

UNIVERSITY OF EDUCATION, WINNEBA

**SUPPORT SERVICES FOR STUDENTS WHO ARE DEAF ON DISTANCE
EDUCATION PROGRAMME AT BAGABAGA COLLEGE OF EDUCATION
STUDY CENTRE, TAMALE**



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MASTER OF PHILOSOPHY

2022

UNIVERSITY OF EDUCATION, WINNEBA

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EDUCATION PROGRAMME AT BAGABAGA COLLEGE OF EDUCATION
STUDY CENTRE-TAMALE**



**A thesis in the Department of Special Education
Faculty of Educational Studies, submitted to the school of
Graduate Studies in partial fulfilment**

**of the requirements for the award of the degree of
Master of Philosophy
(Special Education)
In the University of Education, Winneba**

OCTOBER, 2022

DECLARATION

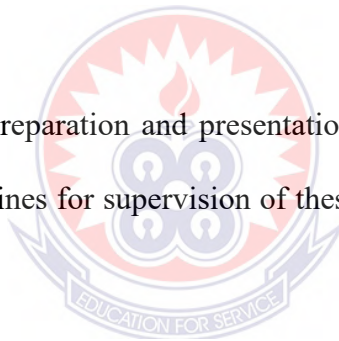
I, Mary Boafoa Asare, declare that this thesis, with the exception of questions and references contained in published works which all been identified and duly acknowledge, is entirely my own original work, and it has not submitted, either in part or whole for another degree elsewhere.

Signature:

Date:

Supervisor's Declaration

I hereby declare that the preparation and presentation of this work was supervised in accordance with the guidelines for supervision of thesis as laid down by the University of Education, Winneba.



Dr. Samuel K. Amoako-Gyimah (Supervisor)

Signature:

Date:

DEDICATION

I dedicate this work to my dear mother, Madam Beatrice Oye Nyarko, my family, and Emmanuel P. Bondzie.



ACKNOWLEDGEMENTS

I thank the Almighty God for bringing me this far in my pursuit. Indeed, it is the lord who had done this good to me.

I extend my heartfelt to my learned research supervise, Dr. Samuel K. Amoako-Gyimah for painstakingly guiding me through the study. Every meeting with him enhanced my understanding and professional development and growth in research.

Again, special thanks to my siblings, Regina Asare, Richard Asare Nyarko and my and academic mentor, Emmanuel P. Bondzie for their vital support and encouragement throughout my academic pursuit. I want to thank Dr. Yaw Offei Nyadu, (HOD), Dr. Yao Yekple, and Dr. Daniel Dogbe for their dynamic way of teaching research methods which increase my knowledge to complete this work.

In addition, I would like to extend my profound thanks to the field officer, Dawuni Mohammed, interpreter Anthony Lansah and note-taker Fauzia Duonah, Daniel Kwadwo Nsoah and entire staff of Batco Study Centre-Tamale.

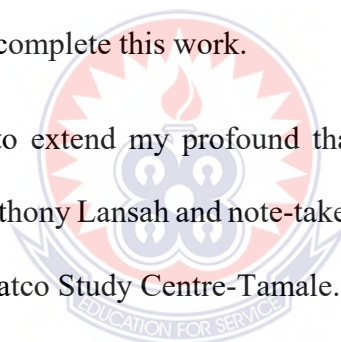
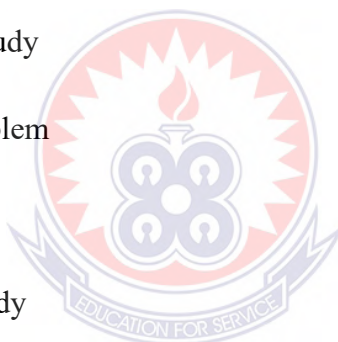


TABLE OF CONTENTS

Contents	Page
DECLARATION	i
DEDICATION	ii
ACKNOWLEDGEMENTS	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	viii
ABSTRACT	ix
CHAPTER ONE: INTRODUCTION	1
1.1 Background to the study	1
1.2 Statement of the problem	10
1.3 Purpose of the Study	11
1.4 Objectives of the Study	12
1.5 Research Questions	12
1.6 Significance of the Study	12
1.7 Delimitation of the Study	13
1.9 Operational Definition of Terms	14
1.10 Organization of the study	15
CHAPTER TWO: LITERATURE REVIEW	16
2.0 Introduction	16
2.1 Theoretical framework	16
2.2 Conceptual framework	18



Sign Language Interpreting	18
2.3 Support services available for students who are deaf during tutorials	18
2.3 Support for students who are deaf during assessment	31
2.4 Support from hearing colleagues to students who are deaf academically	47
2.5 Library support available to the students who are deaf	56
2.6 Summary of Literature Review and Research Gaps	65
CHAPTER THREE: METHODOLOGY	67
3.0 Introduction	67
3.1 Research Approach	67
3.2 Research Design	67
3.2 Population	68
3.3 Sample size	68
3.4 Sampling technique	69
3.5 Instrumentation	70
3.6 Validity of the instrument	70
3.7 Pre-test of instruments	71
3.8 Procedure for data collection	72
3.9 Ethical Considerations	73
3.10 Credibility of findings	75
3.11 Dependability of findings	76
3.12 Confirmability of findings	78



3.13 Data analysis	79
CHAPTER FOUR: RESULTS/FINDINGS	80
4.0 Introduction	80
4.1 Research Question One: What support services are available to students who are deaf during tutorials?	80
4.2 Research Question two: How are students who are deaf supported during assessment?	88
4.3 Research Question three: How are students Supported by hearing students academically?	94
4.4 Research Question four: Library support services given to deaf students.	100
CHAPTER FIVE: DISCUSSION	104
5.0 Introduction	104
5.1 What support services are available to students who are deaf during tutorials?	104
5.2 How are students who are deaf supported during assessment?	108
5.3 How are students who are deaf supported by hearing students?	113
5.4 What library support services are provided to students who are deaf?	118
CHAPTER SIX: SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS	122
6.0 Introduction	122
6.1 Summary of Major Findings	123
6.2 Conclusion	125
6.3 Recommendations	127

6.4 Suggestions for Further Research	127
REFERENCES	128
APPENDICES	138



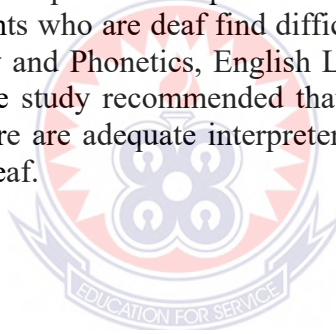
LIST OF TABLES

Table	Pages
1: Academic Demographic of the Participants	69
2: Participants Demographic Characteristics by Gender	69



ABSTRACT

The purpose of this study was to find out support services given to students who are deaf on the distance education programme at Bagabaga College of Education Study Centre in Tamale. The study was guided by the following research questions: What support services are available to students who are deaf during tutorials, assessment support to students who are deaf, hearing colleagues support to students who are deaf academically and what support services are provided for students who are deaf at the college library. The research approach for the study was qualitative and research design for the study was a case study. The sample size for the study was eight students who are deaf at Bagabaga Study Centre, Tamale. Purposive sampling technique was used to select the sample for the study. The specific purposive sampling technique used to select the sample was critical case sampling. A semi-structured interview guide was the instrument used to collect data for the study. The findings revealed that there were support services given to students who are deaf. These include; interpreters, note-takers, appropriate placement, good lighting systems, support from some lecturers and support from some hearing students to students who are deaf academically after tutorials and library support to students who are deaf. Also findings revealed some challenges students who deaf encounter such as inadequate interpreters and note-takers, lecturers do not take the presence of students who deaf into account during tutorials and therefore speak at a faster rate making it difficult for interpreters to cope with interpreting. Again there were some sound-based courses students who are deaf find difficult to do. These are speech-based courses such as Phonology and Phonetics, English Language, Language and Literacy, and Music and Dance. The study recommended that the College for Distance and e-learning should ensure there are adequate interpreters and note-takers at the centre to support students who are deaf.



CHAPTER ONE

INTRODUCTION

1.1 Background to the study

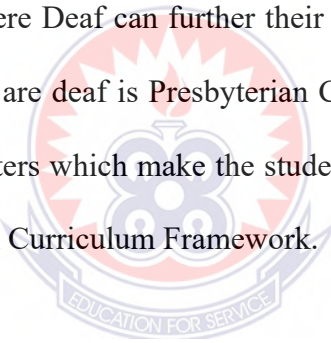
A person is said to have a hearing loss if he/she is not able to hear either in both ears or one of the ears and the person is not able to perceiving auditory sounds naturally with the aid of the auditory mechanisms. Hearing loss refers to an audiology diagnosis of hearing thresholds outside the range of typical hearing. Hearing loss could be either total or partial inability to hear sounds (ASHA, 2022; Acquah, 2015).

Hearing loss affects children across the world in both developed and underdeveloped countries. In Ghana, Statistical Service Report in (2021) census revealed that 211, 712 people are living with Deafness. Caraway, Moog, & Houston (2008), concluded in their studies that over 12,000 children born in the United State of America each year suffer from hearing loss, and in Sub-Saharan Africa, according to Adadey, Awandare, Amedofu, & Wonkam (2017), cited Sackey (2015), indicated that in Africa 6.8 million (19%) people are living with hearing loss making it the most common birth defect. Students who are deaf and hard-of-hearing are considered exceptional learners (Pullen, Kauffman, Exceptional, Education, By, Hailahan, Kauffman, & Pullen n.d.). There is a believe that education is a foundation of independent person and acts as a protection against vulnerability, marginalization and poverty. Also every human deserves the opportunity for self-realization and that every society has a potential to provide this opportunity to it members. Akerele, Egunjobi, Awoyemi, & Oguniyi (2019).

In Ghana studies have shown that majority of students who are deaf and belong to cultural community pursue their secondary school education in segregated public

Secondary/Technical schools. At the Secondary/Technical School for the Deaf, the official mode of communication and medium of instruction is Ghanaian Sign Language (GSL). The successful grandaunts from Secondary/Technical Schools for the Deaf continue to further their tertiary education at the University of Education, Winneba (UEW). The University of Education, Winneba is a reputable public tertiary Institution of Ghana that practices inclusion with support services in the form of sign language interpreting, note-taking, tutorial and information and communication technology (ICT) in order to make the curriculum equally accessible to students who are Deaf (Oppong, Adu, Fobi, & Acheampong, (2018).

Also there is a College of Education that has been selected from the forty-seven Colleges of Education in Ghana, where Deaf can further their tertiary education. The college of education for students who are deaf is Presbyterian College of Education at Akropong with sign language interpreters which make the students who are deaf accessible to the National Teacher Education Curriculum Framework.



Report from Commonwealth (2007), review a literature on current development and prospects in the field of open and distance learning in Sub – Saharan Africa and outline the effects. These were major effects of the process of education has been the traditional educational system, which distinguishing features are face – to- face interaction between teachers and learners, structured courses of studies, fixed locations for learning, fixed time tables and system of certification. Many nations throughout Sub-Saharan Africa have realized the paramount significance of this formal education, and have made very serious efforts to provide human and material resources for the purposes of educating the citizenry in this way. However, for various important reasons that fall outside of the

scope of this report, none of the countries in Sub-Saharan Africa have fulfilled the promise of providing education to the entire population through the conventional education system. It is in this context the distance education is viewed as an appropriate method of education delivery. Which include students with disabilities who may further their tertiary education without attending traditional educational system.

In Ghana, education is right to all citizens based on the principles of Inclusive Education Policy. At the national level, the policy fulfills the citizens' avowed intention in the 1992 Constitution to make quality education accessible to all children. It draws on other national legal documents including the Disability Law (Act 715) of 2006, and the Education Act of 2008. On the international front, the policy is aligned to the United Nations Convention on the Rights of the Child (1990), the World Declaration on Education for All, Jomtien (1990), the Standards Rule for the Equalization of Opportunities for Persons with Disabilities (UN, 1993), and the United Nations Convention on the Right of Persons with Disabilities (2006), (MoE, 2015). The Disabilities Act (2006), indicated the right of persons with disability to have access to education facilities and equipment in educational institutions. It is imperative that voices of students who are deaf at public institution on academic programmes are heard by service providers and other stakeholders in order to improve upon the support services provided to students who are deaf.

This study therefore, was to find out the support services for students who are deaf on distance educational programme at Bagabaga College of Education study centre, Tamale, with the aim of providing useful empirical information that could lead to improve academic performance, social, emotional and cognitive milestones. Again, to create

awareness of a model of education- Distance Education programme where students who are deaf are pursuing their tertiary education.

Making distance learning courses accessible to students and instructors with disabilities. The authors at the University of Washington use data from 16 students with disabilities on distance education options to create learning opportunities for every one if accessibility considerations are made in the design process. Otherwise they can impose needless barriers to equal participation in academic and careers for potential students and instructors with disabilities.

These students require special services which must be offered by qualified teachers in order to respond to their unique needs (Parhoon, Hassanzadeh, Parhoon, and Movallali 2014). Taherdoost, (2016), observed that students with disabilities enrolling in post-secondary education often need support in developing social skills, leadership skills and positive self-concept. Phillips (2013), suggested that such support services should be formally structured through cooperative efforts of faculty and staff responsible for student affairs. By identifying student needs and their expectations and developing strategies to meet those needs, a formal programme of support services can play an important role in linking students with disabilities to the faculty and peers in the academic environment.

In order for the deaf and hard-of-hearing student to compete with other peers, audio notes must be converted into visual notes through the use of strategies in education that depend on other sense channels, such as sight, smell, touch and taste.

Studies have revealed that, some of the most effective classroom practices and considerations that educators of the deaf and hard of hearing students should follow

during educational process include the following: educators should pay attention to the light source directed towards the deaf and hard of hearing to read lips or see facial expression and sign language interpreting. This would enable students who are deaf to be integrated academically into the institutional culture (AI Hashimi, 2021).

It was a fact that at tertiary level including distance education programme, if students who are deaf and belong to deaf cultural community are provided with support services in their tutoring/learning process, they can come out successfully (Fobi, 2016). Lack or inadequate access to the various support services would impede students who are deaf academically.

Evidence in the literature revealed that much is not known about students who are deaf and the kind of support services available to them on distance education programme in Ghana.

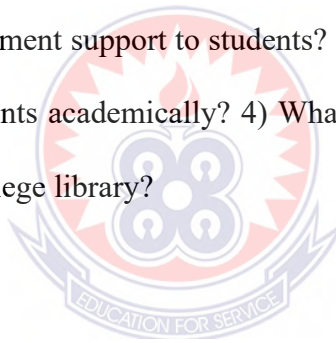
Again, College for Distance and e-Learning of University of Education, Winneba, has about forty Study Centres across Ghana, it is only Bagabaga College of Education Study Centre, Tamale, where students who are deaf are found, and as a part time tutor at that Study Centre, had intention to find out the kind of support services available to students who are deaf.

Studies have revealed that, the experiences of support to students who are deaf were conducted at Basic school level, (Oppong & Fobi 2016; Oppong, Fobi & Fobi 2016). In Secondary/Technical schools level, and public university inclusive setting, studies have given accounts of perceptions about quality of Sign Language Interpreting services (Fobi (2016).

Other studies conducted in some countries revealed that, access to communication for deaf, hard-of- hearing and English Sign Language students, in blended in learning courses in a class. (Long, Vignare, Rappold & Malliry, 2007). Case-Managed Support Services for students who are deaf (McNeil, & Kelley (1993). Barriers Faced by students with hearing impairment inclusive learning environment (Kigotho, 2016).

The rationale for the study was based on the Salamanca statement which proposes the need of research and the distribution of examples of good practices about the integration of special needs education, with focus on the research and development programmes and innovative teaching learning strategies (UNESCO,1994).

Four research questions guided the study: 1). What support services available to students during tutorials? 2). Assessment support to students? 3). How are students who are deaf supported by hearing students academically? 4) What are support services received by student who are deaf at college library?



Based on the findings of the research questions of the study, the following conclusions were made; there are two interpreters and two note-takers permanently at the Bagabaga College of Education Study Centre to support students who are deaf. In the classroom, there are good lighting system all the time, permanent placement for students who are deaf, interpreters, and note-takers. Some lecturers consider the students who are deaf and interpreters use Ghanaian sign language and finger spelling where necessary.

However, students who are deaf complain that the support services provided to are inadequate. Students suggested that more interpreters and note-takers should be employed to support the students who are deaf.

Hearing loss significantly influences the language and speech development of students who are deaf and hard-of-hearing, that negatively affects their academic achievement, social and emotional interactions, and cognitive milestones (Todd,2021).

Since students who are deaf typically lack the language of the hearing world, their hearing handicap may present serious academic challenges especially in an inclusive learning environment where speech is the main mode of communication and medium of instruction.

Easterbrooks and Kliewer, Biklen and Kasa-Hendrickson, (2006) cited in Obosu (2012), indicated that the ability to read and write is an important component of one's potential academic success which depends upon already knowing how to speak. And people who are deaf and do not use speech to communicate have implication on their academic success.

According to El-Zraigat (2013), students who are deaf and hard-of-hearing have poor expressive writing skills. Another study carried out by El-Zraigat & Smadi, (2012) noted that, the students who are deaf and hard-of-hearing lack adequate reading skills in general. Obosu, (2012) indicated that majority of individuals who are deaf encounter huge challenges developing speech or spoken language at home and in school.

These authors further asserted that students who are deaf do not have the same access to the rules of spoken language as do students with normal hearing. This is because spoken language usually has its own sets of grammatical rules that are followed to make communication meaningful even when reduced to written text.

A study conducted by Molina and Carrasco (2016), about problems faced by students with hearing loss, revealed that such students suffer from communication, academic,

social, emotional and family problems. Molina and Carrasco (2016), established that students who are deaf and hard-of-hearing need special language.

With regards to challenges face by students who are deaf, Halder (2009), emphasized the effectiveness of teaching phonological skills to a child who is a deaf depending on agreed assessment. Students with hearing loss study the same curricular as hearing students do, and have the same educational cycles. The instructional environment must be based on the visual field (El-Zraigat & Smadi, 2012).

Most of the teachers who teach at schools for the deaf come from regular schools. These teachers lack the basic skills necessary to make curriculum adjustment and participating in assessing these pupils. Schools for the students with hearing loss are not appropriately designed and equipped. Most schools existed in normal building designed for housing and do not have facilities needed by students with hearing loss (El-Zraigat & Smadi, 2012). Also study revealed that Directorate of Special Education does not offer any kind of supervision to teachers who are working at schools for students with hearing loss. Most training institutions for students who are deaf do not have goals for the deaf (El-Zraigat & Smadi, 2012).

Furthermore, the assessment carrying out for students who are deaf is not done by specialist in the field of hearing loss as well as do not know hearing lose characteristics and the type of curricula needed, reviewing personnel qualification documents maintain this conclusion. Distance education is a flexible way to study for a qualification. It allows you to fit your learning in around your lifestyle and other commitments, and still achieve the same qualifications as you would by doing traditional campus-based study (Tesemma, 2011).

Skills and Annals (2011) noted that ensuring of providing support services needed by students who are deaf or hard-of-hearing are necessary. Support services to students who are deaf and hard-of-hearing include; appropriate placement, programme – level and curriculum – level adaptation, these may need to be discussed based on social as well as academic progress.

Many teachers indicated that they do not receive sufficient in-service training and support and supervisions to manage the students who are deaf in their classrooms. The supervision process is more inspection than giving direct instructions and corrective feedback. On the other hand, most teachers are not aware of validate and effective teaching practices used with students who are deaf (El-Zraigat & Smadi, 2012). Successful linking is best accomplished through case management, a process that has proven to be effective and practical in a wide array of human services endeavors (McNeil & Kelley, 1993). Case management services have resolved problems arising from fragmented services, provided by few or many professionals, in settings that are markedly different from the academic communities where students must function on a day-to-day basis (Long, Vignare, Rappold, & Mallory 2007). When applied in the mainstream university, case-managed support services also promote a trusting relationship with a counselor who can help instruct the student on how to negotiate the academic system.

Hallahan, Kauffman, and Pullen, (2014). Student Support Service in Open, Distance and Flexible Education. European Instructive 6. 5-16 (ISSN 2504 – 070x).

These authors conducted their research at Open University (United Kingdom), used data from 260 distance centres on student support services. In their research they examined

issues on major challenges for student support in distance education based on educational mission and vision and not mode of delivery. The study proposes that student support services should now be understood as integrated with teaching and assessment, not separately organized structurally and professionally. They concluded on the role student support plays within the pedagogy of second generation Distance Education of the humanity of the individual learner, and the identification of effective dimensions of learning experience.

1.2 Statement of the problem

As a part-time tutor on the College for Distance and e-Learning at Bagabaga College of Education Study Centre in Tamale who have been on the programme for fourteen years. I observed during break time that, individuals who are deaf have been admitted onto the programme. This made me to find out the kind of support services available to the students who are deaf and how these support services influence other individuals who are deaf to access such opportunity. The researcher informally interacted with students who are deaf on the support available to them on the programme and it came to light that, there are interpreters and note-takers to support them but they were not adequate to assist them all the time. Also during assessment interpreters are invited to invigilate, hearing students support students who are deaf academically and college library provided support to students who are deaf. Again, during preparation for mature entrance examination for individuals to be enrolled onto the programme, there were no interpreters and note-takers to support the deaf during classes and examinations. This made some of the students who are deaf stop buying the mature forms, that limited the intake of individuals who are deaf onto the programme. Access to educational opportunity is a precursor to access to social participation (Molina & Carrasco, 2016). With regard to persons with disabilities, when

educational opportunities are impeded by lack of support, then access to social opportunities is impeded as well. This is particularly salient for young individuals with disabilities for whom the single most important means of achieving social integration is education. “Most children with hearing loss who receive appropriate services from trained staff are able to progress at age-appropriate rates” in education Todd (2021) pg. 34. Providing support services to students who are deaf in distance education setting requires a deeper understanding of deafness, rehabilitation counselling, student personnel services in higher education, and the university culture (McNeil & Kelley, 1993).

Due to the needed assistance to students who are deaf that made the researcher to find out the kind of support services available at the College for Distance and e-Learning have become very crucial in ensuring that, tutorial support services are in place, assessment support services are used, hearing colleagues support services are available and library support services are also available on distance education programme.

1.3 Purpose of the Study

The purpose of the study was to find out support services that are provided to students who are deaf on distance education programme at Bagabaga College of Education Study Centre, Tamale.

The purpose of the study was for participants who are deaf to describe the availability of support services in distance education programme at Bagabaga College of Education Study Centre with regards to: a). Support services available to students during tutorials. B). How students are supported during assessment. c). How are hearing students supported students who are deaf academically. d). support services available to students

at the College Library. A semi-structured interview guide was used to collect data for analysis.

1.4 Objectives of the Study

The objectives of the study were to:

- find out support services given to students during tutorials.
- explore assessment support given to students.
- identify support given to students by their hearing colleagues.
- ascertain support services given to students at the college library.

1.5 Research Questions

The study was guided by the follows research questions:

- 1). What support services are available to students who are deaf during tutorials?
- 2). What assessment support services are available to students who are deaf?
- 3). What hearing support services are available for students who are deaf academically?
- 4) What support services are provided to students who are deaf at college library?

1.6 Significance of the Study

Findings of the study would reveal support services available to students who are deaf on distance education programme at Batco Study Centre, Tamale. Specifically, the results would reveal support services when all the information made available based on the research questions. This would help ascertain whether interpreters and note-takers present are adequate or not. This would also help the College for Distance and e-Learning

of UEW to make certain critical decisions to improve or provide more interpreters and note-takers where necessary.

The results of the study would again reveal what support services that should be available in distance education programme to students who are deaf. This would create awareness to University of Education, Winneba, most especially, department of Special Education to research into distance education programme; types of support services available to students who are deaf and make recommendations to improve on Ghanaian Sign Language interpreting services and note-taking services that would promote inclusive education in the country.

The results of the study would reveal the kind of support services that should be available at all Study Centres of distance education programme where students who are deaf are pursuing their education. This would enable the Ministry of Education and collaboration with Special Education department of UEW to ensure that appropriate support services are available at all Study Centres especially, interpreting services and note-taking services to fulfill sustainable goal 4 of the inclusive education programme.

1.7 Delimitation of the Study

Even though, there are many study centres across the country, this study focused on Bagabaga College of Education Study Centre in Sagnerigu Municipality at Tamale in the Northern Region of Ghana. The study was further delimited to find out support services available to students who are deaf at the Bagabaga College of Education Study Centre, in Tamale.

1.9 Operational Definition of Terms

Students

In the study, the term students refer to individual students who are deaf and not able to perceive auditory sounds naturally, which are the minority group within a community that follow their culture, norms, values, and tradition

Distance

Distance Education is a model of education that allow students to stay home, work and still has the opportunity to pursue a programme without being on campus. The term “field officer” in this study was used to represent the person who administer the semi-structured interview questions to the interpreter, note-taker and participants.

Inclusion

Term inclusion is a practice of educational policy which provide equal access or opportunities for marginalized groups including individuals with disabilities who have been traditionally excluded from regular schools, this policy requires that both special needs students and non-special needs students are put together in the same classroom with special design set of instructions and support the special needs students may need as learners.

Note-taker

Note-taker is a resource person who has been trained professionally to prepare lecture notes for students who are deaf. The term “sign language interpreter” is a resource person

who has been trained professionally in a specific area as mediator between individual who is deaf to hearing individual. By translate information from the deaf to hearing and interpret information from the hearing to the deaf.

1.10 Organization of the study

The study was organized and presented in six chapters. Chapter one is the introduction that looks at the background to the study, statement of the problem, purpose of the study, objectives of the study, research questions, significance of the study, delimitations, limitation, operational definition of terms used in the study and organization of the study.

Chapter two deals with the literature reviewed for the study. Chapter three focused on the research methodology and procedures that were used to gather data for the study. This included: the research approach, research design, population, sample size, sampling techniques, instrumentation, reliability and validity of instruments, procedures for data collection, data analysis and ethical considerations.

Chapter four contains the presentation and analysis of the interview data collected. Chapter five presents the discussion of findings. Chapter six presents the summary of findings, conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter presents the literature reviewed for the study. The review first covered the theoretical framework and conceptual design for the study followed by the review on the key themes raised in the research questions. These are:

- Support services available to students who are deaf during tutorials
- Support services available to students who are deaf during assessment
- Hearing students support services available to students who are deaf academically
- Library support services available to students who are deaf.

2.1 Theoretical framework

Socio-cultural theory underpinned the study. This theory was put forward by Vygotsky, (1984). The socio-cultural theory is more responsive to the learning process of children with special needs, its ideas and concepts are socially mediated and exist in collectives rather than in individuals. This theory is effective in teaching students with special needs. In this particular theory educators are required to control the learning environment to ensure students through a step by step process that limits unwarranted frustration while expanding their knowledgebase (Kandra 2022).

Vygotsky' s socio-cultural context theory asserts that learning is an essentially social process in which the support of parents, caregivers, peers and wider society where culture plays a crucial role in the development of higher psychological functions of special needs (Saul 2020). Al Hashimi (2021), indicated that current realities and initiative in deaf

education model which based on socio-cultural theory have shown that, some of the most effective classroom practices and considerations that educators of the deaf and hard of hearing students should follow these during educational process: Educators should pay attention to the light source directed towards the deaf and hard of hearing to read lips or see facial expression (Downs, Owen, & Vammen, 2000).

Manual Method (Sign Language) is an alternative to spoken language. It is based on the use of Sign Language which involves symbols and gestures. These movements are organized and arranged in certain way that is easy to understand and learn by people with hearing disability. Deaf and hard- of- hearing students receive information in different ways; through the interpreter, lip reading or through an auxiliary listening device and a similar speech system for C-print speech transcription (Downs, Owen & Vammen 2000).

Again, teacher needs to repeat the concepts for deaf and hard –of- hearing, and provide educational activities that are appropriate to their capabilities and needs by supporting education with visual, tactile and various motor experience while reducing the curriculum to meet the slow pace of the deaf learning (Al Asim, 2018).

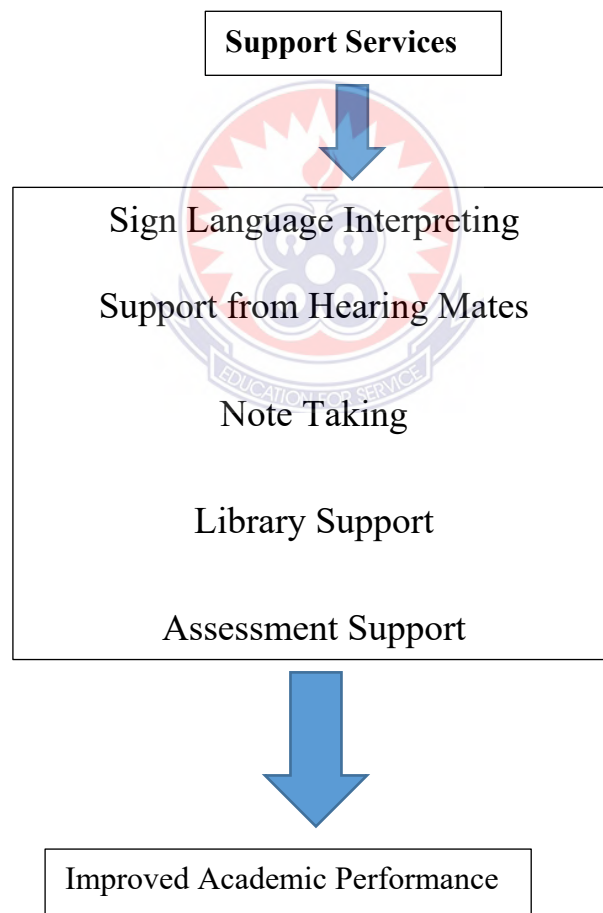
This theory is relevant because it emphasizes the use of source of light, sign language interpreter and note-taker which is the key to students who are deaf on educational programme to achieve academic goal.

2.2 Conceptual framework

The conceptual framework of the study was to find out the support services for students who are deaf on Distance Education Programme at Bagabaga College of Education study centre in Tamale in the Northern Region, Ghana.

Below is the figure that shows the support services, if only it is adequately provided for students who are deaf and pursuing their higher education. Then, the support service would improve academic performance of students who are deaf.

Figure 1



2.3 Support services available for students who are deaf during tutorials

At the tertiary there are many challenges students face such as adjusting to academic life and the obligations imposed could often lead to failure and abandonment. Kigotho

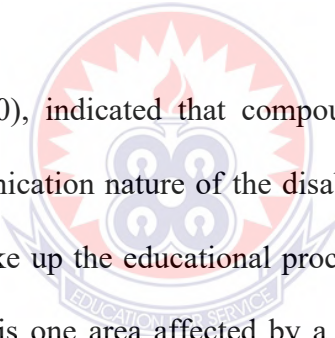
(2016), indicated that, for students who are deaf to assimilate new information and knowledge, they have to overcome the shortcomings of their pre-tertiary experiences, such as language deficiencies, inadequate study conditions, lack of coping skills, problems with reading comprehension and difficulty in producing text. University life requires free flowing and meaningful communication with colleagues, teachers and the environment. Effective communication is fundamental in the early years of higher education for improving the chances of academic success Obosu (2012).

Skills and Annals (2011), noted that ensuring providing support services needed by student who are deaf or hard of hearing are necessary which involve appropriate placement and curriculum – adaptation.

A sign language interpreter is a professional who is fluent in two or more (sign) languages and interprets between a source language, a target language and able to mediate across cultures. The interpreter's task is to facilitate communication in a neutral manner, ensuring equal access to information and participation (European Union of the Deaf 2022).

European Union of the Deaf (2022), noted the number of interpreters required for their support services needed; if the event lasts longer than one hour, at least two interpreters must be provided. Large conferences and workshops require at least three interpreters; interpreters must be given appropriate break times, therefore, if the participants require interpretation during breaks then additional interpreters must be provided to ensure the quality of interpretation.

McNeil and Kelley (1993), observed that students with disabilities enrolling in post-secondary education often need support in developing social skills, leadership skills and positive self-concept. Biklen, Orsati, and Bacon (2014), suggested that such support should be formally structured through cooperative efforts of faculty and staff responsible for student affairs. By identifying student needs and their expectations and develop strategies to meet those needs, a formal programme of support services can play important roles in linking students with disabilities to the faculty and peers in the academic environment. These students require special services which must be offered by qualified and skillful teachers in order to respond to their unique needs (El-Zraigat, 2013).

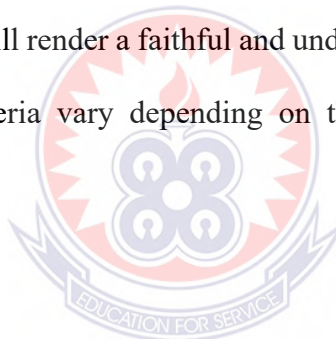


Osman and Kwafoa (2020), indicated that compounding that manifest educational considerations, the communication nature of the disability is inherently isolating, with peers and teachers that make up the educational process. Osman and Kwafoa (2020), noted that communication is one area affected by a child who is deaf and his or her hearing peers and teachers. Even the availability of interpreter services in educational setting may not address deaf children's needs for meaningful communication with peers and teachers, because deafness is a low incidence disability, there is not widespread understanding of its educational implications even among special educators. This lack of knowledge and skills in our education system contributes to the already substantial barriers to deaf students in receiving appropriate educational services.

Osman and Kwafoa (2020), Curriculum content and method of curriculum delivery in determining these needs can be met as requirement. Including evaluators who are knowledgeable about these specific factors as part of the multidisciplinary team

evaluating the student will help ensure that the deaf student's needs are correctly identified.

Also sign language interpreters who are able to read and interpret non-verbal formal of communication and replicate them, inform and meaning so that English speaker can understand the fullness of the message. Power (1998), noted that quality of sign language interpreters in the Netherlands from a deaf user perspective. Deaf sign language users select an interpreter according to situational factors, the interpreting based on professional skills and norms. The choice for specific interpreter is based on a set of individual quality criteria. Results of the study indicated that consumers first aim was to select an interpreter who will render a faithful and understandable interpretation. Further results show that the criteria vary depending on the setting, such as employment, education and community.



Stinson (1999), conducted a study at Ohlone College on qualities of good interpreting, and concluded that the goal of an interpreter is to make communication as complete as possible between both the deaf and hearing conversational people. It is noted that American Sign Language does not necessarily qualify a person to be an interpreter but professional training is vital so that interpreters learn to convey thoughts, feelings, words, and meaning of the message presented whether those messages are spoken or not.

Singer, Cacciato, Kamenakis and Shapiro (2020), also noted that America Sign Language or other modes of signed communication interpreters strive to be both bilingual and bicultural, because the interpreting profession serve a population with varied

communication needs some language proficiencies. Interpreters must be extremely versatile so that they arise in interpreted situations. These qualities are essential for a student to possess before beginning interpreter preparation: general curiosity about all subjects, strong interest in people, objectivity, flexibility, good judgement, reliability and integrity, high motivation to achieve, good physical and mental health, excellent recall or memory skills, proficiency in English and fluency in American Sign Language.

Molina and Carrasco (2016), note that in United States of America, the most common sign language interpretation is the American Sign Language which uses hands, arms, head, facial expression and body language to facilitate full communication. American Sign Language is a full and distinct language that is not the same as written spoken English. It uses a different syntax, vocabulary and grammar structure. Just as there is American Sign Language in the United States, there exist many distinct local and natural sign languages in other countries that can be different depending on the language origins.

As visual communicators, students who are deaf access auditory information by focusing on the interpreter, the speaker or real-time captioning. Taking notes requires the visual communicator to engage in an additional level of concentration (note taking) and forces them to divert their eyes from the source of information. Rieser (2012), suggested that the Note-taker should have relevant documents or materials before the class begins. Note-takers should perform their duties by taking notes in the client's presence. The deaf and hearing people communicate with each other in many areas of everyday life. Often they need support to communicate effectively with each other.

Rieser (2012), revealed that students with hearing disabilities face unique challenges inside the classroom. These are based on learning modes that people take for granted, such as lectures, discussions, groups and one-on-one conversation. Rieser (2012), suggested that in order to support the deaf all the time, one can use Smart Phone Apps: there are countless smart phone apps for Android that can assist students who are deaf or hard of hearing. Most modern smart phone and lap tops are equipped with a webcam or built in video camera and the capability to run software that allows video conference or video chat. The lighting system in the classroom should always be enough for a better learning experience for the deaf. Students who are deaf need to build communicative relationships with their instructors. Some students are confident enough to ask questions in the middle of a lecture and others prefer to ask questions at the end. A question can frequently lead to an answer and an answer can easily be led to understanding.

Students who are deaf have difficulties in grasping linguistic information on a second language such as English language which is the language of instruction, test, quizzes and examinations (Kigotho 2016). In a study by Skills and Annals (2011), on the academic achievement of students who are deaf, the results revealed that the academic achievement of students who are deaf was significantly lower than that of their hearing peers and that several factors such as unfair assessment procedures adopted by lecturers placed students who are deaf at risk of underachievement in a mainstream educational setting.

Similarly, Nunes (2002), noted that students who are deaf generally are not exposed to many opportunities in their life to learn as a result of information deprivation, more so, the language abilities of deaf and hard of hearing students have been considered the critical factor to their academic difficulties. Nunes (2002), further contended that

students who are deaf receiving classroom instruction in English Language face challenges in understanding the grammar and also have difficulty comprehending test questions when their academic abilities are being assessed. Rieser (2012), opined that students who are deaf only learn English language as a second language but not in a spoken form and have no option than to use two different languages in course of their learning.

Rieser (2012), further pointed out that the interplay of sign language and English Language in the academic pursuit of students who are deaf could cause confusion in their attempt to answer the same test or examination questions with their hearing peers who learn both the spoken and written form of the language of instruction, that is English Language. Rieser (2012), further indicated that there is therefore a need to develop assessment strategies that will seek to address the learning needs of students who are deaf in an inclusive learning environment.

Interpreters function as a means of enhancing communication between students who are deaf and a hearing person who does not use sign language and by so doing bridge the communication gap between the learner and the lecturer during lectures. Commenting on sign language interpreters, Phillips (2013), opined that sign language interpreters play a major role in mediating the process of classroom instructions. Phillips, (2013), in a case study, observed that there is a need for qualified interpreters to manage the process with accuracy. He confirmed that lack of qualified interpreters affected the quality of the instruction delivered to the students who are deaf.

Turner, (2010) indicated that interpreters have a role to play to academically support students who are deaf by arranging for tutorials with them especially in an inclusive learning settings where the students learn through a third party sign language interpreter.

A tutorial is a teaching session where one student or a small group of students who get stuck during a lecture are giving academic guidance in the form of further explanation to supplement what they learnt in a lecture through an interpreter.

The tutorial session is needed to help or coach students who get stuck in lecture to seek further and better explanation from interpreters after the lecture. Tutorials are interactive sessions where the sign language interpreter and one or several students who are deaf meet for a discussion of a lecture content and assessment Tsuladze (2015).

Lang, Marschark, and Albertini (2004), further indicated that tutoring students in academic subjects has become a common support service designed to enhance learning of students who are deaf enrolled in postsecondary programmes. Fobi, (2016); Lang (2002), further pointed out that tutoring is offered students who need academic guidance in a variety of ways primarily through one-to-one assistance by interpreters, classroom teachers, professionals, tutor, and/or peers. Lang (2002), observed that tutoring is an effective adjunct to classroom instruction for both students who can hear and students who are deaf. Tutoring as a support service has been investigated systematically for decades as a process for enhancing the academic achievements of both hearing students and students who are deaf at all educational levels.

Molina and Carrasco (2016), contented that students who are deaf do not get as much information as their hearing peers from lectures. This problem was described further by Lang (2002), who summarised deaf college students' reasons for requesting tutoring because of their difficulty in understanding lectures with or without support services, their poor study skills and limited reading and writing skills and needed clarification of lecture notes.

There are several types of interpreting services that may be used in the academic settings such as sign language interpreting - this is when the interpreter communicates to students who are deaf during lectures in either American Sign Language or Ghanaian Sign Language. Omona (2013), said that an interpreter is someone who facilitates communication and conveys all auditory and signed information so that both hearing and deaf individuals may fully interact. Phillips (2013), contended that there are numerous reasons why students who are deaf do not complete baccalaureate and other degree programmes.

One of the most salient characteristics of learning by students who are deaf in an inclusive classroom is the students' dependence on a third party to get access to information. In effect there is little direct communication between lecturers / tutors and students who are deaf. Rather, information is received by the student through interpreting during class sessions (Marschark, Leigh, Sapere, Burnham, Convertino, Stinson, Knoors, Vervloed, & Noble, 2006)

Marschark, Leigh, Sapere, Burnham, Convertino, Stinson, Knoors, Vervloed, and Noble, (2006), argued that the interpreting proficiency of an educational interpreter to a very large extent influences the academic performance of students who are deaf in a learning environment since that is the means through which they receive instruction from the lecturer. Similarly, Long Vignare, Rappold and Mallory, (2007), found out that students who are deaf reported difficulty in following lectures when interpreters did not have scientific training and therefore struggled with the material being presented through interpreters.

Lang (2002), in a study conducted on the ‘impact the interpreting services have on learning of students who are deaf’ found out that when it comes to lecturing in the classroom, the fact that students who are deaf do not receive as much information from classroom lecturers as their hearing peers for many years revealed that students who are deaf lagged behind in terms of accessing classroom information through an interpreter. Power, (1998), documented that students who are deaf in Australian Universities also reported that they missed information during lectures. Interpreting is one of the most important support services offered students who are deaf in a learning environment where voice language is used as a medium of instruction. There is a dire need therefore to evaluate the relationship of interpreting to learning.

Many students who are deaf receive classroom instruction through sign language or in some other visual communication mode (Mitchell, 2015). For these students, oral language is not their primary language for academic discourse and therefore have limited proficiency in oral language (Skills & Annals 2011). Akaranga and Makau, (2016), further stressed that classroom academic achievement of students who are deaf can be measured by obtaining teachers perceptions of students’ achievement and ability to learn expected academic content. Academic progress refers to the change in academic achievement from one year to the next and can be measured both by looking at gains on achievement test and teachers’ perception of students’ change. Since, students who are deaf or hard of hearing who receive their instructions in general education classrooms are reported to have higher academic achievement than those who receive instruction in self-contained classrooms Tsuladze (2015).

In another study by Marschark, Leigh, Sapere, Burnham, Convertino, Stinson, Knoors, & Noble, (2006b), their results revealed that students who are deaf who attended general education classrooms have higher reading comprehension scores than those who received their instruction primarily in self-contained classrooms. However, were not certain whether the higher achievement was an antecedent or consequence of attendance in general education classrooms.

The authors speculated that the students who are deaf in general education classrooms demonstrated higher academic achievements than those in self-contained classrooms due to academic press, that is, those aspects of the school environment that “press” students to perform academically, such as teacher’s expectations school policies and academic standards (Stinson, 1999).

Few studies have been conducted with regard to classroom academic status of students who are deaf (Abdul Malek, Ibrahim, Wan Aduan, & Abdul Rahim 2018; Power, 1998). Caraway, Moog, Todd, Houston, and Rosenthal (2008), compared teachers’ perceptions of 33 Israeli-Arab students who are deaf with 66 hearing students in the same general education classrooms. All students were in Grade 1 – 6. A questionnaire was used to tap the general education teachers’ perception of students’ performance in five domains: academics, attention, communication, class participation and school behaviour. The teachers gave students who were deaf significantly lower scores in all domains than the hearing students. In addition, significantly fewer students who were deaf than hearing students received passing scores in each domain.

Kliewer, Biklen, and Kasa-Hendrickson (2006), asked 143 itinerant teachers of the support services they render to students who are deaf in general education classrooms in Australia. The teachers were to report on the ability of their students to participate in the general education curriculum. Those teachers reported that 66% of their students were academically good with their hearing classmates, whereas 17% met only minimum academic standards and another 17% could not be evaluated by the same standards used with hearing classmates. The authors pointed out that there is little research that compares the academic status of students who are deaf to their hearing peers in the same classrooms. Matchett (2013); Bell and Swart (2018), indicated that the differences in results were likely to be due to differences in the method of obtaining data but could also be due to differences in the availability of services, placement policies or student characteristics.

Bell and Swart (2018), could not totally generalize the findings of the studies and suggested there should be additional research to add to the knowledge of teachers' perceptions about the academic performance of students who are deaf when compared with their hearing peers. Educational testing in United States public education continues to shift toward two goals as follows: a standardized measurement of students' outcomes and inclusive assessment participation policies.

The first goal allows for comparisons of students' progress across different settings. The scope of comparisons varies widely: individual schools in a state can be compared, or per one of the goals of the upcoming common core standards assessments, individual's states across the nation Kliewer, Biklen & Kasa-Hendrickson(2006). At the same time, inclusive assessment policies require that all students be provided with an opportunity to

demonstrate their knowledge and skills on these tests such as reading comprehension, grammar, literature and mathematical computations.

Expansion of the set of participants in an assessment can be challenging to implement in a fair and valid manner when tests were not originally designed to be accessible to all students, particularly students with disabilities or those who are English Language learners (Cawthon, Leppo, Carr, & Kopriva, 2013).

Nunes (2002), interviewed 320 students who are deaf who were withdrawing from higher education or transferring to another post-secondary programme and reported that inability to decide on a major area of study is an important factor related to persistence. In summarizing why colleges and universities must attend to the “whole student”, Marschark, Leigh, Sapere, Burnham, Convertino, Stinson, Knoors, Vervloed, and Noble, (2006), described statistically significant relationships between student satisfaction with classes and their academic achievement and between social satisfaction and persistence / withdraw.

Learner Support Service is the core of distance learning system. A learner may be highly enriched and talented but cannot maximally benefit from the courses through distance mode if she/he is not oriented for the Open Distance Learning (ODL) system. There are new innovations and development taking place in every branch of knowledge and, therefore, learners need to be updated with those developments regularly. Simply accessing or assimilating information is not sufficient in the ODL system as realized by the educational community today. There is the need for Learner Support Services (LSS) that play a crucial role in imparting quality education to distance learners including the

deaf. There must be teachers for face – to – face tutorials, study materials, assignments, programme guide and counseling schedule. Besides, there should be audio output with text captioning or transcription. Without course videotapes with captioned, students who are deaf cannot participate in teleconferencing session, in spite of being one important part of DL programme (Maxwell, n.d.).

Kankam (2020), noted that the Support of Deaf students in the Transition between further Education and Schooling into Higher Education is the appropriate approach. The researcher data test the study of investigation at University of Northern Colorado, the issues that students who are deaf applying for university and looked at the support services that a group of students who are deaf receive. Data were collected about the process students who are deaf had been going through. The aims were in twofold: first to investigate the current support that exists for the deaf in transition to higher education. Second: to use the results to create an advice guide to enable professionals and parents to support students who are deaf. In conclusion, with regards to their applications for further higher education he used the results to facilitate informed decision about university choices and ensure awareness of the differences between study at school and further higher education.

2.3 Support for students who are deaf during assessment

Cawthon, Leppo, Carr, and Kopriva (2013), conducted a qualitative meta-analysis of the research on assessment accommodations for students who are deaf or hard of hearing. There were 16 identified studies that analyzed the impact of factors related to student performance on academic assessment content areas and types of assessment across different educational settings, content areas, and types of assessment accommodation.

The meta-analysis found out that the results of analysis of group effects of accommodated versus unaccommodated test formats are often not significant. Test – level factors exist on how students perceive the assessment; differences exist on how test items functions across different conditions, student level factors, including education context and academic proficiency, influence accommodation role in assessment processes. The results of the analysis highlighted the complexity of intersections between student-level factors, test-level factors, and large policy contexts. Findings are discussed within the context of large changes in academic assessment, including computer-based administration and huge-stakes testing.

In reviewing the research on why students who are deaf leave higher education, Stinson (1999), discussed the mixed results and complex relationships related to grades, ability measures and persistence. Academic skills, demands on communication, achievement test scores and other academic factors do predict grades though social adjustment was seen as a major reason why students who are deaf leave higher education programmes as well.

Phillips (2013), indicated that the assessment practices are important part of teaching and learning processes to assess the students' cognitive ability. Despite the importance of assessment, during the teaching and learning processes, students who are deaf in inclusive learning classrooms are faced with the challenges of standardized forms of quizzes, tests and examinations with no considerations of the needs of the students who are deaf and are at a disadvantage because of language barrier and the difficulty they have in reading and comprehension, poor grammatical expression and the confusion of relating sign language to English language as a second language for the students who are deaf (Susilo Adi, Unsiyah, & Fadhilah, 2017b).

Eskay and Chima, 2013; Wooten, (2014), further argued that students with specific disability such as the deaf, require an assessment strategy that can better measure their cognitive ability. Similarly, Florian (2009), asserted that barriers to learning and participation of students who are deaf arise from inflexible or irrelevant curriculum and inappropriate systems of assessment and examination.

A study conducted on assessment of students who are deaf by Malik and ud Din (2019), revealed that testing and assessment procedures used by teachers in an inclusive learning environment reflected biased practices. However international literature suggests that teacher's "must incorporate the views of the learners themselves and the achievement is about the outcome of learning across the curriculum, not merely tests or result" so that it will best assess disabled children's level of achievement (Mudzakir 2011).

(Paul, n.d.) indicated that "in many countries, new standards-based curricula and new laws requiring improved achievements outcomes on standards-based test are being used as a measures of school performance goal".

Tesemma (2011), stressed that, common accommodation allowed on State Standardized assessments which include extended time, a separate room for administration of the test, (test items read aloud for test that are not in a language in which a student read proficiently) and having test instructors read aloud before the student begins the assessment (Kliwer, Biklen & Kasa-Hendrickson 2006). Singly, or together as a package Assessment accommodation are meant to increase access to the score to be interpreted in the same manner as for a test taken without an accommodation. The associations concluded that assessment accommodation; a) having an interpreter translate test directions, reading passage approach or test items, either using sign language, a sign system or reading aloud and b) allowing the students to respond using

sign language and having their responses recorded by a scribe who back-translates those responses into English (Marchetti, Foster, Long, & Stinson, 2012).

One of the most critical components of any programme for students who are deaf in an inclusive setting is the quality of interpreting services offered them especially during lectures. The role of a sign language interpreter in a lecture hall is to convey the spirit and content of the communication occurring in the lecture hall.

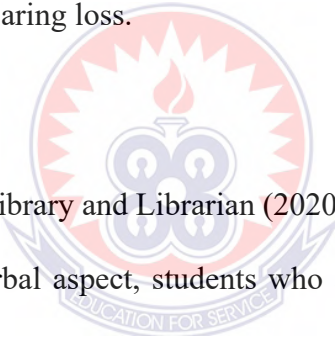
South African Cabinet (2015), noted that students who are deaf face unique challenges in their efforts to communicate and understand oral instruction. Unlike their hearing peers, students who are deaf particularly rely on support services such as interpreting services and note-taking services. Students who are deaf believe that mainstream tertiary institutions do not provide sufficiently inclusive and accessible environment that embraces the perspective of all students because of communications barriers.

Testing in oral language may inhibit the ability of students who are deaf to fully express what they know (Downs, Owen, Vammen, 200). Despite the challenges and difficulties students who are deaf in the United States face, they have been assessed using standardized tests. Standardized testing presumes a certain level of English proficiency that is not necessarily appropriate for students who are deaf or severely hard of hearing (Rudner (1978) cited in Atar (2021)).

The presumption of a certain level of verbal language ability present several problems for students who are deaf, in the following areas of learning; difficulties with English language, diverse modalities of communications, deficient reading skills, culturally –

related experiences, and test validity and reliability (Caraway, Moog, Todd, Houston, & Rosenthal 2008).

Nana, Kwafoa, Librarian, Library, and Librarian, (2020), noted that accommodations in assessment and instruction are especially important to students who are deaf because they have difficulties in expressing themselves in oral language. As a result, their educational progress may be delayed. Students who are deaf may suffer or have delay in learning and they lag behind so far as language development is concerned. Nana, Kwafoa, Librarian, Library and Librarian (2020), pointed out that students who are deaf are precluded from understanding speech and that students born with hearing loss or who lose hearing at a very early age miss out on crucial developmental milestones and experiences that benefits students without hearing loss.

The logo of the University of Education, Winneba, is a circular emblem. It features a central sunburst with a flame-like shape at its base. Below the sunburst are two interlocking circular symbols. The entire emblem is set against a red background with a white border. The text 'UNIVERSITY OF EDUCATION, WINNEBA' is written around the top inner edge, and 'EDUCATION FOR SERVICE' is written around the bottom inner edge.

Nana, Kwafoa, Librarian, Library and Librarian (2020), further noted that because high-stakes test has a highly verbal aspect, students who are deaf have restricted language skills and are at a distinct disadvantage. Further, maintained that students who are deaf whose primary language is sign language are in essence learning English as a second language. Nana, Librarian, Library and Librarian (2020), further contended that the expressive and receptive modalities of student who are deaf differ significantly from those of English-based hearing students, the need for accommodations becomes even more apparent.

More so, students who are deaf are taught with a wide variety of instructional approaches to meet the needs of students' individual abilities. And suggested some of the modalities of approach to teaching students who are deaf are: oral, sign language and total

communication. Each approach has supporters, benefits and limitations. The need for accommodation is therefore necessary for both expressive and receptive communication.

Similarly, Dooly, and Moore (2017), observed that hearing loss and deafness have more functional issues and their cultural as well. Dooly, and Moore (2017), further indicated that the use of sign language as well as other cultural elements of sets of students who are deaf or hard of hearing apart from general education students. Furthermore, children who are deaf begin to learn how to read in the same ways as their hearing peers do, but “literacy development typically does not proceed at a pace considered average for hearing students.

In measuring academic achievement of students who are deaf, Jones, and Halder (2021), asserted that academic status of students who are deaf can be examined through several frames of reference: normative academic status, and academic progress. These authors further argued that normative academic status refers to students’ standing compared with national or state norms and can be obtained through scores on national or state standardized academic achievement test. Classroom academic status refers to student’s achievement in comparison with classmates.

Assessment accommodations are strategies frequently used to expand the inclusivity of standardized assessment for students with disabilities including students who are deaf (Liu, Lazarus, Thurlow, & Stewart, n.d.). Students who are deaf, may receive test accommodations simply or together as a package. In contrast with test modifications in which changes to the test format or content may alter the construct being measured, assessment accommodations are meant to increase access to the test content while

allowing for the score to be interpreted in the same manner as that for a test taken without accommodation (Carter, 2017).

Australian Disability Clearinghouse on Education and Training (2021), indicated that provision of extra time in examinations particular extra time for reading questions, some students will prefer to have questions and instructions signed to them.

In a study by Lang (2002), who used a highly skilled interpreter and students who are deaf whose grade points average was comparable to that of hearing peers, the results of the study revealed that deaf college students correctly answered about 84% as many items as the hearing students when they were tested on immediate recall of short-term lecture content. There was a significant difference favouring the hearing group in five of six subsets. More so, an interpreter knowledgeable of the specialized vocabulary and proper names associated with a particular discipline may be more accurate and facile in terms of conveying the lecturers' information to the students who are deaf in the class (Caraway, Moog, Todd, Houston, & Rosenthal 2008).

Rieser (2012); Susilo, Unsiah and Fadihilah (2017b), further argued that students with specific disability such as the deaf require an assessment strategy that can better measure their cognitive ability. Similarly, Florian (2008), asserted that barriers to learning and participation of students who are deaf arise from inflexible or irrelevant curriculum and inappropriate systems of assessment and examination.

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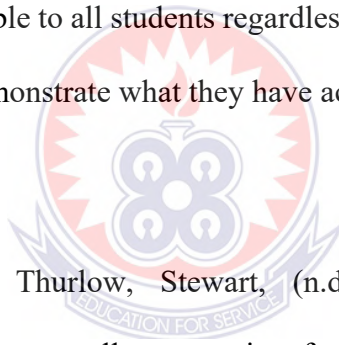
(Paul, n.d.), indicated that “in many countries, new standards-based curricula and new laws requiring improved achievements outcomes on standards-based test are being used as a measures o school performance goal”. Peters, Johnstone, and Ferguson (2005), further pointed out that effective implementation o inclusive education must focus not only students but also on all tutors, all curriculum reforms, all support personnel, all policies, all strategies for student’s assessment and so on.

In reviewing the research on why students who are deaf leave higher education, Stinson (1999) discussed the mixed results and complex relationships related to grades, ability measures and persistence. Academic skills, demands on communication, achievement test scores and other academic factors do predict grades though social adjustment was seen as a major reason why students who are deaf leave higher education programmes as well. (Susilo Adi, Unsiyah, & Fadhilah 2017b).

Mitchell (2015), in a study conducted on the inclusion of students with special educational needs, the results revealed that technical standards have not been established for the inclusion of students with special educational needs such as students who are deaf in academic assessments programmes which threatens the legitimacy of test-based accountability for all students in an inclusive learning environment. The researcher commenting further on the study noted that there was the need to provide testing accommodation for students in order for them to participate in large-scale assessment programmes. The findings of this study revealed that there should be an arrangement by

teachers for alternative assessment that are valid and reliable for assessing the academic performance of students with disabilities such as the deaf.

Mitchell (2015), further contended that if all students, including those who are deaf participate in the general education curriculum, there will certainly be occasions when the modal programme of instruction fails to make tasks accessible to all students, whether viewed as a matter of rights, obligations or pragmatics are necessarily the same or similar tasks are to be performed on academic assessment and test accommodations are necessary as well. A test accommodation removes obstacles to successful test performance that are unrelated to the traits or constructs being measured. Mitchell (2015), further noted that an appropriate test accommodation is intended to make assessment equally accessible to all students regardless of disability so that they all have the opportunity to fully demonstrate what they have achieved academically.



However, Liu, Lazarus, Thurlow, Stewart, (n.d.) observed that not all test accommodations are equal or equally appropriate for students with disabilities such as the deaf, for example, extended testing time is the most commonly used accommodation, but it may not be suitable for all students because for example, if a student does not understand the tests instructions due to insurmountable language barriers, adding time alone is not going to help. Lecturers conducting academic assessment for students who are deaf must consider the needs of the students who are deaf as they are at a disadvantage when it comes to accessing lectures through a sign language interpreter (Maxwell, n.d.).

The examination of the interpreter's educational background, their familiarity with academic discourse and the influence of linguistic features and complexity of the lecture

material on the interpretation is essential to the academic experiences of the interpreter. Interpreters who are aware of the barriers deaf post-secondary students' experience, may be abler to adapt their interpreting and advice lecturers and hearing peers accordingly (Kigotho 2016).

Marschark, Sapere, Burnham, Convertino, Vervloed, and Noble, (2006a), asserted that it is not only the case that there is inadequate understanding of effective educational interpreting, but rather there are also many misconceptions about access being made by those who work with educational interpreters in the classroom. Kigotho (2016), summarized "the myths" about interpreting need to be exposed before policies of inclusion through interpreting can be considered rationally Molina & Carrasco (2016).

As Kigotho (2016), pointed out, the interpreter of sign language should be capable of perceiving the difficulties of students who are deaf and discover ways and methods for mitigating their difficulties. Kigotho (2016), observed that most students who are deaf grew up in linguistically challenged environment, so they do not have the linguistic competencies necessary for making effective use of interpretation or the textbooks and many possibly entered higher education less well prepared than their hearing colleagues. Many interpreters are not qualified to work in the educational system due to poor signing skills, but are hired anyway due to a shortage of interpreters.

The hiring of poorly qualified interpreters' impacts on the educational development of student who are deaf. Many schools and colleges do not even require an evaluation of the interpreter's skills nor do they require interpreter certification. (ASHA, 2004; Kigotho, 2016).

Kigotho (2016), reported that 50% of educational interpreters in the United States of America in New York had no certification and 58% of educational interpreters were not evaluated on signing skills prior to hiring. Jones (2005), further commented on the findings of the study and pointed out that majority of educational interpreters had not shown fluency in using sign language, which could negatively influence the academic performance of students who are deaf who receive classroom instruction through an interpreter in a mainstream classroom setting.

Kigotho (2016), noted that students who are deaf faced the problem of a delay in receiving information from the interpreter during lecture, students also experience the problem of understanding what is spoken by the lecturer and its translation by the interpreter, a break in eye contact while the lecturer writes on the board, walks across the room or reads a document, prevents lip reading and a loss of valuable information. Students who are deaf therefore, have difficulty choosing between looking at the interpreter and observing the lecturer in the classroom during the teaching and learning process. Lang (2002), identified that many students who are deaf receive information via a third party, with little direct communication with the students who are deaf.

Long Vignare, Rappold and Mallory, (2007b), opined that the ability to produce an accurate interpretation of lecture materials relates to several aspects, thus, the complexity of lecture information and related lexical and cognitive intricacies are a challenge for interpreters working at post-secondary inclusive learning environment where students who are deaf also learn in the same classroom with their hearing peers.

Long, Vignare, Rappold and Mallory (2007b), further suggested that the accuracy and effectiveness of interpreting at the post-secondary level may depend on the interpreter's familiarity with the subject materials, their ability to code-switch between free and literal interpretation as determined by the content of the message and the needs of the student and their own level education. (Hannon, 2007; Kigotho, 2016; and Parhoon, Hassanzadeh, Parhoon & Movallali 2014).

Akaranga and Makau (2016), suggested that in order to facilitate an accurate interpretation of their teaching material, lecturers need to have adequate deaf awareness to understand how to work successfully with interpreters or how to find ways to enable the student to maximize any learning situation. Kigotho (2016), asserted that developing appropriate teaching strategies such as moderating the pace of speech, writing key terms on the board to ensure correct fingerspelling and pausing and allowing students time to look at PowerPoint or demonstrations as the students who are deaf cannot attend to two different visual stimuli at once and these strategies can assist with better transmission of the lecture content. Long, Vignare, Rappold and Mallory (2007b), further suggested that there is the need for high-quality sign language interpreting service in settings that include students who are deaf. She noted that simply having an interpreter in the classroom does not guarantee full access to instruction.

Described several difficulties associated with learning via sign language interpreting including students not being able to attend to two different sources of visual information, classroom pacing, and the situation of interpreters who are less than fully qualified being confronted by the multiple conversations and interruptions natural to large mainstreams classes (Lewis, Greene, & Riley 1999); Peters, Johnson, & Ferguson 2005). Despite the

ever-increasing number of students who are deaf in integrated classes, our knowledge about the extent to which interpreting and other support services provide them with true access to education remains unclear (Caraway, Moog, Todd, Houston, & Rosenthal, 2008; Lang, 2002). However, Stinson, (1999) in a study in public schools in the United States, found out that less than half of the sign language interpreters they evaluated performed at a level considered minimally acceptable for educational interpreting. Stinson, (1999) concluded that many students who are deaf are denied access to classroom communication because of the poor skills of their interpreters. Students who are deaf experience particular difficulty when learning technical skills and science related subjects due to lack of signs for technical terms and also the lack of qualified interpreters (Long, Vignare, Rappold & Mallory 2007b).

Interpreters in classes may inadvertently isolate students who are deaf by trying to answer questions on their behalf, thereby preventing them from active participation in class discussions (Kigotho, 2016). As mainstream academic placement has become the primary means of educating students who are deaf, a serious shortage of qualified sign language interpreters has developed and those who are available are either unqualified and or inadequate (Kigotho, 2016).

The education of students who are deaf in classes with hearing peers rest largely on the belief that students who are deaf and others with special needs can be educated in such settings (Caraway, Moog, Todd, Houston, & Rosenthal 2008). Similarly, (Caraway, Moog, Todd, Houston, and Rosenthal 2008), asserted that students who are deaf are far more heterogeneous than hearing students, and approximately 95% of that have hearing parents. Mitchell (2015), further argued that majority of students who are deaf grow up

with relatively limited language fluency. As a result, their educational histories are more variable than those of hearing peers because they often lack the linguistic competencies necessary to make effective use of interpreting (Abreh and Wilmot, 2018), and (Halder, 2009), note that they may enter post-secondary setting less well prepared than hearing peers.

Marschark, Leigh, Burnham, Convertino, Stinson, Knoors, and Noble, (2006b), have noted that interpreters' limited content knowledge on what to interpret for students who are deaf during teaching and learning leaves students frustrated. He further contended that because of restricted auditory perception and specific linguistics needs, students who are deaf in regular, oral-based classrooms mainly depend on mediated communication and learning through sign language interpretation.

Marschark, Sapere, Burnham, Convertino, Vervloed, and Noble (2006a), further pointed out that despite the importance of a sign language interpreter, interpreter-mediation could carry certain problems because insufficient knowledge of the particular subject matter by interpreters may cause alterations of content and negatively influence the accuracy and competences of the information a student who is deaf receive during a lecture.

Peters, Johnstone, and Ferguson (2005), investigated 2,100 educational interpreters across the United States and reported that about 60% of the interpreters revealed inadequate skills to provide students with full access to lecture information. The researchers further stressed that interpreters' had difficulties to represent those aspects of messages that had direct relevance to classroom instruction.

Marschark, Leigh, Burnham, Convertino, Stinson, Knoors, and Noble (2006b), investigated instructors signing themselves to teach college students who are deaf as

against instructors teaching college deaf students through mediated teaching through a sign language interpreter. The results of their investigation revealed that college students who learned through instructors signing themselves to teach them benefitted from the quality of instruction than college students who were taught through mediated instruction through a sign language interpreter.

Marschark, Leigh, Burnham, Convertino, Stinson, Knoors, and Noble, (2006b), concluded that one of the necessary aspects for creation of optimal learning conditions in postsecondary education for students who are deaf are excellent sign language skills and the ability to adapt these skills to meet the unique needs of students who are deaf in an inclusive learning environment. Also posited out that students who are deaf did not acquire as much information from lectures as their hearing peers even with experienced interpreters who were familiar with the students.

Similarly, Phillips, (2013); Power, (1998), asserted that students who are deaf become frustrated and confused due to interpreter's lack of experience or skill to transfer lecturers' content effectively. Marschark, Leigh, Burnham, Convertino, Stinson, Knoors, and Noble, (2006b), explained that the rationale for educating students who are deaf in colleges of education or in tertiary institution lies in the belief that students who are deaf, like their hearing peers, can be educated in the same learning environment. They further pointed out that the basis for including students who are deaf in a tertiary institution is on the assumption that information communicated by hearing tutors or lecturers for students who can hear is accessible to students who are deaf. Students who are deaf in mainstream educational settings frequently require classroom support services like accurate interpreting services to enable them realize their full academic potential.

Despite decades of new ideas about services rendered to students who are deaf, Caraway, Moog, Todd, Houston, and Rosenthal (2008). Florida, Lopez and Pozomucha (2012), have observed that students continue to have negative experiences on the support services offered to them in tertiary institutions or colleges of education. Caraway, Moog, Todd, Houston, and Rosenthal (2008), pointed out that sign language interpreting services and school library services are some of the support services available for students who are deaf at the tertiary level. Palinkas, Horwitz, Green, Wisdom, Duan and Hoagwood, (2015) suggested that students who are deaf must have complete access to all school facilities to enhance their academic and social learning outcomes (Matchett, 2013). Similarly, El-Zraigat, (2013); Power (1998), noted that it is imperative that students who are deaf gain access to school support services for improved participation in learning and consequently positive academic work.

Marchetti, Foster, Long, and Stinson, (2012); Phillips (2013), noted that Curriculum Adaptations is need for Deaf and Hard of Hearing student. The authors conducted their research at National Distance Education in Spain, and used data from 133 students with hearing disabilities in their survey. The results benefited the authors with their perceive terms of students with hearing disabilities on basis of self – efficacy, reduction in pre-examination anxiety and social support for the study. The authors recommended measures to be adopted: improving the physical accessibility, services and facilities in all its centres. Central headquarters: to improve accessibility of information and communication technologies. Implementation of adaptations in the teaching and learning process: assessment of students with disabilities, payment exemptions of academic fees for students with an officially recognized degree of disability. Adaptation for the deaf: 30 minutes should be added to the official time during examinations, interpreters should

be allowed to be with their students, and essay question should be short questions to the deaf.

2.4 Support from hearing colleagues to students who are deaf academically

Muhammad and Kabir (2016), revealed that students with hearing disabilities face unique challenges in their classrooms. This is based on learning modes that people take for granted such as lectures, discussions, groups and one-on-one conversation. They suggested that in order to support the deaf all the time, one can use Smart Phone Apps: there are countless smart phone apps for Android that can assist students who are deaf or hard of hearing.

According to Muhammad and Kabir (2016), interpreting services are a requisite to ensure that our students who are deaf included in all activities and functions within the education community. College Guide for Muhammad and Kabir (2016), noted that Communication Access Real Time Translation (CART) speech is captured and transmitted as text for the student. Onoyeyan (2019), concluded in a research that management of Stellenbosch university amend the policy for students with disabilities without consultation with stakeholders reduce the budget which have an impact on the level of support which could be provided to students with hearing impairment, which would ultimately affect the students' experiences related to teaching and learning and therefore their academic. Further, Onoyeyan (2019), suggested that computer- assisted note-taking (CAN), can be used by hearing to support hearing impaired in which when the speaker's words are display on a screen or laptop monitor and provide a summary of what is being said by using standard computer.

ASHA (2004), noted that the importance of collaboration relationships between hearing and hearing impaired at every level across the entire university is emphasized as important strategic that requiring the co-ordination of rehabilitation disability, career advisors and academic staff. Mitchell (2015), indicated that one of the classroom activities is group work, the lecturer grouped deaf students with normal students to work together as a strategy for deaf students to feel a 'self –belongingness. Again, El-Zraigat (2013), underpinned that grouping both deaf students and hearing colleagues provide opportunities for deaf students to feel that they had become part of the hearing or normal academic community.

Kigotho (2016), noted that the rationale for educating students who are deaf in tertiary institutions lies in the belief that students who are deaf, like their hearing peers, can be educated in the same learning environment. Kigotho (2016), further noted that the basis for including students who are deaf in a tertiary institution is on the assumption that information communicated by hearing educators for learners who can hear is accessible to students who are deaf. Students who are deaf enrolled in general educational settings frequently require classroom support services such as sign language interpreting if they are to realize their academic potential.

Phillips (2013), asserted that students who are deaf have difficulty in attending to multiple tasks during the teaching and learning process. The fact that students who are deaf do not receive as much information from classroom lectures as their hearing peers has been recognized that hearing colleagues do support them for many years.

Kigotho (2016), indicated that implementation of No Child Left Behind (NCLB) has been understood that for students who are deaf or hard of hearing to succeed in general education settings, classroom teachers, hearing colleagues and teachers of students who

are deaf or hard of hearing need to work in partnership to make adaptations in the curriculum and to structure the classroom in a manner that promotes social and academic. Further, Rieser (2012), noted that student with a hearing loss may require accommodations and assistive device to have the best access to education accommodations may be as single as preferential seating or as complex as wireless assistive listening devices in classroom. Some will require Auslan interpreters and live remote captioning. Each learner with a hearing loss should be assessed individually and accommodation should be implemented based on unique needs of each student.

It is difficult for a student watching an interpreter and also take notes from an overhead. An interpreter is unable to translate concurrently both words from the tutors and any information given on an overhead. It is important therefore that all information should be available as handouts. Provide written materials to supplement all lectures; tutorials and laboratory sessions. announcements, field work, industry visit etc., should be given in writing as well as made regarding class time, activities verbally (Sackey, 2015). Malik and ud Din (2019), conducted a study at Ohlone College on qualities of good interpreters, and concluded that goal of an interpreter is to make communication as complete as possible between both deaf and hearing conversational fluency in American Sign Language does not necessarily qualify a person to be an interpreter but professional training is vital so that interpreters learn to convey the thoughts, feelings, words, attitudes and meaning of the message presented whether those messages are spoken English or not.

With regard to challenges with lecture delivery, Marschark, Leigh, Sapere, Burnham, Convertino, Stinson, Knoors, Vervloed, and Noble, (2006), noted that an interpreter-

mediated learning often lead to time lags between spoken and sign messages and pace of instruction is among other variables influencing academic achievements of students who are deaf in an inclusive classroom setting. Similarly, Carter (2017), investigated inclusive teaching practices with students who are deaf with the main focus on classroom communication. His results revealed that the time lags between speech and signing sometimes made interpreters to abbreviate lecturers' speech and that negatively influence the completeness of information delivered by the lecturer.

Dooly and Moore (2017), observed that in a review of studies involving 33 students who are deaf in mainstream schools often failed to establish meaningful, and close relationships with their hearing peers, as a result, students who are deaf reported feelings of isolation and loneliness in school. Molina and Carrasco (2016), concluded that students who are deaf in mainstream programmes may not fully enjoy their relationship with peers, in particular, with hearing peers and due to this found out that students who are deaf are denied the opportunity to share knowledge with their hearing peers due to communication gap between these two categories of learners in an inclusive learning environment.

Akerele, Egunjobi, Amoyemi, and Ogunniyi, (2019b); Lewis, Green, and Riley (1999), outlined support services that would help students who are deaf;

Flexible delivery of teaching materials via electronic media is also particularly helpful for students who have difficulty accessing information in the usual ways. For instance, with a hearing loss, new technology – and the internet in particular can be used to bridge many gaps.

Technical terms which students will need to acquire are made available early in the course. If interpreters or captioning are being used as an adjustment, make this list available to the interpreter and hearing students to them as early as possible.

Using Auslan interpreters and live remote captioning may require some adjustments in teaching styles, particularly the pace of the learning. Consult with the providers of the service early to identify any potential changes, where live remote captioning is provided a transcript of the session can usually be assessed within 24 hours. It is recommended that these can be emailed directly to the student as an accurate record of reference.

Fobi (2016), conducted a research on academic experience of students who are deaf at the University of Education, Winneba and concluded that although support services provided for students who are deaf are not adequate enough, there is the need to provide more interpreters and note-takers who are skillful to provide regular services to the students.

Molina and Carrasco (2016); Bell and Swart, (2018), have observed that inclusion of students who are deaf fail at higher institutions because lecturers are unable to meet the demands of modifying and delivering an appropriate mode of teaching students who are deaf. Molina and Carrasco (2016); Kigotho, (2016), have argued that there could be issues such as rapid rate of instruction and discussion, rapid turn-taking and rapid change of topics by lecturers which could be insensitive to the needs of students who are deaf as they try to follow through the lecture. Similarly, Akerele, Egunobi, Awoyemi, and Ogunniyi (2019a); Phillips, (2013) observed that students who are deaf may miss much of the things taught during lessons while they try to take notes and watch projectors. They may have missed words and sentences and need extra time to make up for the loss.

Wooten (2014), explore deaf students' perceptions about the quality of sign language interpreting service rendered them in Ghana public tertiary institution. The study focused on students who are deaf and who use sign language interpreting services. The study revealed that quality of sign language interpreting services was a major issue of concern to students who are deaf and who use interpreting services in teaching and learning. The study recommended that the institution must take steps to ensure that interpreting as a general programme of study is introduced and implemented in the curriculum to train qualified interpreters for the deaf.

Phillips (2013), have noted that students who are deaf in Australian Universities reported that they miss out information during lectures. Tutoring is one support service offered to accommodate this problem faced by students who are deaf in accessing lectures through hearing students.

In a study on the perceptions of "academic engagement", Singer, Cacciato, Kamenakis and Shapiro (2020b), reported that students who are deaf and hearing students generally viewed their communication ease and engagement as similar. There were many differences, however, in terms of the specific methods or needs for interacting within a class. Students who are deaf showed a significantly lower satisfaction than hearing peers with the teachers' pace for example, expressing concerns that teachers often do not make sure that understanding is occurring before progressing with the lecture.

Similarly, Kigotho (2016), in a study, reported about the obstacles faced by students who are deaf at college and came out that there were many barriers to inclusive institutions such as the fast rate of teacher's speech during lectures, difficulty in participating in discussions and asking questions and answering questions during lecture. Marchetti Foster, Long, and Stinson, (2012), argued that participation in discussion was inhibited

for many students who are deaf because interpreters were not available, familiar with the content or subject matter, not visible from where the student was sitting, or not using a mode of signing to students who are deaf are familiar with, and the supports are from students.

Marchetti, Foster, Long, and Stinson, (2012), in a study reported that college and university faculty generally indicated that they made few if any modifications for students who are deaf and saw support service faculty as responsible for the success or failure of these students. Marchetti Foster, Long, and Stinson, (2012), further speculated that the failure of lecturers to adapt instruction could be as a result of attitude, a lack of training or inadequate guidelines or resources at their disposal and seems what is needed or preferred by students who are deaf does not appear to match what is offered. There were two distinct characteristics of effective lecturers, specific to students who are deaf perceptions of who an effective lecturer is. First, students who are deaf preferred lecturers who understood people who are deaf and deafness as an educational condition. Power, (1998), in a study with students who are deaf who use sign language found out that students who are deaf valued lecturers who were able to communicate clearly in signs without a third party interpreter. Spoken communication skills also appear to influence the participation of students who are deaf in higher education classroom activities negatively.

Singer, Cacciato, Kamenakis and Shapiro (2020), conducted a study on the perceptions of 50 students who are deaf regarding communication in classes. They reported that students who are hearing are comfortable in using speech in the integrated setting in higher education have “communication advantages”. Hearing colleagues appeared to be

able to receive and send a greater amount of a higher quality information than that of students who were less comfortable in using speech. Stinson, Whitmire, and Kluwin (1996), further noted that it is a challenge for interpreting and providing other support services to serve the various needs of students who are deaf, especially when it is not unusual for the variations that exist among students who are deaf in the same classroom.

Stinson, Whitmire, and Kluwin (1996), noted that the success of students who are deaf in mainstream discourse situation is therefore highly dependent on students who are deaf commitment to effective communication as well as commitment of lecturers and hearing peers.

Students who are deaf often perceive that they receive a distorted message when a non-signing instructor's lecture is translated by the interpreter (Long, Vignare, Thurlow, & Mallory (2007; Singer, Cacciato, Kamenakis & Shapiro (2020). During lectures some of the students who are deaf tended to be in a state of dilemma as they suffer from visual input overhead as they simultaneously attempt to pay attention to the instructor, interpreter, and any visual aids that may be presented (Marschark, Leigh, & Sapere 2005). Similarly, students who are deaf often miss out on secondary learning opportunities that are afforded to hearing peers, thus, opportunities to learn from classmates are often reduced to communication difficulties with hearing students and also lecturers are unable to provide them after class learning support because of lack of sign language skills (Parton, (2006); Liu & Hong, (2007); Long, Vignare, Thurlow & Mallory 2007).

Sackey (2015), carried out a study on sign language interpreting for students who are deaf at Rochester Institute of Technology (RIT) in the United States of America. The results of the study revealed that their students who were deaf did not acquire as much

information from lectures as their hearing peers even with experienced interpreters who were familiar to the students.

Marschark, Leigh, Sapere, Burnham, Convertino, Stinson, Knoors, Vervloed, and Noble, (2006), noted that classroom discussion presentation is one of the most common opportunities for postsecondary students who are deaf to participate. It is logical to assume that smaller classes would facilitate participation by students who are deaf. Meta-analyses of class size conducted with hearing students supported the view that learning generally improves as classes are made smaller. However, in inclusive classrooms the class size is somewhat large and therefore do not allow for individual attention to be given to students who are deaf. According to Abdul Malek, Ibrahim, Wan Aduan and Abdul Rahim (2018), receiving an education with typical hearing peers, can potentially be a very positive experience for students with hearing losses. Possible benefits in the professional literature Liu, Lazarus, Thurlow and Stewart n.d.; Megel and Heermann, 1994; Ramaa, 2018), concluded that individual who are deaf and able to live at home with their families instead of attending a special school, hearing colleagues support them at the school throughout the week.

Marchetti, Foster, Long, and Stinson (2012), noted that most frequently determinants of quality of support services to students who are deaf include: general education professionals' attitudes, knowledge and skills of educational professionals, classroom instructional patterns, and the communication. They reported that students who are hearing more comfortable in using speech in the integrated setting in higher education have "communication advantages". They appeared to be able to receive and send a greater amount of a higher quality information than that students who were less

comfortable in using speech, therefore, the hearing peers are ready to share ideas with students who are students who are deaf whenever the need rises.

Parhoon, Hassanzadeh, Parhoon and Movallali (2014), noted that effective of Learners Support Services to Distance Education Learners is important. The study was to understand participants' perceptions about the effectiveness of learner support services and their contribution to distance learners' progress. A qualitative case study research design was applied. Group and individual interviews were conducted and data were analyzed.

The study found that there was the need for sustained learner – tutor and learner – learner interaction and regular communication with the supporting institution during the learning process. This require planning and aligning learners support services to identify learner needs, access to learning resources, effective monitoring and supervision mechanism for academic, counseling and administrative support in order to ensure commitment and accountability of learner support providers. In order to reduce isolation which is created by physical separation between learners and service providers, the study recommended a structure for the provision of decentralized learner support services that are as close as possible to where distance learners live and work for ease of access.

2.5 Library support available to the students who are deaf

Omona (2013b), indicated that libraries are important in every educational system because they encourage independent learning, and enable students who are deaf to get access to information to supplement their knowledge they have acquired in the classroom setting. According to Florida, Lopez and Pozomucha (2012); Wooten (2014), the library

is a local gateway to knowledge that provides a basic condition for lifelong learning, independent decision-making and cultural development of the individual and social groups. (Phillips, 2013; Stinson, 1999).

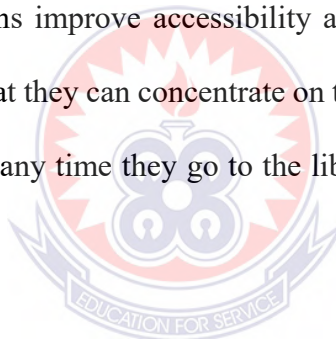
Halder (2009), has indicated that a library is a place for knowledge creation and sharing. It is a storehouse for knowledge in different formats (print and electronic). A library is helpful to students and learners for attaining success at school and also students who have access to library are more likely to get information which will aid their learning. The advent of Information and Communication Technology (ICT) is a boost to the library services since librarians are harnessing the potentials of ICT to reach out to the teeming library users. Halder (2009), affirmed that with the development and application of information and communication technologies (ICTs) the library environment has shifted from traditional library to a modern library with internet facilities in some cases.

Halder (2009), further stressed that a library plays a pivotal role in the provision of information to all students in educational settings. To the author a school library should be accessible to all students in inclusive settings but it appears students who are deaf often face challenges in communicating with library assistants to obtain information. The difficulty they face is as a result of library assistants' inability to communicate with them using the sign language.

Onoyeyan (2019), has observed that accessibility to information has been declared as fundamental right of every member of the society regardless of their physical condition, ethnicity, creed and religion and that persons with disability possess an equal right to information as those without disabilities. Onoyeyan (2019), further noted that persons

with disability such as students who are deaf should not struggle to access information at the library in inclusive learning environment.

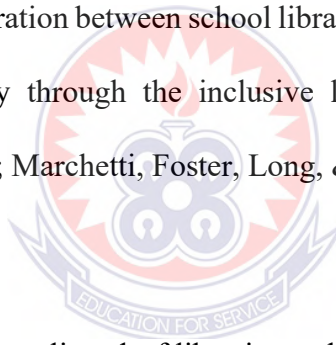
Despite the importance that a school or college library provides to students, students who are deaf are often confronted with challenges in accessing information at the library especially in the area of communication with library assistants. Palinkas, Horwitz, Green, Wisdom, Duan and Hoagwood (2015), examined cases of library services on the type and level of support offered disabled users. It was found out that only 30% of the surveyed libraries in Valdosta, a county of Georgia in the United States of America, offered special services and technologies for individuals with disabilities including students who are deaf. Palinkas, Horwitz, Green, Wisdom, Duan and Hoagwood (2015), recommended that librarians improve accessibility and address barriers to service for students who are deaf so that they can concentrate on their information need without any challenge due to disability any time they go to the library to look for information or to study.



Palinkas, Horwitz, Green, Wisdom, Duan and Hoagwood (2015), noted that most libraries have not considered focusing particular attention on the provision of services to persons who are deaf. Deafness has been called, with good reason, the ‘invisible handicap’ because deaf people are not identifiable as deaf by casual observation and they tend to blend into the larger community. As a consequence, librarians and deaf people have mostly been unaware of each other; however, a substantial portion of the population is deaf and librarians have a responsibility to ensure that their collections and services are accessible to deaf people.

Similarly, Molina and Carrasco, (2016): Susilo Adi, Unsiyah, and Fadhilah (2017), in a study in Argentina who surveyed twenty (20) different libraries that provided services for the visually impaired, the deaf and the physically handicapped concluded that those libraries were not in a position to provide best library services to students with special needs because the libraries lacked braille books for the visually impaired and library assistants who could not communicate with students who are deaf in sign language.

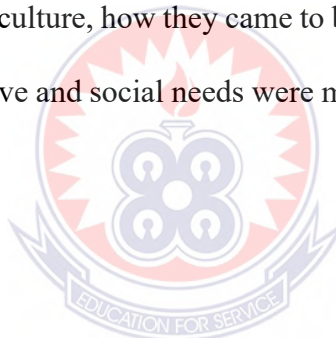
Abreh and Wilmot (2018), stressed that there are barriers in the provision of services for students with special needs such as students who are deaf in inclusive schools and these barriers are in the areas of physical resources, curriculum, policy, unintentional and intentional attitudinal barriers. These authors emphasised on the enhanced communication and co-operation between school librarians and special education teacher for improving accessibility through the inclusive library system. (Long, Vignare, Rappold & Mallory (2007); Marchetti, Foster, Long, & Stinson, (2012).



Maxwell (2018), one of the earliest deaf librarians who worked for the deaf community in Maryland in the United States of America, wrote that library policy makers regularly ignored the needs of the deaf either in schools, colleges or in the community when planning and budgeting for a library. She used the phrase “out of sight, out of mind”, to describe organisations and individual’s understanding of deafness. Policy and Paper, n.d.), noted that Americans with Disabilities Act of 1990, mandates that public accommodations, including libraries, must strive to provide auxiliary aids and services to the clients or patrons including persons with special educational needs. These authors maintained that aids and services appropriate for students who are deaf include quality interpreters, note takers, written materials, telephone communication device for the deaf

(TDDs), assistive listening devices and closed or open captioning. Eskay (2013), observed that little is available in the way of skilled personnel or adapted facilities to meet the needs of deaf and hearing impaired patrons. The author further noted that librarians particularly in Nigeria still tend to be unprepared to cope with the special and varied communication needs of students who are deaf.

Susilo Adi, Unsiah, and Fadhilah, (2017a); and Akerele, Egunjobi, Awoyemi and Ogunniyi (2019a), followed Petrie's manual with textbooks about serving students with special needs including students in the school library and observed that reasonable communication and lesson modification suggestions were offered to regular students, however, the information relating to students who are deaf was less helpful for understanding their unique culture, how they came to be in the mainstreamed classrooms and why their communicative and social needs were more challenging than their hearing peers (Wooten, 2014).



Ramaa (2018), maintained that libraries, both public and school, have not always been welcoming environments to patrons who are deaf. According to Nana, Kwafua, Librarian, Library, and Librarian (2020), noted that a deaf person who depends on sign language is at a disadvantage position and cannot decide on the spur of moment to go to the school library to locate books at a library where they experience challenges in communicating with library assistants in sign language. Almalki (2016), noted that in order to foster inclusion and independence for all students through the library, school librarians must develop the right leadership and instructional skills to meet the unique needs of all students with a range of physical, cognitive and emotional disabilities. Eskay (2013), argued that libraries should be accessible to all potential users without regard to

any disabling condition. Yet students who are deaf often discover that communication difficulties can be a serious barrier to students who are deaf when it comes to using of the library to its full potential. The author further contended that despite the numerous importance that libraries play in the academic life of students who are deaf, may be faced with the communication challenges when it comes to making request to librarians, example students who are deaf making request for references books and other services from the librarian may be a challenge for students who are deaf because of communication barrier. Lang (2002), has observed that there are significant differences between the perceptions of mainstream librarians and students who are deaf regarding the accommodating of students who are deaf in the library.

Although there have been library services offerings by a good number of libraries overseas, however, relatively little is available in the way of skilled personnel or adapted facilities to meet the needs of deaf and hearing impaired patrons. In spite of the prevalence of hearing loss in this country, that disability still remains a serious barrier to communication in use of libraries. (Nunes, 2002). Library Support Service for Distance Learning Courses therefore, cannot be overlooked.

The author conducted literature review at University of Northumbria on distance learning in terms of provision of library services for distance education programme as compare to the traditional education system. The research was of the view that the new trend of distance education is surely innovative, but it is important to avoid an education that is narrowly focused on the ‘student as a customer’ on individual outcomes more than social interaction and development of a complete curriculum. The role of libraries in distance learning has its ground on two different arguments. The first is that if distance learning

must be given the same opportunities as the ones offered to traditional learners in receiving full library support. The second school of thought reason is a more general remark on the nature of distance learning: the role of information resources is much more relevant in distance learning than in traditional

Eskay (2013), noted that library services should be provided equally to students who are deaf as much as it is provided to their hearing peers and further suggested that in order to meet the information needs of this group of library users and to make the library accessible to individuals who are deaf, the following considerations should be taken into account by school authorities:

Reference librarians should specialize in services

to students who are deaf.

Specialized training should be offered to other

librarians in meeting the needs of students who are deaf.

The acquisition of proficiency in sign language

should be encouraged.

Carter, (2009), conclude that the quality of staff training correlates positively with benefits of library services to students who are deaf receive. The study explained that users through increased sensitivity and understanding of users' needs help improved the quality of library service to better further enable students to conduct studies independently, and improved access to information. IFLA (2000), presents Guidelines for Library Services to deaf people. The guideline is group into four categories: Personnel, Communication, Collections and Services as follows:

Personnel

Responsibility for the development, implementation, and operation of library services to the deaf community should be assigned to a professional librarian holding the degrees, certification, and/or training pertaining to such professional status. Library staff should receive training focusing on the issues involved in providing services to the deaf community.

When selecting staff to be involved with the provision of services to deaf people, libraries should attempt to employ persons who have or are likely to be able to obtain credibility within the deaf community.

School of librarianship should provide training in the provision of services to deaf community as a normal part of their basic curriculum to prepare librarians for their professional qualifications and as a part of their continuing education programmes for all levels of library staff.

Libraries having responsibilities at the national level, or where applicable at an appropriate regional level, should establish an office or department responsible for provision of advisory and consultation services to all libraries within their geographical boundaries in order to assist them in the provision of services to the deaf community.

Each national library association should establish a group within its structure that would function as that portion of its membership focusing on the provision of library services to the deaf community.

Communication

All library staff should receive training in how to communicate effectively with people who are deaf in the use of their libraries.

A text telephone with teletypewriter should be available at each main service point, example, the reference desk, in each library. Additionally, at least one teletypewriter should be available for use by library clientele to make telephone calls from the library if the making of such calls is available to hearing clientele. Telephones for use by library clientele or staff should be equipped with amplification. Libraries should ensure that their internet presence is wholly accessible.

Libraries should use the latest advantages in technology for communicating with deaf people where such technology has proven beneficial within the deaf community.

Libraries should have communication aids such as assistive listening systems and equipment that can be used to support computer-assisted real-time captioning or computer-assisted note taking. These services should be available for meetings and programmes upon request. Libraries with television viewing facilities should provide closed caption television decoders for use by their clientele.

Libraries should offer to provide sign language oral interpreters, computer-assisted real-time captioning, or computer-assisted note taking services for all library-sponsored programmes upon request. Libraries should install visible warning signals in order to alert deaf clientele to problems and emergencies.

Collections

Libraries should collect materials related to deafness and deaf culture that will be of interest to both deaf and hearing clientele. Libraries should collect, maintain, and offer information about educational options, referral agencies, and programmes for deaf people in a wholly unbiased fashion. Libraries should assemble and provide access to a collection of high interest / low reading level materials of interest of deaf people. Visual non-print materials should form an integral part of any library's collections acquired in

support of services to deaf clientele. Television video programmes and other such media audio portions should be captioned or signed so that they may be understood by persons unable to hear. Libraries should assemble and maintain a collection of videotapes and/or films in sign language and provide sufficient equipment necessary to view them.

Services

All of the library's collections, services, and programmes should be made accessible to its deaf community. Members of the library's deaf community, as defined in these guidelines, should be involved in the design and development of services of deaf people, and in including the development of services and collections, and in the establishment of advisory committees, service organizations, and networks. Libraries should offer programmes conducted in sign language. Libraries should provide information on local literacy programmes that are accessible to deaf non-readers. Libraries should ensure that library sponsored literacy programmes meet the needs of deaf individuals.

Libraries should include local deaf-related information in its outline community information and referral database. Libraries should include an unbiased variety of deaf-related electronic links in their online database.

2.6 Summary of Literature Review and Research Gaps

This chapter has provided a review of relevant literature, including empirical evidence supporting support services available to students who are deaf on Distance Education Programme.

Again, from the review relevant literature it shows that almost all the citations were from European countries, United State of America and Asia in particular, but in Ghana no such study has been done especially on support services available to students who are deaf at Bagabaga College of Education study centre, therefore, this study was use to fill the gap.



CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presents the methodology for the study. It covered the research approach, research design, population, sample size, sampling techniques, instrumentation, procedure for data collection, validity / reliability of instruments, data analysis, and ethical considerations.

3.1 Research Approach

The study employed the qualitative research approach to find out support services available for students who are deaf on distance education programme at Bagabaga College of Education study centre, Tamale. Jennings, Aldinger, Kangu, Jennings, Purba and Alotaibi (2015), opined that qualitative researchers use an emerging qualitative approach to inquiry, collect data in a natural setting which is sensitive to the people and the places under study, and analyses data inductively to establish themes. This approach was useful for this study because, it allowed the researcher the opportunity to collect data from the field where the participants experience being studied. Also, it helped the researcher to collect data through interview and observation in a very convenient manner.

3.2 Research Design

A case study research design was adopted for this study. A case study is a research method based on an in-depth investigation of a single individual, group or events. It gives the researcher greater opportunities to gain an understanding of the subject matter at hand. It is suitable for empirical inquiry of a phenomenon within a real – world context which reflects the perspective of participants experiencing of the phenomenon itself.

Hamed (2016), asserted that a case study is the collection and presentation of relatively detailed unstructured information from a range of sources about a particular group or institution usually including the accounts of the subjects themselves. Hamed (2016), further pointed out that a case study aims to understand the case in- depth and in its natural setting aiming to preserve and understand the wholeness and unity of the case. Similarly, South African Cabinet (2015), noted that in case study, the researcher is primarily interested in understanding a prevailing situation. A case study was chosen to ensure effectively way of addressing the research problem.

3.2 Population

According to Biklen, Orsati, and Bacon (2014), population is a group of elements or case, whether individuals, objects, or events, that conform to a specific criteria. This implies that, in research, the term population can be explained as a comprehensive group of individuals, institutions, or objects with common characteristics that interests the researcher. The researcher works with one group of subjects, which is possible to gain more insights by looking in-depth at a few subjects. The population for the study was eight (8) students who are deaf on distance education programme at Bagabaga College of Education Study Centre, Tamale.

3.3 Sample size

A sample can be defined as a small portion of a population selected for a particular study. The sample should clearly represent the characteristics of intended group. A sample is a miniature picture of cross selection of the entire group. The sample size for the study was eight (8) students who are deaf at Bagabaga College of Education Study Centre at Tamale in the Northern Region of Ghana.

Table 1: Academic Demographic qualification of the Participants

Programme	Number of Participants	Year of completion
Diploma in Basic in Education	6	3
Post Diploma in Early Grade	1	2
4 – Year B.Ed in Basic Education	1	4

Table 1 shows the academic qualification of the participants according to the programme they admitted into: six participants offering Diploma in Basic Education for three years, a participant is offering Post Diploma in Early Childhood education for two years and another participant is offering four – year Bachelor of education in Basic Education.

Table 2: Demographic Characteristics by Gender of Participation

Gender	Number of Participants	Programme
Male	8	Diploma in Basic Edu. Early Childhood Edu. Four-Year in Basic Edu.
Female	0	

Table two shows demographic characteristics by gender of participants.

3.4 Sampling technique

Purposive sampling technique was used to select the sample size for the study. The specific purposive sampling technique used to select the sample was critical case sampling. This type of sampling involves the selection of a small number of important cases that have the likelihood of yielding the most important information and have the greatest impact on the development of knowledge (Suri, 2011). The eight participants

represent a small number of case that sampled and classified as critical to provide a wealth of information (Strewig & Stead, 2001).

3.5 Instrumentation

Interview guide

A semi-structured interview guide was used to collect data for the study. The interview offered the researcher the opportunity to gather data on the support services from students who are deaf on the distance education programme. Turner (2010), posited that the researcher during an interviewing process requires the preparation of an interview guide which must specify the questions, their order and also make guidelines for the interviewer on how to start and end. The interview guide contained open-ended questions which gave participants freedom in their answers and allowed them to express their views in personal terms. Creswell (2014), further indicated that an interview guide is a method that through face-to-face interaction with the participants, creates the possibility to obtain their unique views and opinions of a study. Dooly and Moore (2017), noted that a semi-structured interview guide allows the researcher the opportunity to work out some questions in advance, and to modify them based upon his/her perception of what seems most appropriate. The questions in the interview guide were phrased and allowed for probing and clarification of answers, on the key issues raised in the research questions.

3.6 Validity of the instrument

Validity refers to measuring what intended to be measured in a research method. Thus, the study success aims at measuring what the researcher set out to measure. Pizam and Shani (2009), noted that researchers consider validation in qualitative research to be an attempt to collect accuracy and trustworthiness of data. Pizam and Shani (2009),

explained further that accuracy is a distinct strength of qualitative research in an account made through extensive time spent in the field, the closeness of the researcher to the participants in the study and the description of participants create good relationship. To ensure confirmability of the findings the interview items were given for peer review. Also interview items were given to the field officer for review. The items were further presented to the researcher's supervisor, for expert judgment, suggestions, and for approval. Also the researcher suggested that the sign language interpreter would repeat questions for the participants to understand, and the note-taker to read the exact written quotes to the participants in using Ghanaian sign language.

The researcher had a prolonged engagement with the participants. It took more than four months. This prolonged time with the participants, opened up multiple opportunities for trust building and establishment of cordial relationship with the research participants. With the good rapport established with the participants, the researcher was able to collect reliable data through in-depth interview with the participants, hence, ensuring trustworthiness which reflect in the conclusions and led to recommendations.

3.7 Pre-test of instruments

A pretest in qualitative research involves administering the interview guide to a group similar to the manner that replicates how the data collection session will be (Ainin, Parveen, Moghavvemi, Jaafar & Shuib 2015). Also pretesting is a method of checking that questions work as intended and are understood by those individuals who are likely to respond to them. Ainin, Parveen, Moghavvemi, Jaafar, & Shuib (2015), The pre-test was conducted with three deaf people. The participants selected for the pre-test were deaf students and completed Distance Education programme at Bagabaga College of

Education Study Centre and have experience on support services. The findings of the pre-test made the researcher to increase the time for the interview and asked the interpreters to repeat questions intermittently in order to ensure accurate response.

3.8 Procedure for data collection

The researcher obtained an introductory letter from the Department of Special Education, University of Education, Winneba, which stated the purpose of the study. The researcher with the introductory letter in hand, sought permission from the coordinator of the Bagabaga College of Education, Study Centre to carry out the study. An initial visit was paid to the study centre to book appointment with the Coordinator of the Study Centre. The purpose was to establish rapport and to explain the details of the study to the Study centre coordinator and administrator, and the students who would be involved in the study. Having given the introductory letter from the Head of Special Education Department, to be given to the centre coordinator, the study centre coordinator asked the centre administrator to assist the researcher in the study. Appointment was booked for a second visit to meet all the sign language interpreters, note-takers and participants involved in the study.

On the second visit, and with the help of the administrator, the researcher was introduced to the interpreters and note-takers and as well as participants involved in the study. The researcher then sought the participants consent. Having agreed to participate in the interview, the participants agreed with the researcher, a suitable date, time and venue for the interview. Through a sign language interpreter, the researcher explained to the participants, the purpose of the study, and also assured of the confidentiality of all information they would provide.

All the eight participants participated in the study. All interviews were conducted in Ghanaian Sign Language with the assistance of two sign language interpreters and two note-takers. The interview was carried out in Ghanaian Sign Language because that was the only language in which participants could comfortably express their views and opinions. The format for the interview was focus group. The participants were interviewed together. The interview questions were asked from the interview guide and lasted for one hundred and twenty (120) minutes. The answers to the interview questions were signed back to the participants for them to confirm what was written by note-takers, in order for the participants to be sure that what they signed has been exactly captured. Finally, the researcher thanked the participants, the field officer, interpreters, note-takers and the centre coordinator and administrator for their support and assured them that copies of the finding would be made available to them upon their request.

3.9 Ethical Considerations

Ethical considerations represent one of the branches of philosophy of research methods. Ethics concerns proper ways of acting towards people and suggests moral principles and guidelines for the right ethical choices (Abbott and Gallipoli, 2020). According to Cheung Gong, Wang, Zhon, and Shi (2016), specific ethical considerations arise for all research involving human as subjects, therefore as researchers in social sciences, particularly in education, always relates to humans, ethical considerations become vital.

The researcher met the study coordinator to discuss the project that researcher wanted to embark on at that particular study centre. The coordinator asked the study centre administrator to support the project by contacting the interpreters, note-takers and the students who are deaf to disclose the researcher intention as a project about the students.

The participants were notified and their consents were sought days ahead before the

interview session. Participation in the study was on the basis of informed consent and none of the participants was forced to give a response during the interview sessions.

Again the researcher made an effort to ensure that the information about the study was clear to the participants. After receiving preliminary agreements from participants and before conducting the interview, the researcher provided an additional explanation about the study. The participants were informed that, their participation was voluntary and that they had the right to withdraw from the research at any stage. Again participants' real names were substituted with pseudonyms. The participants were assured of confidentiality.

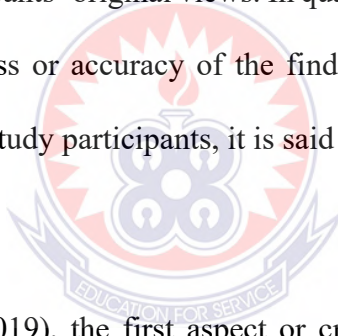
Creswell (2012), indicated that this process requires a sufficient level of trust based on a high level of a participant disclosure. To the author some of the ethical practices will include; informing participants of the purpose of the study, maintaining confidentiality and using ethical interview practices. Again some of the ethical issues to consider normally when undertaking a study include; privacy, confidentiality, sensitivity to cultural differences, gender, religious and anonymity.

Further the consent of the sign language interpreter and note-taker was sought. The researcher arranged and met the interpreters, note-takers and field officers at the study centre for further deliberations. The discussion was on the topic, a convenient venue for the interview and the number of participants involved. The researcher also discussed the number of days for the interview and reasons for the use of interpreters and note-takers because the participants use sign language to express themselves and agreement of how much for their transportation. The researcher informed the interpreters, note-takers and field officer that all information that would be generated from the participants would be

kept secret by the researcher. Again, the researcher informed the note-takers not to disclose what transpire during the interview session to anyone and also all rough work would be submitted and kept by the researcher. The researcher took care to protect all the data obtained from the interviews (written notes) and information regarding the participants in strict privacy. The interviews were conducted at the most convenient time and appropriate place for the participants.

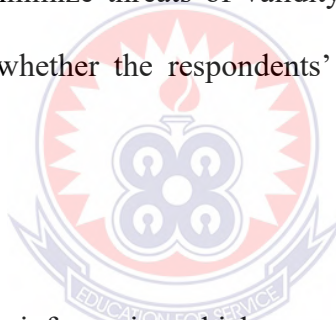
3.10 Credibility of findings

Korstjens and Moses (2018), noted that credibility establishes research findings represent reasonable information drawn from the participants' original data and its correct interpretation of the participants' original views. In qualitative research, credibility refers to the data's trustworthiness or accuracy of the findings. When the research findings reflect the opinions of the study participants, it is said to be credible.



According to Mckenna (2019), the first aspect or criterion to establish in qualitative research findings is credibility. This is because, it gives opportunity to demonstrate the credibility of the research results, by linking research study findings to reality. With regard to the credibility the researcher devoted sufficient time to learn about the culture, testing for incorrect information, established trust by visiting the study participants during tutorials and consulting required document. Shenton (2004), longer engagement allows the researcher to collect as much information as possible about the study participants. In view of this, the supervisor of the researcher critically analyzed the interview guide questions before it was administered, hence, a great deal of technical proficiency was employed to ensure the accuracy of participants' accounts in order not to miss essential details of the information.

The interview guide questions were on printed form and read by field officer while the interpreter was interpreted to the participants by using Ghanaian sign language because the participants were students who are deaf, at the same time the note-taker indicated the theme and question numbers in a written form to maintain all the necessary aspects of the interviews intact. Further, the note-taker was asked to write precise information in Ghanaian Sign Language verbatim of the responses. Furthermore, the responses were checked several times by the interpreters and participants in order to ensure accurate understanding of 'respondents' because the respondents perspective is central to the qualitative research. However, both the interpreter and note-taker were never fully free from the researcher at times the researcher ask interpreter or note-taker to explain what the student said, just to minimize threats of validity. Also during the interviews, the researcher often checked whether the respondents' statements and viewpoints were properly understood.



In addition, the note-taker's information which was written in Ghanaian Sign Language was translated into correct grammatical sentences to enable the reader to understand the interpretations made by the researcher. Within the study, the learners accounts regarding to the phenomenon complement each other and these data were supplemented with the ones from the focus group interview. As an input to validity, the pilot study, peer review and field officer suggestions and researcher supervisor's suggestions and approval was a means to ensure that the researcher instrument provided relevant information.

3.11 Dependability of findings

Dependability measures are used in qualitative research. In qualitative research, dependability refers to the consistency, stability and repeatability of the informant's

account, as well as the ability of the investigators to gather and record data accurately (Nobble and Smith, 2015). Also the ability of research methodologies to consistently produce the same outcome over time is referred as reliability. This means that the researcher using the same comparable methodology on same participant would obtain the same result every time she utilizes the approach. According to Ireland (2016), reliability is primarily concerned with the consistency or replicability of study findings, as well as the extent to which findings are stable. The researcher used qualitative, case study and students who are deaf to obtain the data which allowed the researcher made judgements regarding the soundness of the research in relation to assessing support services available to deaf students.

Long and Johnson (2000), provide three reliability tests for qualitative research, each of which should be employed as needed for specific studies. Stability, this can be established by asking the same questions to an informant and getting consistent responses. Consistency, a second test for reliability refers to the integrity of problems within single interview, ensuring that a respondent's responses on a specific topic are consistent. Equivalent, the last test, is tested by using alternate versions of questions with the same meaning within a single interview.

The researcher asked the field officer to read each theme and the questions that emerge under it to the interpreter to sign to the participants. This allowed the participants to have fair idea of the interview questions. Afterwards the field officer asked the questions one after the order for the interpreter interpreted to the participants using Ghanaian Sign Language and participants also responded in Ghanaian Sign Language, whilst the note-taker wrote the responses verbatim. Intermittently the interpreter repeated the question

to remind the participants to stick to the question, this led to consistent responses from the participants. Williams, Broewer, Ford, Williams, and Carraher (2008), suggested to make the steps operational as much as possible by precisely documenting the undertaken procedures. With regard to this concern in mind, the researcher carefully documented the field work details in the study report.

3.12 Confirmability of findings

In qualitative research, each researcher is assumed to provide a distinct perspective to the degree to which the results could be validated or corroborated by others, this is referred to as confirmability (Mckenna, 2019). The last element of trustworthiness was that a qualitative researcher must demonstrate this criterion which refers to the degree of certainty that the conclusions of the research study are based on the participants' words. Validity and reliability are important quality measures of every research. The main question that arises regarding to qualitative study is how to make sure that the conclusions made by the researcher are valid and trustworthy (Maxwell, 2018). The researcher documented all the data gathered from the participants and from time to time she checked and rechecked to ensure it alignments or trustworthy to minimizing validity threat within context of the study.

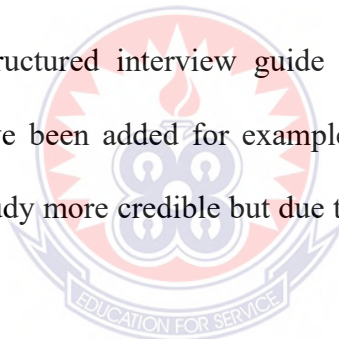
To ensure confirmability of the instrument the interview items were given for peer review. Also interview items were given to the field officer for review. The items were further presented to the researcher's supervisor, a professional in reading for expert judgment, suggestions, and approval. Also the researcher suggested that the interpreter would repeat questions for the participants to understand it, and the note-taker to read the exact written quotes to the participants in using Ghanaian sign language.

3.13 Data analysis

Analysis of the interview data began with writing the data from the participants into grammatical correct sentences. After this, the researcher read through the data several times in order to familiarize with the data collected. The researcher then coded the data by assigning labels to areas of the data that answered the research questions. After this the researcher put the data into categories. The next step was identifying the key themes that emerged from categorized data. Lastly, expressions of the participants were used to support findings where necessary for the research questions raised.

3.14 Limitation of the Study

This study used semi- structured interview guide to collect data. There are other instruments that could have been added for example the researcher could have used observation to make the study more credible but due to COVID – 19 the researcher just limited herself to only one.



CHAPTER FOUR

RESULTS/FINDINGS

4.0 Introduction

This chapter presents the analysis of the findings from the study. The analysis was based on the four research questions that guided the study. The data were generated from the interview conducted with students who are deaf on distance education. The interview data revealed some support services available to students who were deaf on the distance programme.

4.1 Research Question One: What support services are available to students who are deaf during tutorials?

Four themes emerged from the analysis of the interview data for research question one. They were kind of supports given to students during tutorials, quality of support services, how often the support services are offered, and what students think they need to be done during tutorials to improve on their support services.

Concerning kind of support services given to students during tutorials

The following comments were made by some students:

interviewee 1 said:

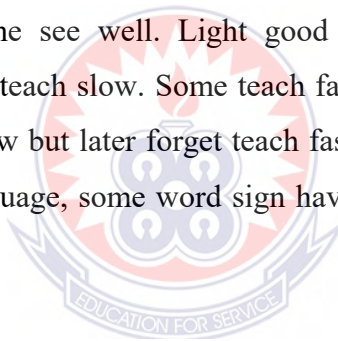
Yes, we have interpreter hearing help me write notes, sitting place in class have, close with interpreter see signs clear, light in class better, but classroom me sit is hot always sit near interpreter so see clear. Hearing lectures some slow fine but some fast, not help me. Interpreter use sign language when note taker write finish notes give me.

Translation:

I have two resource persons that support me during tutorials. One is the sign language interpreter and the other one is the note-taker. There is a particular place I sit which is closer to the interpreter that enables me to see the signs clearly. The lighting system in the class is better. Some lectures do recognize the deaf in the class and for that matter, they try as much as possible to slow down or repeat their lesson presentations, but others do not. After the days' work the notes-taker presents the various lesson delivered to me.

Interviewee 2 commented:

Only interpreter have but no note write, interpreter sit near me so me see well. Light good some teacher see me consider teach slow. Some teach fast. interpreter tell them teach slow but later forget teach fast again. interpreter use sign language, some word sign have not interpreter finger spell.



Translation:

I had an interpreter without note-taker. I was not having a particular place in the class to sit, but any available space in the class is used by the interpreter and I. The interpreter was always closer to me. the lighting system was very good, therefore whatever the interpreter signs or finger spells I see it clearly. Some of the lectures consider me in their presentations; others forget about me and present their lesson very fast. It is when the interpreter prompts them then they slow down for a while, and forget about me again. The interpreter uses Ghanaian sign language and at times if the vocabulary is new or a term from a module then the interpreter finger spells those words.

From the above comments, it can be deduced that students who are deaf have support during tutorials. One of the resource persons is a sign language interpreter and the other person is a note-taker, while the other student had only a sign language interpreter without a note-taker. In terms of sitting arrangement, a student said there is a particular place for the deaf which was closer to the interpreter that enables student to see the signs clearly. But the other student stressed on not having a particular place to sit with the interpreter. Comments by students also indicated that the lighting system in their class was very good and that some lecturers consider students who are deaf and slow down their lessons delivery while others do not consider them even when the interpreters prompt them, some of them would slow down for a while and forget about it again. Students also said that at times when there was a new vocabulary or term in a course that has no sign language the interpreter finger spells that word. Students' comments further indicated that interpreter uses Ghanaian Sign Language and the note-taker prepares lecture notes on it for the student. With regards to the pieces of information from the students, it means there are support services available to students who are deaf during tutorials.

Quality of support services given to students during tutorials

Regarding of the quality of support services given to students, the following comments were made by the students:

Interviewee 3 opined:

Me have two hearing help me always in class, one interpreter use Ghanaian sign language me understand better, notes - write prepare notes using key word from book for me, interpreter sign subject more more tired, change for note-write and note-write sign for me. Music and Dance, resource persons no sign language and I not hear, again learn English language problem more more.

Translation:

I have two resource persons who are available to support me in class. One is an interpreter who uses Ghanaian sign language which I understand better, and other is the note-taker who prepares lecture notes for me which is the summary of the presentations. The interpreter signs for many courses that makes the work tiresome, so at a point in time the interpreter swaps with the note-taker. This changes the note-taker to become the interpreter while the interpreter becomes the note-taker to ensure quality of resource persons. With regard to the courses, the students said courses like 'Music and Dance and English Language' there are no sign languages associated.

Interviewee 4 noted:

Some subject interpreter sign I understand, some subject understand not example science, HIV/AIDS, phonetics difficult. Interpreter come always. Ghanaian sign language effective, note and sign language same. Interpreter and note taker always come, sometime note and interpreter tell same, sometime different small, note write perfect.

Translation:

I understand some of the courses when the interpreter signs, but some courses such as Science, HIV/AIDS and Phonetics become difficult to understand, because most of the terms, the interpreter has to finger spell them, which makes it difficult for me to memorize them. Interpreter and notes-taker are always punctual and regular. Ghanaian sign language used by the interpreter is effective, because anytime I go through my notes and compare it to the sign language they are the same. At times too there are slight

differences between the sign language and the notes. Actually my notes-taker writes the notes perfectly.

With regards to the quality support services, it can be deduced from students' comment that there are two resource persons, interpreter and note-taker. The students agreed that the interpreters use Ghanaian sign language which makes them to understand what goes on in the class during tutorials. The students said that the note-takers prepare lecture notes by summarizing the presentation for their study. One of the students went on to say that the use of the Ghanaian sign language used by the interpreter is effective because comparing the notes prepared by the note-taker with that of sign language, they were the same. One of the student said that the interpreter signs for so many courses which makes the work very tiresome, therefore, from time to time the resource persons swap with note-takers and vice versa. The other student also said that some of the courses like Sciences and HIV/AIDs terms, the interpreter finger spell which makes it difficult to memorize.

With regards to the above comments from the students, it has revealed that students who are deaf receive support services from the institute yet there are challenges that need to be addressed.

How often the support services are offered to students during tutorials

Concerning how often support are given to students during tutorials; these comments were made by the students.

Interviewee 5 said:

Class me interpreter support during tutorial meeting. Anytime teacher or hearing want information, interpreter ready tell me and answer correct. Also any information from study centre or Winneba, me interpreter text time correct. Tutorial meeting ready interpreter me snap send, me know date. Again anytime date change tutorial meeting interpreter or note-writer me inform. Also note-writer always come for tutorial and write note, all subject for me study home.

Translation:

Interpreter supports me in class anytime there is tutorials. Any message from lecturer or hearing colleagues during tutorials, the interpreter is always ready to let me be aware and translate my response to them appropriately. Again, anytime there is information from the study centre or the institute, the interpreter makes sure to inform me by texting it to me. Also when the tutorial schedule is released the interpreter snaps it and sends it to me in order for me to be aware of the dates for tutorials and other activities. Sometimes if there is any change of tutorial date any of the resource persons will inform me as soon as possible. Also the note-taker is present during tutorials and prepares lecture notes on all the courses for the day and gives it to me to study later.

Interviewee 6 added:

Me have two resource person all time during tutorial, interpreter and note writer. When teacher teach interpreter sign for me and note-writer ready prepare note me give closing. Me help by interpreter translate question or contribution in class and happy correct answer. Always information from centre me inform by support person through text or sign. Again announcement send by Winneba time for collection books, interpreter me inform. True, me get information early because resource person visit centre regular for information or me ask interpreter by text any information for me from centre or Winneba.

Translation:

I receive support services from both sign language interpreter and note-taker at all times there are tutorials. The interpreter signs in class when the lecturers are presenting their lessons. The note-taker prepares the lecturer notes and give it to me after closing. During

tutorials If I want to ask a question or contribute in class, the interpreter is able to translate the information to the class for me at any of the sessions and when correct response is given I feel good. Again anytime there is information from the centre, any of the resource persons sends to me either through text or sign language. Also when Winneba sends the schedule for collection of modules at the centre, interpreter informs me about it. The resource persons normally visit the study centre and if there is information for students they inform me. Also from time to time I ask any of the resource persons for any information from Winneba or the study centre.

From the above comments on how often students receive support during tutorials. A students have two resource persons which one of them is an interpreter and other one is a note-taker because the students are in different levels. Comments by student said that during tutorials, interpreter and note -taker are always present, and always ready to give them information so that they can respond appropriately. The interpreter signs in the class when the lecturers are presenting their lessons. Also the note-taker is always ready to prepare the lecture notes and give it to them after closing. Students said that during tutorials the interpreter is able to translate the questions or contributions made by the students in the class at any session of tutorials and feel good when correct response is given. Again, students noted that any information from the study centre or the college, the interpreter makes it available for them either through text message or sign language. Comments by students indicated that whenever tutorial schedule is released the interpreter snaps and sends through WhatsApp in order for the student to be aware of the dates for tutorials. Students noted that anytime the institute sends schedule for collection of modules to the study centre, any of the resource persons informs them.

What students think needs to be done during tutorials to improve support services.

As far as the above theme is concerned, the following suggestions were made by the students.

Interviewee 7 noted:

Me think two sign language person better than one. Then tire from one sign language person reduce because one help another. Also sign language continue interprete no break

Translation:

I would like to suggest that instead of only one interpreter there should be two interpreters. This would reduce the tiredness the interpreter goes through, and can also bring quality in the interpretation exercise.

Interviewee 8 added:

“me think Winneba deaf consider select course, study difficult not, again office tell teacher new deaf in class, slow teach”.

Translation:

I think that university of education, Winneba, should allow deaf students to select courses which are not much difficult to study. Again the study centre should inform new recruited tutors or lecturers that there are deaf students on the programme; therefore, they need to slow down their lesson delivery.

With regards to what needs to be done to improve the support service to students who are deaf on the programme, the students suggested that, there should be more than two resource persons to a class. Also students should be allowed to select courses to replace most difficult courses. Again, Study Centre should inform new tutors the presence of

deaf students on the programme to enable the tutor to consider the students during lesson delivery.

4.2 Research Question two: How are students who are deaf supported during assessment?

Four themes emerged from the analysis of interview data for research question two. They were support services given to students during quizzes and examinations, quality of support services, how often the support services are offered and what students think need to be done during quizzes and examinations to improve their performance.

Support services given to students during assessment activities

Concerning support services given to students during quizzes and examinations, the following comments were made by students:

Interviewee 7 stated:

School not allow interpreter, explain me some word hard understand not, only interpreter sign instruction and correct wrong questions and book answer collect.

Translation:

The university does not allow interpreter to explain anything I asked for during quizzes and examinations, especially words which I do not understand but the interpreter informs me about the instructions concerning the quizzes and the examinations, and if there is any change to be made on wrong questions. The interpreter makes sure my scannable form is submitted for parceling in an appropriate labeled envelope to avoid incomplete (IC) results.

Interviewee 4 said:

Examination time, interpreter in class with hearing teacher to tell start time and close time, again if Winneba examination question wrong interpreter tell me, I cannot ask interpreter explain word hard for me.

Translation:

The interpreter is made to join the hearing invigilator in the class where I am so that the Interpreter can tell me when to start and end the quizzes or examinations. Also if there are any corrections to be made, it would be signed by the interpreter. Again I cannot ask the interpreter for explanation of any word I do not understand.

Comments by students indicate that interpreters are always present during quizzes and examinations, but they are not allowed to attend to some of the issues of students who are deaf, for example, some of the words used in the sentence which the deaf do not understand or make it difficult for the deaf to give correct answers, or long statements that make it difficult to comprehend a passage or a question, so that appropriate answer could be given. Also a student said that the interpreter ensures that a student signs attendance sheet, quoting correct index number and submit to the invigilator who is hearing for onward submission to officers who are in charge of the examinations.

With regard to quality of support services during assessment the following were the comment made by students:

Interviewee 6 remarked:

Interpreter always support me during examination and quizzes, tell time left for quiz or examination, stop work or check my name, index number all write correct prevent "X", as a score, again, interpreter make sure that my answer paper give to the officer. Interpreter invigilate together with hearing invigilator who not allow me get explanation for difficult word. Me think, think to know answer or forget. Long question sentence make difficult understand to answer. Examination officer no give extra time, me get low mark.

Translation:

Interpreter always informs me of the time left to stop work, again makes sure I sign the attendance sheet and also ensures that I write my index number correctly to prevent 'X' as a score. The interpreter also makes sure my answer booklet is handed over to the invigilator. Interpreter is allowed to invigilate together with colleague hearing. I am not allowed to ask the interpreter to explain new vocabulary used to set the questions; which makes it difficult for me to understand the statement and answer appropriately. This makes me to think so much to know what exactly I should do, which sometimes makes it so difficult to answer; or just forget about it. At times too, long sentences of the questions make it difficult for me to understand what I read to select correct answers for the questions. Again examination officers do not give extra time.

Interviewee 3 opined:

Hearing interpreter help me only sentence problem or question wrong, sometime change place next examination, also some subject not good for deaf, example phonetics, music and dance because sound only use, deaf use sound not, write quizzes and examinations subject difficult, but Winneba force deaf write.

Translation:

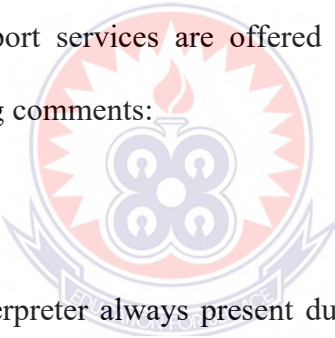
Interpreter only assists me when there is an omission or a typographic error of a statement in a question. Assistance given to me is not enough, because some of the course cannot be done by the deaf. For instance, course like Phonetics and Music and Dance which deal with speech sounds, I find it difficult to cope with, because there is no sign language representing the speech sounds. I have no knowledge about them, yet Winneba would set questions on them for deaf students to write.

It can be inferred from students' comments on the quality of assessments, students noted that interpreters are allowed to invigilate in order to draw students who are deaf on examination rules. The support services interpreter renders to the students during examinations or quizzes are; time to start and end the paper, interpreter ensures that students sign the attendance sheets and quote index number correctly to avoid being marked 'X', (*according to UEW Student Handbook*). Comment by students indicated that interpreter informed students whenever there is a change of venue for the examination. Also the interpreter supports the student when there is an omission or a typographic error of a question to be corrected.

How often support services are offered during examinations or quizzes

Regarding how often support services are offered during examinations or quizzes, students made the following comments:

Interviewee 2 commented:



Me interpreter always present during quiz and examination, interpreter support by join invigilate where me sit. Interpreter tell rule follow, me not carry foreign material into room. If invigilator see collect not give again and ask fill form attach to script and send Winneba, later result come mark "Z" wait for year two or more before write subject.

Translation:

I always have interpreter who supports me during quizzes and examinations. Interpreter joins colleague hearing to invigilate at the classroom I sit to write the examinations. Interpreter draws my attention on rules and regulations govern the quizzes or examinations. For instance, the interpreter makes me aware that foreign materials such as phones and other prepared written materials are not allowed to be carried into the

examination room. If any of such material is found on me, the invigilator would cease it and would not be given to me again or cancel my paper, or would ask me to fill examination malpractice form which will be attached to my script and forward it to examination board for investigation and appropriate sanction. Furthermore, the result will come as "Z" (the result withheld for either two years or more), this means I will not be allowed to write that course until two years or more.

Interviewee 8 noted:

Me have support during quiz and examination, sometime my interpreter text date and time write examination or snap examination time table send me. Again, me inform receipt fee pay bring all, examination place show Winneba. At time me not have support and me become alone, me watch hearing and do work. Peace no for me result come I score low mark.

Translation:

I have support from the interpreter during quizzes and examinations. My interpreter texts the date and time for examinations to me, or snap the examination time table to me. Also the interpreter informs me to come along with all the receipts of payment of fees to the examination hall for inspection. But if the interpreter is absent I find it difficult to work within time because I need to observe my colleagues to be aware of what is happening. This makes me not feel comfortable and affect my result and score low marks.

From the above comments made by students concerning how often the students receive support services during examinations are; interpreter often text the dates and time or snap the time table for the examinations or quizzes to the students before the examinations. During examinations or quizzes interpreter is available to support the student all the time. Resource persons normally inform students to bring along their receipts for inspection.

Also interpreter always remind the students of the rules governed the examinations in order to avoid the marked 'X', 'IC' or 'Z'.

What students think needs to be done during quizzes and examinations to improve their performance

With regards to what students think needs to be done during quizzes and examinations to improve their performance, these views were expressed by students.

Interviewee 1 indicated:

Sign language different from English language, so good if they call interpreter mark deaf examination paper. By mark idea not English language so deaf get good score and some subject word hard must change easy understand such as HIV/AIDS, other Sciences. Short sentence use in examination or quiz better to understand and answer the question correct.

Translation:

I will like to suggest that it would be good if interpreters are invited for conference marking to mark deaf student's examination scripts, because the structure of sign language is different from the structure of English language, the interpreters would mark ideas, but not to follow the structure of English language strictly so that students who are deaf can get good grade. Also some of the terms used in the modules which interpreter find it difficult to sign should be changed to simple words for the deaf to understand so easily, such as terminology in HIV/AIDS and Science courses.

Interviewee 5 said:

Hearing interpreter must explain word hard use examination question that me understand and help write answer correct, Winneba allow students select subject and change difficult subject give time extra no, government tell Winneba give time extra for write quiz or examination.

Translation:

Sign Language Interpreter should be allowed to explain unfamiliar words or new vocabulary used in the sentences to me during quizzes and examinations, this would enable me to understand the questions, and answer them appropriately. Again, government should ask the University to give extra time to students who are deaf whenever they write quizzes or examinations.

Students views indicate that interpreters should be invited for conference marking to mark the scripts of deaf students and that would enable the interpreters to mark ideas than follow strictly the English language structure, and this would improve the student grade. Interpreters should be allowed to explain new vocabulary to students who are deaf during quizzes and examinations which would enable students to answer questions correctly. Also extra time should be given to students during quizzes and examinations.

4.3 Research Question three: How are students Supported by hearing students academically?

Four themes emerged from the analysis of interview data for research question three. They were how often colleagues who are hearing support students after tutorials, quality of support received from hearing colleagues, the language hearing colleagues use when providing support services to students who are deaf. What needs to be done to assist hearing colleagues to give more support?

How often hearing colleagues support students after tutorials

Concerning how often colleagues who are hearing support students after tutorials, the following views were expressed by students:

Interviewee 5 noted:

Me receive support from hearing always. Me fee no pay book give not, hearing borrow book for me from old student learn. Friend hearing promise get place me and interpreter and note write always during tutorial after difficult get place sit during break time. Again hearing get question paper past me send WhatsApp or photocopy for learning. Also me important give information from hearing like date select leader student, me take part vote.

Translation:

Hearing colleagues support student always after tutorials. Anytime student is not able to pay fees on time, hearing colleagues borrow modules from senior students and give them to me to study. hearing colleagues assure me of securing place for me to sit and also secure places for both my interpreter and note-taker always during tutorials. This was after having difficulty to get a place for myself, the interpreter and note-taker during tutorials. Also hearing colleagues share past questions with me through whatsapp or photocopy them for me. Hearing colleagues send me information such as date for voting, to select students' leadership, which I take part.

Interviewee 3 remarked:

Deaf me get help from hearing always. Hearing help all time by me give date book collect and me go. Hearing snap question past papers send me learn. Again hearing write show paper tell me extra class by teacher, day and time me attend learn

Translation:

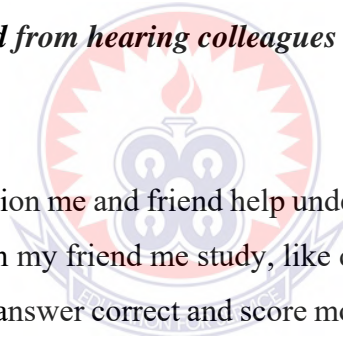
As a student who is deaf, I get support from my hearing colleagues all the time. My hearing colleagues inform me about the date for collection of modules for my studies.

Also hearing colleagues make past questions available to me always to learn. Again, any time there is going to be extra classes organized by the lecturer, colleagues hearing makes it known to me to attend.

Comments by students indicate that hearing colleagues offer support services to them, the following comments were made: Students comments indicate that hearing colleagues support them by sharing ideas with them either through media platform or hard copies, and borrow modules from past students. Hearing colleagues inform students who are deaf any time collection of module and time for voting to select students' leadership is due. Also students remarked that hearing colleagues inform deaf students about extra classes organized by lecturer through texting.

Quality of support received from hearing colleagues

Interviewee 1 indicated:



Discussion me and friend help understand topic easy, also past question my friend me study, like quiz and examination again come I answer correct and score more more, anytime me study self ahead some word me not understand text to friend and explain me, sometime hearing colleague support me make difficult me understand, because communication not better, reason my friend sign language use local, me correct sign language use.

Translation:

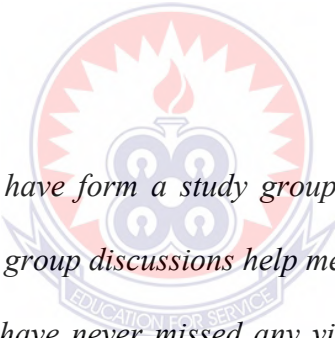
The discussion I do with my friends helps me so much to understand certain concept easily. Beside that some of the past questions my friends and I study are normally repeated during quizzes or examinations and that helps me to score high marks in those

courses. Anytime I study a subject and I come across a word which I do not understand, I text it to my friends and they explain it to me through texting.

Interviewee 4 said:

Me form group with hearing friends, information from discussion hearing friends help me more, friend help my interpreter when my interpreter class out get information from teacher, then interpreter explain it, sometime friend sent past question and work question help me know how question set, miss no information example date for classes, date collect book before finish, date write examination because my friend text me all information.

Translation:



Hearing colleagues and I have form a study group. The information I get from my hearing colleagues through group discussions help me a lot in my studies. With the help from hearing colleagues I have never missed any vital information from the lectures because even if my interpreter leaves the class my classmates share the information with me. In addition, my best friends send me solve past questions which enable me to be familiar with how questions are set. Also my friends share these information dates for tutorials, dates for collection of modules, dates for writing of quizzes and examinations etc.

Regards to the quality support from hearing colleagues to the deaf students, these were the following comments;

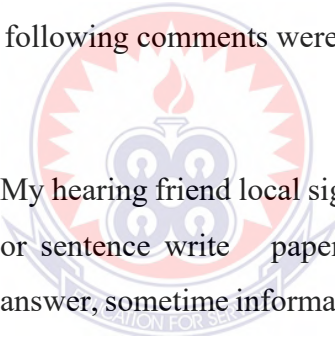
Deaf students form a study group with hearing colleagues to discuss topics of the courses and study past questions which help the deaf students to understand the concept. Also

students indicated that hearing colleagues share information from lecturers with deaf students. Again, solutions of difficult questions are given to the deaf students to make photocopies and study them. Comments by students indicated that hearing colleagues inform students on dates for collection of modules, dates for tutorials, writing of quizzes and examinations and any other announcement from either Winneba or the Study Centre, through students' platform. With the comments from the deaf students, it is obvious that the hearing colleagues provide support services to deaf students on the programme.

Medium of communication that hearing colleagues use when providing students with support.

Concerning mode of communication that hearing colleagues use when providing support to student who are deaf, the following comments were made:

Interviewee 6 indicated:



My hearing friend local sign language try use
or sentence write paper give me and me
answer, sometime information friend text me.

Translation:

My friends try to use unconventional sign language or write the issue on a piece of paper for me, and I also answer. At times too my friends text the information to me or post it on our WhatsApp platform.

Interviewee 2 noted:

Two friend hearing best write on paper or board
give me. They WhatsApp information give.

Translation:

My two best friends who are hearing write on paper or on board anytime they want to give me information. At times too they text information through WhatsApp to me.

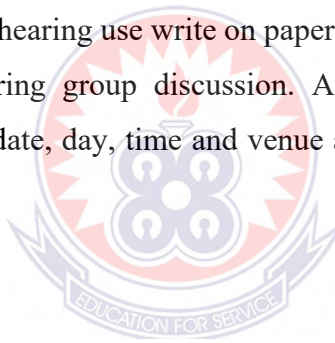
It can be deduced from the comments made by students that the mode of communication used by hearing colleagues to communicate with deaf students are unconventional sign language, texting, writing on pieces of papers or writing on the board.

What needs to be done to assist hearing colleagues to give students more support

With regards to the above theme, the following comments were made by students.

interviewee 8 opined:

Me think hearing use write on paper or information text better during group discussion. Again tell me extra teaching date, day, time and venue and subject interest join.



Translation:

I think that colleagues who are hearing should kindly write information on pieces of papers for me, and also could text them to me. These would be the best way to help deaf students during group discussion. Again hearing colleague should text the information about extra classes that would be organized for students, the date, day, time, venue and the course, if I am interested I could join them.

Interviewee 7 remarked

Me think Winneba subjects sign language teach, hearing colleagues learn sign language and use future, interact with deaf better.

Translation:

I think that Winneba should introduce sign language as a course on the programme which would give an opportunity to hearing colleagues to study sign language which would enable them to use it in future whenever they want to interact with deaf students.

With regard to the above comments, students who are deaf suggested that hearing colleagues should write on pieces of paper and text them to those who are deaf. Also the University of Education, Winneba could make sign language a compulsory course for all students on the programme to study. With this any student who is hearing would be able to get the chance to study sign language and use it effectively.

4.4 Research Question four: Library support services given to deaf students.

Four themes emerged from the analysis of interview data for research question four. They were; support receive at the college library, how often do students receive support from the library, type of support student receives at the college library, colleagues, and what needs to be done to improve the support.

Support received at the college library by students who are deaf

On the above theme, the following comments were made by students.

Interviewee 3 stated:

Me know college library but use not. Me home far from school.

Translation:

I am aware of college library but I have never used it because I stay far away from the college.

Interviewee 6 said:

Me see college library before and go read there.

Translation:

I have seen college library before and have gone there to learn.

It can be deduced from students' comments that not all of the students visit the library to learn.

Type of support receive at the library

With regards to the type of support, the following comments were made by the students.

Interviewee 8 noted:

Me go library borrow course material read, write name book on paper to worker special literature book worker search for me if any borrow. At time get book not, but show place buy book

Translation:

I go to the library to borrow books especially literature books to learn. I write the title of the book on a piece of paper to the library staff to look for me. At times I do get the book to borrow, but sometimes the staff would direct me to bookshop in town to go and buy it.

In terms of the quality of support services offered by librarian to students who are deaf.

These were their comments:

Comments by students indicate that they receive support from library staff at the college in the form of borrowing them books, and library staff looking for books for them. Instances where the books are not available, students are advised to go to a bookshop to buy the books.

How often do you receive support from the library

The following comments were made about how often the library supports the deaf students.

Interviewee 1 remarked:

Me get help from library when look for special book example literature book read always.

Translation:

I get support at the library anytime I am looking for a particular book especially literature book to study.

Comments by students indicate that, the librarian support students anytime they are looking for a literature book.

What needs to be done at the college library to improve support for deaf students

Concerning what needs to be done to improve support for students who are deaf, the following comments were made by students:

Interviewee 7 noted:

Me suggest during orientation, centre worker inform deaf about college library.

Translation:

I want to suggest that during the orientation exercise, Study Centre Coordinator should inform students the available of College library.

Interviewee 5 said:

Me think deaf people work at library help deaf when enter library easy easy. Also book for students must see it and borrow from the library.

Translation:

I think that people who are deaf work at the college library to assist any deaf student easily.

From the above statements, the students suggested that, during orientation for the level 100 students, the Study Centre Coordinator should make sure to inform students about the College library. People who are deaf should be working the college library. Also copies of the books should be available at the College library.



CHAPTER FIVE

DISCUSSION

5.0 Introduction

This chapter presents the discussions of the findings from the study. Discussions were done based on the four research questions raised for the study such as: support services available to students who are deaf during tutorials, support services to students who are deaf during assessment, hearing colleagues support services to deaf students and library support services to students who are deaf.

5.1 What support services are available to students who are deaf during tutorials?

Analysis of interview data on support service available to students who are deaf during tutorials revealed that students who are deaf have two resource persons during tutorials. One of the resource person is a sign language interpreter and the other person is a note-taker. In terms of sitting arrangement, there is a particular place for students who are deaf to sit closer to the interpreter and note-taker. The lighting systems in their classes were good, some lectures consider the students and slow down their lessons delivery. Also at times when there was a new vocabulary or term in a course that has no sign associated the interpreter finger spells that word. The interpreter uses Ghanaian Sign Language and the note-taker prepares lecture notes on it for the student.

This finding is consistent with Marcolin (2018), who conducted a study at Oxford University on using interpreters of sign language for the deaf and concluded that using interpreter is a good support services during classroom setting. Marcolin (2018), found out that the interpreters of sign language have an essential role in the education of the students who are deaf. Sign language interpreters mediate the whole teaching and

learning process as they are responsible for the communication between teachers and students. Due to their important role their performance has direct implications in the student's academic success as well as in the process of the deaf inclusion in the society. Mitchell (2015), also noted that many students who are deaf receive classroom instruction through sign language or in some other visual communication modes. Further, studies by Bavelloni, Piazzzi, Raffini, Faenza, and Blalock (2015), supported the views and indicated that ensuring of provision of support services needed by student who are deaf or hard of hearing is necessary.

The Singapore Association for the deaf (2014), presented a paper which suggested that note –takers should have relevant document or materials before the class begins. Note –takers should perform their duties by taking note in the client presence. Mitchell (2015), noted that it is through visual communicators, students who are deaf access auditory information by focusing on the interpreters, the speakers or real-time captioning while note-taker concentrating on taking notes for the student.

The findings on the quality of support services, revealed that the students agreed that the interpreters use Ghanaian sign language which makes them to understand what goes on in class during tutorials. The note-takers prepare lecture notes by summarizing the presentation for their study. But some of the students said that the interpreter signs for so many courses which makes the work very tiresome, therefore, from time to time the interpreters swap with note-takers and vice versa. Also students commented courses like Music and Dance, English language and literacy and Phonology and Phonetics are sound base which do not have sign language associated to them, and that makes it difficult for

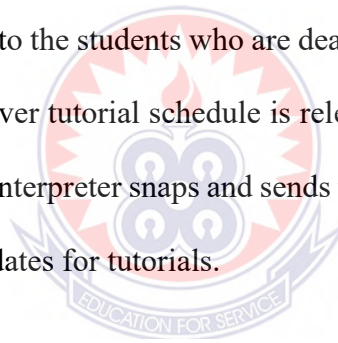
students who are deaf. Also students said that some of the courses like Science and Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome are difficult to learn because most of the terms, the interpreter finger spell which makes it difficult to memorize.

The findings on quality of support services to the students agree with the study by the European Union of the Deaf which noted that the number of interpreters required for their support services needed depending on the kind of work that they would be engaged; for instance, if the event lasts longer than one hour, at least two interpreters must be provided. Interpreters must be given appropriate break times, therefore, if the participants require interpretation during breaks then additional interpreters must be provided to ensure the quality of interpretation. Phillips (2013), suggested that such support should be formally structured through cooperative efforts of faculty and staff responsible for student affairs. By identifying student needs and their expectations and developing strategies to meet those needs, a formal programme of support services can play an important role in linking students with disabilities to the faculty and peers in the academic environment.

Stinson (1999), has observed that the goal of an interpreter is to make communication as complete as possible between both deaf and hearing conversational fluency. Also in the use of America Sign Language does not necessarily qualify a person to be an interpreter but professional training is vital, so that interpreters learn to convey the thoughts, feelings, words, attitudes and meaning of the message presented whether those messages are spoken English or not (Holcomb 2020). Maya de Wit and Irma Sluis (2014), have

opined that in Netherlands the quality of sign language interpreting is based on professional skills and norms. Individual who are deaf are given the chance to select an interpreter according to situational factors such as employment, education or community.

On how often students receive support services, the data analysis revealed that both interpreters and note-takers are present all the time during tutorials. The interpreter signs in the class when the lecturers are presenting their lessons. Also the note-takers always ready to write the lecture notes and give them to students after lectures. Analysis of data revealed that during tutorials the interpreter translates questions or contributions made by the deaf students to the class. Again, any information from the study centre or the institute, is made available to the students who are deaf either through text message or in sign language. Also whenever tutorial schedule is released or schedule for collection of modules to be studied, the interpreter snaps and sends through WhatsApp in order for the student to be aware of the dates for tutorials.



These findings are consistent with findings by Lang, Marschark and Albertini (2004), further indicated that during tutoring students in academic subjects has become a common support service designed to enhance learning of students who are deaf enrolled in postsecondary programmes. Lang, Marschark, and Albertini (2004), further pointed out that tutoring is offered to students who need academic guidance in a variety of ways primarily through one-to-one assistance by interpreters, classroom teachers, professionals tutor, and/or peers. The interpreter's task is to facilitate communication in a neutral manner, ensuring equal access to information and participation. (European Union of the Deaf (2019), further agreed with Kluwin, Stinson, and Colarossi 2002).

The implication is that support services receive by the students who are deaf enable them to compete with their hearing colleagues and feel part of the academic and social environment. Hameister (2016), observed that students with disabilities enrolling in post-secondary education often need support in developing social skills, leadership skills and positive self-concept. These students require special services which must be provided by qualified and skillful teachers in order to respond to their unique needs (Beveridge, 2014).

From the findings of the interview, data analysis revealed, suggestions made by the students to improve support service for deaf students on the programme were among the suggestions; there should be two interpreters instead of one to reduce the tiredness the interpreter goes through. the University of Education, Winneba should allow students deaf to select courses to replace difficult ones for them. For instance, Sciences, Music and Dance and Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome. Again, the Study Centre should ensure that newly tutors should be aware of students who are deaf on the programme so that they could slow down during their lesson delivery in order for the interpreter to sign accordingly.

5.2 How are students who are deaf supported during assessment?

Findings of support services given to students during assessment revealed that interpreters are invited as invigilators and always present during quizzes and examinations. The interpreter informs the students the time to start and end the paper, interpreter ensures that students sign the attendance sheets and quote index number correctly to avoid 'X', which means absent. Also ensure that there are no any foreign

materials found on a student would be ceased and lead to examination malpractice form, which the student who are deaf cannot write that course until two years or more (UEW Student Handbook, 2019). Also the interpreters ask the students who are deaf to bring along the evidence of fee payment during the examination, in order to avoid embarrassment from the external officers. Again, a change of venue for the examination is also communicated to the students. Also interpreters support the students who are deaf when there is an omission or a typographic error of a statement of a question to be corrected.

Findings revealed that during quizzes or examinations deaf students and their colleagues are put together in the same class to write examinations where interpreters are not allowed to support students who may face any difficulties in answering the questions. This findings of the study agreed with Mitchell (2015), reported that an appropriate test accommodation is intended to make assessment equally accessible to all students regardless of disability so that they all have the opportunity to fully demonstrate what they have achieved academically. Christensen, Braam, Scullin and Thurlow, (2011), stressed that common accommodation allowed on State Standardized assessments included extended time, a separate room for administration of the test, and test instructors read aloud before the student begins the assessment (Cawthou, Leppo, Carr and Kopriva, 2013).

Students indicated further that there are certain courses they find it difficult to learn, for instance Phonology and Phonetics, English language, language and literacy and Music and Dance that deal with speech sounds. The speech sounds make it difficult for the student to cope with, because there are no sign language representing speech sounds.

Ainscow (2005), revealed that testing and assessment procedures used by teachers in an inclusive learning environment reflected biased practices, which affects the students who are deaf negatively in both academic performance and social development. Malik and Ud Din (2019), Marchetti, Foster, Long, and Stinson, (2012), noted in their study that teachers did not see the urgency regarding inclusive education practices and assessment. Susilo Adi, Unsiah, and Fadhilah (2017), indicated that the assessment practices are important part of teaching and learning processes to assess the students' cognitive ability. Despite, the importance of assessment during the teaching and learning processes, students who are deaf in inclusive learning classrooms are faced with the challenges of standardized forms of quizzes, tests and examinations. Students who are deaf are at a disadvantage because of language barrier, difficulty in reading and comprehension, and confusion of relating sign language to English language as a second language (El-Zraigat 2013; Susilo, Unsiah, & Fadhilah 2017). Sireci and Zenisky (2005), observed that not all test accommodations are equal or equally appropriate for students with disabilities such as the deaf, for example, extended testing time is the most commonly used as accommodation, but it may not be suitable for all students because for example, if a student does not understand the tests instructions due to insurmountable language barriers, adding time alone is not going to help.

Students who are deaf suggested that interpreters should be invited for conference marking to mark the scripts of students who are deaf and that would enable the interpreters to mark ideas than follow strictly the English language structure. Furthermore, the terminologies used in Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome and Science courses should be simplified for easy understand. More so interpreters should be allowed to explain new vocabulary to deaf

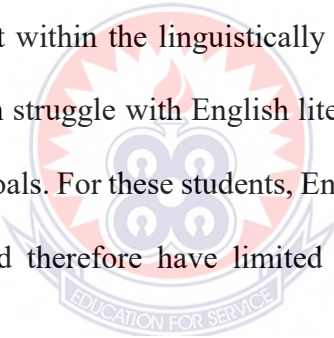
students during quizzes and examinations which would enable students to answer questions correctly. Again, the University of Education, Winneba should make it mandatory to give extra time to them during quizzes and examinations. According to Mitchell (2015), developing valid and reliable assessment instruments to measure the achievement levels of students who are deaf is an ongoing project. There are problems with using standardized test designed for hearing students when assessing students who are deaf.

In a study by Liu and Hong (2007), on the academic achievement of students who are deaf, their results revealed that the academic achievement of students who are deaf were significantly lower than that of their hearing peers based on several factors; such as unfair assessment procedures adopted by lecturers which placed students who are deaf at risk of underachievement in a mainstream educational setting. Similarly, Obosu (2012), noted that students who are deaf generally are not exposed to many opportunities in their life to learn as a result of information deprivation, more so, the language abilities of deaf and hard of hearing students have been considered the critical factor to their academic difficulties. Obosu (2012), further contended that students who are deaf receiving classroom instruction in English Language face challenges in understanding the grammar and also have difficulty comprehending test questions when their academic abilities are being assessed.

Zamfirov and Saeva (2013), opined that students who are deaf only learn English language as a second language but not in a spoken form and have no option than to use two different languages in course of their learning. Zamfirov and Saeva (2013), further

pointed out that the interplay of sign language and English Language in the academic pursuit of students who are deaf could cause confusion in their attempt to answer the same test or examination questions with their hearing peers who learn both the spoken and written form of the language of instruction, i.e. English Language. Zamfirov and Saeva (2013), further indicated that there is therefore a need to develop assessment strategies that will seek to address the learning needs of students who are deaf in an inclusive learning environment.

Similarly, Curry (2003), asserted that students who are deaf may face challenges while trying to learn a language they cannot hear and should therefore be supported. Curry (2003), further stressed that within the linguistically diverse framework, students who are deaf in higher education struggle with English literacy skills in their efforts to meet personal and professional goals. For these students, English is not their primary language for academic discourse and therefore have limited English proficiency (Morford & Mayberry, 2000).

The logo of the University of Education, Winneba, is a circular emblem. It features a central sunburst design with rays extending outwards. Below the sunburst, there are three stylized human figures holding hands, symbolizing unity and service. The text 'UNIVERSITY OF EDUCATION, WINNEBA' is written around the top inner edge of the circle, and 'EDUCATION FOR SERVICE' is written along the bottom inner edge.

The implication of the findings of academic assessment; the policy of test accommodation should be used which would allow interpreters to be with students who are deaf separately during quizzes and examinations. Again visual communication should be used to allow interpreters to interpret the questions to deaf students and respond by using sign language. Further the questions should be short sentences that would enable deaf students to comprehend easily and give appropriate answers during quizzes and examinations. Again, those who invented Ghanaian Sign Language should develop sign language for terms in these courses Sciences, Music and Dance Human

Immunodeficiency Virus/Acquired Immunodeficiency Syndrome and others. Examples of such terms are autotrophic, saprophytes, chemosynthetic, hydrotropism, atumpan, apentmma, petia, xylophone etc. which would enable the interpreters to use sign language instead of figure spelling and that would help deaf students to follow the lecturers' presentation of the lesson without much difficulties.

5.3 How are students who are deaf supported by hearing students?

The findings of the interview disclosed that hearing colleagues support students who are deaf by sharing past questions either through media platform or hard copies. At times too hearing colleagues borrow modules to students who are deaf to study when the modules are not available. Hearing colleagues inform students who are deaf anytime collection of modules is due so that they would go for it or time for voting to select students' leadership. Also hearing colleagues inform students who are deaf when there is going to be extra classes organized by a lecturer, the day and the time is communicated to students who are deaf to attend. All these information was given through interpreters, media platforms or writing on the pieces of paper. The findings of the data analysis confirmed by Marschark, Leigh, Sapere, Burnham, Convetino, Knoors, Vervloed and Noble (2006), further noted that the basis for including students who are deaf in a tertiary institution is on the assumption that information communicated by hearing educators for learners who can hear is accessible to students who are deaf. Students who are deaf enrolled in general educational settings frequently require classroom support services such as sign language interpreting if they are to realize their academic potential (Marschark, Convertino, and LaRock 2006), Also Royal National Institute for Deaf People (2021), in their suggested that in order to support the deaf all the time, one can use Smart Phone Apps: there are countless smart phone apps for Android that can assist students who are deaf or hard of

hearing. Also, Alexander Graham Bell Association for the Deaf (2021), suggested interpreting services are a requisite to ensure that our students who are deaf included in all activities and functions within the education community. Bell (2013), suggested that computer- assisted note-taking (CAN), can be used by hearing to support hearing impaired in which when the speaker's words are display on a screen or laptop monitor and provide a summary of what is being said by using standard computer.

Ling (2010), indicated that the importance of collaboration relationships between hearing students and hearing impaired at every level across the entire university is emphasized as being one of the strategic requiring the co-ordination of rehabilitation disability, career advisors and academic staff.

Holcomb (2020), conducted a study in Ohlone College on qualities of good interpreters, and concluded that goal of an interpreter is to make communication as complete as possible between both deaf and hearing conversational fluency in the use America Sign Language does not necessarily qualify a person to be an interpreter but professional training is vital so that interpreters learn to convey the thoughts, feelings, words, attitudes and meaning of the message presented whether those messages are spoken English or not.

Knoors and Hermans (2010), conceded to the findings to their study conducted and noted that an interpreter-mediated learning often lead to time lags between spoken and sign messages and pace of instruction is among other variables influencing academic achievements of students who are deaf in an inclusive classroom setting.

The results of the findings acknowledged that hearing colleagues and students who are deaf have form a study group to discuss topics of the courses which helps them to understand certain issues when they are studying alone. Again, through the support from hearing colleagues they never missed any vital information from the lecturer because the hearing students inform the interpreter what has transpired the interpreter interprets the information to deaf students. Further, hearing colleagues make available of past questions to students who are deaf to make photocopies and study them.

Also colleagues hearing students inform students who are deaf on issues like, dates for collection of modules, dates for tutorials, writing of quizzes and examinations and any other announcement from either Winneba or the study centre. It was also revealed that anytime students who are deaf studying alone and comes across a difficult word to understand, he texts the word to hearing colleagues for explanation and answer is given. Again, hearing colleagues communicate with students who are deaf through local sign language, texting, writing on pieces of papers or writing on the board. Though hearing colleagues offered support often but at times there is communication barrier, that is, whenever hearing students decides to use local sign language.

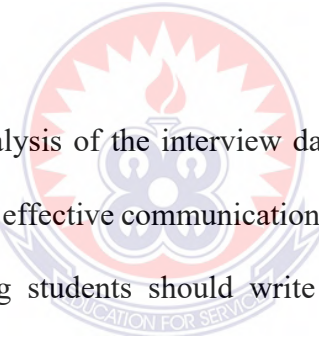
This affirmed by Al Asim (2018), conducted a study in Thessaly and indicated that one of the classroom activities is group work, the lecturer grouped students who are deaf with normal students to work together as a strategy for deaf students to feel a ‘self – belongingness. Again, Luckner and Berndsen (2012), underpinned in their research that grouping both students who are deaf and hearing colleagues provide opportunities for deaf students to feel that they had become part of the hearing or normal academic

community. Also Long, Vignare, Rappold and Mallory (2007), noted that students who are deaf often perceive that they receive a message when a non-signing instructor's lecture is translated by the non- interpreter. Stinson, Whitmire, and Kluwin (1996), maintained that the success of students who are deaf in mainstream discourse situation is therefore highly dependent on students who are deaf commitment to effective communication as well as commitment of lecturers and hearing peers.

According to Luckner and Berndsen (2012), noted in their research conducted in Washington that receiving an education with typical hearing peers can potentially be a very positive experience for students with a hearing loss through the use of technology. Eriks-Brophy, Smyth, and Nixon, (2019); Luckner and Berndsen (2012), concluded a research and in their study found that individuals who are deaf and are being able to live at home with their families instead of attending special school, hearing colleagues support them at the school throughout the week. Eriks-Brophy, Smyth, and Nixon (2019); Luckner and Berndsen (2012), indicated that most frequently determinants of quality of support services to the students who are deaf include: general education professionals' attitudes, knowledge and skills, classroom instructional patterns, and the communication. They reported that hearing colleagues are more comfortable in using speech in the integrated setting in higher education have "communication advantages". Hearing colleagues appeared to be able to receive and send a greater amount of a higher quality information to students who were less comfortable in using speech.

Australian Disability Clearinghouse on Education and Training (2021) outlined some support services that would help students who are deaf to:

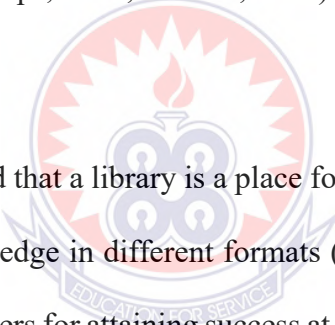
- Allow hearing colleagues to record lectures and make available copies of lecturer notes to their counterparts who are deaf.
- Flexible delivery of teaching materials via electronic media is also particularly helpful for students who have difficulty accessing information in the usual ways. For instance, with a hearing loss, new technology – and the internet in particular can be used by hearing colleagues to bridge many gaps.
- Ensure that lists of the subject specific jargon and technical terms which students will need to acquire are made available early in the course. If interpreters, captioning or hearing students are being used as an adjustment, professionals should make this list available to them to provide the supports as early as possible.



Results from the analysis of the interview data conceded suggestions made by deaf students that for effective communication between hearing students and deaf students that hearing students should write on pieces of papers or text the information which will enable deaf students to understand and act appropriately. Also the University of Education, Winneba makes sign language a compulsory course for all students at distance education programme to study. With this any student who is hearing would be able to get the chance to study sign language and use it effectively. Implications of these findings; there should be introduction of sign language as a course on distance education programme that would enable hearing colleagues to acquire sign language for effective communication between the deaf and hearing colleagues. Again, hearing colleagues could use computer-assisted note-taking to summarize the information for the deaf.

5.4 What library support services are provided to students who are deaf?

The interview data analysis for research question four revealed there that is library at the college where distance study centre is located. Student use the library during week days, some students hardly go to study because they stay far away from the college. Library at the college is very important which confirmed by Eisner (2012), who indicated that libraries are important in every educational system because they encourage independent learning, and enable deaf students to get access to information to supplement their knowledge they have acquired in the classroom setting. According Eisner (2012), library is a local gateway to knowledge that provides a basic condition for lifelong learning, independent decision-making and cultural development of the individual and social groups. (Omona, 2013; Phillips, 2013; Stinson, 1999).

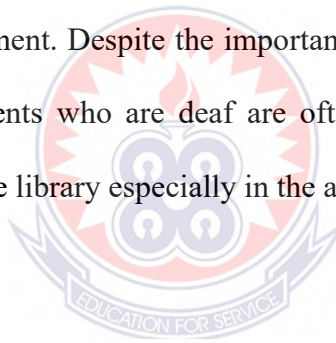


Halder (2009), has indicated that a library is a place for knowledge creation and sharing. It is a storehouse for knowledge in different formats (print and electronic). A library is helpful to students and learners for attaining success at school and also students who have access to library are more likely to get information which will aid their learning. The advent of Information and Communication Technology (ICT) is a boost to the library services since librarians are harnessing the potentials of ICT to reach out to the teeming library users. Halder (2009), affirmed that with the development and application of information and communication technologies (ICTs) the library environment has shifted from traditional library to a modern library with internet facilities in some cases.

The findings also revealed the type of supports given to students who are deaf. Librarians allow deaf students to enter the library auditorium with their reading materials to study. Again to borrow book especially literature book to study, by writing the title of the book

on piece of paper to the librarian. At times the staff write names of bookshops or directs the student to a bookshop on pieces of paper where those literature books are sold to go and buy when they do not have it.

This findings acknowledge by Onoyeyan (2019), who observed in a research and concluded that accessibility to information has been declared as fundamental right of every member of the society regardless of their physical condition, ethnicity, creed and religion and that persons with disability possess an equal right to information as those without disabilities. Onoyeyan (2019), further asserted that persons with disability such as students who are deaf should not struggle to access information at the library in inclusive learning environment. Despite the importance that a school or college library provides to students, students who are deaf are often confronted with challenges in accessing information at the library especially in the area of communication with library assistants.



Greens (2009), examined cases of library services on the type and level of support offered disabled users, and found out that only 30% of the surveyed libraries in Valdosta, a county of Georgia in the United States of America, offered special services and technologies for individuals with disabilities including students who are deaf. Similarly, Molina and Carrasco (2016), Todaro (2005), in a study in Argentina who surveyed twenty (20) different libraries that provided services for the visually impaired, the deaf and the physically handicapped concluded that those libraries were not in a position to provide best library services to students with special needs because the libraries lacked braille books for the visually impaired and library assistants who could not communicate

with students who are deaf in sign language. Singh (2002), stressed that there are barriers in the provision of services for students with special needs such as students who are deaf in inclusive schools and these barriers are in the areas of physical resources, curriculum, policy, unintentional and intentional attitudinal barriers. Hagemeyer (1992), one of the earliest deaf librarians who worked for the deaf community in Maryland in the United States of America, wrote that library policy makers regularly ignored the needs of the deaf either in schools, colleges or in the community when planning and budgeting for a library. She used the phrase “out of sight, out of mind”, to describe organisations and individual’s understanding of deafness.

The findings of the study revealed that, the study centre should make sure to inform students about the facilities in the college. Also copies of the modules should be kept at the college library, which would enable students to borrow them and study. Again, the Library Board should employ people who are deaf into their establishment so that they would assist any student who is deaf to use their facility efficiently. Lang, Marschark, and Albertini (2004), observed that there are significant differences between the perceptions of mainstream librarians and students who are deaf regarding of library accommodation. Chima and Eskay (2013), asserted that library services should be provided equally to students who are deaf as much as it is provided to their hearing peers. Chima and Eskay (2013), argued that libraries should be accessible to all potential users without regard to any disabling condition. Greens (2009), recommended that librarians improve accessibility and address barriers services to students who are deaf by concentrate on their information needs. These authors emphasised on the enhanced communication and co-operation between school librarians and special education teacher

for improving accessibility through the inclusive library system. (Long, Vignare, Rappold & Mallory 2007; Marchetti., Foster, Long, & Stinson, 2012).

Implication of these findings; the Library Board should employ people who are deaf in their establishment to assist their colleagues who may need their services. Also the College for Distance and e-Learning (CODEL) of UEW should practice e-Library so that students would use electronic media access information whether the student is closer to library or not.



CHAPTER SIX

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

6.0 Introduction

This chapter presents the summary, conclusions and recommendations for the study. The study explored the support services given to students who are deaf on distance education programme at Bagabaga College of Education study centre in Tamale. The study was guided by the following research questions; (1) what support services are available to students during tutorials, (2) how students who are deaf are supported during assessment, (3) how students who are deaf supported by hearing students academically and (4) what support services are available to students who are deaf at the college library. The research design for the study was case study. A case study is a research method based on an in-depth investigation of a single individual, group or event. It gives the researcher greater opportunity to gain an understanding of the subject at hand, it is suitable for empirical inquiry of a phenomenon within a real – world context which reflects the perspective of participants experiencing of the phenomenon. The sample size for the study was eight deaf students at Bagabaga College of Education Study Centre at Tamale. Purposive sampling technique was used for the study. The specific purposive sampling technique used to select the sample was critical case sampling, because it helps the researcher selects a sample based on experience or knowledge of a group. A semi-structured interview guide was the instrument used to collect data for the study. The interview offered the researcher the opportunity to gather data on the support services to deaf students on the programme.

6.1 Summary of Major Findings

Research question one: What support services are available to the students during tutorials. Analyses of interview data for research question one revealed the following:

There were two interpreters and two note-takers who supported students who are deaf during tutorial. These two interpreters and two note-takers have been assign to the levels where the students who are deaf is/are. So if it happens that groupings of the levels affect three of the levels where students who are deaf are, it means two of the levels are going to lack note-takers.

Interpreters use Ghanaian sign language and at times finger spell words with no signs. But the students complain that any time interpreters finger spell words they find it difficult to assimilate and also to follow the presentation by the lecturer.

Interpreters are always present during tutorials to support students who are deaf in the classroom, and ready to send information either from the college or study centre to the students through texting. Note-takers write lecture notes and give them to students who are deaf after tutorials. At times not all students have note-taker when the levels crashes with the same tutorial dates.

Some Tutors/ lecturers consider students who are deaf and slow down during lesson delivery whilst other lecturers do not because some lecturers are not aware of such students on the programme. Lighting system, appropriate placement and closeness of the interpreters and note-takers are good to facilitate classroom support to students who are deaf during tutorials.

Research question two: What assessment support services are available to students who are deaf. Analyses of interview data on research two revealed the following:

Interpreters support students who are deaf all the time during class assessment, by translating or interpreting questions or responses from lecturers or students during presentation.

Interpreters are invited for invigilation always during quizzes and examinations in order to interpret any information governing the examinations to students who are deaf. Students who are deaf writes all the courses during examinations including courses that are difficult for students without accommodation.

Research question three: What hearing support services are available for students who are deaf academically. Analyses of interview data on research question three revealed the following:

Hearing students support deaf students with course modules when they are not having them. Also some hearing students and students who are deaf form a study group and learn together, the mode of communication used by hearing students to interact with deaf is unconventional sign language or write the information on pieces of papers.

Research question four: What support services are available to the deaf students at the college library. Analysis of interview data on research question four revealed the following:

Students who are deaf are allowed to enter the library auditorium with their reading materials. Also library staff direct students who are deaf to a book shops to buy literature book. In terms of mode of communication, the library staff write information on pieces of paper.

Some of the students are not aware of the existence of the College library. And some of the students suggested that deaf individuals should be employed at the library.

6.2 Conclusion

Based on the findings of the study, the following conclusions were made: There are two interpreters and two note-takers permanently at the Bagabaga College of Education study centre to support students who are deaf. Interpreters and note-takers are always present during tutorials. In the classroom there are good lighting system all the time, permanent placement for student who are deaf, interpreters, and note-takers. Some lecturers consider the students who are deaf and slow down their presentations that enable the interpreters cope with interpreting. Important information from College for Distance and e-Learning of UEW or Bagabaga College of Education Study Centre are always given to the deaf students through interpreters and note-takers. Interpreters use Ghanaian sign language which deaf students understand and assimilate information easily. And at times interpreters finger spell word/term which has no sign associated to it.

However, some students who are deaf complained that anytime all the levels are to meet for tutorials some of the students who are deaf have only interpreter without note-taker, also when the courses for the semester are more than three for a day the workload for interpreters and note-taker becomes too much. Again some lectures forget about the presence of the students who are deaf and present their lesson at a faster rate which make it difficult for interpreter to cope with the interpreting. Students suggested that all lecturers should be aware of the presence of students who are deaf on the programme in order for such lecturers to slow down their lesson presentations during tutorials. Also more interpreters and note-takers should be employed to support the students who are deaf.

Interpreters support students who are deaf all the time during class assessments by translating or interpreting questions or responses from lecturers or students during presentation. Also interpreters are invited for invigilation always during quizzes and examinations in order to interpret to deaf students any information governing the examinations, including sound-based courses such as Phonology and Phonetics, English Language and Language and Literacy which are difficult for students who are deaf to understand and practice as a result of their conditions. Students indicated that speech-based courses should be replaced for the deaf due to nature and structure of it. Again, deaf students are not given extra time during quizzes and examinations.

Hearing students support students who are deaf with course modules when they are not having them. Also some of the hearing students and students who are deaf form study groups and learn together, both hearing and students who are deaf have created a common platform such as WhatsApp as a channel for all necessary information. Besides, there are other ways that hearing and students who are deaf interact either through the use of unconventional sign language or writing the information on pieces of papers. Students who are deaf suggested that Ghanaian Sign Language should be introduced as non-examinable course so that their hearing colleagues will learn it so as to facilitate communication between the students who are deaf and their hearing colleagues.

Also, findings of research question four revealed that, students who are deaf are allowed to enter the library auditorium with their reading materials. Sometimes library staff direct students who are deaf to bookshops to buy literature books. In terms of mode of communication, the library staff write information on pieces of papers.

Some of the students who are deaf are not aware of the existence of the College Library. And some of the students suggested that deaf individuals should be employed at the library. Also library staff should be introduced to the basic concept of sign language.

6.3 Recommendations

Based on the findings of this study, the following recommendations were made:

- The College for Distance and e-Learning of University of Education, Winneba should ensure that all students who are deaf at Bagabaga College of Education study centre have adequate interpreters and note-takers on the programme.
- The College for Distance and e-Learning of University of Education, Winneba should instruct the centre coordinator to give students who are deaf extended time during assessments.
- The College for Distance and e-Learning of University of Education, Winneba should introduce sign language as a course to be studied on the programme.
- The Centre Coordinator of Batco Study Centre should also ensure that library staff of the college are introduced to basic concepts in Ghanaian Sign Language.

6.4 Suggestions for Further Research

In relation to the study, the researcher suggested the following areas for further research:

A study could be conducted to find out the academic performance of students who are deaf as compare to hearing students on Distance Education programme of University of Education, Winneba.

Need for a study to be conducted using different approach in a different geographical location about students who are deaf on Distance Education programme.

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APPENDICES

APPENDIX A



APPENDICES

APPENDIX A

14th September, 2020

TO WHOM IT MAY CONCERN

Dear Sir,

LETTER OF INTRODUCTION: MS. MARY BOAFOA ASARE


I write to introduce to you, **Ms. Mary Boafoa Asare** an M.Phil student of the Department of Special Education with index number 200023666.

She is currently working on her thesis on the topic: **"Assessing support Services for Students who are Deaf on Distance Education, UEW: A Case Study at BATCO Study Center-Temale"**. She needs to conduct interview and do covert observation at your school.

I would be grateful if you could give her the needed assistance to enable her collect the data.

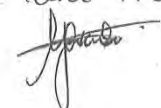
Thank you for the consideration and assistance.

Yours faithfully, DEPARTMENT OF SPECIAL EDUCATION
UNIVERSITY OF EDUCATION


P. O. BOX 25
WINNEBA

DR. DANIEL S. Q. DOGBE
Ag. Head of Department

Received: 14/10/2020

P/s Take Action on it (Adm.)




APPENDIX B

SEMI- STRUCTURED INTERVIEW GUIDE

UNIVERSITY OF EDUCATION, WINNEBA

DEPARTMENT OF SPECIAL EDUCATION

FACULTY OF EDUCATIONAL STUDIES

SEMI – STRUCTURED INTERVIEW GUIDE OF SUPPORT SERVICES FOR STUDENTS WHO ARE DEAF ON DISTANCE EDUCATION

Introduction

Thank you very much for having accepted to participate in this study. I'm an MPhil student at

University of Education, Winneba and carry out my study on support services for student who are deaf on distance programme. I would like to assure you that all the information you share with will be treated with confidentiality and only used for education purpose. Feel free to ask questions where you do not understand. Whatever be your response will be written in Ghanaian Sign Language.

Number of Participants of Programmes

Diploma in Basic Education....., Post Diploma in Early Childhood Education..... 4 – Year B. Ed in Basic Education.....

What are support services to students who are deaf during tutorials

- a. What kind of support services given to you during tutorials?
- b. Identify the quality of support services given to you during tutorials?
- c. How often do you receive support services during tutorials?
- d. What do you think needs to be done during tutorials to improve support service?

What assessment support services are available to students who are deaf

- a. What support services given to you during quizzes and examinations?
- b. Identify the quality of support services given to you during assessment?
- c. How often do you receive support during assessment?
- d. What do you think needs to be done to improve during quizzes and examinations?

What hearing support services are available for students who are deaf academically

- a. How often do you receive support from hearing colleagues?
- b. Does the support receive from hearing colleague of quality?
- c. What medium of communication does hearing colleagues use when providing you support?
- d. What do you think needs to be done to assist hearing colleagues to give you more support?

What are support services available to the students who are deaf at the college library

- a. Do you receive support from the College library?
- b. What type of support do you receive from library?
- c. How often do you receive support from the library?

- d. What do think needs to be done to improve support services at the College library?

