tagged "*Sign Language Interpreters*" because of their roles in providing essentially free services to ease the communication difficulties that may ensue.

Literarily, interpreters serve all parties in the communication exchange. While they often think of the Deaf person as the requestor of interpreting services, the reality is, all parties have an equal and mutual need for the interpreter. Therefore, the role of the interpreters appears to be very straightforward – to effectively facilitate communication between Deaf individuals and the hearing. However, the complexities of the task, the varieties or types of visual interpreting, and the enormous range of qualifications brought by the interpreters make it anything but interesting for all parties. Interpreting is a skill that requires a high level of fluency in two or more languages, with a keen ability to focus on what is being said, broad-based world knowledge based on professional vis-à-vis ethical conduct. Sign language interpreting, by history if not by definition, puts individuals in a somewhat awkward position (Marschark, Sapere and Seewagen, 2005). Interpreters need to be impartial in what they interpret, but they need to be involved and invest enough to ensure that communication is accurate and successful. They work for both deaf and hearing participants in any given situation, whereas these clients (Deaf and hearing speakers) may grossly lose on different sides if an interpreter is not involved or is not successful. Interpreting situations sometimes involve intensely private information of the sort that might be hard to share with one person (e.g. a lawyer or a doctor), and yet both parties have to depend on a third person who is expected to maintain objectivity and confidentiality regardless of the stress or personal conflicts created by the interaction. Basically, sign language interpreters are essential intermediaries, facilitating communication between individuals who use different languages cultures, and who have to resist directing or controlling the

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

interactions or injecting their own views of the participants or the content they are interpreting.

Over the last two decades, sign language interpretation has gone beyond just facilitating communication between the Deaf and the hearing but has evolved to an hydra-headed scientific operations that encapsulate all field of study with tentacles in Education, Religion, Linguistics, Archeology and Anthropology, Biology, Physics, Medicine, Physiology, and so on. More importantly, the role of Sign Language Interpreters in the educational settings cannot be underestimated. In the educational setting, they facilitate effective flow of classroom communication, and are often perceived as being solely responsible for it, bestowing on them a crucial role in the education of deaf children. Unfortunately, while they e quite a number of challenges which include but not lir overworked, little or no familiarization with the content c class, less understanding of the content registers, stress and burnout as well as carpal tunnel syndrome they (Educational Sign Language Interpreters) stand in the gap as counselors, mediators, advocates, teachers, tutorial assistants and even as *walking* dictionary to Deaf Students. In other words, aside from physical demands of the schedules, Educational Sign language Interpreters multitask their brain in milliseconds just to satisfy both the Deaf and the speaker without causing discomfort or harm to all the parties involved.

Sign Language Interpretation and the Brain

Signed languages which can be regarded as visual-spatial languages are not only used by Unimodal lingual but by Bimodal bilinguals (Emmorey and McCullough, 2008) as means of communication among communities. Bimodal bilinguals are hearing individuals who understand both a signed and a spoken language. In other words, bimodal bilinguals are Sign Language Interpreters who use sign language based on the visual modality with spatial relations to convey linguistic information (Emmorey, 2002). Bimodal bilinguals exhibit a unique form of bilingualism because their two languages access distinct sensory-motor systems for comprehension and production. In contrast, when a bilingual's languages are both spoken, the two languages compete for articulation. Therefore, it has

profound implications for how the brain might be organized to control, process, and represent two languages. According to Hickok and Bellugi (2001), signed and spoken languages, however, share the underlying structural complexities of human language. That is, all natural human languages have linguistic structure at phonological, morphological, and syntactic levels, and signed languages are no exception. At the phonological level, research has shown that like the words of spoken languages, signs are fractionated into sub lexical elements, including various recurring hand shapes, articulation locations, and limb/hand movements, among other features (Corina and Sandler, 1993; Perlmutter, 1992).

However, sign language functions on three different levels: *linguistic, symbolic and motoric* (Johnson, 1996). Con

brain has to process all three levels at once. Until precise neural pathways responsible for all the stages of sign language processing are currently not well understood. Although, Damasio et al (1986); Poizner et al (1987) and Hickok et al (2002) noted that it is the left hemisphere that is essential for comprehension of both signed and spoken language.

Neurologists have been arguing the role of the brain's left hemisphere as the origin of any language since research has proven immense right hemispheric activity in sign language (Neville, 1998; Nishimura, 1999). Thus, the question arises whether there is a hemispheric specialization for language in the brain or not. In sign language, spatial visuals made by the movement of hands in sign space bear linguistic meaning (Keil & Wilson, 1999). Thus the right hemisphere in signed languages is more active than in spoken languages while coping and comprehending with visual spatial information (Johnson, 1996). Hence, both hemispheres are responsible for sign language processing and comprehension. Experiments comparing the *contribution of movement in sign language stimuli* (Keil & Wilson, 1999) confirmed a dominant role for the left hemisphere in processing with static but not with moving signs.

Figure 1: A diagrammatic lateral view of the Left Hemisphere and undersurface of the brain. The left lateral view (top left of figure)

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

shows the four different lobes of the brain and some cortical landmarks for language processing. The front of the brain is at the left of the figure. Primary auditory cortex lies within Heschl's gyrus. This is hidden from view within the Sylvian fissure on the upper surface of the temporal lobe. Secondary auditory cortex includes surrounding superior temporal areas. The approximate locations of Broca's (marked with a ''B'') and Wernicke's (marked with a ''W'') areas are also shown. A view of the undersurface of the brain is also displayed (bottom right of figure). The front of the brain is at the top of this figure. The approximate locations of primary visual cortex (white oval) and secondary visual cortex (dotted black ovals), located at the back of the brain, deep within sulci in the occipital lobe, are indicated.(Source: Campbell, MacSweeney and Waters, 2007)

As noted by Newman, Supalla, Fernandez, Newport and Bavelier (2015), left-lateralized neural network is involved in the processing of many aspects of lexical and syntactic information in both spoken and signed languages. This includes the inferior frontal gyrus (IFG) (classically called Broca's area), superior temporal sulcus (STS) and adjacent superior and middle temporal gyri, and the inferior parietal lobe (IPL) (classically called Wernicke's area) including the angular (AG) and supramarginal gyri (SMG) (Emmorey, et al. 2002; Emmorey, McCullough, Mehta, Ponto and Grabowski 2013). Although the neural networks engaged by signed and spoken language are overall quite similar, some studies have suggested that the linguistic use of space in sign language engages additional brain regions. During both comprehension and production of spatial relationships in sign language, the superior parietal lobule (SPL) is activated bilaterally (MacSweeney, et al. 2002; Mayberry, Chen, Witcher and Klein, 2011). In contrast, parallel studies in spoken languages have found no (MacSweeney, et al. 2002) or only left (Damasio, et al., 2001) parietal activation when people describe spatial relationships. However, in these studies, signers had to move their hands whereas speakers did not; it is unclear whether parietal regions are involved in processing linguistic structure in sign language as opposed to simply using the hands to symbolically represent spatial structure and relationships. Other studies have touched on the question of symbolic communication, comparing the comprehension of sign language with pantomime and with

meaningless, sign-like gestures (MacSweeney, et al. 2004; Emmorey, Xu, Gannon, Goldin-Meadow and Braun, 2010). In signers, activation for both sign language and pantomime gestures was reported in classical language-related areas including the IFG, the posterior region of the STS (STSp), and the SMG, although typically these activations are stronger for sign language than gesture.

Working Memory and Physiological Issues in Sign Language Interpretation

Page 54

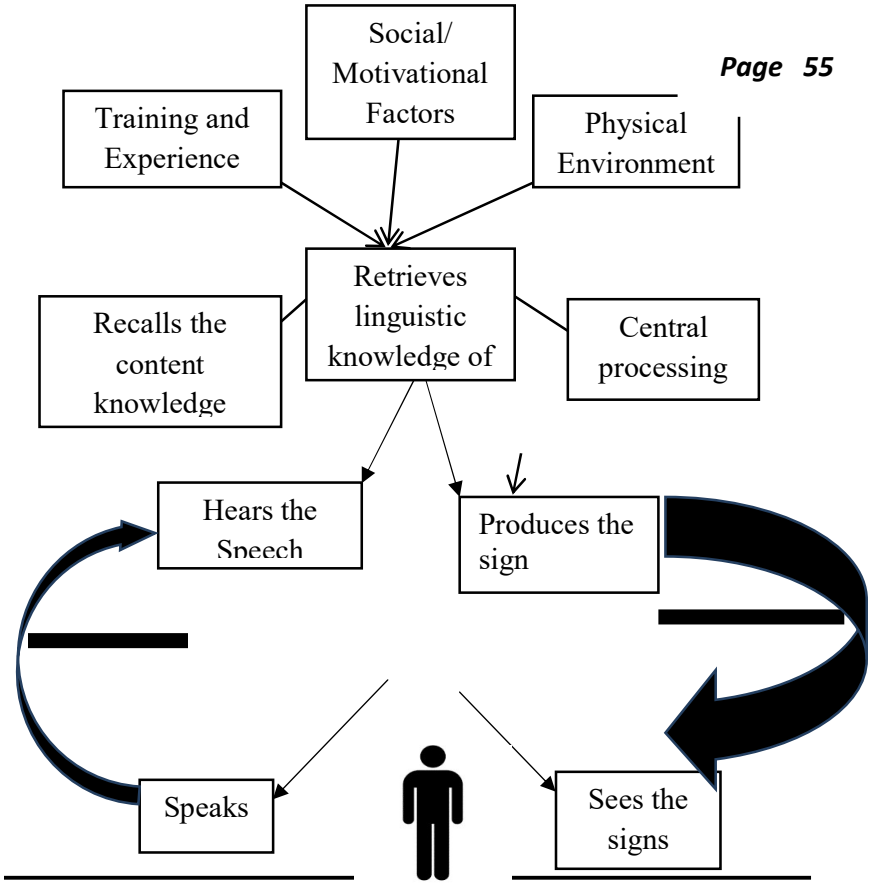
Sign language interpreting often occurs in a mode (Napier, Rohan, & Slatyer, 2005), which involves a complex cognitive activity and a heavy cognitive load. Interpretation involves a series of processes including decoding information from a source discourse, retrieving information from the episodic memory where the message is temporarily stored and formulating a sentence in a target language on the basis of the meaning of the message. However translations differ considerably in their delivery modality, availability of source discourse, time pressure, and so on. This indicates that the interpreter's mind is at constant work listening to the source language (SL) messages, processing the message, and producing the target language (TL) message while listening to a continuous flow of new SL information (*See Figure 2*). Thus, Sign Language Interpreters retain some information temporarily while processing other information (Moser-Mercer, 2010), within a time frame called the 'time lag'. Based on the concept of the time lag, there is a consensus that the cognitive activity that occurs during the interpreting process relies heavily on short-term memory (STM) or working memory (WM).

Working memory therefore, is a complex cognitive component responsible for maintenance of information during processing. Sign language interpreting, as noted by Osaka (2002) is a demanding and complex task that makes use of the working memory to its extreme. In order to perform this feat, Mizuno (2005) stated that interpreters must undertake various tasks such as

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

listening and comprehension, information retention, retrieval, production, and monitoring almost concurrently.

Page 55



Interpreter Interface between Interpreters and People conversing

Hearing and Deaf

Figure 2: A system model of working memory of a professional sign language interpreter (Woodcock and Fischer, 2008)

The tasks involved in simultaneous interpretation cannot be handled by the working memory alone. Of these tasks, listening and comprehension are mainly dealt with in the language comprehension system and production is dealt with in the language production system. Both systems are supported by the working memory in normal language processing with the central executive and memory system serving as a 'working space.'

Accordingly, working memory contains multi-modal representations, which include phonological (verbatim) representations of the source language, lexical semantic representation, propositional representation, products of inferences, situational representation or mental model, and surface form of the target language. Working memory thus provides a buffer for language comprehension and production. The buffer might be used as a means of maintaining subsequent words in a sentence while the analysis of an earlier portion is going on. Or it might retain the filler until it is integrated with the gap. In auditory comprehension, the remaining words of a sentence continue to arrive at the ear of the listener even though the analysis of the earlier portion may still be in progress. Thus, such a buffer would be useful whenever sentence processing lags behind the input. The number of words that have to be maintained in such a buffer would depend on how long various processes take (Martin, 1990). Similarly, Van Dijk, Christoffels, Postma, & Hermans (2012) suggest that "the simultaneity of language comprehension and production during interpreting makes it

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

difficult for interpreters to retain information from the source language, as it hinders the retention of information in short-term memory through phonological processes, hence, it will have an effect on the quality of the interpretation. Unfortunately, there seems to be a dearth of research into how sign language interpreters deal with processing information on increased levels which can include instances of dense information, unfamiliar topics, fast delivery of names, numbers and scientific names in the source language.

Interestingly, sign language interpreters do not only struggle with how to engage their brains for information processing per milliseconds in order to satisfy their clients (that is, the speakers: Deaf/hearing and the listener: Deaf/hearing) but also suffer some physiological disorders which tends to have a long te- their (Sign Language Interpreters) psychosocial we language interpreting is one of the highest-risk pro ergonomic injury, according to a 2008 study conducted by Rochester Institute of Technology. The research indicates that interpreting causes more physical stress to the extremities couple with a direct link between an increase in the mental and cognitive stress of the interpreter and an increase in the risk of musculoskeletal injuries such as carpal tunnel syndrome and tendonitis. Cohn et al. (1990) stated that most interpreters suffer from tendonitis in the right upper limb, at the fingers, wrist, elbow or shoulder, which the authors attributed to repetitive use and fatigue. Delisle et al. (2005) and Qin et al. (2008) noted that those sign language interpreters are exposed to repetitive wrist motions, and sustained muscle contractions in the trapezius, in excess of reported thresholds.

Additionally, Sign Language Interpreters are prone to other biomechanical defects such as the Repetitive Stress Injury (RSI). Repetitive Stress Injury (RSI) is a stress-related, cumulative type of injury resulting from constant repetitive movements. According to the Registry of Interpreters for the Deaf (RID), all sign language interpreters are at risk of developing some kind of Repetitive Stress Injury (RSI) during their careers, and if ignored, RSI can develop into a permanent disability. The injury leads to discomfort of the neck/shoulder, arm, and wrist/hand area usually associated with work-related ergonomic stressors among sign language

interpreters. While other terms used for Repetitive Strain Injuries are overuse syndrome, musculoskeletal disorders, and cumulative trauma disorders. Conditions associated with RSI include Myofascial Pain Syndrome, Thoracic Outlet Syndrome, Carpal Tunnel Syndrome, Tennis Elbow/Lateral Epicondylitis, Cubital Tunnel Syndrome, Ulnar Neuritis, De Quervain, Impingement Syndrome, Wrist Tenosynovitis/Tendinitis, Trigger Finger/Thumb.

In many of these conditions, tendons, ligaments and muscles are worn down over time doing repetitive tasks with insufficient rest periods. Awkward angles during movement, constant and continual vibrations, temperature extremes and dehydration are [illegible] other culprits that can contribute to the development [illegible] noted by Heller et al. (1986), the static, restricti[illegible] interpreters' role is a primary factor causing stress. The strain arose from a variety of factors, including working conditions, unattainably high performance expectations, and conflicting views among consumers' understanding of the interpreters' role, emotional reactions and duress, involvement in private and sensitive situations, and real or perceived skill inadequacies (Dean and Pollard, 2001). There are also individual elements that contribute to physical susceptibility to injury, and to the degree of effect of injury on the interpreter. In relation to susceptibility, the interpreter's physical characteristics such as anatomy and signing style can contribute to injury. The interpreter's subject matter knowledge relevant to the interpreted situation, combined with the situation itself, influences the psychosocial characteristics of the interpreted events. This influences the interpreter's state of mind, and could affect his physical response in the form of muscle tension.

Conclusion and recommendations

Despite the fact that sign language interpreters dissipate a lot of energy at ensuring that the communication gaps between the Deaf and the hearing is bridged, the society still sees the Sign language interpreters as helping hands who can be called upon for a service with little or no reward. Although, such societal attitude toward interpreters is largely due to the developing phases in which sign

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

language interpretation is presently undertaking. However, these phase of the present reality indicates that a lot still hangs in the balance at ensuring that Sign Language Interpretation takes its pride in the circle of professionalism. When put into consideration, the rigorous bio-mechanism involved in sign language interpretation, the skills need to be given its place of pride in professionalism. Therefore, Educational Sign Language Interpreters Association of Nigeria should strive to ensure the certification of all members as well as giving periodic training and retraining of members. There is a dire need for the association to engage in research that will influence policy formulation in other to ensure protection of members and their clients. The profession should not be seen as an *Island*. In other words, the body should through a world class resource centre engage other profession in brain and other sensory studies as it influence both the interpreters and their clients.

More so, in order to ensure maximum productivity in the output of sign language interpretation, there is need for a concerted effort by all stakeholders to ensure that the c*onduit* of communication, that is, the Sign Language Interpreters is not over used. They should work with a limit in terms of hours, reduce the duration of a single bout of interpreting. More importantly, in order to significantly enhance the working memory and reduce the susceptible injury and burnout, team interpreting with 2 or 3 people interpreting with an agreeable length of time should be encouraged. Interpreters in the educational setting should reduce the frequency of hand movement as much as they can and they should learn to create micro-breaks to help slow the pace. Interpreters, particularly those in the educational settings, should strive to improve subject knowledge so as to reduce finger spelling. Based on individual difference in reaction to pressures and stress coupled with the cognitive components of interpreting which has an enormous effect on the physical response, interpreters should create an ample time for relaxation. Relaxation should be sufficient enough to release physical tension that may be accumulated over time and they should choose their diet carefully. Warm-up and active stretching before interpreting may enhance flexibility and it increases the rate of blood flow into the muscles. The warm-up session provides adequate time for the brain to be oxygenated and to get prepared for the task of interpretation.

Warm-up sessions can include some level of light cardiovascular exercise, followed by some light stretching of the hand and wrist, shoulders and neck.

References

Campbell, R., MacSweeney, M. and Waters, D. (2007). Sign language and the brain: A review. *Journal of Deaf Studies and Deaf Education*, 13(1); 1-20.

Cohn, L., Lowry, R. and Hart, S. (1990). Overuse syndromes of the upper extremities in interpreters for the deaf. *Orthopedics*, 13, 207-209.

Damasio, H., et al. (2001). Neural correlates of naming actions and of naming spatialrelations. *Neuroimage*, 13(6); 1053–1

Dean, R. K. and Pollard, R. Q. (2001). Application of de **Page 60** theory to sign language interpreting: Implication f interpreter training. *Journal of Deaf Studies and Deaf Education,* 6(1); 1-14.

Delisle, A., Lariviere, C., Imbeau, D. and Durand, M.J. (2005). Physical exposure of sign language interpreters: baseline measures and reliability analysis. *European Journal of Applied Physiology,* 94, 448-460.

Emmorey K & McCullough S (2009) The bimodal bilingual brain: Effects of sign language experience. *Brain Lang.,* 109(2): 124–132.

Emmorey, K. (2002). *Language, cognition, and the brain: Insights from sign language research.* Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Emmorey, K., McCullough, S., Mehta, S., Ponto, L. L. B. and Grabowski, T. J. (2013). The biology of linguisticexpression impacts neural correlates for spatial language. *J Cogn Neurosci*., 25(4):517–533.

Emmorey, K., Xu, J., Gannon, P., Goldin-Meadow, S. and Braun, A. (2010). CNS activation and regional connectivity during pantomime observation: No engagement of the mirrorneuron system for deaf signers. *Neuroimage*, 49(1):994–1005.

Hafer, J. C. and Wilson, R. M. (1996). *Come Sign with us*. Washington, D.C.:Gallaudet University Press.

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

Hickok, G. and Bellugi, U. (2010). Neural organization of language: clues from sign language aphasia. In: Guendouzi, J., Loncke, F., Williams, M. (Eds.), *The handbook of psycholinguistic & cognitive processes: perspectives in communication disorders*. Taylor &Francis. pp. 685–706.

Johnson, M. H., ed. (1996). *Brain Development and Cognition! A Reader.* Oxford: Blackwell Publishers Ltd.

Keil, W.(eds.) (1999). *MIT Encyclopaedia of the Cognitive Sciences.*Cambridge: MIT Press.

MacSweeney, M., et al. (2002). Neural correlates of British sign language comprehension:Spatial processing demands of topographic language. *J Cogn Neurosci.*, 14(7):1064–1075.

MacSweeney, M., et al. (2004). Dissociating linguistic and nonlinguistic gestural communicationin the brain. 22(4):1605–1618. **Page 61**

Marschark, M., Sapere, P. and Seewagen, R. (2005). *Interpreting and Interpreter Education: Directions for research and practice.* Oxford University Press, Inc., New York.

Mayberry, R. I., Chen, J. K., Witcher, P. and Klein, D. (2011). Age of acquisition effects on thefunctional organization of language in the adult brain. *Brain Lang.,* 119(1):16–29.

Neville, H., Bavelier, D., Corina, D., Rauschecker, J., Kami, A., Lalwani, A. et al.. (1998). Cerebral organization for language in deaf and hearing subjects: biological constraints and effects of experience. *Proceedings of the National Academy of Sciences,* 95;922-929.

Newman, A.J., Supalla, T., Fernandez, N., Newport, E.L. and Bavelier, D. (2015). Neural systems supporting linguistic structure, linguistic experience, and symbolic communication in sign language and gesture. *Proc. Natl. Acad. Sci.*, 112, 11684–11689.

Nishimura, H., Hashikawa, K., Doi, K., Iwaki, T., Watanabe, Y.,Kusuoka H et al. (1999). Sign language 'heard' in the auditorycortex. *Nature*, 397; 116.

Qin, J., Marshall, M., Mozrall, J. and Marschark, M. (2008). Effects of pace and stress on upper extremity kinematic responses in sign language interpreters. *Ergonomics*, 51, 274-289.

Rochester Institute of Technology. (2008, April 19). Sign Language Interpreters At High Ergonomic Risk. *ScienceDaily*. Retrieved March 12, 2018 from www.sciencedaily.com/releases /2008/04/080417105449.htm

Van Dijk, R., Christoffels, I., Postma, A. and Hermans, D. (2012). The relation between the working memory skills of sign language interpreters and the quality of their interpretations.*Bilingualism: Language and Cognition*, *15*(02), 340–350.

Woodcock, K. and Fischer, S. L. (2008). Occupational health and safety for sign language interpreters. Toronto ON: Ryerson University.

EARLY SIGN LANGUAGE INPUT OF CHILDREN WITH HEARING IMPAIRMENT AND SUSTAINABLE DEVELOPMENT IN NIGERIA.

By

Olatunji Saheed**, OLAWALE**
&
Olabisi Kafayat, **OLATUNJI-OLAWEPO**

Introduction

Early childhood intervention is an educational supportive system for young children aged from birth to eight years with disability and /or children with developmental delay and their families. This support extends to children that are at risk for child abuse and/ or neglect. It is a situation where action is taken as early as possible to tackle problems for children before they become more difficult to reverse. The intention of early childhood intervention is to give assurance to families of these children to receive resources and support that can assist them in maximizing their children's physical, cognitive, social and emotional potentials. The case of children who have difficulty in hearing well or not hearing at all starts as the parents consult with audiologist and other experts to identify the level of hearing loss. Ozoji (2005) described children with hearing impairment or loss as those whose sense of hearing are defective and this could range from ability to hear partially to not hearing at all. Mills (1990) explained that children with hearing impairment are those who have partial hearing loss, which means that they may or may not be aware of sounds. Obi (2006) posited that early identification of hearing loss is very important in order to achieve as normal development as possible. Children with hearing impairment having been identified, it is their late language development patterns that set them apart from their normally developing peers. So when young children do not develop language at the expected rate, intervention both at home and at Preschool (or day care) is required.

The target of early intervention is to ensure that parents and other adults around the children can provide children with a lot of experiences and opportunities that will help them to gain and use the skills they need to participate meaningfully in their everyday lives and that of the societies where they find themselves. This intervention will also train parents and other members of family on how to support and nurture children, meet their needs and adapt to having them. With this training and guidance, parents can be excellent language teachers for their children with language impairments. In fact, when home-based intervention is provided by parents, children's language scores improve more than when only clinic-based instruction is provided by professionals (Cleminshaw, Depompei, Crais, Blosser, Gillette, and Hooper, 1996, Hall, Oyer & Haas, 2001).Educators and psychologists agreed that it is within the first six years that the foundations of an individual's linguistic, cognitive, social, creative, physical, moral and spiritual development evolve. Deficits in these areas of development can have long term implications for the child, often affecting his or her ability to respond to the challenges provided in the educational system.

Language as a very great factor for all round development of children, is in fact important but the fact remains that children with hearing impairment have delay in language which invariably affect other developmental milestones. Children with hearing impairment

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

comprises language whose sense of hearing even though defective, can process sound or message partially and those who cannot hear at all. The hearing level of these ranges from mild to profound, their ears could not function effectively like that of children with normal hearing (Okuoyibo, 2001). They therefore, communicate among themselves using sign language.

Sign language has been recognized as the main communication means in the Deaf community. It is a complete but complex language that use signs made by moving the hands combined with postures of the body and facial expressions for communication (Ellen, 2014). Riekehof (1993) sees sign language as a language that uses manual symbol to represent ideas and concept, it is a term used to describe the language
people in which both manual signs and finger spelling
She also observed that signs usually represent ideas
word.

Many experts such as Werner (1988) and Ugwuanyi (2009) advocated for the use of sign language to improve the education of children with hearing impairment. Sign language has proved to be a vital tool for educating the children with hearing impairment and the primary challenge in educating children with hearing impairment is meeting their communication needs. Qi and Mitchell (2012) hinted that deaf and hard of hearing students continue to lag behind their hearing peers despite promising education put in place for them and many do not acquire the knowledge and skills to reach their full potentials. Research, however, showed that many deaf and hard of hearing students enter school lacking fluency in either a signed or a spoken language (Gregory, 1986, Singleton & Morgan, 2006). One of the major reason children with hearing impairment lag behind in sign language is that many of these children are from families where parents are hearing. These hearing parents do not have knowledge about conventional sign language. So children with hearing impairment lack adequate sign language input from home, while other hearing children are acquiring and developing language when associating with family members and neighbours, children with hearing impairment lack this opportunities, to worsen the case, parents that supposed to have enrolled the ward in an early

childhood special education schools rather keeping the children at home.

Ezema (2013) averred that children with hearing impairment whose parents also have hearing impairment have been found to perform better than their peers who have normal-hearing parents on various measures of academic and social adjustment. Many have attributed this superiority to effects of early manual communication. However the problem with this interpretation is that the group of children with hearing impairment parents differs from the group with normal hearing parents along many educationally significant dimensions in addition to communication history. Of the issues related to the education and development of children with hearing impairment, none has generated more interest than the
the effect of early manual communication. Meanwhile
achieve overall development of children with hearing
there is need for parents with experts in special education to give room for early identification, educational intervention and learning of sign language which serve as the only means of communication for people with hearing impairment.

Introducing children with hearing impairment to early sign language at early years is a responsibility of both the parents and the early childhood teachers. Many researchers have demonstrated that early use of sign language with deaf babies is effective for stimulating the development of language pathways in the brain (Mayberry, 2007). Goodwyn and Acredolo's study (2000) consisted of 103, 11 month old babies that were split into groups, sign training group and the non-intervention group (control group). Results showed that the signing group reached developmental milestones earlier and found that this continued even when they were tested at age 5 compared to other groups. Goodwyn and Acredolo claim from their extensive research over the past 20 years that a child's intelligence quotient can go to "12 points higher" by using sign language in early development (Goodwyn & Acredolo, 2008). In a research study conduct by Pizer, Walters & Meizer, (2007) it was found that baby signing reduced "frustration on the part of the child, accelerated spoken language development, improved parent-child bonding, and increased intelligence quotient" (Pizer, Walters & Meizer, 2007) With

the research that is available baby signing has shown very positive outcomes to language development in children. Jillian (2016) averred that early exposure to signs will help deaf children have better academic performance compared to late exposed deaf in a variety of areas which include better performance on tests of English syntax, reading tasks, written language tasks, vocabulary and over all academic achievement. Deaf babies and young children will only receive these benefits if they have early and regular exposure to fluent, meaningful sign language.

Further research also highlighted negative effects to late language exposure as: a lack of early first language acquisition can impair ability to learn language throughout life and decreases language proficiency for any language in adulthood, late exposure to language affects linguistic processing and cognitive
just as late language development can delay cognitive
if input is delayed by as little as 4-6 years, long –lastin
be observed in language production, comprehension, and processing (Jillian, 2016).

Meanwhile, developing the language skills children with hearing impairment right from early years will afford them the opportunity to compete favourably academically with their hearing peers and contributive immensely to the achievement of sustainable development goals (SDGs).

Sustainability is the foundation for today's leading global framework for international cooperation the 2030 Agenda for sustainable development and its sustainable development Goals (SDGs).Aaron and Ibaba (2004) defined sustainable development as development that meets the needs of the present generation without compromising the needs of succeeding generation to meet their own needs. It is however imperative to adapt development option which guarantees equal opportunities to the present and future generation in the quest to achieve their developmental aspirations (Paulley, 2011). Each of the 17 SDGs has specific target to be achieved by 2030. The goals and targets are universal, reaching the goals requires action on all fronts- governments, business, civil society and people everywhere all have a role to play (IISD, 2018). Paulley and Benwar (2016) averred that these goals and targets may be achieved among others through improvement in the quality of life, poverty

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

eradication and good governance which can only be guaranteed through good quality education, especially early induction of children with hearing impairment to sign language which they will grow with and help them to benefit maximally in the classroom with sign language interpreters and make them to be self-reliant, develop intellectually , contribute economically to their nation and help to contribute positively to sustainable development. In the words of United Nations Secretary – General Ban ki-moon "The sustainable development goals recognized that early childhood development especially in sign language can help drive the transformation we hope to achieve over the next fifteen years" (Britto, 2015).

Educational sign language interpreters are professional group of people that are well trained to bridge communication gap between children with hearing impairment and hearing populace. Educational sign language interpreters transform spoken words by teachers to signs for the benefit of children with hearing impairment in early childhood special education classrooms (Olawepo, 2016). The need for the service of educational sign language interpreters has become a necessity for education of students with hearing impairment in our post primary institutions. In this level of education, students with hearing impairment depend on signed communication which sign language interpreters render to make them have equivalent access to classroom communication with their hearing peers. Despite the efforts of these experts bridging communication gap during teaching/ learning process, students with hearing impairment still lag behind academically their hearing peers and many do not acquire the knowledge and skills to reach their full potentials due to inability to understand signed communication. Gregory, (1986) and Singleton & Morgan (2006) suggested several reasons for this troubling and long-standing under- achievement. Many students with hearing impairment enter school lacking fluency in either a signed or a spoken language and service providers frequently struggle to adequately structure the language environments and to provide access and opportunities for them to learn (Knoors & Marschark, 2012, 2014). Research has also revealed cognitive differences between students with hearing impairment and hearing students that indicate the need for some different pedagogical techniques and instructional materials (Dye, Hausey, & Baveelier, 2008; Marschark &

Knoors, 2012). These students characteristics dictates decoding of signed message by students with hearing impairment. Johnson (1991) argued that student's sign language skill might be expected to predict understanding of interpreting. Many students in post primary institutions lack sign language skills because they did not grow up with the knowledge from early years. Some start to learn it when they enter school, Kersting (1997) considered those students who gained their sign skills in a college environment where there is considerable social pressure to use sign language and thus may have lesser sign fluencies; those who had appropriate language tools at their disposal throughout development demonstrate the expected language advantage. Marschark, Lang, Albertini. (2002) reported that students who start to learn sign at one year of age or before obtained significantly higher scores on the comprehension test than the later signers. This however, confirmed that long- term benefits of early sign language acquisition and it also show that prior sign language knowledge and sign language skills affect students with hearing impairment understanding of interpreting in the classroom.

Marschark and Knoors (2013) argued that successful educational interpreting requires on understanding of deaf children's cognitive development. They also emphasized the importance of a deaf child's developing theory of mind, peer socialization, and various other pragmatic language interactions as essential for their acquisition of the skills necessary to benefit from interpreting. She acknowledged the likely interaction of these processes, as deaf children may not have the skills necessary to benefit from interpreting in the classroom, a barrier which in turn affects their learning of additional academic skills (Marschark, & Sapere, 2005). This has proven that for children with hearing impairment to be able to contribute to the above stated sustainable development goals, they need to have developed sign language skills from their tender age which that would enable them to benefit maximally from interpreting at post primary classes which would later help to build their cognitive acuity and academic prowess to be able to contribute meaningful to sustainable development goals

This paper is aimed at examining the importance of early educational intervention as a panacea to developmental delay of children with hearing impairment for sustainable development.

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

Rationale for the need of early intervention for children with hearing impairment

A Child with hearing impairment in the midst of parents and adults who accept his/her and ready to help nurture his/her potentials will assure the Deaf child is successful. Such a child will do well in life.

Early intervention of children with hearing impairment will help change the young children lives. Research showed that early detection is important because 85 percent of brain development occurs before age 5 (Webster, 2015). Centre on the developing Child at Harvard University (2008) maintained that decades of rigorous research showed that children's earliest experiences play a critical role in brain development.

Parents and other members of the family ne and accept the child and work together as a team. Sho affection to children at age before 5 will help them develop language fast and also prevent learning difficulties in the future. Researchers revealed that problems like rejection can cause cerebral trauma which lead to difficulty with child's nervous system in processing and communicating information. (Webster, 2015).

A child that receive affection before age 5 will have good brain development and will be able to process and communicate information efficiently.

Research showed that Children with hearing impairment will experience improved language development when early intervention is given. When a child diagnosed to the hard of hearing receive affection and interaction from family members with the provision of hearing aids, such a child will develop oral and sign language fast. Hear-it (2016) revealed that providing children with well- fit hearing aids is associated with better rates of language development. And also that many hard of hearing who receive optimal, early services are able to "catch up or significantly close the gaps with their hearing peers". The above quotation shows that hard of hearing that receive warm attention and services from family members are likely to compete favouarably with hearing counter-parts academically.

In summary, NECTAC (2011) summarizes the need for early intervention for children with disabilities, children with hearing impairment inclusive and their families as thus:

Early intervention for children with hearing impairment will create the foundation for learning, behavior and health. This thereby reduces the incidence of future problems in learning, behavior and health status

Early intervention for children with hearing impairment prevent the persistence of ''toxic'' stress, such as extreme poverty, abuse and neglect, or severe maternal depression which can damage the development of brain, leading to lifelong problems in learning, behavior, and mental health

Through early intervention, brain of children with hearing impairment is strengthened by positive early experiences, especially stable relationship with care and responsive adults, safe and supportive environment, and appropriate nutrition.

High quality early intervention services will chan
development trajectory and improve outcomes for chil
and communities

Sign language and early intervention

Sustainable development goals are global goals, planned to integrate people with disabilities especially children with hearing impairment. However, in order to actualize these goals and make children with hearing impairment to contribute their parts to global goals, there is dire need for parents, care givers and teachers to develop sound knowledge of sign language in the children right from tender age.

Infants are born with the potential to learn any human language. Which language is actually learn depends on language access they are provided with (Wolli, 1998). Children with hearing impairment should start to learn sign language immediately their status is determined; A great deal of research has clearly demonstrated that the early years- age 2 to five – are the best time to educate children in different modes of communication and language (Stewart,2010). It is good that all the family members and teachers in the child school should be involved in this task. Sign language and spoken language should be used to make the child develop holistic language that would help him beneficial to society and particularly to future education. The deaf children that are exposed early to sign language perform better on literacy and those cognitive skills that

require a firm language foundation, regardless of whether their parents are hearing or deaf. They experience overall benefit with no drawbacks if they continue to sign while oral training is still in progress. Sign and speech facilitate each other, rather than one hindering the other.

Family can begin sign language classes as soon as the diagnosis of deafness is confirmed. Whether the family members are expert in using signs or not, the important thing is that the family communicates with the child meaningfully. Children with hearing impairment who start to communicate with their family members exhibit early language expressive similar to hearing children of the same age despite variability in the mothers' signing abilities. Family should allow the child to interact with a signing commu
the proper development of language in all its complexi

use within a community.

There are many things that deaf adults in the community will do e.g deaf adult often use 'child- directed signing in which eye gaze, methods of attention getting, rate and size of signing, and ways of making both signs and objects more visually accessible support the child's language development. All children with hearing impairment could benefit from learning this techniques because sign language skills are essential in successful use of interpreters in school.(Nancy,,John, Niparko, Christian, Gaurav, Tom, Donna,Therasa, Sasha, & John, 2015)

Tips for parents to teach sign language to children

Start simple: Use sign language books or websites to learn a few basic signs. Choose signs for words that are concrete or meaningful to the child. Such as bottle, breast, table, drink, please, eat, mom, dad etc. Teach only 3 to 5 words initially.

Use signs during normal everyday routines and activities: To help young children learn sign language, say the word as you make the sign in a meaningful real- life setting. Sign this sign every time. For example sign for 'food' hold your child or pupil on your lap with his back to your stomach, hold his hands and make the sign while saying the word aloud and pointing to the food. Encourage the child by saying 'you did it'.

Allow the child to set the pace and progress slowly: As the child masters the previous signs, you can add more but stick with basic signs for words that your child uses every day and introduce only a couple at a time.

Keep it fun: keep lessons brief and fun because of teaching sign language is to imbibe the language from early years.

Hearing impairment and sustainable development goals

Children with hearing impairment are human a

allowed to contribute their possible quota to the international development. These children have the san capability to influence the World positively, one of the ways is for the parents of these children give them love, affection and help to develop their potential through early intervention programmes.

Another way by which children with hearing impairment can contribute to the sustainable development goals is to give them equal education. Parents of children with hearing impairment after accepting the children as parts of the family and showing affections the next is to give them sound education as being given to other children in the family practicing this will remove inequalities. Britto (2015) maintained that inequality often begins before birth; early childhood development is a powerful equalizer. He further said that the first few years of a child's life offers a window of opportunity to provide interventions that can close the inequality gap between children born into disadvantage and those born with many advantages. Disadvantaged children who receive early childhood development services earn up to 25 per cent more as adults compared with children who did not receive the services and almost catch up in earnings to their non- disadvantaged peers. The disadvantaged are the children with special needs which children with hearing impairment is one of them, education of these categories of children from early years would help them to developed holistically and making them useful to themselves, contribute to the

lives of individuals positively and also contribute to the attainment of sustainable development goals.

Apart from quality education to children with hearing impairment, some of children in this category may not be able to further their education farther than secondary schools, however, parents, special teacher and counselors should encourage such children to go for vocational education which can either domicile in the school or learnt outside the school. Practicing this would make these children to self-reliant and independent to feed himself, take care of his family, contribute to the economic development of his country and invest his experience in sustainable development of the World.

Many of grown up people with hearing impairment have contributed to Nigeria teaching professions among ther

Odusanya and Mr Dagbo Suleiman Saka in Nigeri system; these two personalities have reached the hig teaching career because their parents gave them early intervention when they acquired deafness. People with hearing impairment are not the lazy type if given opportunity to serve the nation through in any capacity they are up to the task. In the deaf World especially in Nigeria, people with hearing impairment are in different sectors we have medical doctor, lawyers, teachers, lecturers, traders among other professions that they have contributed to the Nigeria economy. They have the opportunity because they are educated and given opportunity to serve. There are many of these qualities that are waiting to be employed to contribute to the sustainable development goals.

Sign Language Knowledge and Sustainable Development Goals

Sign language as a unique language among other languages has been considered as universal.

Universal in the sense that both hearing and non-hearing use it for communication, many hearing parents teach their babies to sign which they believe less frustrating to babies crying. Many parents with deaf children also learn sign language and use it to communicate with their wards which prepare them for schooling.

Sign language, deaf communities and deaf cultural practices have developed all over the world and have appeared to be diverse.

Scientific research has contributed to the recognition and visibility of sign language and the emancipation of deaf people. More non- deaf people are now using sign language and deaf communities are turning into sign language communities
(Drumming up our heartbeat, 2017).Children that grow up in an environment where every household around knows and communicate with sign language will development holistically. Sil (2016) emphasized that there is no true development without language development.
Educating children with hearing impairment is there right, Adesina and Ugbo (2016) averred that as a matter of right, youth with special needs especially student with hearing impairment deserve to be given the right type of education that will make them self reliant rather than churning out being dependants. Sil (2016) also

literacy is a core component of the right to ec
indispensable prerequisite to lifelong learning and
legacy of inequalities and restricted education opportunities.

From the forgoing, it is crystal clear that education and literacy of children with hearing impairment is their right, however, these children may not develop holistically without support and affection from parents, teachers and adult around them who help to develop appropriate language to interact, communicate and further their education. Early intervention also enable these children to become a fulfilled adult that will contribute positively to sustainable development goals.

Recommendation

Government should make sensitization awareness on radio and television stations about the importance of early educational intervention of children with hearing impairment.

Government should make sure that audiologists are employed and available to test the hearing level of babies at appropriate time

Government should make sign language a compulsory language right from pre-primary level of education

Government should employ and make available sign language interpreters at every public places (hospitals, police stations etc)

Parents of children with hearing impairment should not limit their wards education and potentials, they should allow them to further their education than secondary education

Parents should allow their children with hearing impairment to choose profession they wish to study in higher institution; they should not force a course or institution to attend on them

Parents that notice that his or her wards do not do well educationally, they should allow them to learn vocations of their choice

Parents should communicates with their wards in sign language and encourage other children in the family to follow suit.

Conclusion

Sustainable development goals are general go
whole world to benefit from and participate in. Students w

impairment who want to contribute to these goals must be
which will develop his intellectual acuity to be self reliant and giving him the capability to contribute to the attainment of sustainable development goals. Parents and teachers of children with hearing impairment should help to inculcate right from early years ability of these children to communicate well with sign language and this knowledge will acquaint them the ability to truly comprehend educational sign language interpreters at later education (secondary schools and higher institution). Consequently, this innate knowledge and ability will build their potentials, help them to be self reliant, contribute their quota to national development and sustainable development goals of the World.

References

Aaron, K.K & Ibaba, I.S. (2004). Analyzing the social sciences: some contemporary theories. In K.K. Aaron (Ed.) Social sciences in social relations: An introduction to the social sciences. Port Harcourt. Kemuela Publications.

Adesina, O.O & Ugbo, K.E (2016). Entrepreneurship Education: A tool for economic empowerment of youths with special needs in the Niger Delta Region for Sustainable development. In Adeyinka, A.A, Asuka, T.T, Agih, A.A & Paulley, F.G (Ed.).

Education and Sustainable development in the Niger Delta Region of Nigeria. Port Harcourt

and manual alphabets. Springfield: Gospel Publishing House.

Britto, P. (2015). Why early childhood development is the foundation for sustainable development. Retrieved from https://blogs.unicef.org/blog/why-early-childhood-development-is-the-foundation-for-sustainable-development/

Cleminshaw, H., Depompei, R., Crais, E.R., Blosser, J., Gillette, Y., and Hooper, C.R. (1996). Working with families. ASHA, 38.

Drumming up our heartbeat (2017). Sustainable development of sign language communities. Manchester, Ghent University/ U Gent, University of Manchester. Retrieved from http://www.signlangaugeprojects.com /en/sustainable-development-sign-language-communities

Dye, P, Hauser, P, Bravelier, D, (2008). Visual attenti children and adults: implications for learning envir Marschark, M, Hauser, P, (Eds). Deaf cognition. New York, NY: Oxford University Press.

Ellen, C.D (2014). Sign language and Early Childhood Development. Fayetteville, University of Arkansas.

Ezema E.O (2013). Effect of Total communication on Academic Achievement of Pupils with Hearing impairment in Enugu State, Department of Educational Foundations (Special Education) University of Nigeria, Nsukka.

Goodwyn, S., Acredolo, L. (2000). Impact of symbolic gesturing on early language development. *Journal of Nonverbal Behavior,* 24, http://link.springer.com/article/10.1023%2FA%3A1006653828895?LI=true#

Goodwyn, S., Acredolo. L. (2008). Baby sign language quick start basics. Retrieved from:http://www.babysignlanguage.com/basics/

Gregory, S. (1986). Proceedings of the Conference on Bilingualism and the Education of Deaf children: Advances in Practice. England, University of Leeds.

Hall, B.J., Oyer, J.J., and Haas, W.H. (2001). Speech. Langauge, and hearing disorders: A guide for the teacher (3rd ed.). Boston: Allyn and Bacon.

Hear- it (2016). Early Intervention benefit Children with hearing loss. Retrieved from https://m.hear-it.org/early-intervention-benefits-children-hearing-loss https://www.signingsavvy.com/blog/235/The+importance+of+Early+Exposure+to+American+Sign+Language+with+Deaf+Children

IISD (2018). Sustainable. Retrieved from http://www.iisd.org/topic/sustainable-development

Jillian, W. (2016). The importance of early exposure to American Sign language with Deaf Children. Signing Savvy, your sign Language Resource. Retrieved from

Johnson, K. (1991). Miscommunication in interpreted classroom interaction. Sign language studies, 70.

Kerstings, S.A. (1997). Balancing between deaf and hear Reflections of mainstreamed college students on and social interaction. Journal of Deaf studies Education, 2.

Klint Printers and Publishers.

Knoors, H, Marschark, M. (2014). Teaching deaf learners: Psychological and developmental foundations. New York, NY: Oxford University Press.

Marschark, M, Knoors, H. (2012). Educating deaf children: Language, cognition, and learning. Deafness and Education International

Marschark, M. & Sapere, P. (2005). Educational interpreting: access and outcomes. National Technical institute for the Deaf-Rochester Institute of Technology, University of Aberdeen

Merryberry, R. (2007). When timing is everything: Age of first-language acquisition effects on second-langauge learning. Applied Psycholinguistics, 28. From https//grammar.ucsd.edu/mayberrylab/papaers/Mayberry_AP_07.pdf

Mills, C. (1990). Special education for mentally handicapped pupils: ateaching manual Feshawa *Mental Health Care*.

Nancy,K.M, John, K.N, Christian, R., Gaurav, M,. Tom, H,. Donna, J. N Therasa, H,. Sasha, S., & John, D.L(2015). Should all Deaf Children Learn Sign Language? AAP News & Journal, 136, 1.

NECTAC (2011). The importance of Early Intervention for Infants and Toddlers with Disabilities and their families, U.S. TA & D Network

Obi, F.B. (2006). *Essentials of special education needs*. Calabar: K.P Okuoyibo, J.M. (2001). Foundations of Audiology. Ibadan, Emola-Jay communications INC

Olawepo, O.K (2016). Influence of stress and burnout on the efficiency of sign language interprepreters and decoding ability among students with hearing impairment in Oyo state, A project submitted to the department of special education, Faculty of Education in partial fulfilment of the requirements for the Award of Bachelor (B.Ed) in Special Education.

Ozoji, E.D. (2005).*Special needs education & rehat beginner*

Paulley, F.G & Benwar, N.N (2016). The establish University in the Niger Delta Region for Sustainable development: Professor John Cecil Buserl's Legacy. In Adeyinka, A.A, Asuka, T.T, Agih, A.A & Paulley, F.G (Ed.). Education and Sustainable development in the Niger Delta Region of Nigeria. Port Harcourt

Paulley, F.G. (2011). Quality assurance mechanisms in Nigeria teacher education for sustainable national development. Journal of sociology and education in Africa. 10 (1) Kampala. Uganda

Pizer, G., Walters, K., & Meier, R. P. (2007). Bringing Up Baby with Baby Signs: Language Ideologies and Socialization in Hearing Families. Sign Language Studies, 7(4).http://0web.ebscohost.com.library.uark.edu/ehost/detail?sid=cc3beeb1-6429-4cef-a317-4e98ab1473b4%40sessionmgr12&vid=1&hid=22&bdata=JnNpdGU9ZWhvc3QtbGl2ZS *professionals*. Jos: Deka Publication.

Qi, S, and Mitchell R.E. (2012). Large- scale academic achievement testing of deaf and hard of hearing students: Past, present and future. Journal of Deaf students and Deaf Education. Vol. 11

Riekeholf, L.L (1993). *The illustrated guide to mastery of sign language*

SIL (2016). Language and the Sustainable development goals: A symposium. Retrieved from https://www.sil.org/about/news/language-and-sustainable-development-goals-symposium

Singleton, J.L, Morgan, D.D. (2006). Natural signed language acquisition within the social context of the classroom.In Schick, B, Marschark, M, Spencer, P.E. editors. Advances in the sign language development of deaf children. New York, Oxford University Press.

Stewart,D (2010). Including sign language in the early childhood classroom. Teach Preschool Retrieved from https://teachpreschool.org/2010/09/10/sign-langua

Ugwuanyi, L.T. (2009). Effect of the three sign language thereading comprehension of pupils with impairment inEnugu state primary school for the deaf. Unpublished PhD Thesis, University of Nigeria Nsukka.

Webster, N. (2015). Early detection vital to help Children with learning disabilities, experts say. Retrieved from https://www.thenational.ae/uae/early-detection-vital-to-help-children-with-learning-disabilities-experts-say-1.32793

Werner, D. (1988). *Disabled village children.* Falo Alto: Hespenan Chapman

Wolli, B. (1998). Development of signed and spoken languages. In Gregory, S., Knight, P. McCracken, W., Powers, S. & Watson, L. (Ed.). Issues in deaf education. London: David Fulton Publishers
ZzY29wZT1zaXRl#db=a9h&AN=26265162

PROFESSIONAL COLLABORATION BETWEEN SIGN LANGUAGE INTERPRETERS AND DEAF TEACHERS IN INCLUSIVE SCHOOL FOR SUSTAINABLE DEAF EDUCATION

By

Bernice Adebimpe, **OYELEKE**

Abstract

This paper discusses professional collaboration between sign language interpreters and deaf teachers in an inclusive school system for sustainable deaf education. It highlights the relevance of both stakeholders in providing education for the deaf in an inclusive school system, map out a collaborative relationship between both professionals and discusses. The benefits of such collaboration which include: increased expertise, increased academic achievement, shared responsibility, linguistic and socio-emotional development, and increased opportunity for incidental learning. While cultural differences, power struggles, need for extra time, fear of the loss of professional discretion, independence, and privacy and imbalance in member involvement and participation are some of the challenges that can compromise successful professional collaboration. It is therefore recommended that at every inclusive

school where deaf education is provided for, the service of both sign language interpreters and deaf teachers should be engaged for a meaningful collaborative partnership. The framework for such partnership should be adequately mapped out with effective monitoring system in place.

Key words: *Sustainable development, deaf education, sign language interpreters, deaf teachers, and professional collaboration.*

Introduction

Education of the deaf has come a long way in our socie passed through different trends. From the era of ignorance partial acceptance to total acceptance. It keeps evolving through changes in the bid for continuous and sustainable development. Currently, the society is tending towards inclusive system of education, which is believed will enable more children with disabilities to access education. The students are made to get education in a school they would have attended and among peers they would have been with in the absence of disabilities, thus, barrier of segregation is being eradicated or reduced. However, significant adjustment need to be made to general education system to accommodate the needs of the students with disability and engage their potential meaningfully towards societal growth which is the aim of education for sustainability. Inclusive School Network (2015) posits that inclusion does not simply mean the placement of students with disabilities in general education classes. This process must incorporate fundamental change in the way a school community supports and addresses the individual needs of each child. As such, effective models of inclusive education not only benefit students with disabilities, but also create an environment in which they have the opportunity to flourish. Differentiated instruction, academic and behavior support, respect for diversity and effective use of available resources are some ways through which an inclusive educational practices build a school's capacity to educate all learners effectively. Therefore, to boost inclusive education for deaf learners, several services have to be incorporated into the general school to cater for

the need of these students. One of these services, that is gaining ground in schooling system, is a professional collaboration. Pounder (1999) submitted that collaborative work have become the focus of both research and practice in education during the past few years.

Education for Sustainable Development

From the very beginning of the idea of sustainable development, education has been a crucial part of strategies and policy making. The concept of education for sustainability (EfS) first emerged on the international scene in 1992 with the publication of Agenda 21 as a result of the so-called Earth Summit held in Rio de Janeiro. This then led to the proclamation of the United Nations Decade of Education for Sustainable Development (2005–2014), which rai

Page 82

expectations as stated in the Bonn Declaration, the final d the UNESCO World Conference on Education for S Development: —Education for sustainable development is setting a new direction for education and learning for all. It promotes quality education, and is inclusive of all people. It is based on values, principles and practices necessary to respond effectively to current and future challenges (UNESCO, 2009). Education for Sustainability is defined as a combination of content, learning methods, and outcomes that helps students develop a knowledge base about the environment, the economy, and society, in addition to helping them learn skills, perspectives, and values that guide and motivate them to seek sustainable livelihoods, participate in a democratic society, and live in a sustainable manner (McMillan and Higgs, 2003).

Education for Sustainable Development is an approach to teaching and learning that seeks to empower people of all ages to assume responsibility for creating and enjoying a sustainable future. It prepares people of all walks of life to plan for, cope with, and find solutions for issues that threaten the sustainability of our planet, and encourages changes in behaviour that will create a more sustainable future (UNESCO, 2002, 2008). Education for Sustainable Development (ESD) addresses the need for improvement in the quality of education for all children. Its goals include access to quality education for all children, including those with disabilities, that is characterized by interdisciplinary and holistic learning, arising from

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

value-driven, fully participatory and locally relevant teaching methodologies (UNESCO, 2009).

Inclusive School

In recent literature, inclusion takes on a broad meaning, which suggests that barriers to inclusive education must be considered at any point in time when the participation of students is restricted. Issues may arise for students as a result of a wide variety of reasons including disability, gender, behaviour, poverty, culture and refugee status (Shaddock, Smyth King and Giorcelli, 2007). A focus on individual student learning needs is obviously important to implementing inclusion, Graham and Scott (2016) refers to it as providing what is necessary for students to learn and to achieve: Inclusive education requires removing all possible barrier for all. It is vital to remember that responding to indivi needs may require extra learning support or may mea and enriching some individuals' school experiences. UNESCO (2009) noted that students with special needs receive and process information in a variety of ways (i.e., some are visual learners, some aural, some traditional linear thinkers, while others begin at unorthodox points with kinetic approaches, etc.). As such, it is important to note that creative strategies should be engaged to manage a diverse classroom by

Page 83

(I) ascertaining how each special needs student learns,
(II) helping them discover their unacknowledged capabilities,
(III) expanding their strengths and diminishing their weaknesses.

U.S. Department of Education (2015) survey shows that currently, approximately 87% of all deaf students attend general education classes with typical hearing peers for some portion of their school day. This statistics portends that a significant proportion of deaf students are receiving education in an inclusive school. Therefore, it is noteworthy to discuss how to modify the general school system to accommodate the needs of special students among whom are the deaf students.

An inclusive school setting for the deaf describes a co-enrollment model of educating deaf students, a team consisting of a teacher or

sign language interpreter of deaf students and a regular classroom teacher to team teach a group of deaf and hearing students within the same classroom. The purpose of this model is to put deaf students on an equal footing with full access to classroom communication and learning (Kirchner, 1994). One of the goals of educating a deaf child in an inclusive setting is to prepare them for inclusion into the society in their adult life or as a worker in a hearing community. Inclusive system of education enables hearing students to see the abilities of deaf students. Likewise, daily positive interaction of deaf students with hearing students will reduce or eliminate fear of the hearing world (Jimenez-Sanchez and Antia, 1999).

Professional Collaboration in Education of Deaf Students

Collaboration is defined as professionals assuming complementary roles and cooperatively working together, sharing responsibility for problem solving and making decision to formulate and carry out plans to achieve specific professional task (Fagin, 1992). In teaching profession, Dufour, Dufour and Eaker (2014) define collaboration as a team of teachers who work interdependently to achieve common goals – goals linked to the purpose of learning for all, for which members are held mutually accountable. De-klerk and Knoors (2016) submitted that effective collaboration requires time; appropriate collegial attitudes; general mutual gains: sharing knowledge, positive attitude to diversity, using each other's teaching competencies. Professional collaboration has been noted to exist among service providers for deaf students. Collaboration between audiologist and special teachers (EAA, 2015), between itinerant teachers and general teachers (Luckner, 2016), likewise between deaf teachers and hearing teachers (Jimenez-Sanchez and Antia, 1999). Each of these collaborative partnerships contributed to general development of deaf education where it was practised. Therefore, it can be observed that meaningful collaboration will promote deaf education for sustainable development. De Klerk and Knoors (2016) submitted that collaborative teaching is a workable practice in an inclusive system of education.

In general, collaborative models among professionals have demonstrated a positive impact for students whose needs diverge from those of the general population in schools. Collaborative efforts

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

have shown positive impact on students' academic performance, attitudes, social skills, and self esteem, and on teachers' levels of comfort and competence (Steven and Slavin, 1995). Students can perceive the different roles of different teachers in collaborative teams and can select whom to consult under different situations and for different purposes (Pugach and Wesson, 1995). Teachers have found problem solving in a collaborative situation more effective than when alone and have developed more creative ways to promote independent learning in their students (Jones and Carlier, 1995). Jimenez-Sanchez and Antia (1999) added that professional collaboration between deaf teacher and hearing teacher is a way to provide access to deaf role models using the deaf teacher included in the team. Such teams may be a powerful way to address the linguistic and social-emotional needs of deaf students. The team approach provided children with a model of interaction between deaf and hearing individuals based on mutual respect, collaboration and equal status.

Model of Professional Collaboration between Hearing Teacher / Sign Language Interpreter and Deaf Teacher in an Inclusive School

The study of Jimenez-Sanchez and Antia (1999) described a professional collaboration between hearing and deaf teachers. It was discovered that in an effective collaborative teaching, the factor that determined role division was area of expertise. Individual preferences and abilities determined the type of task each team member performed. Role is also distributed based on hearing status. It will be impossible for a deaf teacher to serve as interpreter. The hearing interpreter served as a bridge to information and communication to the deaf teachers. This will increase their effectiveness. In this model, there was mutual appreciation. For a successful collaboration, team members should be respectful and supportive of one another; trust between each member was mentioned as an important element.

Benefits of Professional Collaboration in Deaf Education

There are a range of benefits and costs associated with collaboration. Many of the benefits could be characterized as resource gains. These gains include resources such as increased

expertise, knowledge, and skills available for shared educational problem-solving. Also, the efforts of more personnel, with a greater array of information and perspectives, may be available to address student learning or related concerns. These combined resource gains promise to enhance school effectiveness (Pounder, 1999). Collaborative teaching in deaf education increases academic achievement for deaf students (Akiba and Lang, 2016) which is stemmed from greater academic expectation of the teachers. Other benefits are linguistic and socio-emotional development, increased opportunity for incidental learning, having an adult deaf teacher as a role model (Jimenez-Sanchez and Antia, 1999). Teachers also benefit from the collaboration by having someone to share responsibility with and helping one-another's weakness. The skills of the teachers improved in a collaborative teaching and there is increased positive attitude to diversity (De-Klerk and Knoors, 2016). Largely, collaboration between sign language interpreters and deaf teachers increases access to quality education for deaf students; promotes interdisciplinary and holistic learning; and make the students fully participatory both in the process of learning and in their future career. It equally helps them to positively contribute to solve national problems which are the goals of education for sustainability.

Challenges of Professional Collaboration in Deaf Education

Pounder (1999) pointed out that the benefits of a professional collaboration may be offset by the costs associated with it. These costs include increased time and effort associated with joint planning, communication, coordination, and monitoring of complex collaborative programs and processes. These costs can contribute to inefficiencies in achieving educational goals and objectives. Inconsistent or inadequate commitment, input, and information among collaborative partners can further compromise the effectiveness and/or efficiency of shared efforts. In sum, the gains in school effectiveness promised by professional collaboration may be compromised by the costs or inefficiencies that can occur with it. Jimenez-Sanchez and Antia (1999) noted cultural differences as constituting a challenge to building trust in collaborative teaching. There is need to understand the deaf culture by the hearing interpreter. So also being used to autonomy can make team-teaching

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

difficult to adapt to. Finding the time to plan together was also reported as a recurrent challenge. Perez (2015) pointed out that collaboration can lead to power struggles and frustration if there is not an understanding of the stages of team development. To forestall frustrations minimize crisis, there is need for the stakeholders to acknowledge one another, have a clearly map-out framework of executing task. De-Klerk and Knoor (2016) highlighted the creation of a place and need for extra time as some of the challenges in a collaborative teaching. The regular classroom setting and school time-table may be unfavourable towards a collaborative teaching between sign language interpreters and deaf teachers.

Pounder (1999) mentioned the fear of the loss of professional discretion, independence, and privacy as a challenge. Conflict can occur over a host of issues, including differences in educational philosophies, values, goals, instructional techniques, work priorities, and role expectations. However, one area that seems to have particularly strong potential for conflict is the imbalance of inputs and influence by collaborative members. When there is a reasonable balance of inputs among the participating partners, there is much greater potential for effective problem-solving, decision-making, work effort, and work results. A situation where a partner tends to exercise too much control or conversely, less active poses a problem to the success of collaborative teaching. An imbalance in member involvement and participation in team activities is a touchy interpersonal process to address and remedy. Pounder (1999), therefore, advised that those initiating collaborative programs or functions must give serious consideration to organizing structures and processes that minimize the challenges that can kill collaborative efforts. In other words, collaboration leaders must consistently consider how to reduce "hindrance" factors such as unclear goals and expectations, unproductive meetings, complicated communication patterns, complex coordination plans, or excessive paperwork, documentation, or other costly monitoring functions. Leaders must explore ways to capture the rewards of collaborative work without making the work too difficult, time-consuming, or frustrating to accomplish.

Framework for Professional Collaboration between Sign language Interpreters and Deaf Teachers in Inclusive School

Core Responsibilities of Sign Language Interpreters	Collaborative Activities	Core Re Deaf Tea
• Interpret for deaf students in subjects outside the field of the deaf teachers. • Bridge information and communication gap between the school and both deaf staffs and students. • Serve as resource person to deaf students in subjects of expertise.	• Planning and goal setting. • Work closely with regular teachers. • Give feedback to school authority • Contact with other staff and parents of the students when need arises. • Collecting study and academic material for the students. • Encourage high scholastic attitude in deaf students. • Mutual respect for one-another's roles.	• Teaches deaf students in subjects of expertise i.e. pull-out of the general classroom. • Serve as resource person to deaf students in related fields. • Role model to deaf students.

Page 88

Recommendations

This paper has shown that collaborative partnership between sign language interpreters and deaf teachers is beneficial, productive and workable practice in the education of deaf learners in an inclusive school system. It is therefore recommended that at every inclusive school where deaf education is provided for, the service of both sign language interpreters and deaf teachers should be engaged for a meaningful collaborative partnership. The framework for such partnership should be adequately mapped out by school management. The school curriculum should be modified to accommodate such collaborative partnership and effective monitoring system should be put in place.

Page 89

Conclusion

In summary, this paper gives insight into what collaboration between deaf teachers and sign language interpreters in an inclusive school looks like. It also highlights the benefits of such collaboration and challenges thereof. It states out factor that guide assigning roles in such collaboration and gives a framework of collaboration between sign language interpreters and deaf teachers in an inclusive school. It is, therefore, recommended that at every inclusive school with deaf students, services of both sign language interpreters and deaf teachers should be engaged meaningfully for collaborative partnership towards a sustainable development of deaf education.

References

Akiba and Lang (2016). In De-klerk, A. and Knoor, H. (2016). Ongoing professional development of itinerant and mainstream teachers of deaf learners. Redbound Univerity.

De-klerk, A. and Knoor, H. (2016). Ongoing professional development of itinerant and mainstream teachers of deaf learners. Redbound Univerity.

Dufour, R., Dufour, R. and Eaker, R. (2008). Revisiting professional learning communities at work: New insights for improving schools, Bloomington publishers.

EAA. (2015). Supporting students who are deaf and hard of hearing: recommended roles of educational audiologists and teachers of

the deaf and hard of hearing. Educational Audiology Association. www.edaud.org.

Fagin, C.M. (1992). Collaboration between nurses and physicians: no longer a choice. *Nurse health care, 13(7).*

Graham, L. and Scott, W. (2016). Teacher preparation for inclusive education: initial teacher education and in-service professional development. Victorian department of education.

Inclusive School Network (2015). Together we learn better: inclusive schools benefit all children. https://inclusiveschools.org/together-we-learn-better-inclusive-schools-benefit-all-children/. Retrieved 12th May, 2019

Jimenez-Sanchez, C. and Antia, S.D. (1999). Team teaching in an integrated classroom: perception of deaf and heari
*Journal of Deaf Studies and Deaf Education,*4(3).

Jones, M.M., and Carlier, L.L. (1995). Creating
opportunites for learners with multiple disabilities:a team teaching approach. *Teaching Exceptional Children, 11,23-28.*

Kirchner, C. (1994). Co-enrollment as an inclusion model. *American Annals of the Deaf,* 139: 163-164.

Luckner, J.L. (2016). Itinerant teaching-An introduction to educating children who are deaf/hard of hearing. Ebook.

McMillan and Higgs. (2003). In National Education for Sustainability K-12 Student Learning Standards, www.uspartnership.org.

Perez, J. (2015). Taking the doors off the classroom through collaboration. Hotchalk Educational Network.

Pounder, D.G. (1999). Opportunities and Challenges of School Collaboration. *Review, 40.3*

Pugach, M.C. and Wesson, C.L. 1995. Teachers and students' views of team teaching of general education and learning disabled students in two fifth grade classes. *Elementary School Journal, 95,279-296.*

Shaddock, A., Smyth King, B. and Giorcelli, L. (2007). Project to improve the learning outcomes of students with disabilities in the early, middle and post compulsory years of schooling. Canberra, ACT: Australian Government Department of Education, Employment and Workplace Relations.

Stevens, R.J. and Slavin, R.E. (1995). Effects of a cooperative learning approach in reading and writing on academically

handicapped and non-handicapped students. *Elementary School Journal, 95, 241-261*

UNESCO. (2009). Bonn Declaration, UNESCO World Conference on Education for Sustainable Development, Bonn, Germany, 31 March to 2 April 2009. Available online:http://www.esd-world-conference-2009.org/fileadmin/ download/ESD2009_BonnDeclaration080409.pdf (accessed on 20 March 2013).

(2008). *Teachers' Guide for Education for sustainable development in the Carribean*. Santiago Chile: Salesianos Impresores S.A

___ (2002). *Teaching and Learning for a Sustainable Future: A Multimedia Teacher Education programme*. Griffith University, Australia.

U.S. Department of Education. (2015). *37th Ann*
Congress on the implementation of the Ind
Disabilities Act, 2015. Washington, DC: Office of Special Education Programs.

ACQUISITION OF SIGN LANGUAGE SKILLS FOR SUSTAINABLE DEVELOPMENT OF DEAF EDUCATION IN NIGERIA

By

Joseph Toyin, **AMEHO,**
Temitope Rasheedat, **ARANMOLATE**
&
Ebi Kalu, **UGBO**

Abstract

Deaf education can only be possible with a free flow, stress free communication. Most schools for the Deaf in Nigeria use sign language as a means of communication during teaching and learning. This paper discussed the place of sign language in the education of the Deaf. Since education transcends what transpires in the classroom, the acquisition of sign language skill by parents and other stakeholders in the education and welfare of the Deaf will go a long way in making their education sustainable. This paper further explained that the acquisition of sign language skills by hearing persons, will not only enhance a sense of belonging in persons with hearing impairment but will also help in mainstreaming them in the society wherein they can contribute their quota to national development. It therefore recommended that parents should make the learning of sign language a priority. It equally recommended the

inclusion of sign language in the curriculum as a subject to be learnt by all students in the secondary schools.

Introduction

Sustainability of education depends on a lot of factors, which in most cases, transcends the four walls of the classroom. For a sustainable deaf education in Nigeria, the place of language and unhindered communication within and outside the school, cannot be over emphasized. An education that will go beyond the achievement of classroom objectives to the full integration of students impairment into the society, calls for inclusive coll stakeholders. For any meaningful collaboration, in participating actors must make conscious efforts to acquire the language of communication. Persons with hearing impairment, with sign language as their means of communication, are yet to be fully integrated into the society. Most Nigerians, for example, still consider persons with hearing impairment as disabled language wise. Sign language may not be poetic as French language or widely used as English language, but it is an important form of communication that reduces the communication gap between the hearing and the deaf (Sokale, 2010). According to Adigun (2018), sign language has all the features of any language; that is, it is a rule governed system using symbols to represent meaning. Ugbo, Atteng and Amangala (2018) corroborated that sign language is the native language or the mother tongue of persons with hearing impairment of the congenital type.

Sustainable Development of Students with Special Needs

On the 25th September 2015, world leaders at the United Nation Sustainable Development Summit adopted the 2030 Agenda for Sustainable Development which include a set of 17 goals. Out of these goals, the fourth goal is quality education. This initiative aims at ensuring inclusive and equitable quality education and promoting lifelong learning opportunity for all. The target is to ensure that by 2030, all learners will acquire the knowledge and skills needed to promote sustainable development (The Global Goals for Sustainable Development, 2017). Goal 4 of the SDG is one of the 17 global goals

that prescribes and enforces inclusive and equitable quality education for all learners. This implies that every child, disability notwithstanding, should be given every needed support to learn like others according to his abilities and peculiarities. However, the nature of students with disability has made collaboration of stakeholders a necessity without which it will be difficult to promote a lifelong learning opportunity for all.

In the discussions that gave birth to SDG4, the need for an integrated approach was emphasized. This reflection relates to integration of efforts within the education sector, across sectors and across spatial dimensions. Examples focused on t
partnership/collaboration and the role of different st
building effective models for positive change. The
integrated approach aligns with the emphasis placed on cross-dimensional initiatives and the 2030 Agenda's focus on a collaborative and integrated approach to development (The Common Wealth Education Hub, 2015). Hence, for a sustainable Deaf education, all stakeholders must be actively involved. This involvement will be more meaningful when the stakeholders can communicate in sign language,

Language defined

Language can be defined as the use of arbitrary vocal symbols in communication by people within a given environment. Human language is unique because it is acquired through learning rather than biological inheritance. It is an arbitrary symbol because it is made up of signs and sounds which have meanings given to them arbitrarily by its users. Anwan, (2001) agreed that language can be seen as a system symbols used for the purpose of communication. Innocent (2001), cited the position of the African Commission on Human and Peoples Right, that Language is an integral part of the structure of culture. It, in fact, constitutes its pillar and means of expression par excellence. Its usage enriches the individual and enables him to take active part in the community and its activities. To deprive a man of such participation amounts to depriving him of his identity. Without overstressing the obvious, the above definitions and explanation have not in any way sidelined sign language as means of communication that can be learnt. It equally lent credence to the fact

that sign language, being a cultural identity of the Deaf community, should be learnt by all who have interest in the education and welfare of persons with hearing impairment.

The concept of Sign Language

Sign Language, as the name implies is, is the use of sign in communication. It is the act of talking with hands, face and body movement. In sign language, the organ for listening or hearing is not the ear but the eye. Sokale (1997) opined that sign language is the system whereby signs are used to represent particular letters, words ideas, values and concepts. Persons with hearing i
naturally take to signs as their means of communication. S
of sign language is not only a unifying factor but also a
ingredient in deaf communities. Learning of sign language, unlike the erroneous prejudice of the hearing world, is not difficult. It is the same with the learning of any second language. One of the impediments to the learning of sign language, as well as other spoken languages, is lack of interest. Least of the evidences that shows the simplicity of sign language skill acquisition, is the growing number of sign language interpreters both at home and abroad.

Gbegbin (2001) agreed that sign language has helped to bridge the communication gap between the deaf and the hearing in many developed countries. In its own right, sign language is linguistically rich. Sokale (2010) succinctly agreed that sign language has its own grammatical rules, syntax, phonology, morphology and other linguistic features like any other spoken language. Karen and Roxanne (1997) asserted that any person who studies a second language quickly learns that there is a great deal more to the task than "learning new word for things". Languages have their own structure, logic flavour and their own personality. They follow particular rules of use on everything from how to express tense (past, present and future) to syntax (the order of the words) and many other elements. This is true for sign language as it is for spoken language. There are different types of sign language like the American Sign Language(ASL), British Sign Language(BSL) etc, but the prevailing one used in Nigeria is the American Sign Language (ASL). The ASL is used by persons with hearing impairment and in "deaf cultures or communities" to express ideas and feelings.

Acquisition of Sign Language skills for Better Deaf Education

From the foregoing, it can be seen that a sustainable education requires a concerted effort from all stakeholders. David Kilgour (1999) opined that language is obviously a vital tool. Not only is as it a means of communicating thought and ideas, but it forges friendship, cultural ties and economic relationships. Innocent Maja (2009) corroborated that language can serve in all spheres of social life, to bring people together or to divide them. The acquisition of sign language skills by hearing persons in the society will not only give persons with hearing impairment a sense of belonging b[illegible] instill in them a positive self-worth capable of boosting the

performance. Gbegbin (2001) pointed out that most par[illegible] deaf children have not sufficiently appreciated the need to learn sign language in order to communicate with their deaf children as they normally do with their hearing children. The hearing persons who do not understand what it feels like to be living in a world of perpetual silence, have attributed a lot of negativities to the attitude and temperament of persons with hearing impairment without trying to understand them. However, this perceived negative behaviour of the deaf has been found to stem from communication barrier. Language is a part of culture and when one's language is not understood, one's way of life becomes misunderstood.

According to Adediran (2003), the acquisition of language is the responsibility of all. The environment needs to be stimulating, family should engaging the hearing impaired in conversations, errand running, domestic chores and play activities among others. The temperamental attitude of person with hearing impairment in the society, as against the peaceful conduct exhibited in their deaf communities, is precipitated by negative societal behaviours toward them. The withdrawal, sense of insecurity and hostility shown by persons with hearing impairments are mere reactions to societal negative attitude to them. Whereas, a sustainable deaf education can only take place where all relevant stakeholders in the education of people with hearing impairment exhibit congenial relationship with the deaf.

Recommendation

The following recommendations will go a long way in making deaf education sustainable in Nigeria:

- Stakeholders in deaf education should not only perfect their sign language skills but also engage in intensive awareness for sign language skills acquisition.
- Government should introduce sign language as one of the class subjects taught in Nigeria regular schools.
- Stakeholders should create more opportunities for news and other public programmes to be interpreted in sign language.
- Government and relevant stakeholders should employ sign language interpreters in public institution, minis[illegible] institutions etc. to bridge communication gap.

- Associations and organizations should be enc[illegible] introduce rudimentary sign language classes for their staff.

Conclusion

The acquisition of sign language by the hearing is as easy/difficult as the learning of any other language. However, whatever benefits derivable from the learning of any additional language is equally applicable to the learning of sign language. If all stakeholders in the education of students with hearing impairment can go the extra mile of acquiring the skill of sign language, it will give the students with hearing impairment a sense of belonging with positive self concept that will enhance their academic performance. Since education transcends the four walls of the classroom, friends and family will be able to continue from where the classroom teacher stopped in the education of students with hearing impairment when they can communicate in sign language. Also, take home assignments and other assistive extracurricular activities become easier for students with hearing impairment when those around them can communicate freely with them. From the foregoing, the acquisition of sign language skill by relevant stakeholders will lead to sustainable deaf education.

References

Adediran D.A (2003). *A manual on Speech and Language Therapy.* Lagos Awoleye press limited.

Adigun, O. T, (2018) Harmonizing scientific sign language for the deaf learners. In International Journal of Issues on Disabilities (IJID). A publication of the National Resource Centre for the Disabled (NRCD), 2nd ed, (1)45-57

Anwan A.I. (2001) *Psychology: Aspect of Human Development (Second Edition)* Enugu: Academic Printing.

David Kilgour (1999), *Importance of Sign Language* www.david-kilgour.com/mp/sahla.intn

Gbegbin J.A. (2001), Promoting interesting communicating with the deaf: The challenges of the new politial dispensatic Ademokoya ed: Exceptional Nigerians in the N Dispensation (Papers in Honour of Dr. P.O. Mba a Options Books.

Innocent M. (2009) *Importance of Language. Retrieved from www.mazwi.net/essay/theimportanceoflanguage.*

Karen L & Roxanne H. (1997), *Sign Language Made Simple. A complete introduction to American sign Language*. New York: Broadway Books.

Sokale A.A. (1997), *Talking Fingers.* Ibadan Detwins Grafik Designs.

Sokale A.A. (2010) *Comparison of Picture Exchange Communication System and Sign Language Strategy in the language Acquisition of Artistic Children.* In Eureka International Journal of Educational Studies (3) Plateau: Eureka Academic foundation.

The Common Wealth Education Hub (2015) Sustainable Development Goal 4. retrieved 3/7/2017 from www.thecommonwalth.educationhub.net.

Ugbo, E.K. (2017) Understanding special needs education. Abeokuta: Pee & Gee Press and Publishers.

Ugbo, E. K, Atteng, C.J and Amangala, O. T (2018). Language interference and the academic performance of students with hearing impairment in Nigeria in International Journal of Issues on Disabilities (IJID). A publication of the National Resource Centre for the Disabled (NRCD), 2nd ed, (1)111-120.

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

THE IMPACT OF ON-THE-JOB TRAINING ON ACHIEVING SIGN LANGUAGE INTERPRETERS' PRODUCTIVITY FOR SUSTAINABLE DEVELOPMENT OF DEAF EDUCATION IN A DEVELOPING NATION

By

Adebayo Adekunle, **AKINOLA**

&

Chidi Topaz, **OLUJIE**

Abstract

This paper investigated the impact of on-the-job training on achieving sign language interpreters' productivity for sustainable development of deaf education in a developing nation. The main objective of the paper was to examine how on-the-job training improves sign language interpreters' productivity in achieving sustainable development of Deaf education. Descriptive survey research design was adopted for this study and the population of the study consisted of sign language interpreters from four higher institutions in Nigeria. However, a sample of 100 respondents was selected randomly for the study. More so, a structured questionnaire was adopted for this

study. To guide this study, three null hypotheses were formulated and tested at 0.05 level of level of significance using Chi-square. The findings of the study revealed that: on-the-job training is very essential for the professional growth of sign language interpreters. It was also found that on-the-job training makes sign language interpreters to have more knowledge in the work which will, in turn, boost their performance. More so, in the aspect of sustainable development of deaf education training is very important as there is a strong correlation between sign language interpreters' on-the-job training and development of deaf education. Based on the findings, it was recommended among other things that: the management of any organisation where sign language interpreters are employed should make it a point of duty to detect flaws in performance and productivity of sign language interpreters and correct such. The management should avoid factors that could cause low performance and productivity such as absenteeism, poor public relation, lack of good managerial styles as these factors could retard the growth of deaf education.

Introduction

Sustainable development ties together concerns for the carrying capacity of natural systems with the social, political, and economic challenges faced by humanity. Kahle (2014) explained that sustainability is the practice of reserving resources for future generation without any harm to the nature and other components of it. Sustainable development (SD) is defined by Butlin (1999) as "development that meets the needs and aspirations of the present without compromising the ability of future generations to meet their own needs". Thus, sustainable development, according to Melvin (2014) is the organizing principle for sustaining finite resources necessary to provide for the needs of future generations. It is a process that envisions a desirable future state for human societies in which living conditions and resource used continue to meet human needs without undermining the "integrity, stability and beauty" of natural biotic systems.

Sustainable development has been described in terms of three dimensions, domains or pillars. In the three-dimension model, these are seen as "economic, environmental and social" or "ecology, economy and equity". This has been expanded by some authors to include a fourth pillar of culture, institutions or governance (United Nations, 2014) The United Nations Conference on Sustainable Development (UNCSD), also known as Rio 2012, Rio+20, or Earth Summit 2012, was the third international conference on sustainable development, which aimed at reconciling the economic and environmental goals of the global community United Nations (2014). An outcome of this conference was the development of the Sustainable Development Goals designed to promote sustainable progress and eliminate inequalities around the world. Prior to the third republic in Nigeria, there has been a general resistance to investment in training in the public service because of the belief that an employee employed under a merit system must presumably be qualified. Training is the process of learning the skills that one needs to do a job. A result-oriented public or private organisation will always need to recruit and train specialised personnel. Abiodun (2008) submitted that training is a systematic development of knowledge, skill and attitude required by employees to perform adequately on a given task. Training ensures that organisational members possess the knowledge and skill they need to perform their job effectively and adapt to changing environment.

According to Abonyi (2007), the role played by staff training can no longer be over emphasised as many have come to recognise that training offers a way of developing skills, enhancing productivity, guaranteeing quality of work and building workers loyalty to the firm. Training of educational sign language interpreters become necessary in view of advancement in modern world, given the growing complexity of the needs of deaf population and the rapid changes in educational terms and technological advancement, which in turn necessitates the need for training and development of sign language interpreters. However, on the job training according to Kulkani (2013) is job instruction, apprenticeship and coaching, job rotation and training through step by step procedures. On-the-job training, in the submission of Johnson (2011), refers to the process of learning a new or the same old skill or trade for the same group of personnel. He hinted that on-the-job training is supposed to be on regular basis

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

to avoid personnel obsolescence due to technical changes and the tendency to forget. This short-term instruction course could useful be for re-acquainting personnel with skills previously learnt or to make one's knowledge or skills up-to-date. In the opinion of Stahl (2000), there is a need for training and staff development among workers in various public organizations. Steinmetz (2005) stated that as a man invented tools, weapons, clothing, shelter and language, the need for training becomes an essential ingredient in the march for civilization. He further stated that man possesses ability to pass on to others knowledge and skill gained in mastering circumstances and he concluded that a well-trained and committed workforce in an organization will manifest productivity and efficiency.

The goals of Deaf education and the aspirations of Deaf people also keep changing in line with the realities of time. Technology keeps getting sophisticated, and these warrant the development of new terminologies. These keep increasing the need for the well-trained sign language interpreters to meet the yearnings of deaf individuals who are the major consumers of sign language. Training and on-the-job training helps to ensure that sign language interpreters possess the knowledge and skills they need to perform their jobs effectively (Steinmetz, 2005). On-the-job training is the method used to acquire specific skills while the individual is performing the assigned responsibility. It may be required to improve the staff who have inadequate sign language interpreting proficiency for his job performance who might have been employed in a situation of acute manpower shortage. In this sense, an organisation that invests in training and development tends to have more success than the one that does not. On-the-job training contributes to the improvement, updating and recycling the knowledge and skills required of sign language interpreters. It is also an effort that seeks to improve the economic well-being and quality of life of sign language interpreters (Adebayo, 2002).

According to the assertion of Nellie and Smith (2006), on-the-job training should be designed so that sign language interpreters will acquire the skill, knowledge and levels of competence they will need to achieve the goals of sign language interpreting being recognized as a profession. However, the success with which sign language interpreting is being accorded the status of a profession

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

depends largely on the ability and expertise of sign language interpreters in meeting the needs of the deaf and the demands of their job. Such ability and expertise usually stem from the qualitative knowledge possessed and standard training received.

Statement of the Problem

It has been observed that the plans of many schools, institutions and organisations are on investment in acquisition of sign language interpreters just for the achievement of immediate goals of the schools, institutions or organisations while institutions or organisations rarely pay attention to job improvement of the interpreters and how they can improve their productivit

will impact positively on deaf education. Most schoc and organizations do not consider the necessity for a and sustained training and development for sign language interpreters in order to upgrade their performance and increase their productivity. In situations where time and money is committed to the development of sign language interpreters as a result of identifying the need for on-the-job training, the exercise is often inappropriate, haphazard or lopsided in terms of content and participation in such a way that the productivity of sign language interpreters and the quality of deaf education are negatively affected. As such, the study is interested in examining the impact of on-the-job training in achieving sign language interpreters' productivity for sustainable development of deaf education in a developing nation like Nigeria.

Hypotheses

The following hypotheses are put forward to guide the conduct of the study:

Ho1: There is no significant effect of on-the-job training on sign language interpreters' productivity.

Ho2: There is no significant effect of on-the-job training on sign language interpreters' contribution to sustainable improvement of the quality of education of learners with hearing impairment.

Ho3: There is no significant relationship between on-the-job training and sign language interpreters' contribution to sustainable development in Nigeria.

Literature Review

The Concept Training and Productivity

The concept of training has been explained in different ways by so many authorities in the field. Irrespective of the diversities in the definition given by authors, the meaning of the concept "training" still boils down to mean one thing, which is, to develop individual. Oxford dictionary of English 6th edition, defined training as the process of learning the skill that one needs to do a job. According to Abonyi (2007), training is perhaps one of the best known techniques of manpower development. It means orienting a worke
need of an organisation, for the purpose of maximu
attainment of organisational goal and objective. The ma
staff training and retaining is to assist workers to acquire more skill in order to perform at the maximum level in current jobs and to develop and expose them to future jobs (Abonyi 2007). Hill (2002) stated that training is teaching organisational members how to perform their current jobs and helping them acquire knowledge and skill they need to be effective in their performance. Training may mean changing what employees know, how they work, their attitudes towards work of their supervisors.

In critical examination of the above definitions of staff training by scholars, they failed to offer a comprehensive definition or illustration on staff training. Staff training is not only for knowledge building or skill acquisition, it embraces the development of attitudes required by employee to perform adequately on a given task. This implies that training is the overall process by which an individual behaviour is modified to conform to a pre-defined and specified pattern. Analysing the above view on staff training, one will discover that training of sign language interpreters is geared towards improving the skill of interpreters for effectiveness. Steinmetz (2004) posited that training is a short-term process utilizing a systematic and organised procedure by which sign language interpreters can learn technical knowledge and skill for a definite period. Oriebabor (2000) submit that training is aimed at developing conceptual and managerial skills for the furtherance of individual and organisational growth. Training therefore, is usually designed for both non-managerial and managerial staff.

Porteous (2007) defined training as planned activities aimed at increasing the knowledge, skills and abilities of employees in order to increase their contribution to the organisation which they currently or will be in the future work for. He further posited that training opportunities are the key for a very large majority of individuals to gain the satisfaction and reward that are associated with work. Stahl (2000) viewed training as a systematic development of attitudes, knowledge and skills required by an individual worker to enable him perform his present or future tasks efficiently. It also includes series of planned activities designed to effect a behavioural change within a specified time. He further explained that training is to introduce a new behaviour as well as modify the existing one that
acceptable and efficient ways of doing things
organisational goals. The above definition reveals tha
sign language interpreters is a conscious activity which aims at improving their job performance.

Edson (2005) posited that training is a progressive exposure of a worker to new knowledge and experience capable of changing his behaviour, so that he may perform his duties efficiently. The emphasis here is placed on training as a means of enhancing productivity and efficiency among sign language interpreters.. Reynolds (2002) posited that workers are conglomerate of isolated individual, not a working team. They have to be trained, organized, supervised and motivated to perform. He said further that they must be subjected to a new network of rules and controls. Reynolds (2002) further argued that training will lift people out of poverty by raising their earning power thus reducing present disparities in income distribution. Adeyanju and Hayble (2001) affirmed training as an approach essential to human resources management. Their work highlighted that all training programmes should be designed so that employees will acquire the skills, knowledge and level of competence they will need to achieve the goals of the organisation as well as their own. They also stressed that training is supposed to do these things:

- Develop employee's skills, abilities and performance, and this improve product quality and quantity whether the product be goods and services at individual, group and organisational level.

- Help fill present and future workforce needs and create a more flexible workforce through such programme as multi-skill and management development.
- Maintain a high performance, when people move to a new job through recruitment, transfer or promotion.

However, it will be concluded that the definitions of these various scholars and writers point to one basic fact that the overall purpose and objectives of training of sign language interpreters is to bring the comprehension of individual up to a desired standard for present or potential future assignment and also to motivate staff and inculcate loyalty.

Methodology

A descriptive survey technique was used in this because the descriptive survey design enables the obtain information from a representative sample o population to describe situation as they exist. The population for the study consisted of sign language interpreters in some Southwest states in Nigeria. The sample for this study was drawn from among the sign language interpreters from Lagos, Ogun, Oyo, Ondo and Kwara states. The workers were purposively selected by using random sampling techniques. One hundred (100) sign language interpreters were selected for the study. A questionnaire was used to collect information for this study. The questionnaire was titled "Impact of On-the-Job Training on Achieving Sign Language Interpreters' Productivity for Sustainable Development of Education of Persons with Hearing Impairment". The questionnaire was tagged (IOJTASIPS). It had two sections, the first Section (A) dealt with demographic data of the respondents which included sex, age, educational qualification, and numbers of years they have stayed in service, while the Section (B) consisted of 15 items about on-the-job training experiences of the respondents. Respondents were expected to tick the option that was applicable to them from the following: Strongly Agree, Agree, Strongly Disagree, Disagree. The researchers administered the questionnaires to sign language interpreters from the sampled states. The researchers administered the questionnaires electronically using email and sending the PDF format to others through social network. All the one hundred (100) questionnaires

administered were filled and sent back to the researcher. Data collected was analyzed using chi-square for data related to the research hypothesis.

Results

Analysis and Interpretation of Research Hypotheses

Ho1: There is no significant effect of on-the-job training on sign language interpreters' productivity.

Table 1: Chi-square Table Showing the Effect of On-the-Job Training on Sign Language Interpreters' Productivity

Responses	N	df.	Calculated t-value	Critical t-value	Remarks
Yes	124	3	4.38	3.84	Significant
No	70				
Total	194				

Degree of freedom =3 and level of significance =0.05

From the Chi-square table above, it was revealed that the calculated t-value of 4.38 is greater than (>) the critical t-value of 3.84 at 0.05 level of significance. Therefore, the null hypothesis (H_o) was rejected while the alternative hypothesis (H_1) was accepted. Then, it was concluded that there was significant effect of on-the-job training on sign language interpreters' productivity.

H_o2: There is no significant effect of on-the-job training on sign language interpreters' contribution to sustainable improvement of the quality of education of learners with hearing impairment.

Table 2: Chi-square table showing effect of on-the-job training on sign language interpreters' contribution to sustainable improvement of the quality of education of learners with hearing impairment.

Responses	N	Df	Calculated T-Value	Critical T-Value	Remarks

SA	120	8	225.96	15.51	Significant
A	116				
N	20				
D	17				
SD	18				
Total	291				

Degree of freedom = 8 and level of significance = 0.05

From the Chi-square table above, it was revealed that the calculated t-value of 225.96 is greater than (>) the critical t-value of 15.51 at 0.05 level of significance. Therefore, the null hypothesis (Ho) was rejected while the alternative hypothesis (H1) was acc[illegible]. The result was concluded that there was significant effect of on-

on sign language interpreters' contribution t[illegible] improvement of the quality of education of learners with hearing impairment.

Ho3: There is no significant relationship between on-the-job training and sign

language interpreters' contribution to sustainable development in Nigeria.

Table 3: Chi-square table showing relationship between on-the-job training and sign language interpreters' contribution to sustainable development in Nigeria.

Response	**N**	**Df**	**Calculated t-value**	**Critical t-value**	**Remarks**
SA	62	4	95.00	9.49	Significant
A	64				
N	24				
D	25				
SD	19				
Total	194				

Degree of freedom = 4 and level of significance = 0.05

From the chi-square table above, it was revealed that calculated t-value of 95.00 is greater than (>) the critical t-value of 9.49 at o.05 level of significance. Therefore, the null hypothesis (Ho)

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

was rejected while the alternative hypothesis (H1) was accepted. Then, it was concluded that there was significant relationship between on-the-job training and sign language interpreters' contribution to sustainable development in Nigeria.

Discussion of Findings

Research hypothesis 1 stated that there is no significant effect of on-the-job training on sign language interpreters' productivity. Upon testing the hypothesis, table 1 revealed that the calculated t-value of 4.38 is greater than the critical t-value of 3.84 at 0.05level of significance. The hypothesis was therefore rejected. This shows that there was significant effect of on the job training on sign language interpreters' productivity. The implication of t[illegible] the job training has impact on sign language interpreters

This is in line with the research conducted by Stahl [illegible] **concluded** that there is need for training and staff development in advanced or developing countries. He said further that training, whether in advanced or developing countries have contributed immensely to productivity of staff, including sign language interpreters. Furthermore, research hypothesis 2 stated that there is no significant effect of on-the-job training on sign language interpreters' contribution to sustainable improvement of the quality of education of learners with hearing impairment. Upon testing the hypothesis, table 2 revealed that the calculated t-value of 225.96 is greater than the critical t-value of 15.51 at 0.05 level of significance. The hypothesis was therefore rejected. This shows that there is significant effect of on-the-job training on sign language interpreters' contribution to sustainable improvement of the quality of education of learners with hearing impairment. The implication of this is that on-the-job training of sign language interpreters contribution to sign language interpreters' contribution to sustainable improvement of the quality of education of learners with hearing impairment. This result was in line with Steinmetz (2005) who discovered that on-the-job training helps sign language interpreters possess the knowledge and skills they need to perform their work effectively for sustainable improvement of the quality of education of learners with hearing impairment.

Finally, research hypothesis 3 stated that there is no significant relationship between on-the-job training and sign language interpreters' contribution to sustainable development in Nigeria. Upon which testing the hypothesis in table 3 revealed that the calculated t-value of 95.00 is greater than the critical t-value of 9.49 at 0.05 level of significance. The hypothesis was therefore rejected. This shows that there is significant relationship between on-the-job training and sign language interpreters' contribution to sustainable development in Nigeria. This finding is in line with Reynolds (2012) who posited that workers have to be trained, organized, supervised and motivated so as to achieve effective economic development. He further argued that training lift people out of poverty by raising their earning power, thus reducing present disparities in income distribution.

Conclusion

This study has revealed that schools, ins organisations regardless of their size must provide for t training of sign language interpreters within their establishment if they are to earn loyalty, dedication, involvement and commitment. The effectiveness and efficiency of sign language interpreters in any organisations therefore, lies in the qualitative training and on-the-job training designed to improve and to harness the manpower potentials among sign language interpreters. Finally, on-the-job training of sign language interpreters increases their knowledge and skills, which will result in high performance in the school, institution or organisation where they work, with the view ofsustainable development of deaf education.

Recommendations

Based on the findings of this study, it is recommended that,

- The management of any organisation should avoid factors that could cause low performance and productivity of sign language interpreters such as poor sign language skills, as these factors could retard the growth of sign language interpreting and hinder sustainable development.
- Organisation should always endeavour to sponsor interested sign language interpreters in undergoing training programmes either fully or partly sponsored by the management; and the management should always supervise such programmes to ensure that their staff do not at any point withdraw from the training course.
- Sign language interpreters whose productivity are still low after undergoing training exercise should be retrained so that they can improve in their job performance, as their non-significant contribution to the organisation and education of the deaf could cause deterioration of the organisation.

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

References

Abiodun, E. J. (2008). *Human Resource Management,* Lagos; Concept Publications Ltd.

Abonyi N. N. (2007). Systems of Manpower Development for Effective Local

Government Administration in Nigeria. *International Journal of studies in humanities (IJSH),* Vol 4, 2007, Pp. 120-133

Adebayo, A. A. (2002). Productivity Problem in Nigerian Organization and Implications for Economic Development. *VOCASS Journal,* 3(1); 143-152

Butlin,J (1999). Our common future. *Journal of International Development **1** (2) 284-289.*

Edson, E. O. (2005). *Fundamentals of Public Administration,* Enugu: SAAP Publishers.

Hills, P. (2002). "Personality and Individual Differences". *Journal of psychology and religion.* Vol. 10, No 6, Pp. 129-133.

Johnson, R. B. (2011). *Organisational and Management of Training and Development Handbook.* Chicargo: McGraw Hill Publications.

*Khale, M. (2014)."National Contexts Matter: The Co-Evolution of Sustainability Standards in Global Value Chains". Ecological Economics **83**: 197–207.*

Kulkarni, C. (2013). A Literature Review on Training and Development and Quality of Work Life. *Journal of Arts, Science and Commerce.* 4(2); 136-143

Melvin, K.H. (2014). *Sustainable Backyard Polyculture: Designing for ecological resiliency*. Smashwords ebook edition. 2014.

Nellie, C.S., & Smith, L.D. (2006). Training and Retraining. *International Labour Review.* Vol. 20(3). Pp. 214-216

Oribabor, P. E. (2000). Human Resource Management: A strategic approval*, Journal of human resource management.* 1(2); 344-349

Reynolds, L. (2005). *Investing in People towards Corporate Capacity,* Butterworth: Heinemann Ltd.

Richard Chang Associates, Inc. *"Measuring the Impact of Training, Demonstrate the Measurable Results and Return on Investment".*

Stahl, M. J. (2000). *Management: Total Quality in a Global Environment.* U.K: Oxford Press.

Steinmetz, M. (2000). Adult Learning and Industrial Tr
Learning. *Psychological Research and Applicatio*
and Sons. P. 187

United Nations (2014). Prototype Global Sustainable Development Report. New York: United Nations Department of Economic and Social Affairs, Division for Sustainable Development.

EFFECT OF COMMUNICATION DEFICIENCY IN THE SOCIAL ADJUSTMENT OF INDIVIDUAL WITH CONGENITAL DEAF-BLINDNESS

By

Kafayat Olawumi, **FATAI**

&

Samuel**, BELLO**

Abstract

Communication, thinking and social interaction skill may need to be explicitly taught, supported and structured for many students on the autism spectrum to fully access the curriculum. Specific adjustments, supports and strategies adapted to individual students need to be considered when planning curriculum content, teaching and learning process, monitoring and assessment and the overall learning environment. Persons suffering from deaf-blindness are individuals

with significant deficiency in communicating and relating with their peers. Social adjustment has been seen to be a factor in enhancing proper integration of persons with disability. In the absence of effective communication, this paper examines the effect of communication deficiency on the social adjustment of individual with deaf-blindness. It recommended that necessary modification and acceptability be done by teachers and classroom managers so that learning and social adjustment can be facilitated no matter the level of impairment.

Keywords: Communication, Social adjustment, Deaf-blindness

Introduction

Deaf-blindness is a condition comprising impairments of vision and hearing to a more or less sev hindering communication and access to information. Even when the individual has usable residual vision or hearing, neither of the senses can be used as a main source of information access. According to Aremu (2000), education is the process of developing the capacities and potentials of the individuals as to preparing that individual to be successful in a specific society or culture. Notably, it is often said to be the powerful tool for developing intellectual abilities, shaping cultural attributes, acquiring knowledge and skills as well as a favourable tool to move a nation towards developing it scientific and technological culture. Achieving this goal requires understanding of commitment to the proposition that education is a primary instrument for social and economic advancement of human welfare. From this perspective, education is serving primarily, as an individual development function. Education, in its broadest sense, is a process designed to inculcate knowledge, skills and attitudes necessary to enable individuals to cope effectively with their environment. Its primary purpose is to foster and promote the fullest individual self-realization for all people. Which is indispensable to normal living, without education, the individual would be unqualified for group life.

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

The purpose of education is to make an individual to be functional within his or her family, society, town, state, and country. It is in view of this, that Dada (1999) attempted to formulate the aims of education which may be found in what any good father would wish for his son. It is a kind of all-round development (intellectual, physical, spiritual, moral) for the learners. Education has been an agent of change and an instrument of national development. Adepoju and Akinwumi (2001) observed that the role of education in national development has received considerable attention in developed countries where it is argued that heavy investment in education has a great potential for enhancing rapid economic growth. Education is important in the development and improvement of skills. Education has been responsible for the upliftment of the human conditions. Alade (2004) observed that the primary concern of education is the elevation of human conditions. Through education, people are enabled to develop their knowledge and skills, adopt new behaviour and be able to survive in the society. In the same view, Oderinde (2005) opined that all over the world, education is development which clearly demonstrates that educati roles in the development of the individual society and th whole.

Although education goes on in all aspects of human endeavour, most stories have set up specific institutions that use variety of means to promote efficient and desirable learning. Dada (1999) opined that usually in these institutions, the major concern of learners and teachers is the acquisition of what is considered to be knowledge. The responsibility of imparting knowledge revolves around the teacher who plans, organizes and implements the teaching learning process. Nonetheless, one of the issues to be resolved is whether or not the teachers are effectively performing their role in the teaching-learning process and to see the effects of their role in students' academic achievement. Since the implementation of the curriculum reform, the Education Bureau has aimed at promoting learning to learn and whole-person development. It has introduced a flexible and open curriculum framework to promote the paradigm shift in school education – steering from a textbook-oriented and teacher-centred teaching approach, to a multi-dimensional, interactive and students-centred learning approach.

According to the Interim Review of the curriculum reform and Inspection Annual Report, students were interested in learning, and willing to answer teachers' question. They participated actively in learning activities and cooperated with their peers in discussions and presentations.

Communication Difficulties

According to Prain et al (2010), individuals with congenital deaf-blindness only represent about 20% of the population with dual sensory impairment. In a Canadian study published in 2005, the proportion was about 32%. These individuals present many more problems than those with acquired deaf-blindness. According to the Mar and Sall (1996), they have a lot of difficulty in acquiring communication skills and with interpersonal and social relations, given that their dual impairment imposes limitations in terms of both receptive and expressive communication. As they are unable to use physical and non-visual cues that support language (e.g. facial expression, gesture), their social interactions tend

developed. Individuals with congenital deaf-blindness c social difficulties and challenges, as their dual sensor may reduce awareness of social events occurring outside their immediate physical proximity. They may experience much difficulty in the following ways:

1. Understanding the context of a social event, even when they are personally directly involved in the interaction,
2. Being aware of the impact of their own behaviour and
3. Signifying their social interest by initiating behaviour or responding to that of others. Their communication partners also frequently have difficulty interpreting the response to their communication actors.

Thus, persons with congenital deaf-blindness have reduced opportunities for interpersonal communication. The Prain et al (2010) show that many of these individuals never develop formal language and communicate rather by body movements, muscular tension, postures and gestures. They manifest stereotypical and idiosyncratic behaviour, meaning peculiar to each, and therefore their potential communication partners must be aware and skilled in interpretation.

Even when living in a specialized residence, their personal interactions may be rare. These characters observed, in a specialized residence normally occurring interactions between adults with congenital deaf-blindness and caregiving personnel. But the deafblind residents were very disengaged and their interactions with the personnel were rare.

Communication among Peers with Congenital Deaf-Blindness

Multiple studies have addressed communication among children or adults with congenital deaf-blindness and their non-impaired interlocutor, such as an educator or parent. They show that it is basic to good communication conditions that the partner be alert, make good observations and harmonize attitude and behaviour with those of the deafblind interlocutor. But in a context where communication occurs between two people with congenital deaf-blindness, it is probable that both will experience major and similar difficulties. In contrast to their counterparts, who have acquired dual impairment later in the course of the life, they have

opportunity to explore the world with vision and or he partially or totally, nor to really participate, interact and with others. Conversation is a complex activity that requires effort on the part of both communicator and listener. The effort can reach a considerable level of people with deaf-blindness. The listener must construct a mental representation of the meaning of the communicator's message and determine the communicator's intention in producing the message. Once the message is received, the receiver must reverse roles and choose the appropriate response. But according to Rodbroe and Janssen (2006), cited by Van Der Heijden (2009), many people with congenital deaf-blindness risk having very little or no interaction with their counterparts, as their respective attempts to establish contact often remains difficult to perceive or interpret. Van Der Heijden (2009) was also interested in communication among adults with congenital deaf-blindness who had lived many years in a specialized home. She determined that most of them never had social interactions with the other residents. As they have limited vision, they do not perceive attempts at contact from their peers, are not used to making optimal use of tactile modes to meet and rarely touch each other.

Support Intervention

People with congenital deaf-blindness often do not have the prerequisites for engaging in communication with their counterparts. Sometimes, there is such an asymmetry in their interpersonal communication and attempts to make contact for one are so difficult to perceive or interpret by the other, due to the dual sensory impairment, that is quite difficult to reduce these obstacles without the introduction of human assistance. For many, these interactions only become possible if the physical and social environments are made accessible and if the challenge of spending time with each other is presented to them. A support worker can then play an important support role in stimulating and facilitating these experiences. The assistance of an experienced third person (e.g. speech therapist, interpreter or other trained professional) may be useful, even required, to direct and facilitate conversation from a directional and participative viewpoint. This need, often present in individuals with congenital deaf-blindness, may also '

those who have acquired dual impairment at an adva seniors). With the help of an interpreter, the latter may carry on interesting conversations. Contact of deaf-blindness seniors with their counterparts is important, as it allows them to psychologically identify with their fellows, share their feelings, their experiences in managing their impairments and seek solidarity, comfort and encouragement.

Curriculum Adjustment

Teacher may adapt the curriculum according to learners diversity, including learning needs, styles, interests and abilities. For example, teachers can adjust the teaching pace, content, hierarchy, strategies, and assessment tools and methods. Curriculum adaptation can target a class, a group or individual students. The learning objectives set for student can be partially the same and partially different. Even if the learning objectives are the same, the allocation of time, content and form of learning activities can be adapted. The ultimate goal of curriculum adaptation is to provide an environment to support student learning so that every student can participate in the learning process to achieve learning goals.

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

Curriculum adaptation usually takes place in terms of content, process and outcome. One or two of the following areas could be adapted.

Content: Teachers may focus on teaching the most crucial concepts, processes and skills, adjust the difficulty of learning content, or select basic or more advanced level learning materials relevant to the topic.

Process: Teachers may consider adjusting the complexity and abstractness of the learning task, or allow different students to learn in different ways.

Outcomes: Teachers may consider adjusting the degree of challenge of the learning task, or expect different learning outcomes according to students' learning abilities or styles. For example, after reading a story book, teachers usually require the students to submit book report, but the teachers may allow accommodator students to carry out role plays and propose a method to solve problems, or attempt to relate the story content to real life; allo

students to rewrite the ending of the story; and allo students to infer the main idea of the story. Teachers can extend students' learning spaces by providing them with life-wide learning opportunities with the use of school campus, family and communities, and organize co-curricular activities to enhance their personal growth and develop their potential.

Set up the Classroom

Regardless of the specific handicap or condition, some general tips apply when teaching students with physical disabilities. For example, you should arrange the room so that everyone can move around easily. Even if a student does not use a wheelchair or other medical equipment, he may need extra room to get around in class and avoid falling. A larger desk may help a student balance books, papers, and classroom supplies. This larger table can accommodate a paraprofessional, too, if she is in class with the students, you should also ask the students where he would prefer to sit in the classroom.

Communication Strategies for Schools

Effective communication is essential for a well-run classroom. Although, this sounds simple and obvious, it requires much more than a teacher saying something out loud to a student.

Communicate Respectfully

Respect is the foundation of effective communication, especially in the classroom. Teachers and students demonstrate respectful communication in the following ways:

i. Use a tone that is honest and tactful, choosing words that are appropriate to the situation and non-inflammatory
ii. When talking on a listening role, make eye contact and focus on the speaker.
iii. Speak in turn, never interrupt the speaker. Teachers who model respect with their students have more respectful classroom overall because students learn how to communicate respectfully and see its effectiveness.

Repeat Your Message in Different Ways

While most communication in a classroom starts ve
students don't take what they hear the first tin
communication requires using different techniques in co

When you want to make a point, consider what visual tools can help you in addition to your verbal communication. For example, if you are discussing rules of conduct, have a chart handy with graphics to help students remember. In a lecture situation, offer handouts that outline the points you are making. Give the students something to do that reflects the idea you are communicating. Repeat yourself at least twice verbally and offer something for students to look at, hold, or do that will reinforce your message.

Non-verbal Communication

Everyone communicates nonverbally through facial expressions and gestures. Effective communication in the classroom requires careful use of these nonverbal cues. A teacher who rolls her eyes at a student's question sends a louder message than her careful and expert verbal response. A disapproving stare can work wonders on a student who is off task. A bright smile for a student who is having a bad day means more than he will ever reveal. Gestures and animated facial expression also give weight and enthusiasm to what

a teacher has to say. Students who see a teacher actively engaged in what she is teaching will be much more engaged themselves.

Teaching Strategies

Teaching strategies to educate children with physical disabilities include setting up a buddy system so that another student can take notes for the students with the disability. A paraeducator may be needed to act as a scribe for others in class requirements. Specific assignments can be adjusted or modified for students too. A student who has difficulty in speaking due to cerebral palsy may need an alternative presentation format in place of an oral presentation. Do not assume, however that the student cannot or does not want to give the presentation. He may need more time to speak and better attention from his audience. The key is to make sure all activities include all students. Talking to the student about what he can do will help to identify a student's areas of expertise. The student may have become extremely proficient with the computer, for instance, due to the inability to write. Perhaps, he can share that knowl
class, or show his peers how he uses assistive technol
the computer. This can provide ways to incorpora
instruction into a lesson. Finally, when experimenting with teaching strategies for these types of children, be flexible and accept suggestions. Since most schools or districts employ inclusion specialists, they can provide you with specific guidance in teaching students with physical disabilities. Necessary accommodation or modifications in your classroom can facilitate learning, no matter the impairment.

Conclusion

It is concluded that individuals with congenital deaf-blindness can benefit from academic and social adjustment if appropriate style and method is adopted. It is observed that such individuals needed to be understood by their peer, teachers and other professionals in order to ensure that they are well integrated into the society. Social adjustment is a major task that must be worked upon on all individuals with congenital disability in other to build their self-esteem and to sustain their inborn ability regardless of the severity and nature of the disability.

Recommendations

It is recommended that professionals that will work with individual with congenital deaf-blindness should not be limited to special educators but should also include clinical psychologist, social psychologist etc. It is also submitted that such individual should be fully engaged in all social activities especially among families and peers. It is further recommended that instructions for person with deaf-blindness should be purely practicalized by instructors for better understanding and easy assimilation. The presenter submitted that if necessary modification and acceptability is done by teachers and classroom management is effective, learning and social adjustment can be facilitated, no matter the level of impairment.

References

Adepoju, T. L. and Akinwumi, F. S. (2001). Location schools as a factor in determining academic pe students. Ibadan *Journal of Educational Studies 1(2,*

Aremu, S. (2000). *Academic performance: 5 factors inventory.* Ibadan: Stirling-Harden Publishers (Nig.) Limited

Aremu, A. O. and Oluwole, O. A. (2001). Gender and birth order as predictors of normal pupil's anxiety pattern in examination. Ibadan *Journal of Educational Studies 1(1)1-7*

Aremu, A. O. and Sokan B. O. (2003). *A multi-casual evaluation of academic performance of Nigerian learners, issues and implications for national development.* Ibadan: Macmillan Nigeria Limited

Aremu, A. O. (2000). Impact of home, school and government on primary school pupils academic performance. *Journal of the Exceptional Child 5(1): 106-110*

Dada, A. (1999). *Teacher and the curriculum.* Ibadan: Tejama General Enterprises.

Ipaye, A. (1996). Future trends in special education: A key not address presented at the CENDP/UNESAO sponsored training programme on current researches in special education at the Federal College of Education (Special), Oyo.

THE NEED FOR SIGN LANGUAGE INTERPRETERS' SERVICES FOR SUSTAINABLE DEVELOPMENT OF DEAF EDUCATION

By

Y. A., **LAWAL**

Abstract

This paper examined the need for Sign Language Interpreters' Services for Sustainable Development of Deaf Education. It laid emphasis on educational roles and responsibilities of Sign Language Interpreters; such as interpreting in educational setting, assessing receptive and expressive communication skills, adapting to the physical setting, preparation for class and given explanation on interpreters' roles. The write-up also looked into non-classroom interpreting as roles and responsibilities of Sign Language Interpreters which include: parents' conference, discipline of students, testing situation, counseling situation, supported work and internship setting and special situations. Non-interpreting

responsibilities of Sign Language Interpreters among which include: tutoring, teaching Sign Language, general classroom assistance and educational planning was also look into. Benefits derived by hearing impaired persons through the services of Sign Language Interpreters and Challenges facing interpreters' services were also discussed.

Introduction

Sign Language (SL) is a complete complex language, which employs signs made by moving the hands, combined with facial expressions and postures of the body. It is the primary language of many persons with hearing impairment and is one of several communication options used by people who are hearing impaired. However, no one form of sign language is universal, different sign languages are used in different countries or regions. For example, British Sign Language (BSL) is a different language from American Sign Language (ASL). (NIDCD 2016) . In the opinion of Odusanya (2006), sign language is the native language used mostly in the deaf community. It is probably the most popular with the hearing impaired, but defi

widely utilized in the core community of persons impairment.

Sign Language interpreters (SLI) are highly skilled professionals who facilitate communication between hearing individuals and those with hearing impairment. They are a crucial communication tool used by people involved in a communication setting through the use of signs, finger spelling, and body language.

The need for Sign Language Interpreters as supportive services in our society cannot be overemphasized. Many situations and occasions requiring the services of interpreters for the persons with hearing impairment, particularly in the areas of academic, orientation and interpersonal relations. The mission of sign language interpreter is to break through the language barrier improving educational, occupational and social opportunities for people with hearing impairment while maintaining an excellent working relationship with the business community. Sign Language Interpreters are responsible for performing interpretation and transliteration services for hearing impairment students and other clients. Sign Language Interpreters provide education services, such as learning coping skills, listening strategies and the latest technologies, enabling hard

of hearing adults to understand their loss and share their experience to help one another.

According to Ron Hahn (1996), most Sign Language Interpreters possess strong interpreting skill(s) that enable them develop and establish their own reputation. Qualified interpreters seek to bridge and join the two worlds together hearing and Deaf. Although Sign Language Interpreters' responsibilities center on translating information to hearing and Deaf clients, "language problems create the potential for enormous tension among interpreters, school officials, and Deaf students" (Lane et al., 1999). It is the Sign Language Interpreters' responsibilities to ensure that the information is communicated clearly to both parties. Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainable development (SD) is defined in the Brundland Report (1987) as "development that meets the needs and aspirations of the present without compromising the ability of future generations to meet their own needs". Thus, sustainable develo

organizing principle for sustaining finite resources provide for the needs of future generations of life on the

Sustainable development is the organizing principle for meeting human development goals while at the same time sustaining the ability of natural systems to provide the natural resources and ecosystem services upon which the economy and society depend. The desired result is a state of society wherein living conditions and resource used continue to meet human needs without undermining the integrity and stability of the natural system and sustainable development can be classified as development that meet the needs of the present without compromising the ability of the future generation .(Sustainable Forest Management 2015). Deaf Education is a broad and diverse professional field that centers on the education of children who are deaf or hard of hearing. Teachers often concentrate their studies in early childhood education, elementary education, or a secondary content area. "Deaf education is the education of students with any manner of hearing impairment which addresses their differences and individual needs" (the free encyclopedia 2016). This process involves individually-planned, systematically-monitored teaching methods, adaptive materials,

accessible settings and other interventions designed to help students achieve a higher level of self-sufficiency and success in the school and community than they would achieve with a typical classroom education. A number of countries focus on training teachers to teach deaf students with a variety of approaches and have organizations to aid deaf students.

Roles and Responsibilities of the Educational Sign Language Interpreter

An educational sign language interpreter is an individual who facilitates communication among deaf and hearing persons in an educational environment through the use of techniques developed for communicating between deaf, hard of hearing, and hearing persons. The interpreter is a member of the educational team, serving staff as well as students, hearing as well as deaf people, by minimizing linguistic, cultural, and physical barriers. Interpreters in the education system can provide children who are deaf or hard of hearing with the benefits of communication access in regular school syst

this by accurately representing the classroom instructio dialogue possible between a teacher and student. As well, they communicate relevant sound information in the mode of communication used in classroom. Interpreters in the classroom are there to ensure that students can fully and effectively access any and all sound information they would otherwise not have access to without an interpreter. The interpreter can not only convert dialogue between the deaf or hard of hearing student, but also give them access to the sounds and conversations happening around them. This makes them an active part of their school community.

An interpreter's role is even greater in the classroom because they are not only tasked with interpreting, but also educating in their own way. The interpreter must take into account the child's best interests considering taking into account the language level of the child, academic competence, social development, and interpersonal skills. The interpreters who work in an educational setting may be required to assume several responsibilities:

A. Interpreting in an Educational Setting: The educational interpreter's primary role is to provide interpretation and

transliteration in the educational setting. Within the context of an educational setting, the interpreter will facilitate communication and understanding among the deaf, hard of hearing, hearing students, and the teacher and others involved in the student's education. The interpreter will also need to provide interpretation in one or more forms.

In order to effectively fulfill their primary responsibilities the interpreter will be involved in several activities. These include:

i Preparing for Class:

The educational interpreter prepares for upcoming classes by reading materials in advance and consulting with the teacher to know in advance the goals and objectives of the lesson, special nuances that the teacher may want to convey, what materials will be covered, and whether special activities, such as a movie, a field trip or involvement in an "untraditional" educational setting, such as outreach into the community or visits to local businesses, will present special interpreting situations. The interpreter must kee

standardized technical signs used in different content a standardized sign is unavailable or unknown, the i input from the student, may create a sign for use within the educational setting that is expedient enough for everyday use and conceptually appropriate. The appropriate standardized sign should be determined subsequently through research and incorporated into the students and interpreters sign repertoire. The interpreter should always rely on finger spelling as an appropriate alternative for a word or concept without a sign, or for which a sign is not known.

ii Assessing Receptive and Expressive Communication

The interpreter will assess the student's receptive and expressive sign language and mode use in order to judge the effectiveness of interpretation. Furthermore, the interpreter should work with the student's teacher to keep an inventory of new and emerging signs and vocabulary which the student is learning and using. The interpreter should consult on a regular basis with the deaf or hard of hearing student's academic or vocational teachers to prepare for any new concepts and vocabulary that will be introduced in a subsequent class. The interpreter should be able to share knowledge about the

deaf or hard of hearing student's sign communication ability with the student's teachers.

iii Adapting to the Physical Setting:

The interpreter, teacher, and other speakers must always be visible to those receiving visual communication (American Sign Language or other forms of manual communication). Interpreters must position themselves so that lighting is appropriate for communication, (e.g., not in front of a window where glare from the window may interfere with the deaf student's ability to see the signs). The interpreter should work with the teacher and student to determine the proper seating of the student(s), position and location of the interpreter, and to accommodate special needs which will arise during events such as field trips, assemblies, public address announcements, films and other media, parent/teacher conferences, and events off the school premises, etc.

iv Explaining Interpreter Role:

Page 128

The interpreter shares responsibility with the school and others, (such as the supervisor of deaf educatior clarification regarding an accurate understanding of his/her role with the deaf or hard of hearing students, hearing students, school personnel, and parents. This is especially important in a school setting where there has been little or no experience with children who are deaf or hard of hearing or with educational interpreters. Clarification of the interpreter's role will do much to prevent uncertainty regarding how he or she contributes to the educational process. Providing in-service training to the whole school on the role of an interpreter may assist staff in accepting the interpreter as part of the educational team and promote the fuller integration of the interpreter into the school community. Information on the role of the interpreter may be provided during staff meetings, special announcements, one-an-one meetings, or with simple printed handouts explaining how best to utilize the service of the educational interpreter. It is important that the point be made that the interpreter is there for everyone, not just the deaf or hard of hearing student - a point which may need to be reiterated periodically during the school year.

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

B Non classroom Interpreting:

The provision of interpreting services may occur in a variety of locations outside of the "traditional" classroom. Which includes:

i Parent conferences

Interpreters may be asked to provide interpreting services to parents who are deaf during conferences about the child with whom they are working, or with parents who are deaf and have hearing children who attend the school. They should be skilled in the language/mode with which the adult is most comfortable. In this situation, it must be made clear that the interpreter is functioning in one role, i.e., as a facilitator of communication, whose task is to ease the exchange of information, and, not as a participant, whose responsibility is to contribute the information to the discussion. In this case, the optimum situation would be to bring another interpreter into the meeting, in order to avoid role confusion and the potential compromise of the quality of interpreting.

Page 129

ii Testing situations

Educational interpreters are often called upon to interpret the language of an examination, such as a psychological evaluation, standardized test, reading exam, or spelling test or to provide for communication needs during a student's individualized evaluation or vocational assessment. The educational interpreter's role during testing situations should be clear. This could be facilitated by the interpreter and the evaluator meeting prior to the testing situation to discuss expectations of the interpreter and the background of the student. It is imperative that the interpreter, instructional staff, and administration work together to ensure fairness both to the student and to the testing instrument. For example, when administering a psychological evaluation in the traditional manner, the school psychologist orally pronounces English words in certain segments of an examination, students listen, and record answers in the appropriate boxes. With a deaf child, the interpreter hears the words, and normally gives the sign. Some signs, however, are highly iconic (suggestive of their meaning, by their configuration and movement of the hands) and, thereby posing a situation which may give away the answer. The purpose of the test would then be compromised. When

providing interpretation as a test modification, care should be taken to conform to the requirements of particular tests and not to affect what the test developer intended.

iii Discipline of students

owing to the proximity of the educational interpreters to the students, the educational interpreter may be involved in situations that need disciplinary action. It would be helpful for both the teacher and the educational interpreter to establish a mechanism for dealing with these situations at the beginning of the school year. At this time, strategies to address behaviour that may require disciplinary action could be jointly developed. The teacher and the interpreter could then implement a plan to address a student's classroom management needs, behaviour expectations, and discipline.

Generally, the educational interpreter would not be involved in disciplinary action involving a child's misbehaviourss This would cloud the perception of roles, compromise the s relationship, and, also, strain the relationship betwee and the interpreter.

Page 130

In situations where the student is misbehaving toward the interpreter, the interpreter may then need to respond directly. This may take the form of a private discussion between the interpreter and the child concerning mutual responsibility and respect or may include expanded discussion with teachers and other staff, as appropriate. The educational interpreter may also be asked to facilitate communication in disciplinary settings involving the teacher or other staff. In this case, it is possible that the anger the student may feel at the punishment, especially during the elementary years, may be focused on the interpreter rather than on the individual dictating the punishment. It is important that the child understands clearly the roles of the various professionals, and that the person providing the punishment and the interpreter understand these dynamics.

iv Supported work and internship settings

In vocational or adult services settings, the interpreter may be asked to facilitate communication in on-the-job situations on or off the school premises. Although the interpreter may be working as part of

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

an educational team, he/she will be specifically responsible to assist the student in meeting communication needs. In such settings, a job coach rather than an interpreter may advocate for the deaf worker. The job coach develops strategies for on-the-job communication, helps train the prospective worker and educates staff about the disabled. The roles of a job coach and an interpreter should be clarified to those involved with the student before a work or vocational experience or training begins. While a person who serves as a job coach may be an interpreter in another setting, the role must be clearly differentiated in the vocational environment (Lane et al, 1999).

v Counseling situations.

When students who are deaf or hard of hearing receive counseling, an educational interpreter may be needed. In counselin that deal with social or emotional issues, the Code of Registry of Interpreters for the Deaf should be consult counseling sessions, the role of the interpreter is clearly that of communication facilitator only. The ethics of the counseling profession as well as the interpreter should work to insure that confidentiality is carefully observed, and that the child's classroom interpreter should not be present if the child needs to discuss a problem involving the interpreter. For example, the child may be experiencing difficulty adjusting to the interpreter's personality or may be critical of the interpreter's sign language skills. This type of situation would require the use of another noninvolved interpreter.

Page 131

vi Special Situations

Special situation may be defined as those educational situations that take the student and the interpreter outside a typical school environment. These may include: driver education classes, field trips, and involvement in community activities or situations related to employment or college activities. These situations may require different kinds of arrangements and considerations. For example, should an interpreter accompany a student during "on-the-road" segments of driver education classes? What are the safety considerations inherent for visible communication in a moving vehicle? How may the educational interpreter assist in planning for

situations that take the student outside of school, such as, when meeting with a prospective employer or exploring college and community opportunities? Strategies for dealing with special situations should be developed on a case-by-case basis to meet the student's individual needs.

vi Member of the Educational Team: An educational interpreter should have the opportunity to participate as a member of the educational team. In this context, the educational team is comprised of a group of teachers, supervisors, school staff, and others who are directly responsible for the educational program of the student for whom the interpreter delivers services. An educational interpreter's responsibilities are likely to vary considerably from one work setting to another and should take into consideration the kinds of levels of preparation and experience that an educational interpreter brings to the task.

Page 132

C Non interpreting Responsibilities

The educational interpreter may perform a number of other educational tasks, depending on the need of the students and the interpreter's skills and background. Such duties are the responsibility of the individual school or institution to specify in a job description, and for the interpreter to accept or negotiate when hired. However, the typical non interpreting duties are identified as follows:

i Tutoring

Interpreters may be asked to tutor under the supervision of the regular classroom teacher or the teacher of the deaf. Since interpreters must, by definition, be able to communicate well with the student, tutoring and reviewing assignments may be an appropriate job responsibility. However, it must be clear that other responsibilities must be curtailed when the need arises for interpreting. The subject area in which interpreters are expected to tutor should be one with which they are familiar with. Interpreters should also receive ongoing in-service training in instructional strategies to be used during the tutoring sessions as well as have time during the school day to consult with the classroom teacher on aspects of course content which need to be clarified so they may be

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

appropriately interpreted. It is recommended that educational interpreters who tutor should receive instruction in behaviour management techniques before beginning tutoring. This skill is important in order to know how to keep students focused on task.

ii Teaching Sign Language

At times, the educational interpreter may be expected to teach basic and enrichment level sign language to hearing or deaf students, as well as to faculty and other staff members. Interpreter preparation programs seldom cover in-depth training in the instruction of sign language and interpreters are not ordinarily prepared to teach formal linguistically oriented classes in sign language. Formal courses in Sign Language (SL) should be taught by individuals prepared to provide instruction in Sign Language as a second language.

iii Providing General Classroom Assistance

Page 133

While classroom management is the responsibility of interpreters may, when interpreting is not needed, provide of assistance to the classroom teacher, especially in the elementary stage. There must be a good understanding of the level and kind of assistance the interpreter can contribute to the classroom environment without interfering with the primary duty of interpreting.

iv Educational Planning

The interpreter, teacher, and other individuals involved in the student's educational program need to consult regularly (perhaps daily) about lesson plans, upcoming activities, tests, new vocabulary, etc.. Time must be set aside for the interpreter to review materials, become oriented to the upcoming curriculum content, and to anticipate signs that will be used for new material. This planning time will provide the educational interpreter with the opportunity to prepare for the interpretation session and to research the appropriate use of a sign, as needed. Generally, educational planning will improve the quality of interpreting. The interpreter must also plan time for instructing deaf, hard of hearing, and hearing students on how to use the interpreter. This may be especially important in the elementary stage.

Impacts of Sign Language Interpreters in Educational Planning and Development

The impacts of Sign Language Interpreters on the Educational Development of Person with Hearing Impairment cannot be over emphasized. These impacts can be felt on the following areas:

1. Sign Language Interpreters bridge the gap between Hearing Impaired persons and academic activities that are going on in the educational setting. This shows that, the absent of Sign Language Interpreters in the educational setting will definitely cut-off hearing impaired persons from academic achievement.
2. An Interpreters facilitate communication between a deaf and hearing individual. The communication gap that would have exist between two parties (Hearing and Hearing Impaired), has been bridged through the services provided by Sign Language Interpreters.

Page 134

3. Sign Language Interpreters assist persons impairment with understanding communication aurally and help hearing people understanding message communicated by hearing impaired persons. This is done through seminars, paper presentations, job orientations, workshops, interviews and research works.
4. Sign Language Interpreters make people in the deaf world aware of what is going on in the hearing world, the life will have no meaning for an individual who is not aware of what is going on in the world. It is through the efforts of Sign Language Interpreters that persons with hearing impairment enjoying both worlds (Deaf and Hearing world).

Challenges Facing Interpreting Services

Error! No bookmark name given. It is no secret that top interpreters' jobs are not simple ones. While being able to connect people together through language is rewarding, there are some challenges interpreters may face while on the job. Tele language (2016), identifies the following challenges a professional certified interpreter may encounter at any given time:

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

Inability to hear the speaker

When doing a face to face or conference interpreting, a speaker's audio equipment might fail, or someone may say something softly that the interpreter might not have heard. In certain situations, an interpreter is allowed to ask for the speaker for clarification, but while doing consecutive or simultaneous interpretations, it is important that the interpreter is able to distinctly hear the entirety of what was said. Interpreters cannot interpret what they cannot hear.

Cultural Knowledge

Top interpreters have a responsibility to not only understand and be able to fluently speak the target language, they must also have a deep-rooted sense of cultural awareness, regional slang and idioms. Social evolution provides new words and phrases on a continuous basis, which means an interpreter is tasked with being able to deliver any given word or phrase accurately into the target language.

Page 135

No Pre-Prep Materials

Top interpreters will spend a day (or two) before a meeting or conference going over materials that will be discussed or presented by a speaker. Last minute assignments and appointments can make a normal situation stressful when an interpreter has not been properly briefed. Prep materials allow the interpreter to go over terminology, familiarize with the topic's content, and provide time for extra research if needed. Without prep time or materials, an interpreter will go into the meeting or conference with confidence that their skills and experience will be their main asset while interpreting.

Interpreting Jokes, Humor, and Sarcasm

It is widely known that jokes and humorous sayings common to one language may lose it meaning when received in another. In some cases, an interpreter will have an opportunity to obtain prep materials or briefings that will allow them to thoroughly go over what the speaker intends to cover. Success of the interpretations also depends on whether the interpreter has understood the purpose

behind the joke or humorous line of dialogue. Humor, jokes and sarcasm become a challenge when used liberally throughout a conversation, and the interpreter must accurately interpret the joke or line of humor while keeping the integrity of the message intact. The above challenges may initially prove to be difficult; however, top interpreters will be able to utilize their years of training to overcome them.

Conclusion and Recommendation

The services of Sign Language Interpreters are the most essential passport which cannot be ruled out in providing education for Persons with Hearing Impairment. These services did not limit to academic achievement of Hearing Impaired Persons, but also strength hands to their soci-economic activities. Therefore, there is need to give more recognition to Sign Language interpreters services in the country, if unfiltered equal educational opportunity is to be provided for Hearing Impaired Persons. Sign Language should be considered as a compulsory course in all tertiary institutions rather than being a course in Deaf Education in the Departm

Education. Considering marvelous services rendered, interpreters should be given recognition and special preference for better educational development.

References

Brundland Report (1987). Sustainable development: Wikipedia, the free encyclopedia Retrievedhttps://en.wikipedia. org/wiki/sustainable development. On Feb., 25th 2018.

Canadian Hearing Society.(2006).Ontario Interpreter Services. Retrieved from https://en.wikipedia.org/wiki/ Canadian_ Hearing_Society. On March 10th, 2018.

Humphrey, Janice H., and Alcorn, Bob J. (1995). So You Want To Be An Interpreter? An Introduction to Sign Language Interpreting. 2nd Edition. Texas: H & H Publishers.

Jenelle Rouse and Anne Barrow (2017). Sign Language Interpreters for Deaf Clients. Retrieved from https://www. verywell. com/sign-language-interpreters-for-deaf on March 3rd 2018.

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

Lane et al.,(1999). SL Interpreters' roles and responsibilities: Sign Language Interpreters for Deaf Clients. Retrieved from https://www.verywell.com/sign-language-interpreters-for-deaf

NIDCD (2016). American Sign Language. Retrieved from www.nidcd.nih.gov › Health Info › Voice, Speech, and Language on Feb.6th 2018

Ron Hahn (1996). SL Interpreters' roles and responsibilities. Retrieved from https://www.verywell. com/sign-language-interpreters-for-deaf on Feb.,8th 2018

Saul McLeod (2017). Maslow's Hierarchy of Needs. Retrieved from, htt://simplepsychology.org/maslow.html on Feb., 9th 2018

Sustainable Forest Management (2015). Sustainable development : Wikipedia, the free encyclopedia Retrieved from https:// en.wikipedia.org/wiki/sustainable_development. On Feb., 25th 2018.

Telelanguage (2016). Face to Face Interpretation, Working with an Interpreter. Retrieved from https:telelanguage.com/top-4challenges-interpreters-face/ on 20th of March 2018.

The free encyclopedia (2016). Deaf education: Wikipedia, the free encyclopedia Retrieved from https://e org/wiki/Deaf_education on Feb.,20th 2018.

Tola Odusanya (2006). Basic Sign Language: Instant Acc 1,000 signs Convenient Alphabet formal Comprehensive Index for easy cross referencing. D'Laurel Nig. Ltd Ibadan.

SUBSIDIARY ROLES OF EDUCATIONAL SIGN LANGUAGE INTERPRETERS: CLOGS IN ACHIEVING OBJECTIVITY OF PURPOSE AND PROFESSIONALISM

By

Mary Damilare, **OLAKULEHIN**
&
Oluwasegun Abiodun, **OLAKULEHIN**

Abstract
Going by a few empirical literatures available, it is glaring that the services of educational sign language interpreters have not significantly achieved the desired result in the academic performance of deaf learners. It is also obvious that interpreters perform more than one role, some of which are not at par with the academic qualification and professional skills of most sign language interpreters. This paper therefore examined the effect of subsidiary roles performed by sign language interpreters on professionalism in sign language interpreting. It looked into the various roles performed by educational sign language interpreters and the preparedness of interpreters for the roles. It was established that educational sign language interpreters are not adequately trained for counseling and curriculum development roles. Based on this, the paper recommended among others, that sign language interpreting training programmes should be introduced as an area of specialization in the departments of hearing impairment across all institutions training teachers of the deaf.

Introduction

Sign Language Interpreters are an integral part in the life of deaf persons. As such, achieving better education and integration of deaf learners require the services of interpreters in collaboration with parents, teachers and other stakeholders. A professional interpreter is a person who extends communication between individuals who may not share a common communication mode. A sign language interpreter is a trained professional who facilitates cc and conveys all auditory and signed information so that and deaf individuals may fully interact. A major feature of every profession is the presence of ethical codes guiding the practice of the profession. Interpreters are bound by a code of ethics, which includes keeping all information interpreted strictly confidential. In addition, interpreters are to maintain the integrity of the message, always conveying the content and spirit of the speaker. The interpreter's mission is to facilitate communication; he/she should neither add nor delete any information at any time. It is important not to ask the interpreter for his/her opinion or to perform any tasks other than interpreting because of the specific nature of their roles (Darroch, Kathy & Marshall, Liza 1998).

Educational Sign language interpreting is an essential support service for many deaf students, but until recently little research has been conducted on the impact of sign language interpreting in the education of deaf and hard of hearing learners and how well deaf students learned via interpreting (Harrington, 2000;

Lang, 2002). In what appears to have been the first examination of this issue, Jacobs (1977) demonstrated that deaf college students who depended on sign language interpreting learned significantly less from classroom instruction than hearing peers. His study involved written tests, but similar findings have been obtained when learning assessments were signed (Marschark, Sapere, Convertino, Seewagen, &Maltzan, 2004). Marschark, Sapere, et al. (2004) compared learning via American Sign Language (ASL) interpreting and (English) transliteration by deaf college students who varied in their ASL and English-based sign language skills. Regardless of how tests were administered, there were no effects of mode of interpreting and no interactions with student language skills. Similar results were obtained by Murphy and Fleischer (1977), and Marschark, Sapere, Convertino, and Seewagen (2005), also with college students. In Nigeria, Akodu (2016) compared the academic mean score of learners taught with Sign Language interpreting to the academic mean score of those taught with Oral Instruction Method. A significant difference was found. The academic performance mean of learners taught without sign language interpreting was higher than that of learners taught with sign language method. However, the paired sample correlation revealed that there was a weak but positive correlation coefficient that was not significant between the two variables. By implication therefore, sign language interpreting has not achieved the expected goals, chief of which is to improve the academic performance and achievement of learners with hearing impairment.

More importantly, studies that included comparison groups have consistently replicated Jacobs' finding that deaf students learned relatively and significantly less in interpreted settings than their hearing peers. Conceptually therefore, there is an underlying lack of understanding as it relates to effective educational interpreting and access for deaf or hard of hearing students in educational institutions. As Winston (1995) stated, “the myths about interpreting need to be exposed before policies of inclusion through interpreting can be considered rationally”. From the little literature available, it is glaring that the presence of sign language interpreting services has not significantly achieved the desired result in the academic performance and achievement of deaf learners. However, it is also

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

glaring that interpreters perform more than one role and the qualification for some of these roles are not at par with the professional qualifications and skills required of a sign language interpreter.

Roles of Sign Language Interpreters

In every job or employment situation, an employee is expected to perform certain roles and responsibilities which is the service rendered for money in the business transaction. For every profession therefore, there are set roles and responsibilities which constitute the job content of the profession. Likewise, there are set characteristics required of every profession and these characteristics are related to the skills and nuances of the profession in question. Sign language interpreting is not an exception in this regard. The basic responsibility of every sign language interpreter is to communicate spoken words to deaf individuals in sign language. However, there are other subsidiary roles performed by sign language interpreters, some of which are recognized in literature. The United States Department of Education (2016) identified the basic subsidiary roles of any educational sign language interpreter as:

i. Communicating the needs and limitations of the educational team: A sign language interpreter is the first point of call for any issue affecting learners with hearing impairment. Hence, the interpreter must develop genuine interest in the life and affairs of his/her students and keep himself/herself abreast of happenings in the Deaf community.
ii. Assessing classroom environment and developing strategies regarding seating arrangements, lighting, use of media, turn-taking and other factors that may affect the interpreting process and access to the classroom content. This should be done in agreement with the classroom teacher.
iii. Supervising deaf and hard of hearing students in the school
iv. Preparing assignments for deaf and hard of hearing learners by reviewing textbook content, lesson plans and other resource materials available.
v. Counseling deaf and hard of hearing learners

Subsidiary Roles of Sign Language Interpreters as Clogs in Achieving Objectivity of Purpose

There is no gainsaying the fact that every sign language interpreter needs to have rudimentary training in education and be a certified teacher in order to be an effective educational sign language interpreter. As such, an educational sign language interpreter can be expected to fulfill the roles listed above. However, there are issues that need to be addressed in the subsidiary roles of sign language interpreters, especially in Nigeria. For instance, in the Nigerian setting, it is hard to find skilled professional sign language interpreters who are still in practice and whose academic qualification is above first degree. This raises the question of the professional adequacy of sign language interpreters to fulfill both the basic and the subsidiary roles in postgraduate classroom settings. Specifically, the last two roles listed above are serious clogs in the actualization of objectivity of purpose for sign language interpreters. The first is counseling and the second role is membership of Deaf educational planning team. These are examined below:

a. Counseling deaf and hard of hearing learners

This is a major secondary role performed by edu
language interpreters. Unlike professional
counselors, Educational Sign Language Inter
members of the Deaf Community. They understand Deaf Culture and deaf people. As such individuals with hearing impairment have higher affinity to sign language interpreters than regular counselors. A learner with hearing impairment would be more inclined to seek advice from his/her interpreter rather than have the interpreter follow him/her for a counseling session. Unfortunately, the academic qualifications required of Sign Language Interpreters and Educational Counselors differ. It is therefore rare to find professional sign language interpreters who are also qualified professional counselors.

Counseling goes beyond proffering suggestions and advice. The manner of approach, confidentiality and other nuances of counseling are not brought into play when an interpreter counsels a deaf person/learner. Unless the competency of teachers to counsel students is adequate to meet the counseling needs of all

categories of learners, the effort of the sign language interpreter in counseling the deaf learner could be wasted.

b. Member of Deaf Educational Plan Development (especially Individualized Educational Plan - IEP)

A notable methodology for educating learners with hearing impairment and special needs learners in general today is the Individualized Educational Programme (IEP), a concept heralded by the Individuals with Disabilities Education Act of 2004 (IDEA 2004). The IEP as a methodology of instructing learners with hearing impairment is the designation of curriculum content and teaching approach based on the specific needs of individual learners. These programmes are written documentation of the special educational programme and academic modifications required to meet the child's individual needs. According to IDEA (2004), the two main purpose of a student's IEP are to:

1. Set reasonable learning goals for the student and
2. State the required services that should be provided for the school child.

The development of IEP requires full collabor
child's teacher, parents, and supporting school staff, c
the sign language interpreter. Educational sign languag
involves ability to support the educational goals and outcomes as defined by the Individual Educational Plan (IEP) structured for the student. To effectively achieve this, the sign language interpreter must be part of the process for formulating individualized educational plans for the deaf. As childhood and adolescence involves development in many important domains- cognitive, social, and linguistic, the role of the educational sign language interpreter is more complex. The interpreter must ensure that the IEP schedule is in the best interest of the child, considering the language level, academic competency, social/emotional development and interpersonal skills of the student as well as the guideline of the school. The question begging for answer here is whether the sign language interpreter is adequately trained in curriculum development.

The educational sign language interpreter is the language model of deaf and hard of hearing learners. Therefore, for

interpreters to be successful, they must have a thorough knowledge and understanding of both the language of instruction and sign language. In language classes therefore, the Sign Language Interpreter is bound to encounter challenges and this could exclude deaf and hard of hearing learners from learning languages other than the lingua-franca. In sum, there are enough challenges for the Educational Sign Language Interpreter without adding the pre-requisites of subsidiary roles to her professional qualifications. Therefore, from the foregoing, multiplicity of responsibilities distracts educational sign language interpreters from achieving professionalism and fulfilling their basic roles.

Conclusion

As Nigeria is still in her tutelage in Deaf Education, educational sign language interpreters as the symbol of Deaf Education cannot shy away from performing subsidiary roles. Nevertheless, efforts can be made to modulate educational interpreting as a profession such its major goal (i.e. improving the academic performance of learners with hearing impairr
achieved. Therefore, to achieve this, there is need tc
clogs in objectivity of purpose of sign language inte.
profession.

Recommendations

Based on the discussion above, the following steps are suggested for enhancing the ability of sign language interpreters to perform their basic and subsidiary roles.

i. Sign Language Interpreting programmes should be introduced in all institutions running programmes in Deaf Education. This can be started as 'area of specialization' option and later on developed into full-fledged department which would encompass all aspects of sign language interpreting and allow would-be interpreters to chose areas of preference to major on.
ii. Would-be educational sign language interpreters should be made to undertake elective courses in curriculum planning and counseling, especially in areas of counseling adults.
iii. Educational sign language interpreters should endeavour to further their education up to at least, master degree level, which should be in programmes focusing on one or more of their subsidiary roles.

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

References

Akodu, M. D. (2016). *Methodology of instruction, effectiveness of placements and academic achievement of secondary school learners with hearing impairment in Lagos State*. M.Ed. Research Thesis submitted to the Department of Educational Management, University of Ibadan.

Darroch, K. & Marshall, L. (1998): Sign language interpreting in the Classroom. Developed by the Department of Disability Services at ColumbusState Community College and Alexa Murray. The Ohio State University Partnership Grant *Improving the Quality of Education for Students with Disabilities*.

Harrington F. (2000): Sign language interpreters and access for deaf students to university curricula: The ideal and the reality. In: Roberts RP, Carr SE, Abraham D, Dufour A, (eds). *The critical link 2: Interpreters in the community.* The Netherlands: John Benjamins. pp. 219–273.

IDEA (2004): *Individuals with with Disabilities Education*

Jacobs L. R. (1977): The efficiency of interpreti
processing lecture information by deaf college stud
*of Rehabilitation of the Deaf.*11:10–14.

Marschark M, Sapere P, Convertino C, and Seewagen R. (2005): Educational interpreting: Access and outcomes. In: Marschark M, Peterson R, Winston EA, (eds). *Interpreting and interpreter education: Directions for research and practice.* New York: Oxford University Press. pp. 57–83.

Marschark M., Sapere P., Convertino C., Seewagen R., and Maltzan (2004) *Educating deaf students: From research to practice*. New York: Oxford University Press.

United States Department of Education (2016). *Northeast Technical Assistance Center Teacher Tip Sheet, "Interpreting."* Publication developed through a grant from the U.S. Department of Education, Office of Special Education and Rehabilitative Services (OSERS) and produced through a cooperative agreement between RIT and OSERS (H078A60004).

Winston, C. (1995). Designing a curriculum for American Sign Language/English interpreting educators. In M. Marschark et al. (Eds.), *Sign language: Interpreting and interpreter education: directions for research and practice*. New York: Oxford University Press, 208–234.

APPROPRIATE SIGN LANGUAGE INTERPRETING POLICY FRAMEWORK IN MATHEMATICS FOR SUSTAINABLE DEVELOPMENT OF DEAF EDUCATION

By

Oluwatobi John, **AKINTOBI**

Abstract

Sign language interpreting is an important tool in the sustainable development of Deaf education in Nigeria, particularly in subject matters related to mathematics. Setting up of appropriate policy framework to guide the achievement of educational goals for the deaf individuals through sign language is a basic necessity. This article explores the meaning of sign language interpreting, interpreting and translation of message to hearing impaired individuals. It also highlights the similarities and differences between interpreting and translation. The roles and benefits of interpreting are also discussed. Finally, it gives suggestions on the improvement of interpreting for sustainable development of deaf education.

Introduction

Mathematics education is to a nation what protein is to a human organism. It is a vital tool for the understanding and application of science and technology. The discipline plays the vital role of a precursor to the much needed technological and national development of Nigeria.

Eguawon (2002) opined that mathematics is a model for thinking, developing scientific situations, drawing conclusions as well as for solving problems. Mathematics trains the mind on attention and concentration which are bound to be useful for the student throughout life. He went further to stress that mathematics also promotes the habit of accuracy, logical, systematic and orderly arrangements. Because of the importance attached to the technological development, the Nigerian government made mathematics a compulsory subject in the curr primary and secondary school levels of her educationa also as a prerequisite to the study of science courses in her colleges, polytechnics and universities (JAMB Brochure 1992-2007).

The National Policy of Education made provision for equal opportunity to be given to all to receive education irrespective of tribe, colour, culture, gender and most importantly disability. It is to this end that it is necessary for Deaf and hearing impaired learners to learn concepts in mathematics. For adequate teaching and learning of mathematics to take place, it requires the services of sign language interpretation, therefore the involvement of sign language interpreters in teaching and learning of mathematics to Deaf students.

Irrespective of the availability of sign language interpreters in teaching and learning of mathematics, there are problems facing its interpretation and these problems has brought about lack of interest in learning mathematics and under-achievement by the deaf and hearing impaired individuals. The mathematics curriculum does not meet the needs of deaf learners. Mathematical language can be

difficult to interpret because its vocabulary and grammar are so far removed from the conversational speech (Eguawon, 2002). Unfamiliar vocabulary and grammar do not alone account for the often opaque nature of mathematical discourse. There is also the challenge of having a sign language interpreter with little or no knowledge of mathematics interpreting for the Deaf individuals.

Given the importance of mathematics to the individual and nation as a whole, and the relevance of sign language interpreters to the teaching and learning of mathematics, cannot be overemphasized. This paper looks into the appropriate sign language interpreting policy framework in mathematics for sustainable development of deaf education.

Educational Interpreting

The word '*interpreter'* is derived from Latin, and refers to someone who explains the meaning, and makes sense of, what others have difficulty understanding (Advanced Learners Dictionary). When people need to communicate with each other but are separated by a language barrier, they often feel frustrated at being unable to get the message across. In this situation, ir

necessary intrusion into other people's lives.

Sign language interpreting is an essential support service for many deaf students, but until recently, little was known about how and how well deaf students learned via interpreting. In what appears to have been the first examination of this issue, Jacobs (1977) demonstrated that Deaf college students who depended on sign language interpreting learned significantly less from classroom instruction than hearing peers. His study involved written tests, but similar findings have been obtained when learning assessments were signed (Marschark, Sapere, Convertino, Seewagen, & Maltzan, 2004). Marschark, Sapere, et al. (2004) compared learning via (American Sign Language [ASL]) interpreting and (English) transliteration by deaf college students who varied in their ASL and English-based sign language skills. Regardless of how tests were administered, there were no effects of mode of interpreting and no interactions with student language skills.

The Difference between an Interpreter and a Translator

The terms 'translating' and 'interpreting' are used interchangeably by the wider community. The Advanced Learners Dictionary sees translation as the process of transferring meaning between languages in written or recorded texts. Translators can make extensive use of reference materials in their preparation and are able to edit and correct their work until they are satisfied with the outcome (Nord, 1997). Translators usually work alone in an office environment and cannot predict exactly who will read their translation or what background knowledge the reader might bring to it. Recent studies have described-techniques and considerations for translating written English into a signed language, in order to maintain the integrity of the original text and to achieve the purpose of the translation (Tate, Collins and Tymms 2003; Montoya, Conlon and Napier 2004).

Perhaps the biggest difference between interpreters and translators, then, is that most translators use computer-aided tools in their work. This involves converting the source content into a file type that's easy to work with (typically RTF), applying a translation memory (TM) to the text to automatically translate anything the tool has translated before, and filling in the gaps from scratch. As the translator goes through each section of text, they

glossaries and style guides to ensure quality. Finally, tl
translation to another linguist to proofread, and then co
document back into its original format ensuring the closest possible match.

Where interpreters have a fundamental proficiency in spoken communication, translators need excellent written skills. They're often specialists in particular fields and perfectionists by nature, having to adhere to source content's style and tone as well as grammar rules and overall accuracy. **Translators work on any information in written form: websites, print, video subtitles, software, and multimedia.**

Interpreting is also a process of transferring meaning between languages but it is done in real time between people. Interpreters work 'through the airwaves' (signed and/or spoken), in the presence of people who need to communicate immediately. While interpreters don't have the luxury of presenting a 'polished' translation, having contact with a live audience means that interpreters do have scope to

adjust the delivery of their message throughout the process to respond to, and enhance, their clients' comprehension.

Contrary to popular belief, interpretation is not word-for-word translation of a spoken message. If this were true, the result would make little sense to the target audience—sentences in one language are often constructed in an entirely different way to in another.

Instead, it is all about paraphrasing. Interpreters need to transpose the source language (language to be translated) within context, preserving its original meaning but rephrasing idioms, colloquialisms, and other culturally-specific references in ways the target audience can understand. Interpreters may even be required to act as diplomatic mediators in certain environments, and often need to be good public speakers. Not only that, but they have to deliver their message instantly—either in unison with (simultaneous) or immediately after (consecutive) the original speech—with no help from scripts, dictionaries, or other reference materials. An interpreter's only resources are experience, a good memory, and quick reflexes.

Interpreters work on projects involving live translation: Conferences and meetings, medical appointments, legal proceedings, live TV coverage, sign language

Page 150

Many potential clients contact interpreters saying th
for a professional translator expert when in fact, the
looking for an interpreter; of course, clients call interpreters when they don't need an interpreter at all – they're actually looking for a translator (Stacey, 2016). Briefly, though, the easiest way to remember the difference between these two is that an interpreter deals with the spoken message, while a translator deals with the written word.

- Both interpreters and translators work with a source language (which is the original language from which they're working) and a target language;
- The two professions only work into their mother tongue (the exception to this rule is a Liaison Interpreter);
- Both extract a message from the source language and convey it to their target in the target language;
- Both the interpreter and translator are linguists; and
- They both require professional qualifications.

The differences between translator and interpreter are vast. To sum up, Ashley (2017) listed four main distinctions to consider when determining which service is best suited to a project:

1. **Delivery:** As mentioned above, a key difference between translation and interpretation is in the timing. Interpretation takes place on the spot. The process can occur in person, over the phone, or via video. Translation, on the other hand, can happen long after the source text is created. This gives translators ample time to utilize technologies and reference materials to generate accurate, high-quality translations.
2. **Accuracy:** Interpretation requires a somewhat lower level of accuracy to translation. Interpreters aim for perfection, but it's challenging to achieve in a live setting—some of the original speech may be left out of the target language, for example. Again, time is on translators' side when reviewing and editing for accuracy.
3. **Direction:** Interpreters must be fluent in both the source and target language, as they're required to translate in both directions instantaneously without the aid
materials. Professional translators typically
direction: their own. Given that they only nee
source content into their mother tongue, they're not required to be fluent in the source language.
4. **Intangibles:** Making metaphors, analogies, and idioms resonate with the target audience is a challenge that both interpreters and translators face. On top of this, interpreters must capture tone, inflections, voice quality, and other unique elements of the spoken word and then convey these verbal cues to the audience.

Page 151

Interpreting Profession and Stress A Predominant Factor in the Teaching and Learning of Mathematics

There is a need for qualified interpreters to meet the growing demand for the service. However, there are both recruitment and retention issues that contribute to the insufficient supply of interpreters. Attaining the requisite skills and completing all educational and credentialing requirements to become an interpreter

requires a time commitment, but critical to sustaining in the field is the ability to cope with inherent stressors.

For instance, there are about 22 sign language interpreters at Federal College of Education (Special) Oyo, this number is not enough to cater for two thousand, two hundred (2200) deaf students spreading across five (5) different Schools and more than twenty (20) Departments in the College. Apart from interpreting for students in the lecture halls, interpreters are also expected to interpret for teaching and non-teaching deaf staff at conferences, meetings and other mediums they are needed. Sign language interpreters spend almost 8 hours daily. In the long run, sign language interpreters are often down with diverse health issues due to the frequent stress accumulated in the cause of delivering their services. This, together with the low number of sign language interpreters has brought about under achievement and lack of interest of deaf learners in Mathematics.

As it is well known that mathematics revolves around almost all disciplines, its knowledge by deaf individuals will help in solving problems within the school settings and in the commun

language interpreters are few, stressed and under-p end result is always devastating on the deaf learners.

Sign language interpreters need to be more committed, their commitment will further bring about academic attainment for the deaf learners particularly in the area of mathematics. Their presence in the academic setting is as a result of the presence of deaf individuals in such settings. Interpreting in a mathematics class requires adequate knowledge of the subject matter by the sign language interpreter, because sign language interpreters are teachers to the deaf. Having a self assessment before, during and after classes or lectures is also important to monitor interpersonal behaviours.

- Do I take time to meet Deaf learners before classes to become acquainted and discuss logistical considerations?
- Do I touch base with Deaf learners regularly throughout the class to make sure things are progressing effectively?
- Do I make myself available to Deaf learners during breaks to see if I can be of assistance?
- Do I avoid using technology during interpreting assignments so I remain open, available, and approachable should I be needed?

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

- Does my affect and demeanor reflect attentiveness, alertness, engagement and readiness?
- Do I make myself available at the conclusion of classes to connect with Deaf learners should they be interested?
- If I must leave immediately after a class or lecture, do I touch base with the Deaf learner first, letting them know I need to leave and extending my appreciation for the opportunity to work with them?
- Do I regularly talk with Deaf individuals, outside of interpreting assignments, about their perceptions and expectations of interpreters? If I do, am I a good listener?

Appropriate Interpreting Policy Framework in Mathematics for Sustainable Development of Deaf Education

Mathematical content knowledge requires understanding of the facts or concepts of a domain. This means that sign language interpreters must understand the structure of mathematics. Sign language interpreter must not only be capabl mathematical concepts, but also must be able to

mathematical concept is worth knowing and understan it relates to other concepts in both theory and practice.

The second category of content knowledge is pedagogical content knowledge, which includes the teaching dimension of mathematical content knowledge. In other words, pedagogical content knowledge requires the sign language interpreter to have the skill of teaching mathematics that makes it understandable to Deaf learners. Because there is no single most effective way of teaching, teachers must have at hand alternative approaches, some of which might be based on the results of current research, whereas others are born of experience. Pedagogical content knowledge also involves an understanding of how deaf pupils learn mathematics, and what makes the learning of a specific topic easy or difficult.

The third category of content knowledge is curricular knowledge, which includes teachers' skills and abilities to relate the mathematical content of a given lesson to topics or issues being discussed in other classes. At the same time, sign language interpreters need to have a grasp of the mathematical topics and issues taught in the mathematical subject area during the preceding and later years in

school, and the teaching materials that embody them. In building a sustainable mathematics teacher education, and class teacher education, we understand that both content and process are important in teaching professionals. Mathematical content knowledge includes knowledge of mathematical structures, pedagogical knowledge of the general and specific topics of mathematics and specialized curricular knowledge (Shulman, 2006**)**.

Additionally, current policy structure for special education was initiated by an alliance of families and professionals working with individuals with disabilities and advocacy groups dedicated to disability rights. Current education policy also reflects the evolving professional practices, knowledge base, and interests of educators and other professionals working with persons with hearing impairment.

- Follow a recognized code of ethics for interpreters.
- Provide qualified interpreter services commensurate with knowledge and skills base.
- Interpret lectures, discussions, movies, and as classroom setting.
- Keep all information regarding interpreting assignments and interactions confidential.
- Facilitate communication between persons who are hearing and persons who are deaf or hard of hearing as accurately as possible.
- Arrive for interpreter assignments on time.
- Dress appropriately for interpreter assignments to include clothing that contrasts with skin color but are not distracting to the student.
- Prepare for interpreter assignments by reviewing textbooks, handouts, movies, and related class materials ahead of time.

Conclusion and Recommendations

The ambition of professional sign language interpreter is to eliminate all educational barriers in order to let hearing impaired students achieve educational attainment through sign language. It is clearly evident that interpreters are bound by rigorous professional policy frameworks to help them deal effectively with the numerous

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

demands imposed by the task of interpreting and presented by the wide variety of settings in which they work. Interpreters are highly trained professionals who specialize in providing equal communication access between deaf and hearing worlds in a variety of ways (e.g., signed language and spoken language; and through linguistic and cultural mediation). That is, they must know a good deal about the array of settings, topics, and participants with which they interpret.

If prospective class teachers' mathematical content knowledge and pedagogical content knowledge become more sustainable through pedagogical arrangements in teacher education, this will contribute to the building of a sustainable mathematical basis for future generations. This can also reduce the anxiety associated with learning the meaning of a fraction by the deaf learners. Based on the above, I recommend the following:

1. Developing of mathematical learning materials based on pedagogical content knowledge, with adequate on the needs of persons with hearing impairme
2. Strengthening of prospective class teachers' subject matter content knowledge in mathematics (especially conceptual knowledge);
3. Providing conducive learning environment for better teaching and learning of mathematics;
4. Adequate time allocation for the teaching and learning of the subject, giving more time for the deaf and slow learners to grasp concepts in mathematics;
5. Mathematics sign language interpreter should have adequate knowledge in the subject matter to enhance easy and effective teaching and learning of mathematics; and
6. Building a strong foundation in the learning of mathematics by the deaf pupils from nursery, primary and secondary levels which will effect a positive attitude towards the subject at the higher educational levels.
7. Studying of pedagogical content knowledge of school mathematics (especially in what order we teach mathematical concepts and how we should show the relations between them).

References

Ashley, M (2017). Major Differences between Interpretation and Translation. Lionbridge. http://www.lionbridge .com/5-major-differences-interpretation-translation/

Eguawon (2002). Measuring up to Performance Standards in Reading and Mathematics: Achievement of Selected Deaf and Hard-of-Hearing \students in the National Norming of the 9th Edition Stanford Achievement Test. Journal of Deaf Studies and Deaf Education, 5, 337-348.

Jacobs, O.S. (1977). Chasing the Mythical Ten Percent: Parental Hearing Status of the Deaf and Hard-of-Hearing Students in the United States. Sign Language Studies, 4, 138-163

Marschark, M., Sapere, P., Convertino, C., Seewagen, R., & Maltzen, H. (2004). Comprehension of Sign Language Interpretating: Deciphering a Complex Task Situation. Sign Language Studies, 4(4), 345-368. Dio:10.1353/SLS.2004.0018.

Monotoya, Conton & Napier, J. (2004).Access
Education: Perceptions, Preferences and E
Interpretation by Deaf Students. Journal of Dea
Deaf Education, 9(2), 228-238. Doing:10.1093/ deafed/enh024.

Nord, B.M. (1996). The Mask of Benevolence. New York: Vintage Books.

Stacey, V.A. (2016). An Interpreted Education: Inclusion or Exclusion? In R.C. Johnson & O.P. Cohen (Eds.), Implications and Complications for Deaf Students of the Full Inclusion Movement (pp. 56-62). Gallaudet Research Institute Occasional Paper 94-2-Washington DC: Gallaudet University

Shulman, L.S. (2006**)** Those who understand: Knowledge growth in teaching. *Educ. Res.*, *15*, 4–14.

Tate, Collins and Tymms (2003). Effects of pace and stress on upper extremity kinematic responses in sign language interpreters. Ergonomics, 51, 274-289. doi: 10.1080/00140130701617025

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

SIGN LANGUAGE INTERPRETING AND TECHNICAL SUPPORT AS DETERMINANTS OF ACADEMIC ACHIEVEMENT OF LEARNERS WITH HEARING IMPAIRMENT IN FEDERAL COLLEGE OF EDUCATION (SP), OYO

By

Moses Olu, **OYAWOLE**

&

Dorcas O. **OYAWOLE**

Abstract

Academic achievement of learners with hearing impairment has over the years been hinged on the effective performance of the Sign Language Interpreters. While many have laid the blame for poor performance of this set of students at the doorstep of the Sign Language Interpreter only, they have not seen the impact of other technical supports needed by this category of learners. Researchers have suggested the use of both the Sign Language Interpreter and Technical Support for learners with hearing impairment in all strata of

the educational ladder; this becomes imperative because of the peculiar nature of these students. It has been observed that except in few cases where there are Sign Language Interpreter and Technical Support to take care of the educational pursuit of these learners, most of special schools have been left without these important factors in the education of learners with hearing impairment, making it almost impossible for these students to perform optimally. Also, the attitude of students with hearing impairment towards Biology is negative. In this study, SSCE Biology result of NCE 1 students of Federal College of Education (Sp) Oyo was put into consideration and has led to the researchers' conclusion that because of their negative attitudes towards Biology, majority of students were given admission into other departments apart from Biology. Only few of them fit into Biology department because of their performance in SSCE. This study, therefore, suggests that learners with hearing impairment should not only depend on the efforts of Sign Language Interpreter alone but their learning environment should also include the use of technical support to improve their academic achievement. Three hypotheses were tested, three instruments were used: Students' Questionnaire on Effectiveness of Sign Language Interpreter (SQESLI), Students' Questionnaire on Use and Availability of Technical Support (SQUATS) and Students' Questionnaire on Attitude of Students with Hearing Impairment towards Biology (SQASHITB).

Keywords: *Sign Language Interpreter, Technical Support, Learners with hearing impairment and Achievement.*

Introduction

Sign Language Interpreting is the professional process of translating what is said by the lecturer or tutor into sign and providing a voice over for the deaf student's own signed contribution if required. It is the specialised field in the education of learners with hearing impairment with a bias in communicating through the means of interpreting spoken words into signs to promote the reception and understanding of the intended messages by the learners with hearing impairment. As such, communication with learners with hearing impairment becomes a Herculean task without the services of a Sign Language Interpreter. Thus, the Sign Language Interpreter is one

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

who has the knowledge of communicating by interpreting spoken words into language of signs to individuals or group of people with hearing impairment. Sign Language Interpreters are part of the package of access tools that enables the hearing impaired to actively engage in top-quality education. Sign Language Interpreters act as tutorial lecturers, give assistance in the library on the resources available and facilitate interactions between learners with hearing impairment and the lecturers or fellow students where necessary. For proper understanding, the Sign Language Interpreter uses manual communication comprising sign language, finger spelling; miming, body and facial expression plus speech and audition in total communication to bridge the gap when interpreting. The Sign Language Interpreter must recognise the importance of translations in both directions from English to sign language and vice versa (Gbegbin, 2018). It means that the import of the services of a Sign Language Interpreter is fully appreciated each time there is communication with an individual with hearing impairment.

Technical supports are the hearing technology used by those students with hearing impairment that have residual hearing to manage problems of distance, background noise and acoustic conditions. These include Radio Microphone System, Induction Loops, Digital Recorder. Radio microphone system consists of a microphone given to the lecturer which transmits to a receiver worn by the students. Induction loop helps to eliminate the effect of distance and background noise and are again used in conjunction with a microphone used by the speaker and sometimes with an existing amplifying system. Digital recorder can be used by the students with a substantial amount of residual hearing and are useful for keeping a record of lectures to be listened to at leisure afterwards and stored on their computers if they wish as sound files. Putting technical supports in consideration in this study may have positive effect on students with hearing impairment learning outcome in Biology.

Smith (2007) defines hearing impairment as impairment in hearing, whether permanent or fluctuating that adversely affects a child's educational performance and mentioned Sign Language Interpreter, Assistive Listening Devices (ALDS) equipments e.g.

audio loops, and FM transmission service as the supports needed by such students. Adeniran (2013) describes hearing impairment as a condition referring to a malfunctioning of the hearing mechanism. According to Mba (1995), Alade (2003) and Okuoyibo (2006), Hearing impairment is also described as a condition that can make the affected person exhibit some strange behaviour that contravene associated time, frequency and a set of norms in the society. The signs include; request for repetition of words, not responding to or confusing verbal direction, speaking arbitrarily loud or low, discharge from the ears, bending towards speaker's mouth, among others. There is no separate curriculum for learners with special needs; it means they are exposed to the same content in all the school subjects (Biology inclusive) like their regular counterparts.

In contemporary Nigeria, greater emphasis is placed on science and technological development. As a result, students are being encouraged to take up science-related subjects. Today, Biology pervades literally every field of human endeavour, and plays a fundamental role in educational advancement. Biology as a whole is one of the cornerstones of all forms of modern health care, ranging from field of medicine, pharmacology, immunology and agricultural science, therefore, this call for effective teaching. Most students with hearing impairment have some difficulties with academic achievement especially with Biology. Auwalu, Mohd and Muhammed, (2014) explained that abstractness of biology and lack of understanding of certain biological concept and terminologies are said to be reasons adduced for poor performance of students in biology. Achor, Ochnogor and Daikwo (2011) also stated that in spite of the importance of Biology among Nigerian students, the performance of students with hearing impairment at senior secondary school level has been poor as most students still learn Biology as an abstract subject.

Researchers have used different types of instructional strategies to enhance academic performance of students in Biology, Ajaja (2011) noted that concept maps help in understanding ideas by showing the connections with other ideas. Ajaja and Eravwoke (2010) also found that the ability of cooperative learning when used as instructional strategy bring about significant improvement in

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

students' achievement in school science subjects. Council for Learning Disability CLD (2019) stated that peer tutoring is a flexible, peer – mediated strategy that involves students serving as academic tutors and tutees. National Science Teacher Association (NSTA, 1996) believes that there are some specific concepts in Biology where students could benefit more from inquiry-based activities than traditional learning by lecture. Studies by Ajaja and Eraavwoke (2012) found that there is a significant higher retention of Biology and Chemistry by students taught with learning cycle than those taught with lecture method. Despite all the strategies that have been used, literature reveals that there is still low performance in Senior Secondary Certificate Examination (SSCE) results on students with hearing impairment. This can be traced to as far back as 1986 where the Minister of Education, Prof. Jubril Aminu expressed his utmost disappointment over students' poor performance in West Africa Secondary Certificate Examination (WASCE). Abimbola and Abidoye (2013) as well as the Chief Examiner's report of West Africa Examination Council (WAEC) in 2018 has observed that there is an increasing yearly enrolment in science subjects especially Biology but the performances of students, including those with hearing impairment, in the Senior Secondary Certificate Examination (SSCE) is fluctuating. Researchers' reports and WAEC Chief Examiner's annual report have continued to highlight students' weakness in answering questions relating to difficult concepts in areas such as Genetics, Ecology and Evolution as causes of poor performance of students with hearing impairments.

Poor performance of students with hearing impairments can still be related to solving questions on concepts such as gene, chromosomes, mendelian genetics and hormones (Cimar, 2012). Tekkaya, Ozkan and Sungur (2001) also found out that hormones, genes and chromosomes, mitosis and meiosis, the nervous system, and mendelian genetics were considered difficult concepts by secondary school students. They further explained that overloaded Biology curricula, the abstract and interdisciplinary nature of biological concepts, and difficulties with the textbooks are the other factors preventing students from learning Biology effectively.

Students With Hearing Impairment And Biology Education

The Salamanca World Conference on Special Needs Education (1994) proclaimed that every child has a fundamental right to education and must be given the opportunity to achieve and maintain an acceptable level of hearing. In the past, the curriculum for learners' education emphasized mastery of grammar and/production and understanding of speech (Moores and Meadow-Orlans, 1993), English, Mathematics and Moral development (Moores and Martin, 2006) while content areas, such as Mathematics and Sciences received minimal attention. Lang (2006) stated that in a five year period from 1996-2000, not one article in American Annals for the Deaf related to science instruction. By the start of the 21st century, equity and academic achievement became the goal for deaf education (Moores and Martins 2006). This resulted in the recognition of the challenges that deaf learners e

regards to learning context based subjects, such as S subjects such as Physics, Chemistry, Biology and among others are introduced and taught in schools both at the secondary schools and tertiary schools. Scientific education is hinged on the belief that having a basic knowledge of science, its skills and process can improve the quality of life of persons with or without hearing impairment and increase the survival rate of the human race in a hostile environment. This makes it a useful subject to be taught in school, especially at Senior Secondary School level to all learners, one of the science subjects in the secondary school that is seen in virtually every aspect of life is Biology. Biology is an interesting subject in secondary school curriculum. The National Policy on Education (2013) stipulates that Biology should be taught at the secondary school level.

In pursuance of the goals of the policy, the Federal Ministry of Education (2013) states the following aims and objectives of teaching Biology in secondary schools: to understand the structure and functions of living organisms as well as to appreciate nature, to acquire adequate laboratory and field skills in order to carry out and evaluate experiments and projects in Biology, to impart relevant knowledge in Biology needed for future advanced studies in Biology, to be able to apply biological principles in every day matters that affect personal, social, environmental, community health and economic problems. It is of great importance in order to achieve

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

these objectives that there should be effective teaching and learning. The study of Biology helps the students to discover that life, which involves interactions at all levels of organisation: cells interact with their environment and with each other, so do organs, organisms and ecosystems. The study of Biology encompasses all the activities that the living organisms engage in such as nutrition, respiration, growth and development, reproduction, evolution, and ability to adapt and cope effectively with their environment. Biology holds a unique place in search for solution, because as a scientific study of life, it is concerned with life and its processes. It is also a subject that engages students in varied process skills such as observing, classifying, interpreting, predicting, designing, organising and reporting events, experiment and information adequately. Biology is seen as one of the important subjects in Nigerian secondary school curriculum and because of its importance, more students enrolled for Biology in the Senior Secondary School Certificate Examination (SSCE) (West African Examination Council, 2011). Despite the importance of Biology, it has been observed that students always record poor achievement in this subject. In line with this, West African Examination Council, 2011 stated that the students' performance in Biology is not encouraging as the highest percentage at credit level in the last decade is 49.65%, while those with ordinary pass level was 32.41% and this poor performance has been a source of worry to both parents and teachers. Since then, various attempts have been made to identify the causes of such poor performances of students with hearing impairment. So far, it could be reasonably adduced that academic performance of students with hearing disability is not only consequent on their intelligence quotients or their disabilities (Ademokoya, 2007). Other factors relating to student such as sign language interpreter and technical support are very eminent.

Geni (2014) stated that major factors contributing to poor academic performance of students with hearing impairments are communication barrier, lack of specialised teachers as well as specialised equipment. Mkwama (2003) and Stainback (2004) stated that students with hearing impairment need a convenient language so as to participate in the school, students must be visually oriented and educational materials must be supported by sign language. Geni (2014) also found out that students with hearing impairment

performed well in subjects that were taught by specialist teachers than in those subjects taught by non-specialist teachers. Lack of professionals in the school for students with hearing impairment was observed as one of the factors for their poor performance (Jutta, 2007). Power and Hyde (2002) argued that with appropriate support from regular class teachers and itinerant teachers of the deaf and hard of hearing, most seem to make satisfactory adjustment to academic and social life with their hearing peers.

In a study reported by Adoyo (2008), it was revealed that teachers should use the latest techniques and materials for instruction when working with children with hearing impairment. Mlimina (2009) and Mosha (2011) noted that availability and use of teaching and learning materials as well as specialised
important in facilitating learning in students with heari
Mnyanyi (2007) also recommended that availability
teaching materials and assistive technologies is very important in enhancing learning process for students with hearing impairment, these include textbooks and visual materials.

Page 164

Over the years, the academic performance of students with hearing impairments has been worrisome. So far, it could be reasonably adduced that academic performance of students with hearing disability is not only consequent on their intelligence quotients or the disability but could be due to factors of sign language interpreter and technical support. Arising from the outcome of the high failure rate of students with hearing impairment in Biology, this study determined the relationship between sign language interpreter and technical support as determinant of academic achievement of learners with hearing impairment in Federal College of Education (Sp) Oyo.

Hypotheses

The following hypotheses will be tested in this study.

Ho_1: There is no significant relationship between the use of technical support and achievement of students with hearing impairment in Biology.

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

Ho_2: There is no significant relationship between the effectiveness of sign language interpreter and achievement of students with hearing impairment in Biology.

$H0_3$: There is no significant relationship between the availability of sign language interpreter, technical support and attitude of students with hearing impairment to Biology.

Methodology

Scope of the Study

Forty (40) N.C.E I Students of Federal College of Education (Sp) Oyo were used for the study.

Instruments

The following instruments were used in carrying ou
work.

Page 165

1. Students' Questionnaire on Effectiveness of Sign Language Interpreters (SQUESLI).
2. Students' Questionnaire on the Use and Availability of Technical Support. (SQUATS).
3. Students' Questionnaire on Attitude of Students with Hearing Impairment towards Biology (SQASHITB).

Data Analysis

Descriptive statistics of frequencies counts and percentages were used to analyse the Demographic characteristics of the respondents while the non-parametric statistics of Pearson Product Moment Correlation was used to test the hypothesis. The Decision criteria for the hypothesis tested were set at 0.05 alpha level of significance.

Table 1: Frequency distribution of respondents by gender

Gender	Frequency	Percentage
Male	22	55
Female	18	45

Total	**40**	**100**

Table 1 showed the gender distribution of respondents as 22 (55%) of the respondents were males, while 18 (45%) were females. This implies that there were more males than females in the sample used.

Table 2: Frequency distribution of respondents by age

Age	Frequency	Percentage
16-19	37	92.5
20-25	03	7.5
Total	**40**	**100**

Table 2 revealed that 37 (92.5 %) of the respondents were between the age of 16-19; while 03 (7.5%) were between the age of 20-25. This indicates that most of the respondents were tee adults.

Table 3: Frequency distribution of respondents by onset of hearing loss

Hearing loss	Frequency	Percentage
Before Birth	23	57.5
After Birth	17	42.5
Total	**40**	**100**

From table 3 above, it can be deduced that 23 (57.5%) of the respondents acquired hearing loss before birth (Congenital hearing loss) and 17 (42.5%) acquired hearing loss after birth (Adventitious hearing loss). It indicated that majority of them had congenital hearing loss.

Table 4: Frequency distribution of respondents based on Biology SSCE/GCE results

Result	Frequency	Percentage
A1	__	___
B2-B3	__	___
C4-C6	09	22.5
D7	19	47.5
E8	07	17.5
F9	05	12.5
Total	**40**	**100**

Table 4 revealed that 05 (12.5%) of the respondents had F9 in their O' Level Biology, 09 (22.5%) had C4-C6, 19 (47.5%) had D7 and 07 (17.5%) had E8. None of the respondents has A1 and B2-B3. This is a result of their deficiency or attitude towards Biology.

Table 5: Mean, Standard Deviation and Pearson Pro Correlation between Technical Support an Achievement

Group	No	x	SD	r	p	Remark
Technical Support	23	7.91	5.40	0.08	0.05	There is relationship
Achievement of Students (HI)	17	5.11	4.36			

From table 5 above, since p (0.05) is less than r-calculated (0.08) there is a significant relationship between the use of Technical Support and Achievement of Students with hearing impairment.

Table 6: Mean, Standard Deviation & Pearson Product Moment Correlation between Effectiveness of Sign Language Interpreter and Student Achievement

Group	No	x	SD	R	p	Remark
Effectiveness of Sign Language Interpreter	19	8.11	5.01	0.07	0.05	There is relationship

Achievement of Students (HI)	21	9.5	1.11			

Table 6 above indicated that p (0.05) is greater than r-calculated (0.07) implies that there is strong relationship between the effectiveness of Sign Language Interpreter and Achievement of Students with hearing impairment in Biology. The only language the students in this category understand is Sign Language and it is only the Sign Language Interpreter that can offer the service.

Table 7: Mean, Standard Deviation and Pearson Product Moment Correlation between the Availability of Sign Language Interpreter and Attitude of Students

Page 168

Group	No	x	SD	r	P	
Availability of Sign Language Interpreter	28	10.56	4.11	0.03	0.05	There is no relationship
Attitude of Students	12	5.12	0.15			

Table 7 above indicated that p (0.05) is less than r-calculated (0.03). Therefore, there is no relationship between the availability of Sign Language Interpreter and Attitude of Students. This presumed that some of the students are naturally lazy or see their impairment as an excuse.

Summary and Conclusion

In summary, a better understanding of the factors contributing to the academic achievement of learners with hearing impairment across subject areas is important for both theoretical and practical reasons. It will contribute to scientific understanding of cognitive, social, and linguistic functioning among learners with hearing impairments, and also will help in the design of educational materials, methods, and interventions to support their academic achievement. Findings emerging from analyses show that even minimal hearing loss can interfere with achievement outcomes and that these students may not receive appropriate or sufficient support services.

It is observed from the findings of this research work that there is significant relationship between the use of Technical Support and

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

academic achievement of students with hearing impairment; also, that there is strong relationship between the effectiveness of Sign Language Interpreter and Achievement of Students with hearing impairment in Biology. Again, it is established that there is no relationship between the availability of Sign Language Interpreter and Attitude of Students.

With studies on language and communication, the effects of early diagnosis and early intervention, and the influence of assistive hearing devices on child development and academic functioning, studies of this sort serve an important role in improving educational opportunities and outcomes of learners with hearing
Biology in particular and other subjects in general.

Page 169

Recommendation

In the light of the foregoing, the researchers hereby recommend as follows:

1. The use of technical support should be intensified for learners with hearing impairment to benefit maximally in their studies in Biology.
2. More Sign Language Interpreters should be employed to adequately cater for both the classroom and outside need of learners with hearing impairment for maximum performance.
3. Learners with impairment should be worked upon so as to change their negative attitude towards Biology and other science-oriented subjects as hearing impairment should not be a barrier to them.

References

Ademokoya, J. A. (2007). Managing Some Psychosocial Problems Affecting the Learning of Nigerian School Children with Hearing Impairment. Pakistan Journal of Social Sciences 4. 3: 460 – 466.

Adeniran, E. A. (2013) Self-concept and Academic Performance of Nigerian Adolescents. *Journal of Teacher Education,* 1 (2), 12-16

Adoyo, P. O. (2008). Educating Deaf Children in an Inclusive setting in Kenya: Challenges and Considerations. Nairobi: University of Kenya.

Alade, E. B. (2003) Introduction to Psychology of Children with Hearing Impairment. Institute of Open Learning KU, Nairobi

Federal Government of Nigeria (FRN), 2004. National Policy on Education. Abuja. NERDC Press

Gbegbin, J. A. (2018) The Concept of Sign Language Interpreting (SLI) in Nigerian Educational Institutions. In J. A. Ademokoya (ed) *Contemporary Issues in Sign Language Interpreting in Nigeria.* Ibadan: Gloryland Publishing Company. pp. 8-19

Geni, J. M. (2014). An Analysis of Academic Performance of Students with Hearing Impairment in Secondary Schools. Dissertation, University o

Jutta, I. M. (2007). Accessibility of Primary Educatic with Disabilities in Dares Salaam. An M. A. (Development Studies) Dissertation. Dares Salaam University of Dares Salam.

Lang, H. G. (2006) Teaching Science. In Moores, D. F. and Martin D. S. *Deaf Learners: Developments in Curriculum and Instruction.* Gallaudet University Press. Washington.

Mba, P. A. (1995) *Fundamentals of Special Education and Vocational Rehabilitation.* Ibadan: Codat

Mkwama, A. A. (2003). The Capitation and Development Grants as a Strategy for Financing Primary Education in Tanzania: M. A. (2003) Education Dissertation: Dares Salaam University of Dares Salaam.

Mlimina, M. (2009). Teachers' Perception and the Role of Teaching Aids in Learning Process. The Case Study of O – level secondary school in Inclusion Education.

Mnyanyi, B. F. (2007). Special Needs Education: Some experiences from Tanzania. Journal of Issues and Practice in Education

Moores, D. F. and Martin, D. S. (2006) Deaf Learners, Development developments in Curriculum and Instructions' Gallaudet University Press. Washington, DC

Moores, D. F. and Meadow-Orlans, K. P. 1993. *Educational and Developmental Aspects of Deafness.* Gallaudet University Press. Washington, DC.

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

Mosha, H. J. (2011). Towards Managing Educational Institutions for Excellence and Perfection. Papers for Education and Development.

Okuoyibo, J. M. (2006) Educating the Child with Hearing Impairment: The Place of the Educational Audiologist. In T. Adelowo, N. Osatuyi & T. Ajobiewe (eds) *Special Education in Nigeria: A Search for a New Direction.* Ibadan: Gloryland Publishing Company. pp. 281-293

Power, D and Hyde, M. (2002). The Characteristics and Extent of Participation of Deaf & Hard of Hearing Students in Regular Classes in Australian Schools. Journal of Deaf Students and Deaf Education. Vol. 7 No 4, PP 3

Smith, D. D. (2007) Introduction to Special Educati Difference 6th ed. Boston. Pearson Education, In

Stainback, B. S. (2004). Microsoft Encarta Encyclopedia. Microsoft Corporation. West African Examination Council, 2011 Biology Chief Examiner's Report

COLLABORATION: A PANACEA FOR SUSTAINABLE DEVELOPMENT OF DEAF EDUCATION IN BASIC SCHOOLS IN NIGERIA.

By

Ojedapo Emmanuel, **OLANREWAJU**

Abstract

In the education of persons with hearing impairment, the general education teacher may have limited experience on Deaf students, the role of professionals who may work with the students may not be known to the classroom teacher (regular teacher). Due to hearing loss, there are some specialists who the teacher must collaborate with. The role of these specialists may be different from one another but each provides appropriate service for the students with hearing impairment. Through collaboration of professionals in the education of the deaf, the hearing impaired is adequately monitored and attended to thereby resulting in creating an enabling environment and great opportunities for the deaf individuals. General education teachers should understand how the student's hearing loss affected his participation and functioning in the classroom, hence there is need for collaboration with other specialist to sustain the education of the hearing impaired individual. This paper focuses on professional collaboration for sustainable development of deaf education. The roles of these specialists were discussed and the impact they have on the education of person's with hearing impairment.

Introduction

Educating the learners with hearing impairment is interesting, and requires some professionalism. Collaboration is essential in achieving success in human endeavour for the success of businesses, restaurants, medical clinics, and schools alike, Merriam-Webster Dictionary defines collaboration as working with another person, or group of people, to achieve a goal. Collab
when two or more people or organization work togeth
achieve a goal (Marinez-Moyano, 2006). It is action
someone to achieve or produce something. Students with special needs were primarily refused enrollment in schools or poorly served in public institutions in the 20th century (Martin, Martin, & Terman, 1996), this happened as a result of failure to embrace collaboration in the educational sector. Later in the 70's, the Federal Government of Nigeria promulgated, a law that all public schools accepting federal funds were required to educate students with disabilities and furthermore, students with disabilities should be educated in the least restrictive environment (LRE) (Dettmer, Knackendoffel and Thurston 2013), This programme requires a special service for people with special needs, within this services, a separate school for students with disabilities would be considered the most restrictive environment, and a general education classroom would be considered the least restrictive environment. The implementation and the concept (LRE) changed the landscape of special education, causing many special education teachers and general education to work alongside each other and share responsibilities for the first time.

Collaboration in special education is referred to as a team teaching approach. A collaborative team includes classroom teacher, special teacher, sign language interpreters, and speech therapist. Collaboration is increasing as more special education students are taught in regular classroom. Collaboration exists when two or more people work together on long-term projects to achieve complex goals. These specialists share responsibilities, work toward the same goal and produce a sustainable, continuous outcome

(Berrigan & Meynardie, 2013). Collaborations facilities overall agency performance and support those involved in tackling complex social issues. Collaboration encourages the establishment of long-term relationship through the opportunity for greater engagement among participants, Collaborations can result in greater engagement among participants. Collaboration can result in greater innovation, while conserving resources to reach shared goals (Woodland & Hutton. 2012).

With the inclusion of students with disabilities in the regular education classroom, primary education teachers are expected to share responsibility for the education of students with special needs with some specialists. These general education tea

Page 174

education teachers inclusive) required support from sp
teachers, in order to teach the students with disabili
placed into their classes. There are diverse service delivery models that exist to support teachers and the students receiving special education. Idol (2006) describes four collaborative teaching models: consulting teacher model, supportive resource program, the use of instructional assistants' cooperative teaching, or co-teaching.

The consulting teacher is a model that provides indirect support to students with disabilities. This may involve going into classroom and helping with the special education students. The special education teacher or therapist serves as a consultant to the primary education classroom teacher by answering questions, helping to problem solve, and possibly modifying assignments or test. Indirectly supports are also provided by special education teacher to students with disabilities by interacting only with the primary education teacher, and the primary education teacher works with all the students in the class, including the students with disabilities (Idols, 2006). Supportive resource program model is the collaboration between the resource room teacher and the general education teacher to ensure the resource room teacher supports the general education classroom teacher by having an aligned curriculum. This alignment is critical for helping the student to gain the knowledge and skills of the general education classroom (Idol, 2006). Through individualized instruction and necessary modifications and accommodations.

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

With the paraprofessional support model, instructional assistants often accompany a specific student or group of students with disabilities to provide support to that student or students in their general education classes. These paraprofessional positions are often funded entirely by special education monies (Idol, 2016). Paraprofessional supports the regular education teacher in a variety of ways. Paraprofessional often support individual students in special education who need support with social situations, academic skills, or behavior management. Ideally, when paraprofessional are not fully engaged in class by not assisting specific students, they float around the classroom whenever the general education teacher is teaching, and support both general education students as well as special education students.

Page 175

The final model of cooperative teaching is
Bauwens, Hourcade and Friend (1989) suggested that
teaching, or co-teaching, would be an efficient and effective way to deliver needed special education support to students while in the general education classroom. Co-taught classes should contain a majority of general education students, along with a small number of students with special needs in the classroom.

Benefits of Collaboration on the Education of the Hearing Impaired

In collaboration, the regular classroom teacher and special teacher work together simultaneously to teach the students with hearing impairment. Either of them introduce the new concept to be taught to students with instructional materials. Both teacher work as a team to reinforce learning and assistance is also provided for students when there is need for it. Special education teachers also provided especially designed instruction to students with individualized education programme (IEP). Collaborating and understanding students is also important when it comes to behavior of the student. Primary school teachers have to be vigilant when working with difficult student. What triggers the students during learning must be in place and a plan to check the behavior must be adopted. This may involve talking with the student so as to develop a plan for the student to remain in the classroom.

Educational audiologists and teachers of the Deaf are critical partners in Deaf education today. The teachers of Deaf identify the academic needs of the child while the educational audiologists measures the level of damaged of the clients hearing level and therefore recommended the right academic placement for the child. Both addressed the auditory and listening needs of Deaf or Hard of Hearing and promote communication access which is essential for participation and learning in the classroom and then performed professional relevant services for these students pertaining to assessment and management of hearing impairment. Educational audiologist also collaborates with the teacher of the deaf to observe classroom and school environments to evaluate communication access, classroom acoustics, and how children who are Deaf or Hard or Hearing or who have other auditory disorders ar

Recommendations were also made to improve communication, participation and instruction includ assistive technologies for alerting, messaging, and other routine functions. They make use audiological data, couple with academic and communication data to determine appropriate use of visual technologies for equitable access to language, instruction and the curriculum (e.g ASL. signed system, cued speech, Communication Access Realtime Translation (CART) and voice to text translations). Educational audiologist, collaborates with interpreters, transliterators and/or CAR providers regarding expressive and receptive preferences and disabilities of students accessing those services. Lead discussion of the communication Plan/Special Factors at annual Individualized educational programme (IEP) meeting. Educate school personnel about language, communication, social, and educational effects of hearing loss/ deafness and technology options.

The role of educational sign language interpreter is also important in Deaf education. An educational sign language interpreter is a certificated professional; who is a trained person who facilitated communication between a student who is Deaf or Hard of Hearing, the hearing staff member and student. He is skilled professional in the field of sign interpreting who transform spoken word to signs and signs to spoken words for the benefit of student's student with hearing impairment (Alawode, 2017). Student with hearing

impairment cannot benefit maximally home lesson where teachers express themselves verbally but students with hearing impairment can be part of the teaching and learning with the service of sign language interpreters. Sign language interpreters also provides the hearing impaired person access to all auditory information with the help of educational audiologist and the special. He voice signed responses of the hearing impaired to the hearer. Sign language interpreters collaborates with other professionals by clarifying information for the students for the student who is hearing impaired.

Generally, primary school teachers are now serving students with a wide range of needs, and required the guidance of a variety of special education professionals for support. Collaboration is therefore essential to inclusion because student achievement and progress hinge on the input of many professionals. Recently,

who are deaf or hard of hearing are educated in main than were 20 years ago (De Raeve & Lichtert, 20 Department of Education, National Center for Education Statistics (2013) stated that 87% of students with hearing impairments, between 6-21 years old are educated in general education classrooms for at least some portion of the school day (National Center for Education Statistics, 2013). Due to this. it is expected that primary school teacher to become effective in collaborating with other professionals as collaboration is imperative to educational success of hearing impaired.

Primary school teachers are in a unique position to offer support to families of infants and young children who are diagnosed with hearing impairment. These set of teachers have a vital link between families and others services children receive, including case study of child. Physicians and community family service children receive including transition to preschool and then school-age services and programs, primary school teachers have an increasingly important role within the school team responsible each child's educational services and particularly as an advocate for sustaining their educational needs. These teachers also counsel and provide guidance to parents, family members, and professional regarding a child's hearing status. They work with families to empower them in their children's education and to utilize the available resources to assist their child.

Conclusion

It is evident that collaboration is a necessary component for achieving sustainable education for the deaf. Without authentic collaboration, parents are not able to fully participate in the life of their children's education. Collaboration should reflect a learner-centered approach if schools are to prepared and connect student with disabilities to the larger community in a global society. Collaboration of primary school teachers with other professionals has significant effect on the education of the hearing impaired, because it resulted to creating enabling education environment for the deaf due to proper monitoring and joint efforts from the professional with the primary education teachers.

Recommendation

Based on issues raised in this paper, the following recommendations are hereby offered;

i. Collaboration should reflect a learner centered approach system of education.
ii. Government should provide each school with an educational audiologist and other specialists to attend to each child before been admitted into primary and secondary schools respectively.
iii. The Regular teachers should always work hand in hand with other professionals in the field of education so as to ensure a rightful placement of learners with hearing impairment.

References

Alawode T. O. (2017). The Need for Educational Sign Language Interpreters in the education of student with Hearing Impairment: In Contemporary issues in Sign Language interpreting. Pp 50-63.

Berrigan N. & Meynardie. E. (2013). Process: Analyzing our partnerships: Conference presentation. The National Outreach Conference, Tucson. AZ.

De Raevel L. & Lichtert G. (2012). Changing trends within the population of children who are deaf or hard of hearing in Flanders (Belgium): Effects of 12 years of Universal Newborn

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

hearing Screening, Early Intervention and Early Cochlear implantation. The Voltal Review, 112(2), 131-148.

Dettmer P., Knackendoffel A. & Thurston P. (2013). Collaboration, consultation and team work for students with special needs (7th Ed.) Boston: Pearson.

Idol L. (2006). Toward inclusion of special education students in general education: A program evaluation of eight schools. Remedial and special education, 27(2), 77-94.

Marinez-Moyano I. J. (2006). Exploring the dynamics of collaboration in interorganizational setting. Pp. 83.

Martin,E., Martin,R.,& Terman, D (1996). The Le litigation history of special education.The future 25-39

Merriam-Webster Dictionaries. https://merriam-webster.com. Retrieved April 4, 2018.

National Center for Education Statistics (NCES) Resources. https://libguides.princeton.edu/edstats. Retrieved April 4, 2018.

Woodland R. H. & Hutton M. S. (2012). Evaluating organizational collaborations: suggested entry points and strategies. *American Journal of Evaluation, 33(3), 366-383.*

RELEVANCE OF SIGN LANGUAGE INTERPRETERS IN THE EDUCATION OF STUDENTS WITH HEARING IMPAIRMENT

By

Ruth Titilayomi, **AKOLADE**

Abstract

Sign language interpretation in the education of persons with hearing impairment in Nigeria is gaining recognition and the fact that most professions operate under sets of guidelines, the unique position sign language interpreters held in Nigeria education cannot be waved aside. Sign language interpreters are seen as professionals who provide an important service for the hearing impaired persons especially academically. Sign language interpreting is a demanding profession that requires a lot of concentration and involving conscious, mental/intellectual activities such as thinking, understanding, learning and remembering. Interpreting is a process of transferring meaning between languages but is done in real time between people. Sign language interpreters bridge communication gaps between individuals who converse through sign language and those who use spoken language. The objectives of this paper are to reveal the relevance of sign language interpreters in the education of persons with hearing impairment. This paper will also be on meaning

of hearing impairment, who is a sign language interpreter, importance of education for persons with hearing impairment, meaning of total communication and characteristics of persons with hearing impairment. Some suggestions/recommendations and conclusion were made to all stakeholders in the education of hearing impaired students.

Introduction

Sign language is one means of communication with hearing impaired persons. Words and sentences in Sign Language are mainly represented by hand gestures. The lack of qualified interpreters working with persons with hearing impairment is widespread; it is not limited to a single country or region of the world. One w

this lack is to increase the educational and training opp lead to skilled and knowledgeable interpreters available for communities with hearing impairment. Sign language interpreting is a fascinating, challenging and rapidly expanding field that offers an endless variety of opportunities and rich linguistic cultural experiences.

Sign language interpreters are professionals who are fluent in two or more languages and interpret between a source language and a target language. The interpreter's task is to facilitate communication in a neutral manner, ensuring equal access to information and participation. A sign language interpreter is bound to a Code of Ethics, ensuring impartiality, confidentiality, linguistic and professional competence, as well as professional growth and development.

In the last years observed that an increasing number of deaf students are being educated with hearing students in the classrooms. In order to make education accessible to hearing impaired student, a sign language interpreter needs to interpret the spoken language into sign language. At the same time one must keep in mind that the provision of sign language interpreting services in education does not guarantee full or equal access. As the number of deaf students in hearing classrooms increases, governments face a growing demand for interpreters in education and, therefore, increasing interpreting costs. (Antia (2007), Marschart (2005).

People choose to become interpreters because they love students with hearing impaired, and enjoy being exposed to a wide variety of interesting subject matters and experiences. Interpreting is fun and rewarding career.

Children with hearing impairment are those who cover the entire range of auditory disorder encompassing not only the deaf but also people with mild hearing loss who may understand speech without difficulty. Hearing impairment is a defect and could range from ability to hear partially to total deafness (Ozoji 2005). According to hearing impairment is the generic term which refers to conditions of hearing loss ranging from mild to profound which is commonly referred to deaf (Mtkleburst 1964).

Hearing impairment is a hearing loss that prevents a person from totally receiving sounds through the ear. If the loss is mild, the person has difficulty hearing faint or distant speech. A per

Page 182

degree of hearing impairment may use a hearing a
sounds. If the hearing loss is severe, the person may n
distinguish any sounds. There are four types of hearing loss:

- ***Conductive:*** This is caused by diseases or obstructions in the outer or middle ear that usually affect all frequencies of hearing. A hearing aid generally helps a person with a conductive hearing loss.
- ***Sensorineural:*** This results from damage to the inner ear. This loss can range from mild to profound and often affects certain frequencies more than others. Sounds are often distorted, even with a hearing aid.
- ***Mixed:*** This occurs in both the inner and outer or middle ear.
- ***Central:*** This results from damage to the central nervous system.

Characteristics of Hearing Impairment

Characteristics of hearing impairment are very technical and very simple to recognize a child with severe to profound hearing impairment. They state that the following characteristics may be found in a child having hearing impairment (Okuoyinbo, Oyewumi, & Adediran 2005)

1. Children with hearing impairment will always ask for repetition of statements

2. Children with hearing impairment maybe educationally weak
3. Children with hearing impairments may show signs of speech problem
4. Children with hearing impairments may appear dull and lazy
5. Children with hearing impairment always draw ear closer to the speaker mouth in order to hear him/her properly.

Methods of communication

- ***American Sign Language (ASL):*** This is the primary language of people who are deaf. It consists of a combination of hand movements and positions to express thoughts and phrases.
- ***Finger spelling:*** This is a manual form of com
which the hand and fingers spell out letters of

Page 183

form words.
- ***Lipreading:*** Lip-reading, also known as lip-reading or speech reading, is a technique of understanding speech by visually interpreting the movements of the lips, face and tongue when normal sound is not available. It relies also on information provided by the context, knowledge of the language, and any residual hearing. Lip-reading is not easy, as this clip demonstrates. Although ostensibly used by deaf and hard-of-hearing people, most people with normal hearing process some speech information from sight of the moving mouth.
- ***Written communication (Pad and Pencil):*** This is a means of communicating to students with hearing impaired using writing paper with pen. This is a fairly simple way to communicate with a person who is deaf.
- ***Oral communication:*** Oral is using speech or lips especially in teaching the deaf. Communication is a process by which information is exchanged between individuals through a common system of symbols, signs, or behavior. Therefore, Oral communication can be defined as using speech or the lips to exchange information between sign language interpreter and the deaf. This is the process of verbally transmitting information and ideas from one individual or group to another. Oral communication can be either Formal

or Informal. Examples of informal oral communication include:

- Face-to-face conversations
- Telephone conversations by SMS
- Discussions that take place at business meetings

Sign Language Interpreter

A Sign language interpreter is a specialized person also known as deaf interpreter. He/she is someone who helps student(s) with hearing impairment to understand a spoken language by converting it into sign language. Sign language interpreters are needed in both one-on-one situations as well as group settings. A sign language interpreter works in schools from elementary school through tertiary level.

European Union of the deaf states that a sign language

Page 184

a person who is fluent in two or more languages ar

between a source language or target language. The sign language interpreter's task is to facilitate communication in a neutral manner, ensuring equal access to information and participation in educational settings or any other settings. A sign language interpreter is responsible for helping students with hearing impairment understand what is being said in a variety of situations.

Roles of Sign Language Interpreters in the Education of students with Hearing Impairment

1. Sign language interpreters facilitate communication between students with hearing impairment and others including teachers and peers within educational environment.
2. Sign language interpreters should be a member of the educational team and must be afforded every opportunity to attend meetings where educational guidelines are discussed concerning students.
3. Sign language interpreters in an educational setting must be able to counsel students with hearing impairment.
4. Sign language interpreters tutor student (s) with hearing impairment.
5. Teaching sign language to other school staff and students who are not deaf.

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

6. Plan and prepare for the interpreting task.

Advantages of Sign Language

1. You could have a normal conversation with other people in a crowded and noisy environment. This is possible because sign language is a visual language that does not involve any vocal input
2. Early knowledge of sign language could help in the rapid growth of intellectual skills and cognitive strategies. This is because less periods will be devoted to imparting verbal information. Thus the motor skills and attitudes could be easily influenced and enhanced for the better attainment of other related skills.
3. It could act as a vehicle for expressing c whether one is hearing impaired or otherwise

Page 185

4. It could help in resolving of communication might arise between the hearing impaired and the hearing people
5. If two people who understand sign language are kidnapped they could embark on plans of escape action with the use of sign language.

Relevance of Sign Language Interpreting

If sign language is recognized or the need for interpreting services for deaf people is acknowledged, then there is a greater need for educated professional sign language interpreters. The following are the relevance of sign language interpreters in the education of students with hearing impairment:

1. If there is a sign language interpreter, interpretation of all academicP content will be easier.
2. Sign language interpreter informs and collaborates with the general educator regarding the students' difficulty in understanding the course content.
3. Sign language interpreter anticipates needs and assists in arranging an accessible environment prior to special events such as lecture, seminars and conferences.

4. If there is a sign language interpreter, he/she will be able to forward the questions of students with hearing impairment in spoken language to the teachers.
5. Sign language interpreter interprets student (s) comments, responses, and presentations effectively.

Conclusion

Sign language interpreting is a really tough profession. Interpreters are sometimes under a lot of stress while conveying sensitive information. They have to deal with people, deaf and hearing alike, who are unaware of the interpreters' role and code of conduct, previously known as the code of ethics. They need an extraordinary amount of self-confidence to handle their assignments. Interpreters are constantly learning new signs and expressions to increase their knowledge and keep up with changes in the languag
difficult situations well with a sense of humor and a d
adhere to their code of conduct. They deserve our dee
admiration.

Recommendation

Sign language interpreters play a significant role in the education of students with hearing impairment. Effort should therefore be made on the following recommendations which will assist stakeholders in the education of students with hearing impairment:

1. Organizations or schools should employ professional and experienced interpreters. Qualified sign language interpreter who can interpret effectively.
2. A sign language interpreter must not sign for a longer time. If lecture will last longer than an hour, at least two interpreters must be provided.
3. Sign language interpreters must be given an appropriate break times to enhance their work.
4. Sign language interpreters must be employed in all departments either in schools or organizations.
5. The lighting of the lecture rooms where sign language interpreters and students with hearing impairment will be should be visible.

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

References

European Forum of Sign Language interpreters, Representing the Interests of Sign Language Interpreters across Europe. https://wfdeaf.org/event/european-forum-sign-language-interpreters-efsli-conference

European Union of the Deaf, Representing The Rights And Views Of Deaf Sign Language Users Across Europe. https://www.eud.eu/about-us/eud-position-paper/sign-language-interpreter-guidelines

Fosters, S.B., (1998). Communication experiences of deaf people: An ethnographic account. In I. Parasnis (Ed.), *Cultural and language diversity and the deaf experience* (pp. 117 – 135). New York: Cambridge University Press.

Lottie. L. Riekehol., (1993). The Joy of Signing: Secor
7 – 13.

Okuoyibo. J.M., (2003). An introduction to the educa
with special needs Eleyele, Ibadan, Emola-Jay Publishing Company.

Odusanya. T, (2006). Basic Sign Language, page 1-6

Wathum-Ocama. J.C. & Rose, S. (2002). Hmong immigrants? Views on the education of their deaf and hard of hearing children. American Annals of the Deaf, 147, 44 – 53.

COGNITIVE DECODING AND DELIVERY OF SIGNED INSTRUCTIONS BY SIGN LANGUAGE INTERPRETERS

By

Joy Ayomide, **AJAMU**

Introduction

A sign language interpreter facilitates communication between users of Signs and English languages. Interpreters deploy their skill and knowledge of the two languages, and their understanding of any cultural differences between the dual languages in conveyance of messages across duo linguistics borders. In this process, interpreters may look very active and dexterously beautiful, considering the magical exploration of their hands, but in actual fact most of the hard works are being done within the sensory domain. They have to listen carefully to decode the source message, extract the meaning and then find appropriate choice words/signs to express the message in the other language for the target audience.

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

Delivering and decoding in sign language make communication possible between the hearing and individual living with hearing impairment (Cokely2001). Interpreting therefore, is a complex process that requires a height of linguistic, cognitive and professional competence in both English and Sign Languages (Williamson, 2009). Interpreting sign language, just like spoken language interpreting, involve more than simply replacing a word of spoken English with a signed representation of the same. A full fledged sign language has its own grammatical rules, sentence structure and cultural nuances. Interpreters must thoroughly understand the subject matter in which they work so that they are able to convert information from one language, (source language), into another language (target language). In addition, interpretations can incorporate cultural information associated with the languages used.

Sign Language/spoken English interpreters are . professionals that facilitate communication between hearing individuals and the Deaf or hard-of-hearing. They are crucial communication setting. (Edu/careers, 2011). Interpreters must be able to listen to another person's words, inflections and intent and simultaneously render them into the visual languages of signs using the mode of communication preferred by the deaf consumer, John (2012). The interpreters must also be able to comprehend the signs, inflection and intent of the students with Hearing Impairment and simultaneously speak them in an articulate and appropriate English. They must understand the cultures in which they work and apply that knowledge to promote effective cross cultural communication (Registry of Interpreters for the Deaf, 2009).

"Educational Interpreters are trained professionals who are able to listen to another person's choice of words, inflections and intent while simultaneously interpreting them into the visual language of signs using the mode of communication requested. They are also able to comprehend the choice of signs, inflections and intent of the person signing and simultaneously speak articulate and appropriate English. Interpreters apply specialized knowledge and skills to facilitate effective cross-cultural communication accurately and impartially between

people using spoken and signed languages" (Registry of interpreters for the Deaf www.rid.org).

Interpreting sign language requires that the interpreter comprehends the source language, drop the original lexical form and syntax in order to determine the meaning of the overall message, and then restructure this meaning using the target language (Colonomos,2004; Seleskovitch, 1978; Cerney, 2005) the national organization Registry of Interpreters f or the Deaf (RID), which certifies interpreters, defines interpretations as "the process of changing message produced in one language [English or ASL]…into another language [English or ASL] (Siple, 1997). A sign language interpreter is expected to deliver a faithful message using the preferred language of the deaf person whom they are serving (Frishberg, 1990). To transmit a message from ASL into English, the interpreter must receptivel

Page 190

visual-spatial language for the students with Hearing
The signs string is then analyzed for meaning. The meaning is freed from the constraints of ASL lexicon ("dropping form") and temporarily stored as a mental image (Colonomos,2004; Humphries & Alcorn,2001; Stewart,1998). To convey this mental representation in the target (spoken) language, the image must be "redistorted" through the lexicon of English.

Cognitive processes of interpreting (either consecutive or simultaneous) are identical to the cognitive processes involved in the tasks of speaking, listening, reading or writing. In fact, although this may seem mere repetition, these processes of language interpretation are extremely complex, since they are not only linguistics processes. These processes must also be understood within the social, cultural and above all psychological contexts (Presentacion, Maria and, Franciscal 1990).

There are many things the interpreter must attend to during sign language delivery process. Among the myriad of cognitive tasks are comprehension and analysis of the incoming message, the transfer of the message in target language, the expression of the source language message n target language, and finally the monitoring of the outgoing message for accuracy. If the monitoring process reveals that the interpretation is skewed, the interpretation is revised within

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

the time constraints of the process and abilities of the interpreter (Carol J. Patrie2012)

A comprehensive analysis of the tasks of sign Language interpretation can distinguished three basic stages:

1. The communicative function established between the speaker (the first sender) of the source text or discourse and the interpreter as first recipient.
2. The mental activity of the interpreter processing the message received.
3. The communicative function established between the interpreter as second sender of the target text or discourse and the final recipients of the message. These three stages are understood to be common to both tra

Page 191

interpreting as a communicative social and c
whilst the second covers the mental or cognitive processes. For the communicative function successfully to be fulfilled, an optimum implementation of these cognitive processes is of paramount importance. Danks (1995) has identified the following factors determining the demands:

(a) The difficulty of the vocabulary
(b) The style of the text
(c) The translator's mental model, which will be more difficult to achieve than the speaker's mental model
(d) Conceptual or technical difficulties
(e) The need to translate connotative aspects (irony, metaphors, etc)
(f) The need to acquire and activate previous knowledge.

For a sign Language Interpreters to be able to carry out an effective delivery he or she needs to posses some essential cognitive abilities which (Duenas, 2011) described as follows:

Critical thinking – the ability to use logic and analysis to assess communication in order to make adjustments in approaches to interpretation.

Self-monitoring – the ability to monitor and assess the interpretation during and after a task

Selective attention – the ability to concentrate and be undistracted while performing a task, and to sustain that attention over a period of time.

Auditory attention – the ability to focus on a single source of auditory information in the presence of other distracting sounds.

Visual attention – the ability to focus on a single source of visual information in the presence of other distracting movements in the surrounding area.

Mental stamina – the ability to sustain a significant amo
processing without fatigue or breakdown for at least 30 ı

Page 192

Working memory – the ability to remember information such as concepts, words, and numbers for a brief time while interpreting.

Information ordering – the ability to track and arrange information in a certain order.

Pattern inference – the ability to quickly make sense of information even when parts of that information may appear to be missing.

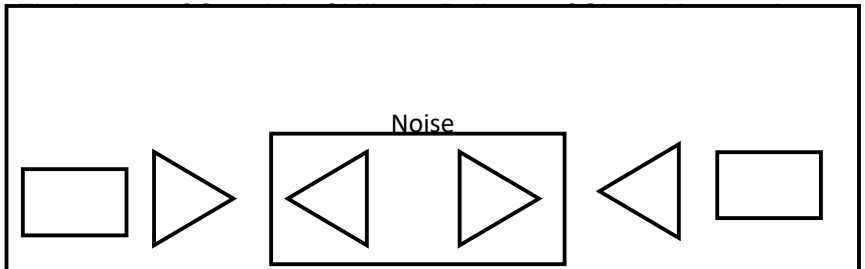
Time sharing – the ability to efficiently shift between two or more activities or tasks, and between two or more source of information.

Problem sensitivity – the ability to recognize when something is wrong or is likely to go wrong

Fluency of ideas – the ability to generate a number of ideas about a giving topic (This concerns the number of ideas produced and not the quality, correctness, or creativity of the ideas)

Breadth of knowledge – an acquaintance or understanding, at the introductory level or higher, of a broad variety of topics and fields of interest.

In this respect, a sign Language Interpreter needs to process high congnitve development to enable him/her carryout an effective delivery of signed instructions.



International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

Channel of Communication (Barbara Shaffer, 2005)

The following channel of communication shows that a sign interpret must be cognitively inclined to carry out an effectiv

Page 193

of sign instructions in lecture room. He or she must understand both languages (the speaker's language and the target language). As sign language interpreter encodes the speakers message, he/she must apply some cognitive skills to successfully deliver the message to the target group because the two languages are structully different from each other.

Professional interpreters develop specific ways of using their cognitive skills in delivery sign instructions. For proper delivery of signed instructions, the interpreter needs to develop a working memory in sign language delivery; this allows him/her to perform the processes of linguistics input, lexical and semantic access, reformulation and production of the segment interpreter simultaneously (Bajo & Padilla, 1998).

The interpreter's decision making will be influenced by how he or she perceives his or her role in this discourse environment. The current thinking is that interpreters should present themselves as bilingual and bicultural mediators, who make linguistic decisions based on their cultural knowledge of the groups for whom they are interpreting and their knowledge of interactional norms. In making decisions as to whether students with hearing impairment needs to access subject specific terminology, interpreters should not perceive their role as educators, but rather as linguistic decision makers.

(Davis 1990), submission can be regarded as a linguistic strategy in that interpreters use their cognitive ability to make conscious decisions about the language choices they made to clarify information within the interpretation and thus adapted their translation style accordingly. Interpreters need to have the cognitive tools to determine what something means to their target audience and the best way for a message to be interpreted in a meaningful way, in order for it to make sense according to the audience's cultural norms and values. Therefore, not only do interpreters need to understand socio-linguistics and socio-cultural contexts of their audience's world view but they also need to utilize appropriate translation styles to ensure that they have the facility to convey the meaning of a message within a socio-cultural framework.

(Metzger1999), observed that interpreters categories their knowledge based on their experiences with similar situations, and t

Page 194

lexical, grammatical and experiential knowledge to mal about a discourse situation and its participants. By doing their contextual knowledge to make judgments about a discourse situation and its participants. By using their contextual knowledge of both communities, their languages and cultures, and subsequently making assumptions and judgements about what their audiences mutually understand, interpreters can ensure they make any interpretation linguistically and culturally effective for all participants. Interpreters will make specific language choices according to their frames of reference, what certain concepts mean to them, and inferences they make about what concepts will mean to their source and target language audiences from a cultural perspective (Napier, 2000). To ensure that their audiences are making the same inferences about the message they are receiving, interpreters need to search for linguistic and cultural equivalents. It is not sufficient to search for directly interpretable words in each language, as socio – cultural contexts may alter the way certain expressions are understood. The most appropriate and dynamic interpretational style to use, in order to perform effectively as a linguistic and cultural mediator, is "free interpretation:. (Kopczynski, 1994). Interpretation quality implies the fidelity of the target language speech, the quality of the interpreter's linguistic output, the quality placement of the articulators, and the prosodic characteristics of his or her delivery.

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

Cognitive Skills and Delivery of Signed Instructions

Delivery depended a lot on the context and the interpreter's understanding of that context using cognitive skills to make sure that processing did not occur in a vacuum. This is because a sign language interpreter without cognitive skills may affect the process and that every context had its own share of "noise" which could impede communication (Cerney, 2005).

Interpreters are also co-constructors of meaning, i.e. interpreters construct meaning from what is said, and then produce their version of it in another language.

Conclusion

Decoding of signed instruction lies on the linguistic ability of that individual to understand what is being inte

Page 195

Also the sign language interpreters are not left out in the use of linguistic and cognitive skills in delivery of signs instruction. There are many things the interpreter must attend to during sign language interpretation process. Among the myriad of cognitive tasks are comprehension and analysis of the incoming message, the transfer of the message to the target language, the expression of the source language message in target language, and finally the monitoring of the outgoing message for accuracy. His/her linguistic ability will pay the role of which kinds if situational factors determine which kind of selection in the context of setting, the participants, the intent and effect of the communication, the key points in the message, the medium and genre, and the norms of interaction within that particular setting.

References

Bajo & Fraser, C. (1998). Speech as a marker of situation. In K.Scherer & H.Giles (Eds.), Social markers in speech (pp. 36-62). Cambridge University Press.

Carol (2012). The ten C's of effective target texts. *Journal of Interpretation.* 131-150.

Cokely D. (ed.) 1992, *Sign Language Interpreter and Interpreting, Burtonsville,* MD, Linstok Press.

Cerney (2005). Translation of the Rosenberg Self-Esteem Scale: From English to American Sign Language. Unpublished doctoral dissertation, University of Maryland, Baltimore.

Colononeus (2004) *Negotiating Identies: Education for Empowerment in a Diverse Society (Second Edition).* Los Angeles, CA : California Association for Bilingual Education.

Davis, J. (1990a). Interpreting in a language contact situation: The case of English-to-ASL interpretation. Unpublished doctoral dissertation, University of New Mexico

Deuria (2011). Re: Literate interpreters. [On-line]: IEPFAC email discussion list, 26 February 2000. Available: list

John (2012). Distinguishing language contact phenomena in ASL. In C.Lucas (Ed.), The sociolinguistics of the Deaf community (pp. 85-102). San Diego, CA: Academic Press.

Lid dell (2007) Target Language Styles and Sour Processing in Conference Sign Language Inter presented at the Third International Symposi... ... Sig... Language Interpreting, Bristol, England.

Napier, J. (2001). Linguistic coping strategies of sign language interpreters. Unpublished doctoral dissertation, Macquarie University.

Registry of Interpreters for the Deaf. (1997). *Cumulative motion Injury.* (Brochure). Silver

Siple, L. (1995). The use of additions in sign language transliteration. Unpublished doctoral dissertation. State University of New York.

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

INTERPRETERS' CERTIFICATION AND TRAINING PROGRAMME FOR SUSTAINABLE DEVELOPMENT OF DEAF EDUCATION IN NIGERIA

By

Kehinde .O, **OGUNBIYITAN**

Abstract

Internationally, a number of developments have dominated debate about the education of Deaf. Since it has been argued that deafness is not a limitation to learning, so also should deafness not be a setback to accessing education. Access to education regardless of individual differences is now recognized as an international issue in order to enhance sustainable development. An educational sign language interpreter is a professional, who facilitates communication and understanding among deaf and hearing persons in a mainstream environment. The interpreter is a member of the educational team and is present to serve staff as well as students, hearing as well as deaf students, by minimizing linguistic, cultural, and physical barriers. This paper examined Deaf education in Nigeria, educational sign language interpreter, educational interpreting, and effectiveness of educational interpreting. It also discussed rationale for certification of educational sign language interpreters, interpreters' training, and

interpreter education programmes. It also discussed Registry of Interpreters of the Deaf and certification of sign language interpreter, World Association of Sign language Interpreters and sign language interpreter training programme. Suggestions were made for educational interpreters be viewed as professionals when they have proven, by definition, that they have met at least the minimum standards and if the field of educational sign language interpreting is ever to be viewed as professional, standards must be in place and evaluation must be the cornerstone. The paper recommended that the survey of the current interpreter training programmes and the frameworks for qualifications in the developed countries which can be domesticated and applied in Nigeria should be carried out and thus will hopefully benefit the professionalizing Sign Language interpreting for sustainable development of Deaf Education in Nigeria.

Introduction

Internationally, a number of developments have dominated debate about the education of Deaf, since it has been argued that deafness is not a limitation to learning (Ladd 2003), so also should deafness not be a setback to accessing education (Peters 2007). Access to education regardless of individual differences is now recognized as an international issue (Cavender and Ladner 2010) in order to enhance development. While the global trend is towards equal rights, the level of access varies according to country (Peters 2007). Article 26 of the 1948 Universal Declaration on Human Rights, set out that everyone has the right to free education especially in the fundamental stages Elementary education shall be compulsory. Technical, professional and higher education shall be equally accessible to all on the basis of merit. The declaration was the catalyst for policy developments in Deaf education in many countries culminating in the Salamanca Statement and the Millennium goals for 2015 (Peters 2007, Schwartz, Blue et al. 2010).

Nigeria like many other countries acknowledges the importance of education as a pivot to her achieving sustainable development. Hence Nigerian aspirations for education are set out in the 1977 Policy on Education (NPE) and other subsequent revisions (Aderinoye et al. 2007, Fabunmi 2009). These documents broadly set out that Education is an instrument for national and individual development, thus advocating the need for a functional education to the advancement of maintaining unity in Nigeria. Hence not only should every Nigerian regardless of any form of disability have a right to educational opportunities, each Nigerian citizen should be motivated towards education with consideration on every one's ability. Howbeit the NPE maps out 12 areas of concern for providing functional education- Pre- Primary Education, Primary Education, Secondary Education, Basic Education, Mass literacy, Adult and Non-formal Education, Science, Technical and Vocational Education, Tertiary Education, Open and Distance Education, Special Education, Educational Services, Planning, Administration and Supervision of Education and the Financing of Education.

Deaf Education in Nigeria

Deaf education, being an aspect of special education has a long history of provision since the first influx of missionaries into Nigeria. Nevertheless, educational provision for Deaf people in Nigeria is relatively recent when compared with the developed world (Eleweke 2002). Since the first Nigerian Policy on Education (1975–1980), the Nigerian government recognized the need for special education and by the 1980s they had not only taken over all missionary schools, they established many schools for the Deaf, even up to the tertiary level (Ojile 1994, Kiyaga and Moores 2003, Ajavon 2003, 2008). Notwithstanding, the situation for the education of the Deaf has assumed an upheaval status. More so, special needs education provided by government is now being complemented by diverse private organizations.

There are four major delivery models of education, in both private and state sectors: separation, inclusion, residential and non-residential in which every citizen should be eligible to access. (Peters 2007, Akach 2011, Duncan 2012, Marschark and Hauser 2012). *Separate* schools, otherwise known as special schools, are often designed either for a particular group, need, purpose, or for diverse special needs (Millar and Morton 2007). *Inclusive* schools are almost the direct opposite of the special schools in that they are designed to accept all types of needs and groups of students. *Residential* schools are designed to accommodate students usually within the school premises to sleep over, having other less formal social and learning

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

activities after the formal routine teaching and learning in the day. Non-residential schools are the alternative to residential schools in that students have to commute from their homes to the school. Separate (Special) and residential schools have had a longstanding association with the education and socialization of the Deaf. However, advocacy for inclusive schools has recently reduced this provision in the developed world (Marschark 2007).

The need for educational interpreting is greater today than ever before, as mainstream academic placement has become the primary means of educating deaf students. Yet, there is a well documented shortage of qualified interpreters (Baily & Straub, 1992; Jones, Clark, & Stoltz, 1997), and the headlong rush to mainstream[illegible] based more on perceived cost savings than the educati[illegible] deaf children or our ability to provide them with fu[illegible] academic settings (see Easterbrooks, Lytle, Sheets, & Crook, 2004, for the legal consequences of such shortcomings).

Educational Sign Language Interpreter

An educational sign language interpreter is a professional, who facilitates communication and understanding among deaf and hearing persons in a mainstream environment. The interpreter is a member of the educational team and is present to serve staff as well as students, hearing as well as deaf people, by minimizing linguistic, cultural, and physical barriers. The title, "Educational Interpreter," is recommended by the National Task Force on Educational Interpreting, and is intended to imply that a person holding this title is a professional with specialized preparation in deafness, whose primary role is interpreting, but who is also qualified to provide certain other educational services. (New York State 1998).

"Educational Interpreter" means a person who uses sign language in the public school setting for purposes of facilitating communication between users and nonusers of sign language and who is fluent in the languages used by both deaf and non-deaf persons. (Colorado Legislature 2002, 22-20-116 (2), in CDE 2002)

An interpreter working in an educational setting is a professional who has completed a sign language interpreting training programme and/or has passed the sign language interpreter's qualification exam. It is commonly suggested that in addition to the interpreter's

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

qualification, an interpreter working in an educational setting should have completed the education at least on the same level as the education setting where the interpreter is working (i.e. for interpreting in a B. Ed programme the interpreter should have at least a B. Ed degree or an equivalent qualification and interpreting in a M.Ed programme the interpreter should have at least a M. Ed degree or an equivalent qualification). Specific training for interpreters in educational settings is also recommended if available.

Educational Interpreting

The education of deaf students in classes with hearing[illegible] largely on the belief that deaf students and others with[illegible] can be educated in such settings as well as or better [illegible] settings (see Karchmer & Mitchell, 2003; Stinson & Kluwin, 2003, for evaluation of this claim). One component of this view is the assumption that the structure of discourse and the information communicated by a hearing instructor for hearing students is appropriate to the knowledge and learning styles of deaf students. Yet students who are deaf are far more heterogeneous than hearing students, and as approximately 95% of them have hearing parents (Mitchell & Karchmer, 2004), most grow up with relatively limited language fluencies.

As a result, their educational histories are more variable than those of hearing peers, they often lack the linguistic competencies necessary to make effective use of interpreting (Winston, 1994) and textbooks (Traxler, 2000), and they may enter postsecondary settings less well prepared than hearing peers. Moreover, there is now considerable evidence that deaf students differ from hearing students in several academically related cognitive domains, thus putting them at risk in integrated classrooms compared to settings designed to accommodate their special needs (e.g., Marschark, Convertino, & LaRock, in press; Schick, in press). Even just the provision of educational interpreting for deaf students is not as straightforward as it might seem. As mainstream academic placement has become the primary means of educating deaf students, a serious shortage of qualified sign language interpreters has developed (Baily & Straub,

1992; Jones, Clark, & Stoltz, 1997), and many interpreters who are employed in educational settings are unqualified or under qualified.

Effectiveness of Educational Interpreting

Although post secondary interpreting services apparently have not been evaluated with regard to quality or effectiveness, Schick et al. (1999) examined interpreters' skills in K-12 (Elementary/ Secondary) educational settings using videotaped samples of expressive production of classroom content and receptive performance of deaf students. Taking into account factors such as students' grade levels and modes of communication, Schick et al. found that less than half of the interpreters they evaluated performed at a level considered minimally acceptable for educational interpreting.

Page 202

I briefly review one of the few studies that have actual
effectiveness of educational interpreting. In what ap
been the first such study, Fleischer (1975) found that deaf college students comprehended more of a lecture communicated via interpreting (mean5 73%) than by transliteration (mean5 67%), as indicated by scores on written multiple choice tests. Although he did not have demographic or language fluency data for the students, Fleischer suggested that student communication skills might interact with the mode of interpreting. That is, interpreting might better serve ASL-oriented students and transliteration would better serve those who sign using English word order.

Rationale for the Certification of Educational Sign Language Interpreters

Participation (involvement, communication) and high expectations of deaf and hard of hearing students are indicators of success (Luckner and Muir 2001). It is incongruent to hold high expectations for students and to hold no (or minimal) expectations of interpreters who provide access to education. We are not even discussing maximum potential of deaf and hard of hearing students, as the *Rowley* case (Anthony 1982) has taught us. We are simply discussing equality of access.

Deaf and hard of hearing students cannot meet high expectations when we do not even ensure that, at minimum, educational interpreters can provide equal access. Deaf students, with the help of

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

their parents, school personnel, and peers, will drive themselves to achieve. However, they will not be successful if interpreters are not qualified.

Schein, Mallory, and Greaves (1991) contended that too many educational interpreters are not qualified. They determined that educational sign language interpreter subjects were, by definition, not interpreters, merely "communication aides." It would appear that in most schools communication aides choose what to interpret within very loose guidelines, if any, and that there is no ongoing assessment of the appropriateness of these moment-to-moment decisions (Schein, Mallory, and Greaves 1991, 19).

It would be unconscionable and unacceptable to place any student with a teacher who is not qualified (i.e., certified,
experienced). In fact, a teacher who is not qualified
teacher at all. Yet, deaf and hard of hearing students a
unqualified, uncertified interpreters regularly.

Page 203

Interpreters' Training

Historically, the first interpreters for the deaf were family members, educators, and clergy (Winston, 2004). Interpreting was done on a volunteer basis or deaf individuals would express their gratitude to the interpreter with small gifts. As the field moved toward professionalization, the primary system for the education of sign language interpreters became sign language interpreting programs (Humphrey & Alcorn, 2007). Initially known as Interpreter Training Programs (ITP), these programs are now more appropriately referred to as Interpreter Education Programs (IEP). The change of nomenclature reflects a philosophical shift in how the interpreter profession is perceived. "Interpreter training" reflects a trade-based perspective while "interpreter education" reflects a more academic perspective (Witter-Merithew & Johnson, 2004).

Interpreter Education Programs (ITP)

Formal preparation of interpreters began in 1975 with the passage of amendments to The Rehabilitation Act of 1973 (Burch, 2002). Funds were allocated to establish four programs under the National Interpreter Training Consortium. The programs were located in Minnesota, New York, California, and New Orleans. Eventually, more

programs were established and were primarily two-year programs housed in community colleges and vocational training centers. In the 1980s an initiative was begun to expand the condensed skills-focused training to a more broad based liberal arts programs that included comprehensive skill training. This push reflected the belief (Shaw, Collins, & Metzger, 2006) that two years is not enough time to adequately prepare practitioners (Humphrey, 2000; Johnson & Witter- Merithew, 2004) and the trend to move toward four-year degree programs emerged (Burch, 2002). Maryville College in Tennessee established the first baccalaureate Interpreter Education Program in 1974 (Witter-Merithew & Johnson, 2004). This began a trend and currently there is general consensus that a bachelor's degree is essential for interpreters in a variety of interpreting situations (Burch, 2002; Dean & Pollard, 2001; Witter-Merithew & Johnson, 2004). This agreement resulted in the Registry of Interpreters for the Deaf (RID) passing a ruling that, as of December 2012, any candidate for certification for the national interpreting exam must have a bachelor's degree (Registry of Interpreters for the Deaf, 2011).

Registry of Interpreters of the Deaf, Inc. (RID) and Certification of Sign Language Interpreter

The Registry of Interpreters for the Deaf, Inc. (RID), a national membership organization, plays a leading role in advocating for excellence in the delivery of interpretation and transliteration services between people who use sign language and people who use spoken language. In collaboration with the Deaf community, RID supports members and encourages the growth of the profession through the establishment of a national standard for qualified sign language interpreters and transliterators, ongoing professional development and adherence to a code of professional conduct. RID has developed a certification process that involves passing a series of exams. In order to attain certification, an interpreter must pass a multiple-choice knowledge exam that measures knowledge of a variety of areas from linguistics to ethics to influences on the interpreting process. An interpreter must then pass a performance exam in which interpreting and ethical decision-making skills are assessed by a group of professional peers according to a nationally-recognized standard of competence. If the interpreter meets or exceeds the national standard, they are awarded certification.

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

World Association of Sign Language Interpreters (WASLI) and Sign Language Interpreter Training Programme.

World Association of Sign Language Interpreters (WASLI) is working towards increasing the quality of Sign Language interpreting around the world. The codes of conduct for Sign Language interpreters working in different countries provide some insight on what are considered as the most important features and qualities of professional interpreters and the interpreting service they are providing. World Association of Sign Language Interpreters has published a statement of the role of Sign Language int

used as a general guideline for people working as S
interpreters in countries where a field specific code of conduct does not exist (WASLI 2014.).

WASLI has also produced a setting of guidelines for establishing an interpreter training programme. The guidelines are a product of international collaboration and are not meant to be a fixed set of rules on how to establish a training programme, but rather, as the title says, a guideline on how it could be done. The guidelines emphasize culture sensitivity and state that most likely there will not be a one model that suits every scenario (WASLI 2013.).

The participants of the Witter-Merithew & Johnson (2005) study compiled a list of 20 recommendations that an ideal interpreter education program, which results in competent practitioners, should consider.

1. A baccalaureate degree should be the minimum requirement for entry into the field.
2. A national curriculum for interpreter education needs to be developed that is researched based.
3. The curriculum should adhere to the CIT and ASLTA standards.
4. The study of interpretation must be an interdisciplinary, liberal arts education that requires fluency in ASL and English, as well as a broad "real world" knowledge base, without specializing in areas like educational or medical interpreting

until after the baccalaureate degree is successfully completed.

5. There is a need to establish multiple exit points (e.g. two-year program, four-year program) with mandatory requirements that must be assessed.
6. Outcomes/job expectations for associate's, bachelor's and master's degree graduates must be defined and clearly stated.
7. The ideal program needs to design a "model recruitment plan" for student populations that includes scholarship opportunities, and ensures an adequate number of scholarships are available for qualified applicants.
8. The ideal preparation program should have a way to screen and terminate seriously dysfunctional or inept applicants (e.g., identity issues, mental health issue physical deformities).

Page 206

9. Students must demonstrate bilingual and bicultural (English/ASL) competence prior to acceptance in an Interpreters Education Programme.
10. Diversity education should be an integrated part of the curriculum, including appropriate resources.
11. Critical/analytical thinking must be integrated into the curriculum and assessed as one of the expected outcomes.
12. The program must educate interpreters to make better decisions, including context-demands and deaf-centric sensitivity.
13. Knowledge of ASL and English discourse styles, both in classroom application and real-world experiences must be incorporated early in the program.
14. English proficiency with the ability to deliver formal speeches is requisite.
15. Requiring intrapersonal thinking is critical to prepare individuals to be self reflective practitioners.
16. Courses on Deaf Culture and Literacy must be required within the interpreting program.
17. The curriculum should adequately address the politics and power issues in society, the Deaf Community, and the Interpreting Community.

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

18. The program should include an intercultural component, second/third language, and liberal arts/interdisciplinary framework.
19. At the baccalaureate level, students must graduate as an ASL-English bilingual.
20. IPP graduates should be able to pass a national certification. (p. 17 – 18).

There is also a Commission on Collegiate Interpreter Education (CCIE) National Standards for Interpreter Education Programme:

Page 207

1: Language Competence

Expressive ASL
Receptive ASL
Expressive Signed English
Receptive Signed English
Written English
Spoken English

2: Transfer Competence

Source language comprehension: ASL
Source language comprehension: English
Target language production: Interpreting
Target language production: Transliterating
Target language production: Spoken English

3: History and Theory

Identify historical milestones
Identify current practices
Professional/technical competence
Membership in professional organizations
Interpreter role
Interpreter responsibilities
Theories of interpretation
Theories of transliteration
Professional ethics

Cross-cultural interaction
Certification/licensure
Business practices
Application of the Code of Ethics
Manipulate physical setting
Obtain credentials

4: Methodological Competence
Assessment of language: ASL
Assessment of language: Signed English
Assessment of language: Spoken English
Simultaneous Voice to Sign Interpreting
Simultaneous Voice to Sign Transliterating
Simultaneous Sign to Voice Interpreting
Simultaneous Sign to Voice Transliterating
Consecutive Sign to Voice Interpreting
Consecutive Voice to Sign Interpreting
Consecutive Voice to Sign Transliterating
Consecutive Sign to Voice Transliterating

Page 208

5. Cultural Competence
Deaf culture
American culture
Cultural literacy
Cultural diversity/differences
Respect and acceptance
Beliefs, values, experiences

6. Subject Matter Competence
Broad general knowledge
Specialized knowledge
Educational settings/subject matter
Interpreting competence
Transliterating competence

7. Techniques and Logistics
Assess environmental setting
Manipulate environmental setting

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

Select/use equipment
Adjust to consumer preferences
Teamwork

8. Research
Research protocol
Analyze studies
Develop outlines
Conduct literature reviews
Write research paper
Citations and references

9. Practicum and Internship
Professional responsibilities
Ethical conduct and decision making
Language preferences and group diversity
Service delivery models
Professional development plan
Live-long learning
Mentorship
Public versus private agencies
Educational interpreting
Community interpreting
Credentials and certification

Page 209

Recommendation

There are general guidelines for establishing an interpreter training programme by World Association of Sign Language Interpreters (WASLI). Since it is the product of an international committee and represents the ideal of the international association representing the whole profession of interpreters, it could serve as a valuable resource. As stated in the document, differences between countries and cultures are so significant that nothing should be solely copied from any resource, but rather exchange ideas and assimilate the data provided to each environment. (WASLI 2013.) As part of Educational Sign Language Interpreters Association of Nigeria (ESLIAN) ongoing commitment and dedication to professional development of educational sign language interpreting in Nigeria, it is recommended that the survey of the current interpreter training programmes and the

frameworks for qualifications in the developed countries which can be domesticated and applied in Nigeria should be carried out and thus will hopefully benefit the professionalizing Sign Language interpreting for sustainable development of Deaf Education in larger scale as well.

Interpreting in the educational setting is a specialization within the field of interpreting. This article recommends and suggests that for educational interpreters be viewed as professionals when they have proven, by definition, that they have met at least the minimum standards and if the field of educational sign language interpreting is ever to be viewed as professional, standards must be in place and evaluation must be the cornerstone. Likewise, evaluation of interpreters who work with children is not the competencies of secondary school educational interpreters same as interpreters who work with adults (Schick and Wi

Therefore, specific steps such as those that follow must be taken to address this specialty.

1. ***Standards for sign language interpreters, with evaluation of skills, must be established and put into practice:*** It is appropriate to use an instrument that can be recognized throughout Nigeria and interpreters could move into new districts with less of a disruption for the deaf and hard of hearing students they serve.
2. ***Standards for evaluating the knowledge of educational sign language interpreters must be established and put into practice:*** One instrument by which to evaluate this knowledge might be in the form of a written test such as the Educational Interpreter Performance Assessment Written Test (EIPA-WT) designed to evaluate the variety of knowledge required to function properly in the public school setting.
3. ***Deadlines for compliance must be reasonable and enforced:*** Any practice to grandfather experienced interpreters is inappropriate. Indefinite extension of deadlines for demonstrating qualifications is also inappropriate. Experience alone is not enough to interpret in public school settings. Experience, with no education training intervention, will not improve interpreting skill. Good intentions are not enough when dealing with the future of the deaf and hard of hearing population in Nigeria. Results and accountability (i.e., professional interpreter qualifications) are the keys to success.

References

Ladd, P. (2003). Understanding deaf culture : in search of Deafhood. Clevedon, Multilingual Matters.

Peters, S. J. (2007). ""Education for all?" A historical analysis of international inclusive education policy and individuals with disabilities." Journal of disability policy studies 18(2): 98-108.

Aderinoye,R. A., Ojokheta,K. O. and . Olojede,A. A. (2007). Integrating Mobile Learning into Nomadic Education Programmes in Nigeria: Issues and perspectives The International Review of Research in Open a Learning 8(2):1-17

Page 211

Eleweke, C. J. (2002). "A Review of Issues in Deaf Education Under Nigeria's 6-3-3-4 Education System." Journal of Deaf Studies & Deaf Education 7(1): 74-82.

Ojile, E. (1994). Education of the Deaf in Nigeria: An Historical Perspective. In C. J. Erting and R. Johnson, D. Smith B. Snider (eds), The Deaf Way:Persperctive from the international Conference on Deaf culture. Washington D C, Gallaudet University Press: 268-274.

Kiyaga, N. B. and D. F. Moores (2003). "Deafness in Sub-Saharan Africa." American Annals of the Deaf 148(1): 18-24

Ajavon, P. (2008). An overveiw of Deaf education in Nigeria 2008. Downloaded fromhttp://www.ndcs.org.ukdocument.rm?id=2875.

Ajavon, P. A. (2003). The Incorporation of Nigerian Signs in Deaf Education in Nigeria, Frankfurt, Peter Lang.

Akach, P. O. (2011). Topical issues in Deaf education in Africa. Saarbrü cken, Deutschland, VDM Verlag Dr. Mü ller.

Marschark, M. and P. Hauser, (Eds) (2012). How Deaf Children Learn: What Parents And Teachers Need To Know. New York, Oxford University Press Inc. listening to inner voices." Language and Education 24(4): 295 – 307

Registry of Interpreters for the Deaf. (2005). Retrieved on September 2, 2009 from http://rid.org/education/edu_ certification/index.cfm.

Humphrey, J., & Alcorn, B. (2007). *So you want to be an interpreter: An introduction to sign language interpreting* (4th ed.). Seattle, WA: H & H Publishing.

Burch, D. D. 2002. Essential education for sign language interpreters in pre-college educational settings. In *2002 journal of interpretation,* ed. D. Watson, 125–49. Alexandria, Va.: Registry of Interpreters for the Deaf.

Jones, B. (2005). Competencies of K-12 educational interpreters: What we need versus what we have. In E.A. Winston (Ed.), *Educational interpreting: How it can succeed* (pp. 113 131). Washington, DC: Gallaudet University Press.

Anthony, P. 1982. The Rowley case. *Journal of Educational Finance* 8(1): 106–15.

Registry of Interpreters for the Deaf. (2007). Retrievec 2009 from http://www.rid.org/education/testing/index.cfm/AID/81.

Winston, E. A. (1994). Designing a curriculum for American Sign Language/English interpreting educators. In M. Marschark, R. Peterson & E. A. Winston (Eds.), *Sign language interpreting and interpreter education: Directions for research and practice* (pp. 208-234). New York, NY: Oxford University Press.

Traxler, C.B. (2000). Measuring up to performance standards in reading andmathematics: Achievement of selected deaf and hard-of-hearing students in the national norming of the 9th Edition Stanford Achievement Test. *Journal of Deaf Studies and Deaf Education, 5*, 337-348.

Witter-Merithew, A., & Johnson, L. (2004). Market disorder within the field of sign language interpreting: Professionalization implications. *Journal of Interpretation,* 19-41.

Easterbrooks, S.R., Lytle, L.R., Sheets, P.M., & Crook, B.S. (2004). Ignoring FAPE, ACostly Mistake: The Case of F.M. & L.G. versus Barbour County. *Journal of Deaf Studies and Deaf Education, 9.*

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

Colorado Department of Education (CDE). 2002. *Educational interpreter procedures and guidelines manual*. Denver, Colo.: CDE.

New York State. 1998. *Guidelines for educational interpreters*. Proposed New York State guidelines for educational interpreters. Albany, N.Y.: New York State.

Baily, J. & Straub, S. (1992). Interpreting services. *ASHA*, *34*, 51-53.

Schick, B., K. Williams, and L. Bolster. 1999. Skill levels of educational interpreters working in public schools. *Journal of Deaf Studies and Deaf Education* 4(2): 144–55.

Fleischer, L.R. (1975). *Language interpretation under four interpreting conditions*. Unpublished doctoral dissertation, Brigham Young University.

Jones, B. E., Clark, G., & Soltz, D. (1997). Characteristics and practices of sign language interpreters in inclusive education programs. *Exceptional Children, 63*(2), 257-268.

Karchmer, M.A. & Mitchell, R.E. (2003). Dem achievement characteristics of deaf and h students. In M. Marschark & P.E. Spencer (Eds.), *Handbook of deaf studies, language, and education* (pp. 21-37). New York: Oxford University Press.

Schein, J. D., B. L. Mallory, and S. Greaves. 1991. *Communication for deaf students in mainstream classrooms*. Edmonton, Alberta: University of Alberta.

Schick, B. 2001. Interpreting for children: How it is different. *Odyssey* 2 (Winter/Spring): 8–11.

RID. (2011a). Find Interpreter Education Programs Retrieved May 20, 2011, from https://http://www.rid.org/acctapp /index.cmf?action=search.ITP

World Association of Sign Language Interpreters 2013. Interpreter Education Guidelines. http://wasli.org/wp-content/uploads/2013/07/WASLI-Interpreter-Guidlines.pdf

World Association of Sign Language Interpreters 2014. Statement on the Role of Sign Language Interpreters. http://wasli.org/wp-content/uploads/2014/06/WASLI-Statement-on-Role.pdf

SIGN LANGUAGE INTERPRETERS EFFORTS AND CHALLENGES IN INCLUSIVE SCHOOLS

By

Thomas Olumide, **ALAWODE**

Abstract

Inclusive education as a best option for educating individuals with hearing impairment is to close the apparent gap between people with hearing impairment and hearing individuals in the society.

This educational programme give avenue for sign language interpreters to bridge communication gap so that pupils with hearing impairment can benefit effectively and compete academically with their hearing counterparts. However, sign language interpreters undergo some challenges in the discharge of their duties in inclusive educational setting.

This paper discussed how sign language work with Deaf community, teachers and parents of Deaf children and highlighted the challenges faced by sign language interpreters in the discharge of their duties in inclusive educational setting

It also proffer solutions through recommendations which includes; provision of more sign language interpreters in units and department where Deaf individuals are domicile, provision of periodic and adequate welfare packages for the existing sign language interpreters across all the inclusive educational settings and provision of regular in service training for sign language interpreters to updates them on the current trend in their field.

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

Introduction

Children with special needs have peculiar developmental milestones and educational challenges due to their developmental peculiarities; therefore, there is need for special provision for their education. Obani, (2006) viewed special needs education as the modifications, adaptations, adjustments, innovations and management of the curriculum, method and materials in addition to the other resources and practices of regular schools t the special learning needs of those who present diff disabilities and learning difficulties. Education of childre needs is very important so that these children will be useful to themselves and contribute their quota to national development. consequently, in order to meet the special learning needs of these categories of learners, many educational programmes have evolved (segregation, integretion and mainstreaming). However, each has presented different flaws, falling to effectively cater for the needs of these category of children, this was because they could not provide necessary educational and societal needs. Further effort was therefore made for these children needs to be met through inclusive education. Inclusive education was introduced to educate the special needs learners in the same classroom environment with other non-disabled learners right from early years without discrimination, making with adequate provisions in all school settings to meet the personal and educational needs of the learners.

UNESCO (2005) described inclusive education as a process of education that address and respond to the diversity of needs of all learners through increasement in participation in learning, cultures, communities and reducing exclusion in education which involves

changes and modification in contents approaches, structures and strategies with a common vision that covers all children of appropriate age range with the conviction and responsibilities of the regular school system to educate all children. It is geared towards training both the 'non-disabled' and the children with special needs in the same classroom. Early intervention and education for children with special needs can have a positive impact on their cognitive and social development.

Inclusion of children with special need in early childhood programmes will enhance their abilities to participate actively in natural settings within their communities. Natural settings include, but are not limited to: home, preschool, nursery school, head start program, kindergarten, neighborhood/community, school classroom, child care center, place of worship, recreational space, and other settings that young children and families enjoy. It will help them develop academically and build their vocabulary which they may be lacking at home or communities due to their disability. Including children with special needs at early years in inclusive

to develop children holistically as they learn alongside peers. It is an educational programme that implements a pre-school curriculum to build pre- academic skills in all of the children, provide positive environments that support young children's learning which help them prepare for kindergarten and future school experiences.

According to Jones (2004), Individuals with Disabilities Education Act of 2004 introduced the concept of "Least Restrictive Environment" (LRE). This part of the law mandated that children with hearing impairment should be educated alongside hearing children whenever possible. Therefore, the responsibility of educating children with hearing impairment (hard of hearing or deaf) in classrooms with their hearing peers, created an increased demand for educational interpreters (Jones, 2004). In a Sign language interpreting is a service that makes use of hand shapes and fingers spelling to communicate with or convey messages to people with hearing impairment either in a social gathering or educational settings thus those that work in education setting are called educational sign language interpreters. Educational sign language interpreters are professional group of people that are well trained to bridge communication gap between individuals with hearing impairment and

hearing populace. Educational sign language interpreters translate spoken words by teachers to signs for the benefit of children with hearing impairment in early childhood special education classrooms. As professionals, sign language interpreters develop interpreting skills through extensive training and practice over a long period of time. Interpreters continue to actively improve their skills, knowledge, and professionalism through continuous practice (Registry of Interpreters for the Deaf, 2015).

Educational sign language interpreters have a lot to do in inclusive education class. They work in public schools and are legally responsible for implementing the student's Individual Education Plan (IEP). The educational interpreters should understand the student's strength and accommodate interpreting services to the development level and needs of the student (Joshua, 2014). Humphrey and Alcorn,(2007) and Stuckless, Avery and Hurwitz, (1989) stated that the primary role of interpreter in schools is to facilitate communication between Deaf students, their teachers and peers. Seal (1998) suggests that, for young children, the int

not merely to translate the teacher's words, bu language in a "helping way," because the interpreter teacher," as is any adult who interacts with the young deaf child. Many scholars agree that interpreting between sign and speech both in class and out of class, although it should be the educational interpreter's primary responsibility, may not be his only responsibility (Humphrey & Alcorn, 2007; Stuckless, Avery, and Hurwitz,, 1989).

Several additional educational responsibilities, such as tutoring, general classroom assistance, sign language instruction, educational planning, and discipline, may be incorporated into the role of educational sign language interpreter (Anita and kreimeyer, 2001). Humphrey and Alcorn (2007) however, rejected the notion that the interpreter can function as a classroom aide. Seal (1998) provided a broader interpretation of the educational interpreter's role, particularly in the earlier grades (preschool to grade three), by suggesting that interpreter should be a member of child's educational team. The interpreter should have a good knowledge of the child's communication abilities and be responsible for providing relevant information about communication access to the child's educational team. It is important to note that the educational sign language

interpreters work for the educational establishments rather than the Deaf or Hard of hearing students or their families. The main goal of this professional is to facilitate communication between Deaf students and hearing people (students and teachers) and to communicate clearly what each individual says. Meanwhile, Interpreters working in these setting (Pre-primary and Primary inclusive schools) can therefore have significant impact on these students' development and arguably must possess the skills necessary to facilitate linguistic, cognitive and academic development (Schick, 2004).

Shaw and Jamieson (1997) conducted a case study of a single classroom to examine the patterns of communication between an 8- year old Deaf boy and his hearing teacher when such communication was mediated by a sign language interpreter, and the communication between the child and the interpreter. They found that the Deaf child received less instruction from the teacher than his peers did, and that he received a large proportion of his instruction in the form of tutorial assistance from the interpreter. A[illegible] Ellen (2014) showed that sign language has significa[illegible] early and language development of children. This th[illegible] that Educational sign language interpreters are able to relay exact message and intention of the teacher in an inclusive classroom, and are able to create an interpretation that impact the Deaf pupils in the same manner as it would a hearing student. This is very important because unless an interpretation meets these criteria, an equivalent education is not possible; however, if this is achieved children with hearing impairment can compete academically and linguistically with hearing children (Kurz, 2004).

A more recent study conducted by Marschark, Sapere, Convertino and Pelz (2008) indicated that direct and mediated instruction were effective under the conditions of their experiments. This means that direct instruction from the teacher to the hearing pupils and interpretation instructions from the educational sign language interpreters to the pupils with hearing impairment, impact the same academic and linguistic competency in both. Meanwhile, educational sign language interpreters in inclusive classrooms must develop their linguistic competency along signs in order to provide their clients with equal access to the instruction of the classroom.

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

Sign language interpreting is a service provided by people to a community of Deaf and hearing people, who do not understand a common language. It is a service provided to children with hearing impairment and hearing people. The hearing people speak different languages. Interpreting between people who use different languages is not a simple or mechanical process of substituting words from one language into another. It involves being in the messy midst of human beings trying to communicate and relate to each other. Interpreting is often described as a process of mediation between languages, cultures and communities. No matter which languages are being used, sign language interpreters need to call on their intellect, social instinct, physical and emotional stamina, and professional judgment; all these need to be cultivated through training and experience. The challenges and variety that interpreters encounter make for a job that can at times be exhilarating, uncomfortable or even onerous (Napier, McKee & Goswell, 2010).

Interpreters working in schools and other institutions of higher learning face different challenges which go on unnoticed due to limited knowledge on interpreters' code of ethics. Most sign language interpreters who work in educational institutions perform their assignments with a multiplicity of challenges arising from social, economic and cultural background in which they are subjected to work. It is believed that different social educational backgrounds which concretize these challenges often create intrinsic and extrinsic challenges among them and the clientele they serve (Marschark, Convertino, McEvey & Masteller, 2004).

Sign Language Interpreters and the Deaf community

The relationship between interpreters and members of the Deaf community has more facets than just a 'service provision' transaction, for several reasons, some of which are highlighted below:

- Hearing people rarely encounter a sign language interpreter, whereas interpreters may be a common presence in a deaf person's everyday life and in the wider social networks of their community. Deaf people therefore usually know more about interpreters, and how to communicate via an interpreter, than the hearing consumers they work with.

- Interpreters have a symbiotic relationship with the Deaf community, since each depends on the other for certain benefits. Deaf people need interpreters to communicate with hearing people who cannot sign, in a wide range of public and private situations. Interpreters need the Deaf community, first, to acquire the linguistic and cultural knowledge which underpins their professional skills, and ultimately for opportunities to earn a living and maintain professional status in society.
- Each side of this partnership also gives up something in exchange for benefits gained. The presence of interpreters in deaf people's everyday lives impinges on their privacy and autonomy, while the role interpreters take on, means they forego various forms of personal expression (such as dress style and personal opinions) while on the job. The role can also oblige interpreters to be available for work at times and places that conflict with the priorities of their own lives (for example, being called on after work hours to a police station, or interpreting in situations that are outside their personal comfort zone)

- Interpreters choose their occupation, and can impact of their work, whereas deaf people have not chosen to need interpreting services throughout their lives. This creates a potentials power imbalance; deaf people are acutely aware that interpreters can determine the quality and quantity of their access to information and opportunities in mainstream society. Interpreters' hearing status also affect the amount of power they hold in any situation that involves deaf and hearing people in contact with each other. Interpreters are automatically members of the majority group, while deaf people are usually perceived as 'different'. Finally, the legacy of poor educational standards for many deaf people (particularly, limited English literacy) means that they are often socially and economically disadvantaged, and dependent on interpreters for access to information.
- Interpreters need to be sensitive to this predicament and to minimize the impact of this imbalance by striving for the highest ethical and technical standards in their work. Beyond the personal level, interpreters have an indirect political

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

significance in the Deaf world, as a necessary tool for Deaf leaders to advocate for the goals of their community. These include access to information, improved education, sign language recognition, and consideration in government policy (Napier, McKee & Goswell, 2011).

Sign Language Interpreters and Teachers

In a bid to make education accessible and beneficial to all categories of children with special needs, many educational programmes have been introduced and adopted. Inclusive education is one and current of such programmes which is setup to take full care of children with special education needs, among these are children with hearing impairment. Inclusion of these children into general education requires adequate communication and social supports of some experts in special education among them is educational sign language interpreters. Educational sign language interpreters communicates instructional messages from the regular or special teacher in an inclusive classroom to students with hearing impairment and vice versa to facilitate and equate lea experts do not only interpret teaching in an inclusive cl meet with regular and special teachers to fashion ways to communicate effectively and best approach to adopt in the class to facilitate better knowledge acquisition of students with hearing impairment.

Sign Language Interpreters and Parents of Deaf Students

Communication with Deaf children is a major problem of hearing parents Mitchell and Karchmer (2004) concluded that most deaf and hard of hearing children have parents who are not Deaf or hard of hearing and most of them do not know sign language. Deaf and hard of hearing can participate and benefit fully in academic if they have solid home language stimulation and affection. Sign language is the language that deaf students communicate with, so it is very important that this language be introduced at early years for deaf children, Smith (2018) maintained that some students who are Deaf and Hard of hearing do not perform as well academically as their hearing peers because several factors potentially influence academic outcomes; these include use of sign language in the home,

age of intervention, amount of hearing loss, and quality of education and support structures. In order to achieve a outstanding academic outcome with deaf children, some parents engage the service of sign language interpreters to teach parents of deaf children sign language at home and also engage their wards in sign language teaching and academic coaching.

Challenges of Educational Sign Language Interpreters in an Inclusive School

Discrimination against interpreters: discrimination in any form closes the door to equal opportunity, a fundamental right of every worker is equity and equality which will make every worker enjoy free working service atmosphere. Educational sign language interpreters are supposed to have the right to fair and equitable treatment, to participate equally in workplace. It is the responsibility of school heads or management to ensure discrimination – free- environments for every member of staff irrespective of the service render. However, the reverse is the orders of the day where service workers are placed on top of others forgetting that all members of staff ar
the actualization of the same goal.

Shortage of interpreters: Despite agitation for equal educational opportunity for people with special needs children with hearing impairment inclusive, many institutions with these students do not take their education seriously by providing enough and adequate sign language interpreters. McLaughin in Canadian Hearing Society (2018) averred that shortage of interpreters is not a new issue. Inadequate numbers of sign language interpreters to convey educative information in classroom make students with hearing impairment lag behind academically among hearing students. Also educational sign language interpreters on ground are being over labored which increase their stress level.

Workload: Work puts food on the table for every household. Too much of work can injure or claim the life of its clients (Canadian Hearing Society, 2018). Heavy work load of educational sign language interpreters is a great concern, which leads to stress. Demands of the job create stress and burnout causing interpreters to

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

leave the field, often within the first five year of practice (Canadian Hearing Society, 2018). Woodcock and Fisher in Canadian Hearing Society (2018) published a study that showed a disturbing picture of interpreters who are injured or are at risk of injury, by virtue of working in unsafe conditions.

Language problem: As the popular saying goes "language is a vehicle for effective communication", a defective language cannot bring about a meaningful communication let alone a positive feedback. Students with hearing impairment lag behind academically because of ineffectiveness in sign language knowledge. Many of these students lack sign language knowledge from early years because their parent could not use sign language to communicate and majority of them enter higher institutions with wrong signs completely different from the conventional sign language that educational sign language interpreters use to communicate instruction in an inclusive educational setting. This scenario breeds nothing but poor academic result from students with hearing impairment in which all the blames would be shifted
sign language interpreters. Some other service sta
institution may think that interpreters do not com
meaningful instruction in the class but only gesticulate with their hands in the air; all because of mass failure of students with hearing impairment.

Also due to the language incoherence which manifest in these students write-ups they are unable to communicate effectively with hearing people that do not know how to sign. Language incoherence of students with hearing impairment leads to poor academic performance because they lack the correct English language skills to drive home their ideas or knowledge during examination.

Stress of educational sign language interpreters: 'All work and no play' they say 'makes Jack a dull boy'. This aphorist statement applies to educational interpreters. Meaning that they have no time of their own to rest and this compile stress for them. Workload of sign language interpreters in educational establishment are enormous, an average sign language interpreters work for at least six hours a day

and thirty hours in a week. Apart from the interpreting work in the classroom, they also interpret in meetings, conferences, seminars, and also follow students with hearing impairment around to resolve issues relating to their result, assignment and test. All these assignment culminate to stress for educational sign language interpreters which usually lead to burnout and also force many to join other service department within or outside the institution.

Conclusion

Educational sign language interpreters have made remarkable landmarks in the education of deaf students; they have also made positive contributions to the social life of deaf individuals by carrying them along with happenings in the society. This group of professionals have their challenges that hinder their effectiveness in their chosen career. If these challenges could be minimized or taken away completely and the recommendations in this paper are strictly adhere to, the deaf education would be better than how it is now and many more professionals in different field of discipline would emerge.

Recommendations

1. Head of educational sign language interpre... inclusive institutions should request for enough hands sign language interpreters as to provide at least two interpreters in a department and having pool of interpreters that will take up any emergency services.
2. Institutions using educational sign language interpreters should employed enough sign language interpreters that will serve all the units and department where deaf students and staffers are domicile.
3. The welfare and government packages for the employed interpreters should be reviewed periodically for further motivation
4. Government at all levels should create enlightment programmes on media on the importance of early educational intervention for deaf children.
5. There should be in service training for sign language interpreters to updates them on the current trend in their field.

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

References

Anita, S.D. and kreimeyer, K.H. (2001). The role of interpreters in inclusive classrooms. American Annals of the Deaf, volume 146, number 4, Published by Gallaudet University Press.

Canadian Hearing Society (2018). Challenges affecting the Deaf and interpreters communities. Retrieved from https://www.chs.ca/challenges-affecting-deaf-and-interpreter-communities

Ellen, C.D (2014). Sign language and Early Childhood Development. Fayetteville, University of Arkansas.

Joshua, L. (2014). The Challenges of Interpreting in a Special needs setting. Retrieved from https://www.linkedin.com/pulse/20140820230304-98184649-the-challenges-of-interpreting-in-a-special-needs-setting.

Jones, B.E. (2004). Competencies of K-12 educational interpreters: What we need versus what we have. In E. Winston (Ed.), *Educational interpreting: How it can succeed* (pp.113-131) Washington, D.C.: Gallaudet University Press.

Kurz, K.B. (2004). *A comparison of deaf children's lea communication versus an interpreted* (Unpublished doctoral dissertation). University Lawrence.

Humphrey, J. H., & Alcorn, B. J. (2007). *So you want to be an interpreter?: An introduction to sign language interpreting* (4th ed.). Seattle, WA: H & H Publishing.

Marschark, M., Convertino, C., McEvey, C., & Masteller (2004). Organization and Use of Mental Lexicon by Deaf and Hard of hearing Individuals: American Annals of the Deaf.

Marschark, M., Sapere, P., Convertino, C., & Pelz, J. (2008). Learning via direct and mediated instruction by deaf students. *Journal of Deaf Studies and Deaf Education, 13*, 546-561. doi:10.1093/deafed/enn014

Mitchell, R. E & Karchmer, M.A (2004). When Parents are Deaf versus Hard of hearing: Patterns of sign use and School placement of Deaf and hard of hearing children. The Journal of Deaf Studies and Deaf Education 9 (2).

Napier, N., McKee, R., & Goswell (2011). Sign language interpreting. Sydney, The Federation Press.

Obani, T.C. (2006). Special education and special needs. In T.C. Obani (Ed.). Teaching pupils with Special needs in the regular UBE classroom. Ibadan: Book Builders.

Registry of Interpreters for the Deaf. (2015) *State licensure.* Registry of Interpreters for the Deaf. Washington, DC. Retrieved from http://www.rid.org/governmentaffairs- program/state-licensure

Seal, B. C. (1998). Best practices in educational interpreting. Needham Heights, MA: Allyn & Bacon.

Schick, B. (2004). How might learning through an educational interpreter influence cognitive development? In E. A. Winston (Ed.), *Educational interpreting: How it can succeed* (pp. 73-87). Washington, DC: Gallaudet University Press.

Shaw, J., & Jamieson, J. (1997). Patterns of classroom discourse in an integrated, interpreted elementary school setting. American Annals of the Deaf, 142, 40-47.

Smith, M. B (2018). More than meets the Eye: Revealing the complexities of an interpreted Education. Retrieved from http://gupress.gallaudet.edu/excerpts/MTME.html

Stuckless, R. E., Avery, J., & Hurwitz, A. (Eds.).(1989 interpreting for deaf students: Report of the N Force on Educational Interpreting. Rochester NY: National Technical Institute of the Deaf.

UNESCO (2005). Guidelines for Inclusion: Ensuring access to Education for All. Paris.

A COMPARATIVE STUDY OF SIGN LANGUAGE FLUENCY OF BOADING AND DAY SCHOOL PUPILS WITH HEARING IMPAIRMENT IN ILORIN METROPOLIS

By

Suleiman Saka, **DAGBO,**
Adebayo Adekunle, **AKINOLA**
&
Taiwo Monsuru, **AKANGBE**

Abstract

Language is a vital tool in all human activities on a daily basis through interaction and transactions. However sign language which is the first language of students with hearing impairment have not been given the right recognition it deserves especially outside the school environment due to lacks sign language models inform of parents and siblings. This paper holistically looked at the sign language

fluency of pupils with hearing impairment in Boarding and Day schools in Ilorin. The study adopted descriptive survey design of expo-facto type in which three primary schools were purposively selected each in senatorial district of Kwara state. Sixty pupils with hearing impairment were selected to participate in the study, male (50%) and female (50%), Boarding (41.7%) Day (58.3%). The researcher employed the Teacher made questions copied from the government own textbook and the response were analysed using simple percentages, mean, standard deviation and chi-square. The findings revealed differences in sign language fluency of Boarding and Day school pupils with hearing impairment with mean score 14.354, degree of freedom (df) is 1 and P = 0.000. Since P = 0.000 < 0.05. gender were also detected to be significant to the sign language fluency of male and female pupils with hearing impairment while socio-economic status was not significant (is 6.533, degree of freedom is 1, and P = 0.011. Since P = 0.011 < 0.05 and P = 0.855. Since P = 0.855 > 0.05. Government should legalise sign language in Nigeria and made it compulsory of the primary school curriculum in order to help lay a very strong foundation for pupils with hearing impairment.

***Keywords**: Boarding school, Day school, sing language, pupils with hearing impairment*

Introduction

Globally, education is one of the basic human rights as contained in the United Nations Convention on the Rights of the child. According to the United Nations Convention, a child has a right to be educated. The Jomtein conference held in 1990 and the Dakar conference held in 2000 advocated for the right based approach to education and stressed the principle that every child including those with hearing impairment have a right to education. Statistics indicate that language which is needed to have unfetered access education are not being given prominent place and attention (Handicap International, 2012). Language is vital to all human activities because it is the medium of communication and interaction. Steven (2007) to define Language as tightly woven into human experience and that it is scarcely possible to imagine life without it. Chances are

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

that if two or more people are together anywhere on earth they will soon be exchanging, that is, communicate sing language.

Robert (2005) explains that language exists because the users have agreed on the symbol to be used and the rules to be followed. This agreement is demonstrated through language usage. Language exists by virtue of social convention. However there are instances of billingualism or multyilingualism when one learns another language apart from his/her language. There are many language in the world and these include American sign Language as a language distinct from the English Language with its own rules. Just like English Language is the official language in Nigeria which Nigeria learn as second language, the same is true of deaf Nigeria with Sign language as their first language while American Sign language as their official language. However since American Sign language came into Nigeria, deaf people in Nigeria specially in boarding schools took American Sign language, Nigeria version as their first language and writing of English as second language.

In the words of Mba (2002), the greatest effe
impairment is in the area of communication. Natural d
language and speech depends primarily on a child's a
the speech of those around him and to associate what he ears with meaning. A child born deaf or one that lost his hearing before developed language and speech cannot acquire language and speech naturally. He has to be taught-laboriously and somewhat "artificially" to speech, and to understand the speech of other. However, his greatest needs is not just being able to use speech, but ability to understand and use language, either throught the medium of speech or by other modes such like finger spelling, signing, reading the lips and finger spelt (or signed) words. The Amendment Act (2011) on Persons with Disabilities stipulates that Sign Language is an assistive device where the deaf person uses an interpreter in broadcast sense as a basis of all human communication.

Sign Language is a system of using manual-general signs as a medium of communication by the members of a given deaf community (Kenya Society for deaf children, 2006). Based on the linguistic research in the second half of the twentieth century is the finding that sign Language has all the properties that distinguish human language from the other (non-linguistics) modes found in the

animal kingdom. Sign language is culture based by the deaf people and has not been colonized like the other languages. Sign Language is used naturally by deaf people in Kenya, as elsewhere. Sign is defined by its codification and standardization and it is developed using a system of graphic symbols and it is formed by a group of deaf persons living in a community and it is not imposed on them (Okombo, 2006).

The successful use of Sign Language depends on the learners interactions when playing in the schools compound. Ngao (2005) defines the school"s environment as a place for socialization that includes the buildings and surrounding grounds. It encompasses conditions such as cleanliness, noise, temperature and lighting as well as biological, chemical and structural hazards. The learning environment is a key factor to learners who are deaf in the development of Sign Language. Studies have shown in the United States of America in 2005 shows the influence of school environment on the use of Sign Language leading to the learner"s

that is affected either positively or negatively b
environment (Mercer, 2003). Studies about student ach
building conditions concluded that the school significantly affects student achievement. There is enough research evidence to show that the buildings in which students spend a good deal of their time learning, influences how they learn (Earthman, 2004). A desirable school environment in design is friendly having wide entrance to classrooms for learners who are hearing impaired to support use of Sign Language (Higgins, 2005). Obviously a deaf learner cannot learn in a dark place as they need vision to communicate. One of the Sign language learning environments is an education settlement like residential/ hostel/ boarding facilities located right in the school environment.

World Federation of the Deaf however, maintains that Sign language is the first language of the deaf and both communication and education depend on it. The world Federation of the Deaf also observed that deaf pupils who are exposed to sign language earlier in life and in residential (boarding) schools are fluent in sign language compared to their counterparts who attends school from home. In the same vain David and Thomas (2001) discovered that exposure of deaf children to sign language brings about their natural and gradual

approach to acquire language thus processes their fluency in the language. Recent research corroborates that socio-economic status SES-related difference in early language environments are not limited to the quantity of input, but extend to the quality of interactions and language learning opportunities as well (Rowe 2012, Cartmill, 2013, Goldin-Meadow, 2014). These early disparities in language experience and exposure translate to gaps in language ability that remain stable or widen overtime (Fernaldetal.2013) and are predictive of academic trajectories during elementary and secondary education (Burchinal, 2002).

Sign language fluency ability of pupils with hearing impairment in early childhood is among the best predictors of school readiness and later school success (Hoff 2013). By the end of basic education, however, many day school pupils reported to perform well below their peers on standardized measures of sign language fluency (Ginsborg 2006). The most striking evidence of disparities in sign language fluency is observed in pupils with hearing impairment e
receptive vocabulary. As early as basic primary 1 and 2

with hearing impairment in boarding had large
vocabularies compared with their peers in day school (Fernaldetal.2013). By the end of 3rd years , pupils with hearing impairment in boarding already produced twice as many words as did their peers from day school (Dudley-Marling and Lucas 2009, Johnson 2015), SES has been positively associated with vocabulary development across a number of subsequent investigations. Recent studies based on standardized tests and nationally representative samples have demonstrated these SES disparities as well as gender play an important role in the sign language fluency of boarding and day pupils with hearing impairment (Bradbury, 2011).

The sign language fluency of pupils with hearing impairment could differ due to gender differences. Gender refers to the socially culturally constructed characteristics and roles, which are ascribed to males and females in any society. Gender is a major factor that influences the adaptation of students to academics (Okeke, 2008). Gender is determined by attributes such as tasks, functions and roles of women and men in the society rather than the biological characteristic of women and men. However, gender gap is one of the variables in the educational system that tends to influence the

achievement or performance of any type owning to some societal stereotypes (Yau and Cheng, 2014). As gender roles in the society are being rapidly redefined, female students today are showing outstanding academic prowess and pursuing higher education. Research on gender differences in sign language fluency has portrayed that girls are better fluent as compared to boys. One such study was by David and Thomas (2001) found that girls had higher scores on mastery and expression in sign language, than boys. Another study by Robert and Owen (2005) and Robert (2004) found out that boys perfume better than girls in sign language fluency.

Eagly and Chicken (2003) argue that attitude is a predisposition or a tendency to respond positively or negatively towards a certain idea, object, person or situation. Teachers are instrumental to the successful Sign Language fluency of pupils with hearing impairment in schools. Teachers" abilities and attitudes can be major boosts or limitations to learners" vocabulary and sign language fluency (Lieberman and Houston, 2009). Teachers" attitudes promote the use of Sign Language are fear, limited ex| lack of signing skills which are notable observable ind schools for the deaf all over the world. Therefore sensitivity and awareness on the part of the teacher in school is essential towards the promotion of Sign Language use (Hodge, 2004). Studies have shown that if a teacher has low expectations towards deaf learners then the children will unlikely receive satisfactory education in hearing impaired schools (Onah, 2012). It is against this background that the researcher is interested in the comparative study of sign language fluency of boarding and day school pupils in Ilorin Mwtropolis.

Abang (2005) stated that persons with hearing impairment find it difficult to communicate with their parents, relations and other members of their respective families in ASL. Further, Abang (2005) stated that since ASL does not help day school pupils with hearing impairment interact meaningfully with their families and friends at home, they often feel rejected and ridiculed due to communication gap noticeable affect their fluency compared to those who spent most of the time in boarding. Pupils with hearing impairment in Nigeria learn one sign at home for an object and learn another sign for the same object at school. With regards to "Yes" &" No" in local sign

language (LSL) for example, nodding head up and down represents "Yes" while shaking head from side to side represents "No". In ASL. "Yes" is made by closing the right fist and shaking it severally while "No" is made by touching the tip of the index finger on the tip of the thumb finger. In total communication, however, you nod with a smile together with speech or voice to represent "Yes" while "No" is made by shaking an open palm vigorously together with voice and stern face. A child learns a word in LSL and learns the same word at school with a different sign in ASL. It was in view of the above contradiction that a comparative study of sign language fluency of Boarding and Day school pupils with hearing impairment of Ilorin metropolis is being embarked by the researcher.

Statement of the problem

The school environment of schools for pupils with heari should creates opportunity for deaf children to acquir language for his communication and development bu observed that pupils with hearing impairment record consistent poor performance in schools due to inadequate expressive language skills. It is suspected that the poor performance might be caused by a lot of factors, one of which could be that Sign Language which is the first language of communication to pupils with hearing impairment are mostly not being used to communicate at home by parents and siblings with many Day school pupils with hearing impairment. Boarding pupils with hearing impairment staying in school environments with adults using sign language on daily basis while Day school pupils with hearing impairment go home after school hours and stay at home with their parents/family who don't use sign language to communicate with him or her. Sign Language is the first language for those who acquire deafness before they develop speech and language and must be used for teaching and learning for instructions in the classroom. Most of the primary school teachers lack the skills of signing proficiently with deaf learners. It is suspected that the adoption of wrong sign language system may lead to ineffective development of language and sign language fluency which

also may lead to ineffective learning and understanding of school subjects.

Further, the issue of gender and socio-economic status SES has not been resolved since controversy exists over which gender (male or female) and financial means of parents to enroll their wards with hearing impairment in Boarding or Day school achieve better in sign language fluency. There seems to be scarcity of materials in these areas and no previous equivalent studies on the effect of the three important variables (SES, Gender and Sign Language Skills of Teachers) were carried out in Nigeria to provide empirical evidence to resolve the controversy in the level of fluency in sign language between Boarding and Day school pupils with hearing impairment. It was in view of the above that the researcher is interested in pursuing research study on a comparative study of sign language fluency of Boarding and Day school pupils with hearing impairment of Ilorin metropolis.

Purpose of the Study

The purpose of this study is to determine similarities a
in sign language fluency of Boarding and Day pupil
impairment in Ilorin metropolis.

Specifically, the study sought to:

1. Determine the effect of the SES on sign language fluency of Boarding and Day pupils with hearing impairment in Ilorin metropolis.
2. Explore the influence of gender on sign language fluency of Boarding and Day pupils with hearing impairment in Ilorin metropolis.
3. Examine the relationship between sign language skills of teachers and sign language fluency of Boarding and Day pupils with hearing impairment in Ilorin metropolis.

Hypotheses

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

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

HO1: There are no significant differences between sign language fluency of Boarding and Day school pupils with hearing impairment in Ilorin metropolis.

HO2: There is no significant relationship between Gender and sign language fluency of Boarding and Day school pupils with hearing impairment in Ilorin metropolis.

HO3: There is no significant relationship between SES and sign language fluency of Boarding and Day school pupils with hearing impairment in Ilorin metropolis.

HO4: There is no significant relationship between Sign language skills of teachers and sign language fluency of Boarding and Day school pupils with hearing impairment in Ilorin metropolis.

Significance of Study

Not many people understand the role sign language can play in the education of pupils with hearing impairment. Some teachers of pupils with hearing impairment have made some suggestions regarding the use of any sign system in teaching that can facilitate teaching and learning in schools. It is hoped that this study will be
teachers of the pupils with hearing impairment, parer
and authors as well as pupils with hearing impairmer

The result of the findings could be useful to parents of pupils with hearing impairment. As the best communication strategy would have been discovered, it would help the parents of these pupils to interact with their children and also contribute sign language fluency and to the education of their children. Furthermore, this study will be significant to the pupils with hearing impairment themselves. It will provide them with the effective communication strategy that would enable them to interact and understand their teachers as well as their parents. The feedback from this study will help pupils with hearing impairment understand instruction given to them easily. This will help them to maximize their ability and potentials.

Scope of the Study

There study is limited to three schools that have deaf unit in Ilorin metropolis.

1. Kwara State School for special Needs, Ilorin. (Primary Unit)
2. FOMWAN Nursery/Primary School , Ilorin (Deaf Unit)
3. IMAN, Nursery/Primary School, Ilorin (Deaf Unit)

Methodology

Research Design

This study adopted a survey research design of expo-facto type

Population

All pupils with hearing impairment in Ilorin metropolis constitute the population for this study.

Sample

Purposive and simple random sampling techniques were utilized in this study. Purposive sampling was used to select three Primary/Nursery schools for the deaf across three Senatorial District of Ilorin East, Ilorin West and Ilorin South respectively. Sixty pupils with hearing impairment was randomly selected from the selected schools comprises 25 Boarding and 35 Day school pupils (30 male) and (30 female).

Page 236

Name of school	No of pupils selected	Sex		Type of s	
		Male	Female	Boarding	Day
KSSN Ilorin	30	20	20	20	20
IMAN Ilorin	15	4	6	5	5
FOMWAN Ilorin	15	6	4		10
Total	**60**	**30**	**30**	**25**	**35**

Key:
KSSN, Kwara State School for Special Needs
IMAN, Islamic Missionary Association of Nigeria Nursery/primary School, Deaf Unit.
FOMWAN, Feeration of Muslim Women Association in Nigeria, Nursery and Primary School Kwara State Deaf Unit.

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

Instrumentation

A teacher made test on selected words from the pupils' subject textbook was used. It is of 50 items based on what the researcher signed and asked the pupils to write. The researcher will sign 50 words and ask pupils to write down what he signed. The researcher read 25 simple sentences in sign language and asked the pupils to write down the sentences.

Reliability and Validity of Instrument

Reliability and validity of the instruments was determined through a pilot study with similar population who did no form part of the study. Content validity was done through expert judgment approach. The pilot study involved 20 pupils (male and female) with hearing impairment in Boarding and Day at School for the handicap, Durbar, Oyo. Reliability of the instruments was determined by test-retest method on the pilot sample. It involved administering the instruments to the pilot subjects twice with a break of two weeks maintaining the same initial conditions yielded internal consistency reliability indexes of 0.98 and 0.78 respectively.

Page 237

Collection and Analysis of Data

The data for this study were collected through personal administration of the instruments by the researchers and with the help of three research assistants. The research assistants were made up of teachers that are teaching in the selected schools. In other to answer the research questions, this study employed simple percentage, mean and standard deviation while chi-square was used to test the hypotheses at 0.05 level of significance.

Results

The results of the analysis of the data obtained for testing the hypotheses formulated are presented below:

H0I: There are no significant differences between sign language fluency of Boarding and Day school pupils with hearing impairment in Ilorin metropolis.

Table 1: Chi-Square showing the differences between sign language fluency of Boarding and Day school pupils with hearing impairment in Ilorin metropolis.

Variables	Agree	Disagree	χ^2	Df	P	Remark
Boarding	32	28				
Day	12	48	14.354	1	0.000	Sig.

The results from table 1 shows that the chi-square value is 14.354, degree of freedom (df) is 1 and P = 0.000. Since P = 0.000 < 0.05, it implies that Boarding plays a significant role in the sign language fluency of pupils with hearing impairment.

HO2: There is no significant relationship between Gender and sign language fluency of Boarding and Day school pupils with hearing impairment in Ilorin metropolis.

Table 2: Chi-Square showing the relationship between Gender and sign language fluency of Boarding and Day school pupils with hearing impairment in Ilorin metropolis.

Sex	Agree	disagree	χ^2	Df	P
Male	37	23	6.533	1	0.000
Female	23	37			

From table 2 chi-square value is 6.533, degree of freedom is 1, and P = 0.011. Since P = 0.011 < 0.05, it implies that gender plays a significant role in the sign language fluency of pupils with hearing impairment.

HO3: There is no significant relationship between SES and sign language fluency of Boarding and Day school pupils with hearing impairment in Ilorin metropolis.

Table 3: Chi-Square showing the relationship between SES and sign language fluency of Boarding and Day school pupils with hearing impairment in Ilorin metropolis.

Status	Agree	Disagree	χ^2	Df	P	Remark
High	30	30				
Low	28	32	0.133	1	0.855	NS

The information in table 3 indicates that chi-square is 0.133, degree of freedom is 1, and P = 0.855. Since P = 0.855 > 0.05, it implies that socio-economic status does not play any significant role in sign language fluency of pupils with hearing impairment.

HO4: There is no significant relationship between Sign language skills of teachers and sign language fluency of Boarding and Day school pupils with hearing impairment in Ilorin metropolis.

Table 4: Chi-Square showing the relationship between SES and sign language fluency of Boarding and Day school pupils with hearing impairment in Ilorin metropolis.

Sex	Agree	disagree	χ^2	Df	P	Remark
High	37	23	6.533	1	0.000	
Low	23	37				

From table 4 chi-square value is 6.533, degree of freedom is 1, and P = 0.011. Since P = 0.011 < 0.05, it implies that level of teacher's knowledge of sign language plays a significant role in the sign language fluency of pupils with hearing impairment.

Discussions

Hypothesis one sought to find out the role that Boarding and Day school plays in the sign language fluency of pupils with hearing impairment. The result in table 1 showed that the chi-square value is 14.354 and P = 0.000 less than 0.05. This implies that both set of schools plays a very important role in the sign language fluency of pupils with hearing impairment. Neuman, (2006) argued that knowledge in equality is key to the widening literacy gaps. Children organize their previous language experiences (home) into schemas of knowledge, which further allow them to process and gain new information (school) quickly and easily. One study by Grissmer et al. (2010) showed that children's general knowledge of sign language right from home was a stronger predictor of sign language fluency. In table 2, chi-square value is 6.533 and P = 0.011 less than 0.05. This

implies that the hypothesis on whether gender plays a significant role in sign language fluency of pupils with hearing impairment is significant. The findings of this study with regards to gender were in line with the findings of Simeons (2009), Steinberg (2006), Moore and Swabey (2007) and Robert (2004) who found no significant difference in the sign language fluency of male and female pupils. This finding on females' superiority in sign language fluency over their males' counterpart was in consonance with earlier reports Unodiaku, (2015), and Iloputeife (2000) who all reported that females achieved higher than males in sign language test.

Hypothesis three on whether socio-economic status play any significant role in the sign language fluency of pupils with hearing impairment. Table 3 revealed that while the chi-square value is 0.133, P = 0.855. Since P = 0.855 greater than 0.05, it implies that socio-economic status SES does not play any significant role in pupils with hearing impairment sign language fluency. This supports the view of Miller and Sperry (2012) that whether a chi
or poverty home, whether high or low SES, always a
experience the same problems, reason and act in the s
as there is just a thin thread that separates both groups. From table 4 chi-square value is 6.533, degree of freedom is 1, and P = 0.011. Since P = 0.011 < 0.05, it implies that level of teacher's knowledge of sign language plays a significant role in the sign language fluency of pupils with hearing impairment. The results of this study could be interpreted in line with the findings of Mba (2002) who stated that teacher's ability to sign and convey his or her thoughts, opinions and ideas with easy to pupils with hearing impairment at the basic/foundation level goes a long way and throughout life span to make the a child with hearing impairment better and respectable person to self and society at large.

Conclusion

The main thrust of this research is to compare the sign language fluency of boarding and day school pupils with hearing impairment. This study has revealed so many things pertaining to sign language fluency of pupils with hearing impairment. This goes a long way to motivate the researcher to carry out a comparative study. The study has shed a lot of light on the role that gender and socio-economic

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

status of parents as well as teacher's competency in delivering the instruction in sign language at the foundation level can play on sign language fluency of pupils with hearing impairment.

Recommendations

Sign language and spoken language fall on the same parallel in terms of features and functions. Since sign language gives to the deaf pupils what spoken language gives to hearing pupils. It is important to recognize sign language as the first language for the deaf children. Recognizing sign language mean to facilitate and promote its utilization in interacting with deaf children both at home and school.

Based on the findings of this study, the followings are hereby recommended:

1. Government should legalize and recognize sign language as the first language of the deaf and should be part of the curriculum right from the elementary level of
children with hearing impairment and should c
adolescent years.
2. Parents and guardian should be in the forefront of the education of pupils with hearing impairment and not relegate the responsibility to teachers alone.
3. Teachers of pupils with hearing impairment should be adequately trained on how best to communicate with sign language, including total communication before such teachers is sent to teach pupils with hearing impairment.
4. Education stakeholders to workout modalities to develop sign language on various topics/subjects to help many teachers of deaf develop at their own pace.
5. Sign language should be included in school curriculum as one of the indigenous languages like Yoruba, Hausa and Igbo.

References

Abang, T.B (2005). " The exceptional children: Handbook of special education. Jos: Fab. Educational Books.

Bradbury B, Corak M, Waldfogel J, Washbrook E. 2011. Inequality during the early years: child outcomes and readiness to

learn in Australia, Canada, United Kingdom, and United States. Discuss. pap. 6120, Inst. Study Labor, Bonn, Ger.

Burchinal MR, Pace A, Alper R, Hirsh-Pasek K, Golinkoff RM. 2016. Early language outshines other predictors of academic and social trajectories in elementary school. Presented at Assoc. Child. Fam. Conf. (ACF), Washington, DC, July 11–13

Burchinal, M. R, Peisner-Feinberg, E, Pianta, R, Howes, C. (2002) .Development of academic skills from preschool through second grade: family and classroom predictors of developmental trajectories. J. Sch. Psychol. 40:415–36

Cartmill EA, Armstrong BF, Gleitman LR, Goldin-Meadow S, Medina TN, Trueswell JC. 2013. Quality of early parent input predicts child vocabulary 3 years later. PNAS 110:11278–8

Dudley-Marling C, Lucas K. 2009. Pathologizing the language and culture of poor children. Lang. Arts 86:362–70

Ginsborg, J. (2006) .The effects of socio-economic status on children's language acquisition and Language and Social Disadvantage: Theory ir J Clegg, J Ginsborg, pp. 9–27. Hoboken, NJ: Wiley

Grissmer, D, Grimm, K.J, Aiyer, S.M, Murrah, W.M, Steele, J.S .(2010).Fine motor skills and early comprehension of the world: two new school readiness indicators. Dev. Psychol. 46:1008–17

Iloputeife, E.C. (2000). Effect of analogy and models on physics concept achievement of secondary school students. Unpublished Ph. D. Thesis University of Nigeria, Nsukka.

Johnson EJ. 2015. Debunking the "language gap." J. Multicult. Educ. 9:42–50

KSL & KSDC (2006) Theory and Skills of teaching Kenyan Sign Language. Nairobi : ISBN:9966-7144-0-5

Mercer, n. & Littleton, K. (2007) Dialogue and the Development of Children"s Thinking: A Sociocultural Approach, London, Routlrdge.

Miller, P.J, Sperry, D.E. (2012) .D´ ej`avu:the continuing misrecognition of low-income children's verbal abilities. In Facing Social Class: How Societal Rank Influences

Interaction, ed. ST Fiske, HR Markuspp, pp. 109–30. New York: Russell Sage Found.

Moore J & Swabey L. 2007. Medical Interpreting: A Review of the Literature. Available at: http://www.medicalinterpreting.org/PDF/DRAFTLitReview.pdf. [last accessed 14/08/2014]

Neuman, S.B.(2006).The knowledge gap :implications for early education. In Handbook of Early Literacy Research, ed. DK Dickinson, SB Neuman, 2:29–40. New York: Guilford

Okeke, B. A. (2008). Essentials of special education. Nsukka: Afro-orbis Publishers.

Okombo, O. (2004). Language development: Kenyan Sign Language situation in Africa. A paper presented at Kenyan Sign Language Research Project, Nairobi University Kenya.

Onah A. (2012). Elements of special education. Count International Publishing Pres, Enugu.

Robert, C.O. (2004). A review of hearing impairment. New York: Learning Press. Retrieved 2008 at http://www.hearent.com/index.schtmc.

Simoens, S. (2009). Health economic assessment: a n primer. *International journal of environmental public health, 6(12), 2950-2966.*

Steinberg AG. et al. 2006. Health care system accessibility. Experiences and perceptions of deaf people. *Journal of general internal medicine, 21(3), pp.260–266.*

Unodiaku, S.S. (2015). Comparative study of mathematics potentials of single-sex secondary Schools in Enugu State. *International Journal of Education, Michael Okpara University of Agriculture. Umudike, 1(1), 121-128.*

Zhu, Z. (2007). Gender differences in mathematics problem-solving patterns: A review of literature. *International Journal, 8(2), 187-203.*

David A.S and Thomas N. K. (2001): Teaching deaf and hard of hearing students" content strategies and curriculum. Printed in the United State of Erica.

John Adams and Pamela S. Robin (2002). Handbook to service the deaf and hard of hearing : A bridge to accessibility. U.K., Elserier academic press.

Peter, Mba (2002): Elements of special education. Ibadan , Codat Publications, Nigeria.
Robert E. Owens R (2005): Language Development: An introduction Printed in the United State of American.
Steven Pinker (2007). The Language Instinct, how the mind Creates Language. New York, Harper Perennial Modern Classics.
Suleiman Saka Dabgo (2011): language Methods for hearing imparired. Ibadan, Glory-land Publishing Co. World

CREATING OPPORTUNITY FOR ACCESSIBLE AND QUALITY EDUCATION FOR LEARNERS WITH HEARING IMPAIRMENT THROUGH EARLY CHILDHOOD EDUCATION

By

Tawa Yusuff, **ABDULKAREEM** (MRS)

Abstract
The paper examines ways by which quality education can be made more accessible to children with hearing impairment through provision of strong early childhood/pre-school education. The contents of National Policy on Education with respect to pre-school/early childhood education was discussed and the goals of early childhood education were highlighted. The concept of learners with hearing impairment, hearing loss and challenges facing them were also mentioned. The paper eventually discussed the rationales/needs for early exposure of children with hearing impairment to pre-school/early childhood education using manual communication/sign language.

Introduction

The early years of a child are the most important to the formation of intelligence, personality and social behaviour of the child. The year before a child reaches Kindergarten are among the most critical in his or her life to influence learning. That is why modern societies show serious concern for the education of their young ones by providing needed support to prepare them to succeed later in school (Ejieh, 2006). It is common practice in most societies to make provision for early childhood education programmes of various sorts for children below the official school-going age (usually 6years) mainly to prepare them for education in primary schools (Obidike, 2012). The Federal Government of Nigeria recognizes the importance of early childhood education in Nigeria and as a result it was given prominence in the National Policy of Education (FRN, 2004) as one of th
in the Nigerian educational system.

The Universal Basic Education Act of 2000 cites E
Education (ECE), which has to do with pre-primary education given to children between ages one to five, as an integral part of basic education. It represents the first important step in achieving the goals of Education for All (EFA). Since it is the foundation for a life-long education, government is expected to be actively involved in providing it for the younger children. Evidence on the ground, according to Adenipekun (2004), has shown that parents, private individuals and religious bodies constitute the largest proprietorship of ECE, while government agencies provide a paltry 10%. Towards this end, it should be noted that this abysmally low government's participation in proprietorship of day care centres and nursery schools deny the poor, disadvantaged and marginalized group access to Early Childhood Education.

Among such marginalized and disadvantaged groups are those with special needs such as children with hearing impairment. These are children suffering from hearing loss of any degree or category. The loss of hearing directly affects a child's overall development. The most critically affected is his educational development. This is

because the loss of hearing slows down language development, vocabulary building and overall academic development of the child.
One way of overcoming this challenge is to enrol the child in school early. Unlike other children without hearing loss who can attain some level of language and vocabulary development at home, the child with hearing impairment need attention of specialist teachers in a school setting. Such schools are usually established by the government due to the high cost involved and the challenge of enrolment as these schools are very few in most states.
These special schools don't usually have provision for pre-school education of children with hearing impairment and this is causing a kind of accessibility crisis as far as education of learners with hearing impairment is concerned. Given the attention being dedicated to early childhood education nowadays, it is imperative that such attention is extended to education of children with hearing impairment.

The Concept of Early Childhood Education

Early childhood care and education is the education offered to children who have not yet reached the statutory ag
primary school. Mahuta (2007) further maintained th
formal education arrangement, usually outside home w
children from about the age of 3 years are exposed through play like activities in a group setting through mental, social and physical learning suited to their developmental stages, until the mandatory age of government approved formal schooling. FRN (2004) refers to Early childhood care and Education (pre-primary education) as an education given in an educational institution to children aged 3-5 plus prior to their enrolment in the primary school.

Page 246

The objectives of early childhood education according to FRN (2004) are:

1. Effect a smooth transition from home to school
2. Prepare the child for the primary level of education
3. Provide adequate care and supervision for the children while their parents are at work (on the farm, in the market or offices)
4. Inculcate social norms

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

5. Inculcate in the child the spirit of inquiry and creativity through the exploration of nature, the environment, art, music and playing with toys etc.
6. Develop a sense of cooperation and team spirit
7. Learn good habits, especially good health habits and.
8. Teach the rudiments of numbers, letters, colours, shapes, forms and so on through play.

Concepts of Hearing Impairment

There is no specific definition of hearing impairment. However, Lasak et al (2014), defines hearing impairment as the total or partial inability to hear. This implies that hearing impairment can be total as well as partial. Hearing impairment as a disability category is similar to the category of deafness but is not the same. The Individuals with disability education act (IDEA) defines hearing impairment as an impairment of the hearing, whether permanent or fluctuating, that adversely affects a child's educational performance but is not included under the definition of deafness. In most cases, a hearing loss of below 90db is considered an hearing impairment.
The categories of hearing loss are conductive, sensorineural. mixed and central. There are also mild, moderate, severe,
hearing loss.

Page 247

Educational challenges and obstacles related to hearing
according to the Special Education Guide (2013-2016), stem around communication. A student with hearing impairment may experience difficulty in:

i. The subject of grammar, spelling and vocabulary
ii. Taking notes while listening to lectures
iii. Participating in classroom discussion,
iv. Watching educational videos
v. Presenting oral reports

Thus, it can be stated that since children with hearing impairment are unable to receive some sounds accurately, they often cannot articulate words clearly. The World Health Organization (2015), stated that a person who is not able to hear as well as someone with normal hearing thresholds of 25 dB or better in both ears is said to

have hearing loss/hearing impairment. Hearing loss can be mild, moderate, severe or profound. Hard of hearing, on the other hand refers to people with hearing loss ranging from mild to severe. They usually communicates through spoken language and can benefit from hearing aids, cochlear implants and other assistive devices as w ell as captioning.

The major impact of hearing impairment is on the individual's ability to communicate with others. Thus, limited access to services and exclusion from communication can have a significant impact on everyday life, causing feelings of loneliness, isolation and frustration, particularly among adults

In the words of Berlin et al (2003), he stated that the common types of hearing losses are conductive, mixed and sensorineural hearing loss. According to him, a conductive hearing loss refers to a decrease in sound caused by a decrease in sound caused by a problem in the outer or middle ear. Such a loss indicates normal inner ear activity. The usual causes are wax in the ear canal, stenosis of the ear canal, exostoses, otosclerosis, ossicular chain discontinuity, a perforation in the eardrum, or fluid in the middle ear. This kind of hearing loss is treatable with medical or surgical intervention as well as traditional or bone conduction

and bone anchored implantable devices.

A sensorineural hearing loss on the other hand refers to a problem located in the inner ear or along the nerve pathway between the inner ear and the brain. This type of loss may be caused by aging, infection, or other diseases, noise exposure or it may be related to a genetic disorder. Such a loss is usually permanent and not treatable by medical or surgical intervention.

In the case of a mixed hearing loss, there is a combination of a conductive and sensorineural hearing loss occurring at the same time. It can also occurred when the ear sustain some sort of trauma. It can also happen gradually overtime when one hearing loss is compounded by another. However, the conductive component may be treatable but the sensorineural aspect is usually irreversible

Rationale for Early Childhood Education for Children with Hearing Impairment.

In the National Policy on Education (2004), the Federal Government committed herself extensively as to the measures she will take to achieve the stated objectives for pre-primary education. Regrettably, however, several years after the last revision have been made, most of the measures and proposals are still mere paper formalities. While the government proposed assisting private efforts in the establishment of these institutions, what obtains now is a far cry from all expectations. As it pleases these private individuals, they open these institutions without adequate planning. What we have on the ground are more of pre-school institutions of low quality, the aftermath being a systematic maladjustment of children of pre-school age. Where even standard ones exist, they are relatively few and concentrated within the urban centres and later become elitist. The government in the National Policy on Education document, further made more undertaken in the area of making provisions in the Teachers Training Colleges for students who want to specialize in pre-primary education.

However, one of the salient provisions of the "Policy" is that the medium of instruction should be the mother tongue (MT) or the language of the immediate community (LIC) while orthography and textbooks of Nigerian languages will be produced to aid this. This is where the systematic barrier being used to barricades hearing impairment emanates from. The mother

Language of the immediate Community (LIC) of children with hearing impairment, according to the World Federation of the Deaf (WFD, 2017) is sign language/manual communication. Thus, in order to achieve this goal of using MT and LIC to teach children at the pre-school level, there is the need to focus on establishment of quality pre-school/early childhood educational facilities for children with hearing impairment.

As highlighted in the World Federation of the Deaf (WFD, 2016) Position Paper on the Language Rights of Deaf Children, deaf children face barriers in education if teachers and peers are not fluent in sign language that can result in illiteracy. The key is to make sure that deaf children are exposed to sign language as early as possible. Given the fact that parents, guardians, siblings and relatives might not be knowledgeable in communication with sign language/manual communication, it is necessary to enrols children with hearing

impairments early in pre-school institutions to develop their academic capability prior to beginning of normal school activities.

English language is the medium of instruction in most pre-primary institutions being the official language. The centrality of language to the teaching-learning process, the importance of Nigerian languages to the protection, preservation, promotion of Nigerian culture, and inter-ethnic cohesion, the enhancement of human dignity, the necessity of learning a major language for purposes of promoting national unity and integration have constitutional backing in the Constitution of the Federal Republic of Nigeria and even justification in the NPE (Emenanjo, 2001). The use therefore, of spoken English Language to the neglect of the mother tongue as medium of instruction alienates the child from his culture which the "Policy" is meant to protect.

The need to expose children with hearing impairment to early childhood education in sign language was stated by Mayberry (2002) when she stated that the critical period for language acquisition is the hypothesis that language is acquired best in early childhood and is more difficult to acquire later on in life. This implies that the best period to expose children with hearing impairment to the process of language acquisition is the early childhood/pre-school stage. At this stage, the child will be curious to know many things words and vocabularies, learn the sign for many w language bank and establish communication strategie language.

Lenneberg's research (1967) on brain growth and clinical studies of brain damage, mental retardation and deafness further supported the notion of a critical period for language acquisition. In his view, successful language acquisition is limited to a period during a person's childhood years, the so-called 'window of opportunity' and extended between infancy and puberty (Emmorey, 2002:205). For some years empirical studies, both behavioural and neural, have provided further support for Lenneberg's hypothesis. These research results based on case studies of individual feral children (e.g. the study of Genie – *cf*. Curtiss, 1977), and/or deaf children, isolated from first language exposure until after puberty, showed a strong relationship between the age of exposure to a language and the ultimate proficiency achieved in that language (Mayberry, Lock &

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

Khasmi, 2002). According to Emmorey (2002) the sensitive period hypothesis has important implications for the holistic functioning of deaf children (i.e. their language, cognition, academic, social and emotional development) because very few hearing parents of deaf learners are skilled in the use of sign language. Native signers are able to use the morphological aspects of sign language in more appropriate situations than late signers. According to Galvin (1999), late signers lack the appropriate inflections during conversation. In addition native signers use more spatial language and they are able to alter the grammar and syntax of their native language (Helmuth, 2001). In the Mayberry study (1994), deaf participants' tendency to make meaningful or semantic errors, as compared to phonological errors was directly related to the age at which they first learn American sign language (i.e. as age of acquisition increased there was a concomitant increase in errors that are related to the surface, phonological form of the stimulus). Thus, the importance of offering deaf learners adequate language exposure at an early age is advantageous to deaf learners' language development, as well as their overall psychosocial well-being.

By exposing students with hearing impairment to early childhood/pre-school education in sign language, there will be opportunity to strengthens their critical thinking ability, intellectual level, ability to cope in upper classes, ability to communicate in good English and superior academic ability (De Nobrega et al, 2005). This will further open access to quality education for them and thus improves their academic capability.

Conclusion

The need to create equal opportunity for access to quality education by all categories of learners need to be considered if the goals of Education for All (EFA), Education for Sustainable Development (ESD) and removal of barriers to access to quality education are to be achieved. This is especially important to children with special needs such as those with hearing impairment as they need to be prepped for likely future communication and academic challenges. Given the importance of early childhood education to the future educational development of a child, children and learners with hearing impairment need to have their early childhood education

stage strengthened and give more prominence if the aims of education of learners with special needs are to be attained.

Recommendations

The following recommendations are hereby made to make creating access to quality education for children with hearing impairment through early childhood education possible:

3. The National Policy on Education should be strengthened to make enrolment into pre-school classes of kindergarten/pre-nursery/nursery compulsory prior to being admitted into primary one/basic one class. This would have prepared these children for the job of primary school and thus creates access to quality education for them.
4. All special schools catering for children with hearing impairment should be made to make promotion to primary one tied to successful performance at the pre-school level as the rate at which fresh deaf children are being admitted directly into primary one is too alarming and dangerous to attainment of equal access to quality education.
5. Experienced and qualified teachers who have worked with deaf children for several years should be manage pre-schools classes as they are be impact the necessary knowledge on these children than those with relevant qualifications but limited experience. However, these inexperienced teachers should be made to assists the experienced ones so as to create room for continuity.

References

Adenipekun, O (2004). Government Falters in Early Childhood Education in G Adefaye (Ed). *Vanguard Newspapers*, Apapa, December 23, 20(2): 20-22. Vanguard.

Berlin, C.I; Hood, L; Morlet, T; Rose, K; & Brashears, S. (2003). Auditory Neuropathy/Dys-Synchrony: Diagnosis and Management. *Mental Retardation and Developmental Disabilities Research Reviews,* 9, 255 231.

De Nobrega, M, Ll Weckx & Y Juliano. 2005. Study of hearing loss in children and adolescents, comparing periods of

1990 - 1994 and 1994 - 2000. *International Journal of Paediatric Otorhinolaryngology,* 1-10.

Ejieh, M. U. C (2006). *Pre-Primary Education in Nigeria*: Policy Implementationand Problems Retrieved from http//:ikogretim-oinline.org.tr on the 11th February, 2011.

Emmorey, K. 2002. *Language, cognition and the brain: Insights from sign language research.* New York: Lawrence Erlbaum Associates Inc.

Federal Government of Nigeria (2004). *The compulsory Free Universal Basic Education and other Related Mattes Act.* Lagos: Government Printer.

Federal Republic of Nigeria (2004). National Policy on Education (4th Ed). Lagos: NERDC Press.

Galvin, D. 1999. Differences in the use of American Sign Language morphology by deaf children: Implication of parents and teachers. *American Annalsof the Deaf*, 144(4):320-324.

Helmuth, L. 2001. From the Mouths (and hands) of Babes. *Science*, 1758-1759. *Individuals with Disabilities Education Act of 2007* (IDEA, 2007). 20 U.S.C. Sec. 1401 retrieved on July 10, 2009 at http://idea.ed.gov

Lasak M.A. (2014). The mathematical achievements c from different educational environments. *Britis.. ..ournal o. Educational Psychology*. 54, 254-264.

Lenneberg, E.H (1967). *Biological Foundation of Language*. Wiley. ISBN 978-0 89874- 700-3

Mahuta, M. G (2007). *Introduction to Sociological Foundation of Education*. Sokoto: But-Bass Educational Books.

Mayberry, R.I.(1994). The importance of childhood to language acquisition: Evidence from American Sign Language. In Goodman, JC & HC Nusbaum (Eds), *The development of speech perception*. Cambridge, MA: MIT Press. 57-90.

Mayberry, R.I. (2002). Cognitive development in deaf children: The interface of language and perception in neuropsychology. In Segalowitz, SJ & I Rapin (Eds), *Handbook of Neuropsychology*. Amsterdam: Elsevier. 71-107.

Mayberry, R.I, E Lock & H Khasmi. (2002). Linguistic ability and early language exposure. *Nature,* 417:38.

Obidike, I.V (2012). Towards Effective Early Childhood Care and Education Programme in Nigeria. *Journal of Teacher Perspective* 6 (3) (507-513).

World Federation of the Deaf (2016). WFD Position Paper on Language Rights of Deaf Children. Wfdeaf.org/news/wfd-position-paper-on-language rights-of-deaf- children

World Federation of the Deaf (2017). Press release: World Health Assembly resolution for prevention of deafness and hearing loss.http://www.wfdeaf.org

World Health Organisation, (2015). World Report on Disability. http://www.who.int/disabilities/report/world report on disability

INSTRUCTIONAL AND INSTITUTIONAL CHALLENGES FACED BY STUDENTS WITH HEARING IMPAIRMENT IN OPEN AND DISTANCE LEARNING IN IBADAN

By

Gift Chinwendu, **EDWARD**
&
Bukola A., **OLAWALE**

Abstract
Hearing impairment is a hidden disability because unlike other types of disabilities it invariably affects the academics of students with hearing impairment, especially in an Open and Distance Learning Educational system (ODLE) where they are yet to be absolutely put into consideration. The study was aimed at examining the institutional and instructional Challenges faced by students with Hearing impairment in Open and Distance Learning in Ibadan. The Descriptive research design of the ex-post facto type was adopted. A Thirty item questionnaire was used to elicit responses from the respondents. The questionnaire was designed by the researcher titled institutional and instructional challenges faced by students with hearing impairment in ODL. Three research questions were generated and analyzed at 0.05 level of significance and datas were analyzed using descriptive statistics and Pearson's Product Moment Correlation. It was revealed that students with hearing impairment are faced with instructional challenges in the Open and distance education. This is evident with an average mean score of 2.84 which implies that instructional challenges have significant effect on students with hearing impairment. On the rating of the respondent on institutional challenges faced by students with hearing impairment, it was revealed that students with hearing impairment are faced with a lot of institutional challenges with an average score of 2.87. The study revealed that instructional challenges are the most significant as the result showed instructional challenges as (r=.813,P<.05),and institutional challenges as (r=.790,P<.05). It was recommended that regular training should be conducted for students with hearing impairment about the use of technology so that they can easily cope with the challenges involved in the open and distance learning programme.

***Keywords**: Hearing impairment, Institutional challenges, Instructional challenges, Open and Distance Learning Education.*

Introduction

Hearing impairment (HI) is considered a hidden disability because it is not visible, unlike other types of disability such as visual impairment or physical impairment which are clearly identifiable. Hearing impairment is defined as a condition where an individual is impaired in processing linguistic information through hearing (IDEA, 2004) and can be caused by a number of factors including; heredity

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

(genetics), aging, loud sound exposure, diseases and infections, trauma (accidents), or ototoxic drugs (drugs and chemicals that are poisonous to auditory structures (Van and Dobie, 2004). Due to the nature of hearing loss, Students with hearing loss face a number of problems regarding their academic, intellectual, linguistic, social and emotional developments in an institution, Misbah (2012). These problems range from curricular problems vis-à-vis curriculum adaptation and modification to meet the unique needs of students with hearing impairment to sign language interpreters/teachers' inability to interpret certain concepts and, as a result, the students with hearing impairment fall academically, far behind their hearing peers (Moores, 1996).

Also, there are institutional problems faced by students with hearing impairment which are necessary to consider such as the facilities and services available in the schools/universities which need to be adapted to meet the needs of students with hearing impairment; the design of the classroom which should have a special consideration to adjust to students with disabilities (Alahmadi, 2007); the teachers in the classroom who might make special demands in case of multiple disabilities in severe form in special needs students. For instance, blind, deaf and physically challenged students will need a specific teaching adjustment and curriculum adaptation. Also, careful consideration is required to be paid to classroom location, lights, elevations and supportive material (Sc 2008, as cited in Alqaryovti, 2010). Fuller, Healey, B (2004) reported the barriers faced by handicapped at the university level and it indicated that there were many barriers related to instructions such as the fast rate of teachers' speech during lectures which the interpreters might not capture during lecture and difficulty in participating in discussions and answering questions. Students with hearing impairment, therefore, lag behind in academics as compared to their counterparts with visual impairment and physical disabilities on account of their problems in communication, socialization, curriculum adaptations and modifications and above all sign language interpretation Mahwish, Mahr, Ghulam, and Misbah (2012). These problems take a more severe form when these students with hearing impairment enroll for a distance education.

Around the world, the academic community is discovering and exploring the Internet, teleconferencing, and related means to achieve an extended classroom or learning experience. Margret (2018) indicated that Open and distance learning (ODL) has opened the doors to this. Education through open and distance learning is for the disadvantaged population such as unemployed, disabled people or ethnic minorities. In addition, educational institutions and organizations worldwide have become more unified and dedicated to cooperate and make partnerships with the main goal to enhance and provide equal opportunity to education to a larger number of students**,** Peebles (2014)**.** According to the Commonwealth of Learning (2004), most Open and Distance Learning systems have a philosophy that aims to: Remove barriers to education; allow students study what they want, when they want, and where they want it. Being a flexible form of adult education, distance education appears as a good means of providing help to adults in many kinds of learning projects within the framework of lifelong learning.

Due to its nature, Open and distance learning systems provide flexible time, location and are self paced, thus, fitting into irregular schedules. This flexibility is considerably advantageous and more suitable for children and young people with disabilities, especially persons with hearing impairment. Open and distance learning could go a long way in widening accessibility to education for the majority of people with disabilities, Khokhar, (2007). These p able to access materials from home, which is seen least expensive as well as least restrictive environmen hearing impairment will also benefit increased quantity and quality interactions with professors and peers and greater access to course content, Long, &Mallory, (2007). According to Wang, (2006) Learning outcomes, and grades and Communication difficulties related to classroom accommodations can be avoided, Luetke, (2009). This mode will also bring about increased interaction which leads to academic gains for both deaf and hearing students, Long, Marchetti, & Fasse, (2011). Despite the expanding growth of ODL and its benefits, students with hearing impairment who enroll for ODL have been shown to face many challenges related to institutional and instructional (Bhalalusesa, 1998, 1999; Cosmas and Mbwette, 2009; Mbukusa, 2009; Mushi, 2001). Taking into consideration the

sensitivity of the issue in a regular classroom, the researchers conducted this study to investigate the institutional barriers related to instructional and institutional levels faced by students with hearing impairment of Open and distance learning using University of Ibadan distance learning and NOUN as case study.

Objectives of the study

The study was conducted to investigate:

1. Instructional and institutional challenges faced by students with hearing impairment in ODL
2. The effect of the instructional and institutional challenges on students with hearing impairment

Statement of the Problem

Access to higher education is a formidable task in Nigeria. Many hearing students find it difficult to gain admission into institutions of higher learning because of the requirements needed such as completed secondary school education, and the Unified Tertiary Matriculation Examination. This same process goes for students with hearing impairment. Despite the fact that hearing students find it difficult to gain admission into higher institution, students with hearing impairment face greater challenges due to the implications attached to the condition. Open and distance education have given a wider access to those who cannot study through the conve

Page 258

learning to obtain a higher degree certificate by stu
they are without going through the stress and barriers
conventional mode of learning. Despite this, the ODL has its own peculiarities and this study sought to examine Institutional barriers related to instructional and institutional levels facing students with hearing impairment in Open and Distance learning in Ibadan.

Research Questions

13. What are the instructional challenges faced by students with hearing impairment in Open and Distance Learning?
14. What are the institutional challenges facing ODL students with hearing impairment?
15. What are the effects of instructional and institutional challenges on students with hearing impairment?

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

Methodology

The target population for this study was students with hearing impairment of the Distance Learning centre, University of Ibadan and National Open University. The students with hearing impairment were purposively selected from all levels.

Because it's just students with hearing impairment, 300 students with hearing impairment were targeted but we were able to retrieve 273. The administration of the questionnaire took place online through survey monkey. The research design for this study is descriptive survey. The descriptive research design was used because the researchers did not manipulate any variable but carefully collected the data for the study through the use of questionnaire. The administration of the questionnaire lasted one week.

A Thirty item questionnaire was used to elicit responses from the respondents. The questionnaire was designed by the researcher titled institutional and instructional related challenges faced by students with hearing impairment in ODL. The questionnaire has three sections. Section A & B were on demographic data while Section C is on institutional and instructional related challenges faced by students with hearing impairment in ODL. Information from literatures guided the thoughts of the researchers when designing the questionnaires and their experiences with persons with hearing impairment over the years as experts in the field of S

Page 259

Education. The validity of the instrument was establis
of Special Education Needs in the University. The sc
were correlated using the Richard Kuderson Correlation Test and Correlation score of 0.79. was obtained which established the reliability of the study.

Table1. Instructional related challenges faced by ODL student with hearing impairment

N	Statement	SA	A	N	D	SD			rk
1.	ɒurable ıt support es	6323.1%	197.0%	4516.5%	5921.6%	8731.9%			
2.	Difficulties in learning technically demanding material	7126.0%	5319.4%	155.5%	6523.8%	6925.3%	2.97	1.579	
3.	Most tutors in ODL are not trained to teach a class with students with hearing impairment	7527.5%	5520.1%	197.0%	7226.4%	5219.0%	2.77	1.510	S

4	Lack of educational sign language interpreter	10036.6%	6724.5%	186.6%	3111.4%	5720.9%	2.82	1.508	
5	I Lack experience and/or training with instructional technologies	5419.8%	8029.3%	228.1%	7828.6%	3914.3%	3.12	1.391	S
6	No exceptions for students with hearing impairment in ODL	6523.8%	5118.7%	259.2%	9133.3%	4115.0%	2.68	1.406	
		Average mean scores					2.84		

The rating of the respondents shown above on instructional related challenges faced by students with hearing impairment in Open Distance Learning revealed that students with hearing impairment face instructional challenges in the Open and distance education. This is shown with the average mean score of 2.84; it implies that instructional challenges have significant effect on students with hearing impairment.

Table 2. What are the institutional challenges facing ODL students with hearing impairment?

N	Statement	SA	A	N	D	SD	Mean	S.D	Rmk
11.	There are limited courses for students with hearing impairment in the institution	7828.6%	7427.1%	155.5%	6222.7%	4416.1%	3.29	1.486	S

12	Most ODL institution do not consider person with hearing impairment during admission process.	4817.6%	4817.6%	114.0%	9735.5%	6925.3%	2.67	1.464	**S**
13	The technicality of the program is too cumbersome for students with hearing impairment	4717.2%	5419.8%	3914.3%	5720.9%	7627.8%	2.78	1.472	**S**
14	The environment for learning is not encouraging for students with hearing impairment	10739.2%	9434.4%	259.2%	114.0%	3613.2%	3.82	1.344	S
15	I really do not know how the system (ODL)works	4215.4%	3111.4%	2910.6%	8932.6%	8230.0%	2.49	1.417	**S**
16	It is difficult to interact with the staff in the institution	5620.5%	3512.8%	145.1%	7427.1%	9434.4%	2.58	1.558	**S**
17	The infrastructural facilities are not favourable to students with hearing impairment	4014.7%	3312.1%	4014.7%	5319.4%	10739.2 %	2.44	1.469	**S**
18	There are no access to internet facilities in the institution	6222.7%	6724.5%	145.1%	5118.7%	7928.9			
		Average mean scores					**2.87**		

Page 262

The rating of the respondent on institutional challenges faced by students with hearing impairment reveals that students with hearing impairment are faced with a lot of institutional challenges with an average score of 2.87.

International Journal of Sign Language Interpreting and Deaf Education (IJ-SLIDE) Vol 1/No. 1

Table 3 What is the effect of instructional and institutional challenges on students with hearing impairment?

Variables	N	Mean	Std. deviation	R	P	Sig
Effect of challenges on students with hearing	273	90.06	16.413	-		
Instructional challenges	273	13.36	4.745	.813**	.000	S*
Institutional challenges	273	9.23	4.175	.790**	.000	S*

Correlation significant at the 0.05level

The result above showed instructional challenges as (r=.813,P<.05),and institutional challenges as (r=.790,P<.05). It means instructional challenges are the most significant on students with hearing impairment.

Discussion of findings

The analysis of data revealed that students with hearing impairment face unfavorable student support services; Difficulties in learning technically demanding material; Most tutors in ODL are not trained to teach a class with students with hearing impairm educational sign language interpreter; most students impairment lack experience and/or training with technologies; No exceptions for students with hearing impairment in ODL with the average of 2.78. This corroborates Kamau's (2007) research which found that without an effective learners' support services system that provide onsite face to face, timely feedback on students' performance and access to library services, students' achievement will be undermined just as dropout rates and procrastination will increase. Also Mossberger et al (2003) observes that technical competence needed in order to have effective access to contemporary ICT is a challenge to distance learners especially students with hearing impairment. Technical competence refers to the skills needed to operate the hardware and software of ICT, including the skills of using networked systems to access and share information (Warschauer, 2003). Lack of these skills is a critical

Page 263

challenge as learner may fail to use the various physical, digital and human resources involved in ICT. These challenges prompt many problems in distance learning. Among these problems are high rate of students' drop-out and late programmes completion. According to Daniel, (2005), the dropout rate in African countries is estimated to be over 50%

Most respondents showed that they had challenges in working with instructional technologies

This implies that most of these students with hearing impairment respondents were computer illiterate. The implication is that most of these students could not access information on the Internet. The use of electronic media is therefore likely to exclude the majority of distance learners. This concurs with several other studies in developing countries that established that ODL students in developing countries are challenged with both lack of experience in the application of technology and absence of these technologies (UNESCO, 2004; Mbukusa, 2009; Basaza et al., 2010)

Also the respondents thought that delayed or ineffective feedback from tutors and support officers was a challenge and as reported by Hara and Kling (2001), students experience confusion, anxiety, and frustration due to lack of prompt or clear feedback from their lecturers. Thus, delayed and ineffective feedback can add burden to learners who are struggling with the isolation and the

nature of distance learning especially students with hearing impairment. According to Harper and Quaye (2007), support programs and approaches created to improve students' views of themselves as learners, their motivation to learn, and their self-sufficiency as scholars, is especially important for students with special learning needs. Most colleges and universities provide general learning assistance to increase student success.

The results also indicated that the ODL do not have exemptions for students with hearing impairment. This corroborate with the report of Salmi and Rye (2010) in Eniolorunda et al 2014 that admission systems were, and are in most cases still contingent on specific qualifications or competences awarded by the formal education system often resulting in the exclusion of marginalizalised groups in general and specifically and people with disabilities. Also the result showed that there is no enough educational sign language

interpreters who collaborate with Fernandez-Viader & Fuentes, (2004), who posited that many Deaf and Hard-of-Hearing students, provision of an interpreted education is a requirement in order to support classroom communication. They emphasized interpreting as one aspect of providing access to all teacher and peer communication in a school. They maintained that the presence of an interpreter allows Deaf students to learn in the same manner as their hearing peers in inclusive classes, however, there are limits in the number of sign language interpreters around which have a negative effect on the students involved.

Also, the result corroborated with Kapp (1991) who points out that school building and classrooms should be designed and equipped in such a way as to harmonize with the personal and didactical needs of students they are to accommodate. The existing infrastructure at regular schools offering inclusive education needs to be adjusted to accommodate all learners' needs. Chakuchichi, et al (2003) noted that the content of the least restrictive environment should be in the perspective of accessing the curriculum. The environment should be least restrictive, if it facilitates the acquisition of knowledge and skills.

Conclusion

Based on this study, it was revealed that students

impairment in open and distance learning face ir instructional challenges and the most significant is t challenges basically because the institution do not equip the system with what will meet their needs ranging from availability of sign language interpreters both in face to face classroom and video conferencing. This, one way or the other may affect their academic outcomes. Also it is discovered from the result that most students with hearing impairment are technology/ICT inclined which is needed for the running of the programme. Also, due to the mode of learning students with hearing impairment also have problems in getting feedbacks from support staff and their tutors which in one way or the other may cause frustration and increase drop out on the part of the learner.

Recommendation

1. Conducting regular training for students with hearing impairment about the use of technology so that they can easily cope with the challenges involved in the programme
2. Administrative and counseling services including support services at the regional centres need improvement to ensure that students with various problems access these services easily
3. The needs for professional honesty: Professional honesty is crucial for the sustainability of ODL programmes. The ODL authority must monitor and ensure the accountability of its staffers.
4. To ensure that there is appropriate means of information and awareness on the courses to render in school for persons with special needs; this could be a CD-ROM and video to present the information from the brochure using ASL, also available on the Internet.
5. There should be removal of disparities in education, equality should also be encouraged

References

Alahmadi, M. (2007). The problems of integra handicapped students in Almadina Almo *The Arabia Journals for Special Education*, 10,

Alqaryouti, I, A. (2010). Inclusion of the disabled students in higher education in oman. *International Journal of Cross Disciplinary in Special Education (IJCDSE)*, 1(4), 216-222.

Basaza, N.; Milman, B. & Wright, C. R. (2010). The challenges of implementing distance education in Uganda: A Case Study, *International Review of Research In Open and Distance Learning*, 11(2).

Bhalalusesa, E. (1998). The distance mode of learning in higher education: The Tanzanian experience. *Open Learning*, 14(2), 14–23.

Bhalalusesa, E., (1999). What Retain students in the programme? Reflection from the Open University of Tanzania. In

Papers in education and Development. *A journal of faculty of education University of Dar es salaam*. Number 20.

Chakuchichi, D.D., Chimedza, R.M. & Chiinze, M.M., (2003*). Including the excluded issues in disability and inclusion*, Zimbabwe Open University, Harare.

Commonwealth of Learning (2004). *Planning and implementing open and distance learning systems*: A Handbook For Decision Makers. Canada: Vancouver

Cosmas, B. F., and Mbwette, T.S. (2009). Open and distance learning in developing countries: The past, the present and the future. *Dar es salaam: Open University of Tanzania*

Dada, O.C. & Eni-Olorunda, T. (2014). Experienced barriers by persons with special needs on access to higher institutions. *International Journal of Education Learning and Development. 2 (3) 44 – 59.*

Daniel, J. (2005). Open and Distance Learning in Africa.15CCEM Mid-Term. *Educational media international*, 39(1), 17–22

Dobie, R.A. and Van Hemel, S. (2004) Hearing Loss: Determining Eligibility for Social Security Benefits. National Academies Press, Washington, DC.

Fernandez-Viader & Fuentes, (2004). Education of Deaf Students in Spain: Legal and Educational Politics Developn *of deaf studies and deaf education* 9, 32- 3 10.1093/deafed/enh035

Fuller, M., Healey, M., Bradley, A. & Hall, Y. (2004). Barriers to learning, a systematic study of the experience of disabled students in one university. *Studies in Higher Education*, 29(3), 303-318

Hara, N., and Kling, R. (2003). Students' distress with a web-based distance education course: An ethnographic study of participants' experiences. Turkish *online journal of distance education*, 4(2), 557-579.

Harper, S. R., & Quaye, S. J. (Eds.). (2009). Student engagement in higher education, theoretical perspectives and practical approaches for diverse populations. New York, NY: Routledge

Individuals with Disabilities Education Act Amendments of (2004). Pub. L. 108–446, 20 U.S.C. § 1401 et seq

Kamau, J. (2007). Retraining primary school teachers against diminishing resources: Is distance education the answer? *Conference paper, UNESCO, second regional seminar for Africa, Accra Ghana;* UNESCO.

Kapp (1991). *Children with problems: an orthopedagogical perspective*, Pretoria: Van Schalk.

Khokhar, B. (2007). Widening Participation: How can new technologies best be used to enhance, learning and teaching and ensure educational inclusion and engagement for excluded groups? *Proceedings Of The 12th Forum On Distance Education*. UK: Cambridge

Long, G., Vignare, K., Rappold, R. P., & Mallory, J. R. (2007). Access to communication for deaf, hard-of-hearing and ESL students in blended learning courses. The *International Review of Research in Open and Distributed Learning*, 8 (3), 1–13

Luekte, B. (2009). Evaluating Deaf education web-based course work. American *Annals of the Deaf*, 54(1), 62–70

Mahwish S, Mahr M, Ghulam F, Misbah M (2012). Problems faced by students with hearing impairment in inclusive education at the university level. *Journal of Research and Reflections in Education;* December, 6(2), pp129-136. Re http://www.ue.edu.pk/journal.asp

Mbukusa, N.R. (2009). Barriers to rural remote studen[illegible] distance education support services offered by the centre for External studies at the University of Namibia. Pretoria: University of South Africa.

Mossberger, K., Tolbert, C. and Stansbury, M. (2003). *Virtual inequality: Beyond the digital divide*. Washington, D. C.: Georgetown University Press.

Moores, D. (1996). *Educating the deaf*. Boston: Houghton Mifflin

Mushi, P .S.D. (2001). Prospects of combining residential and distance mode of university education in Tanzania .In UTAFI (News Series Special Issue, Volume 4,1998-2004:221-255

Peebles, D. (2014). Gender Analysis of Open and Distance Learning in the Caribbean Region. *Common wealth of learning* Retrieved from http://oasis.col.org/bitstream/handle/11599/206/Gender_ODL%20_Caribbean_2014.p df?sequence=1&isAllowed=y

Rumble, G. (2000). The globalization of open and flexible learning : Considerations for planners and managers'. *Online Journal of Distance Learning Administration*, 3,(3),1- 15.

UNESCO (2004). Final report of the meeting of higher education partners (World Conference on Higher Education). Paris: UNESCO.

Wang, X. (2006). New curriculum's vision for the development of teacher's teaching capacity. *Unpublished doctoral dissertation*, East China Normal University, Shanghai, China.

Warschauer, M. (2003). *Technology and social inclusion: Rethinking the digital divide*. Cambridge, MA: MIT Press.