UNIVERSITY OF EDUCATION, WINNEBA

Support services sign language interpreters provide to deaf students at presbyterian College of Education, Akropong

CYNTHIA OSEI

MASTER OF PHILOSOPHY

2022

UNIVERSITY OF EDUCATION, WINNEBA

SUPPORT SERVICES SIGN LANGUAGE INTERPRETERS PROVIDE TO DEAF STUDENTS AT PRESBYTERIAN COLLEGE OF EDUCATION, AKROPONG

CYNTHIA OSEI

(200027054)

A thesis in the Department of Special Education, Faculty of Applied Behavioural Sciences in Education, 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.

SEPTEMBER 2022

DECLARATION

STUDENT'S DECLARATION

I, Cynthia Osei, declare that this thesis, with the exception of quotations and references contained in published works which have all been identified and duly acknowledged, is entirely my own original work, and it has not been 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/dissertation/project as laid down by the University of Education, Winneba.

DR. ALEXANDER MILLS OPPONG

SIGNATURE:…….....

DATE:…….....….....

DEDICATION

I dedicate this work to my dearest and lovely husband, Mr. Frederick Kwesi Agyare and to my children, Wilhelmina, Melchizedek and Perez.

ACKNOWLEDGEMENTS

I am indebted to my supervisor Dr. Alexander Mills Oppong for his support, encouragement and constructive critiques of the work. Every encounter with you boosted my understanding and professional advancement in research and I am grateful.

I am also very grateful to Dr. Daniel Fobi and his wife, Mrs. Joyce Fobi for their research advice, guidance and most importantly, their hospitality during my stay in Winneba. May God bless and continue to increase you.

I would equally like to express my heartfelt gratitude to my parents, Mr. and Mrs. Osei Gyamfi, my brother, Davis and his lovely wife, Grace, for their fervent prayers, support and encouragement. I also appreciate the effort of the Dean, Dr. Samuel Adu Gyamfi and the Head of Department, Dr. Asiamah and all the lecturers in the Department of Interdisciplinary Studies, Akenten Appiah Menka University of Skill Training and Entrepreneur Development (AAMUSTED), especially Mr. Frank Owusu Sekyere and Pastor Ato Kwamina Arhin.

Finally, I want to acknowledge the support given to me by the following personalities, Mr. Ebenezer Eshun, Mr. Bobie, Bro. Derick, and my office staff, Cynthia Asare and Abigail Oduro and to all the lecturers and staff at the Department of Special Education, University of Education Winneba, may the good Lord bless all of you. finally, to all the sign language interpreters at the Presbyterian College of Education, Akropong for availing themselves for the data collection process. I owe you all a gratitude.

TABLE OF CONTENTS

LIST OF TABLES

ABBREVIATIONS

AAMUSTED	Akenten Appiah Menka University of Skill Training and Entrepreneur Development
ASL	American Sign Language
CPC	Code of Professional Conduct
DHH	Hard-of-hearing
DWD	Deaf Individuals with Disabilities
EIPA	Educational Interpreter Performance Assessment
FCUBE	Free Compulsory Universal Basic Education
GNAD	Ghana National Association of the Deaf
IDEA	Individuals with Disabilities Education Act
IE	Inclusive Education
IRB	Institutional Review Board
MoE	Ministry of Education
NAD-RID	National Association for the Deaf, Registry of Interpreters for the Deaf
RID	Registry of Interpreters for the Deaf
SEN	Special Educational Needs
SLIs	Sign Language Interpreters
SSE	Sign-Supported-English
UEW	University of Education Winneba

UNESCO	United Nations Educational Scientific and Cultural Organisation
WASLI	World Association of Sign Language Interpreters
PCE	Presbyterian College of Education
CAT	Communication Accommodation Theory

ABSTRACT

The purpose of this study was to explore the support services sign language interpreters provide to deaf students at Presbyterian College of Education, Akropong. This study adopted interpretivism paradigm and a qualitative research approach with a case study research design and was guided by four research questions. Census sampling techniques was used hence, all the nine sign language interpreters were involved in this study. Semi-structured interview guide was employed to collect data for this study and Braun et al's (2018) thematic deductive analysis was adopted to analyse the data obtained. The results revealed that sign language interpreters had limited knowledge of their expected responsibilities though they provide support services to deaf students in various ways including both academic and non-academic activities. The results further revealed that the concerns of sign language interpreters were negative attitude of some regular education tutors, inadequate sign language interpreters, lack of assistive technologies and inadequate training programmes. Based on the findings, it was recommended that management at Presbyterian College of Education should employ more sign language interpreters and also provide telecommunication system, visual aids and videos alert system that would facilitate their work.

CHAPTER ONE

INTRODUCTION

Background to the Study

Sign language interpreters (SLIs) are specially trained professionals whose job is to facilitate of communication between persons who are deaf (sign language users) and hearing people (non-sign language users) (Schwenke, 2012). The services of sign language interpreters become inevitable especially in an inclusive education (IE) setting where deaf students learn with hearing students in the same classroom. The purpose of providing sign language interpreters is to allow deaf students and those with hard-of-hearing to equally access information and promote positive interactions among their 'non-disabled' counterparts (Stokoe, 2001). Essentially, sign language interpreters serve as resource persons who provide special education services to deaf students so that they are not marginalised. Sign language interpreters (SLIs) are bound by ethical code, which guides the performance of their role in order to protect the rights of deaf students (Mendoza, 2010). This code sets standards of professional behaviour and practices for interpreters that ensure confidentiality, discretion, and impartiality in conveying the messages of all consumers involved.

It is not within the realm of the interpreter's role to advise, edit, advocate, teach, or participate while in the interpreting situation (Miner, 2015; Singleton et al., 2015). This is affirmed by Smith (2016) that interpreters must faithfully transmit the spirit and content of any speaker, having the right to control the communication interactions with the consumers (hearing, deaf or hard-of-hearing). Within an inclusive education (IE) setting, it is vital for sign language interpreters to become familiar with the course content to be discussed, a task that may involve additional research on topic-related words and phrases and the signs needed to convey them.

Spoken English Language has rules governing its use and these are syntax, semantics, phonology, morphology and phonetics but deaf students cannot understand these rules governing them (Saunders et al., 2013). Phonetics, for example deals with sounds and how sounds are produced. For instance, the word "dog" has three syllabic sounds -/d/, /o/, /g/ pronounced /dogi/. In sign language there is nothing like syllabic sounds. Instead, there is location, where the sign is produced. That is, dominant side of the body. Therefore, there is great contrast between syllabic sounds and location. Since deaf children face great challenges in the production of syllabic sounds, they depend on location to produce signs. Deaf people therefore rely heavily on sign language interpreters (Hameed & Ain, 2020). Therefore, the over-reliance on spoken language as the dominant medium of communication in education poses a major challenge to the majority of deaf students in their educational advancement (Obosu, 2012). Research has shown that deaf students in an IE setting experience many difficulties in their quest for equal teaching and learning opportunities (Agyire-Tettey et al., 2017). Among these difficulties are absence of projectors, insufficient time for examination, inadequate classroom space and furniture, poor lighting, noisy classroom environment and social loneliness and isolation (Kigotho, 2016).

As part of minimising the challenges deaf students encounter, the services of sign language interpreters cannot be overemphasised. Sign language interpreters are responsible for mediating the teaching and learning process by interpreting the spoken words of the regular classroom teacher to deaf students (Napier & Banna, 2016). The role of the interpreter has direct implications on the academic success of deaf students and their inclusion in the society (National Deaf Centre, 2021). Marschark et al. (2005) added that the quality of the sign language interpreters goes beyond communication instead, ensuring that deaf students are not marginalised in any aspects of learning.

Drugan (2017) revealed in a study on the ethics and social responsibility in practice: interpreters and translators engaging with and beyond the profession that the role of sign language interpreters can either make it possible or difficult for many deaf students to access the general curriculum taught to typical hearing students in an IE classroom. Although sign language interpreters make effort to support deaf students in the education environment, the specific role they play is unclear. For instance, in Dickinson and Turner's work on sign language interpreters and role conflict in the workplace that role conflict and role confusion constitute the main difficulties sign language interpreters face (Dickinson & Turner, 2008).

In Ghana, PCE has been credited to train deaf students among students who are not deaf at the college level to become professional qualified teachers (Asare, 2018). Deaf students are taught together with their hearing peers in the same classroom setting with the help of sign language interpreters. Since many deaf students have problems adjusting in society, IE setting such as the PCE gives them the opportunity to be together with the hearing peers and learn gradually the norms and expectations of society (Palmer & Williams-Diehm, 2020). The role of sign language interpreters in supporting deaf students in an IE setting is essential in Ghana. This is because sign language interpreters are the main resource persons for deaf students just like the Braillists are for students who have visual impairment (Otieno, 2019). Ocran (2021) argued that it is prudent for sign language interpreters in IE setting to provide support to deaf students.

Statement of the Problem

The education of deaf students has been an issue of concern to many researchers and international organisations (Marschark et al., 2016; Snoddon & Murray, 2019).

Several studies have been conducted on the education of deaf students. For instance, Asare (2018) conducted a study on the academic challenges deaf students face in the PCE and found that deaf students encounter challenges relating to academic assessment, number as well as the quality of sign language interpreters and interpreting, pace of lesson delivery and quality of assistance at the library. However, Asare's study focused on the deaf students leaving the sign language interpreters who provide support to the deaf students. Other studies also focused on deaf students learning approaches (Fobi, 2015), the value of visual art in deaf education (Obosu, 2012), and deaf students' perception about quality of sign language interpreting (Oppong et al., 2016). From accessible literature, the majority of the studies conducted in Ghana around deaf and sign language interpreting focused on the perspective of deaf students in the area of academic and social experiences, deaf students' perception of interpreting services they receive. Recently, there have been an attempt to investigate the perspectives of sign language interpreters and their roles in tertiary educational institutions in Ghana (Fobi, 2021). The study focused on three tertiary institutions and took into consideration the perspectives of students, lecturers and the sign language interpreters. Search from notable websites such as google scholar, pubmed, various institutional repositories in Ghana and beyond has proven that there has not been any sighted study on the support services sign language interpreters provide to deaf students at PCE. A further search at the graduate library of the University of Education, Winneba did not have any study targeting the role of Sign Language Interpreters at the PCE. This, therefore, calls for an investigation into support services sign language interpreters provide to deaf students at the Colleges of Education level with focus on PCE.

Purpose of the Study

The purpose of this study was to explore the support services sign language interpreters provide to deaf students in PCE.

Research Objectives

The objectives of the study were to explore:

1. the views of sign language interpreters on their knowledge level in supporting deaf students.
2. how sign language interpreters support deaf students in academic activities.
3. How sign language interpreters support deaf students in non-academic activities.
4. The concerns of sign language interpreters in supporting deaf students.

Research Questions

The study was guided by four research questions. They are as follows;

1. What are the views of sign language interpreters regarding their knowledge and ability to support Deaf students?
2. How do sign language interpreters support deaf students in their academic activities?
3. How do sign language interpreters support deaf students in their non-academic activities?
4. What are the concerns of sign language interpreters in supporting deaf students?

Significance of the Study

The findings of this study would reveal how sign language interpreters perform their role in PCE. Specifically, this study would reveal their knowledge level in playing their role and their knowledge of their expected role. Additionally, the results of this study would reveal the academic and non-academic support services sign language

interpreters provide to deaf students. Also, the results of this study would highlight the concerns of sign language interpreters in supporting deaf students at PCE. This empirical information would serve as a reference material to the authorities of PCE to develop measures to improve on the conditions of sign language interpreters in the college through sensitisation programmes, training programmes and support systems for sign language interpreters and deaf students. Lastly, the findings of this study would reveal other areas of this study for further research and add knowledge to the special education literature.

Delimitations

The study was delimited to sign language interpreters and the support services they provide to deaf students at PCE. Also, the study focused on deaf students because their education has become a critical area of concern in special education from the global perspective (Snoddon & Murray, 2019). The study was confined to the academic and non-academic support sign language interpreters give to deaf students.

Limitations

This study had some limitations. They included: the findings of this study may not be generalised to other settings because the study was conducted in only PCE. Also, due to the self-reported nature of the instrument, the participants might have given information that did not reflect what is actually on the grounds. However, the researcher took some measures to reduce the impact of the limitations on the findings of this study. The measures included: participants were assured of confidentiality and anonymity which made them feel free and relaxed to respond to questions as objectively as possible during the interviews.

Operational Definition of Terms

The terms used in this study are operationally defined in this section to provide context and understanding of the study:

Sign Language: Sign language is a medium of communication for deaf students and also among their hearing interpreters.

Sign Language Interpreters: Sign language interpreters are specially trained professionals whose job is to convert verbal communication to sign language and vice versa between hearing individuals and deaf students.

Roles: Roles are the duties and responsibilities of sign language interpreters in supporting deaf students.

Deaf students: Deaf students are students who have a total or partial hearing loss.

Organisation of the Study

The study was organised into six chapters. Chapter one contained the introduction of the study which included background to the study, statement of the problem, the purpose of the study, objectives of the study, research questions, significance, delimitation, limitations, organization of the study and operational definition of terms. Chapter two delt with the review of related literature. This consisted of theoretical framework, conceptual review and empirical reviews relating to the topic under study. Chapter three consisted of the research methodology. This consisted of research approach, design, population, sample size and sampling technique, instrumentation, data collection procedure data analysis procedure and ethical considerations. Chapter four contained the presentation and analysis of data. Chapter five also contained the discussion of the findings. Finally, chapter six consisted of the conclusion, summary of findings, recommendations and suggestions for further studies.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter presented the literature review of the study. The literature review covered the theoretical framework, and sign language from the Ghanaian perspective, and followed by the review of key themes raised in the research questions such as:

1. Sign language interpreters' knowledge about their role in supporting deaf students.
2. How sign language interpreters support deaf students with their academic needs.
3. The role of sign language interpreters in supporting deaf students with their non-academic needs.
4. Sign language interpreters' concerns in supporting deaf students.

Theoretical Framework

The Communication Accommodation Theory (CAT)

The theory was developed by Howard Giles in 1971, to examine how individuals adjust their communication behaviours to either converge with or diverge from the speech patterns and behaviours of their interlocutors. The theory helped to understand the complex dynamics of communication in the context of communication. The theory categorises communication behaviours into two main components (Convergence and Divergence). The theory suggests that individuals may either converge (make their communication more similar to their interlocutors) or diverge (make their communication more different) in order to accommodate the communication needs of the person they are communicating with. In the context of sign language interpreters, they may need to converge their signing to match the preferred signing style and pace of the Deaf individual they are interpreting for. Conversely, they may need to diverge

to facilitate better understanding, particularly when interpreting for individuals with varying levels of sign language proficiency. CAT further recognised that communication is a social and dynamic process. Sign language interpreters often operate within a triadic communication model involving the Deaf individual, the interpreter, and the hearing interlocutor. This theory analyses how interpreters mediate this complex dynamic and the impact of their communication choices on the overall effectiveness of the interaction. Understanding these accommodation choices within an ethical framework is a valuable aspect of a study on the role of interpreters. In this case, the role of sign language interpreters becomes crucial because they are the main resource persons for deaf students as far as their education is concerned (Napier, McKee, & Goswell, 2006).

Applying the CAT to this study helped built insights into the role of sign language interpreters in fostering effective communication and creating an inclusive environment for deaf students at the PCE, Akropong.

Conceptual Review

The Development of Ghanaian Sign Language

The development of Ghanaian sign language started in 1957 when children enrolled in the Rev. Foster's school shared their unique "home" signs with their peers and teachers who sometimes adopted and refined such signs and included them in their vocabulary oof signed concepts for instructions, like the way French Sign Language was developed in the eighteenth century (Oppong, 2007). According to Oppong (2007), many Ghanaian ethnic groups abhorred deafness and believed it was as waste of money and resources to provide formal school education for deaf and hard-of-hearing (DHH) children. However, in the early 1990s, with increased literacy among parents and growing awareness that deafness education, many parents of DHH children saw the

need to enrol their deaf children in formal education. Teachers of deaf children and members of the Ghana National Association of the Deaf (GNAD) led the movement to create and develop the sign language currently used in Ghana. They travelled to the various training colleges in the country to educate trainees about the language of the deaf, the education of the deaf, and deafness as a condition and culture but not a disease (Oppong, 2007).

Tertiary Education for Deaf People in Ghana

Tertiary and college education are open to all categories of qualified individuals, including DHH learners (Oppong, & Fobi, 2019). Before 2000, qualified DHH Ghanaian students pursued their tertiary education overseas. Specifically, at Gallaudet University in the United States. Tertiary institutions in Ghana did not have professionally qualified staff or support services for public institutions in the country to make tertiary education accessible to qualified DHH students. From September 2006 to December 2016, University of Education, Winneba, (UEW) admitted 26 qualified DHH students who belonged to the Ghanaian Deaf cultural community to study for four-year bachelor's degree programmes in various departments (Oppong et al., 2017). At University of Education Winneba (UEW), sign language is an obligatory subject for all categories of students in the Education of the Hearing-Impaired unit and for students in Community-Based Rehabilitation and Disability Studies (Fobi, 2021).

Legislation and Channels of Advocacy for Deaf People in Ghana

Special needs education for persons with disabilities, including deaf students, is backed by legislation. On August 9, 2006, the government of Ghana passed the Persons with Disability Law (Act 715), which contains sixty sections. The Law gave recognition to the teaching of sign language in the Colleges of Education. The Act makes it an

offense for any head of a public educational institution to refuse to enrol a school-age child on the grounds of disability such as deafness.

The GNAD is the major voice and advocate for individuals who are deaf in Ghana. Founded in 1968, GNAD is currently working with UEW's Education of the Hearing-Impaired Unit, the Special Education Division of the Ghana Education Service, and special schools for the deaf in the country to produce a Ghanaian sign language dictionary for individuals who are deaf, interpreters, parents, and the general public (GNAD, 2021). GNAD has a permanent office in Accra from where it operates. Upon request, GNAD helps professional educators of the deaf to produce textbooks in sign language. This has contributed to the increase in deaf students to complete tertiary education in Ghana. As of July 2016, the ratio of male to female individuals who have completed tertiary education was about 7:3 (Amoako, 2019). Deaf students that have completed tertiary education and are gainfully employed often visit schools for the deaf or teach in schools for the deaf to serve as role models for students and parents (Oppong & Fobi, 2019).

Sign Language as a Cultural Distinction and a Source Language

Arnold (1984) established that people who are deaf constitute at least a subculture if not a separate culture of the general community. The emerging attitude among sign language interpreters, as discussed by Domingue and Ingram (1978), is that sign languages are distinct forms of representing cultural experiences that are peculiar to people who are deaf. In other words, deafness is, for the interpreter at least, not a clinical condition but a cultural condition (Ingram, 1978). Interpreters' regard interpretation from a spoken language to a sign language as an easier task (Ingram, 1978). The interpreter can always shift into a sign language form that is easier for them, but not necessarily more comprehensible to the deaf person receiving the message

(Burch, 2004). Unfortunately, deaf persons receiving such interpretations frequently report that interpreters' sign like a hearing person (Foster, 1989). In a spoken language output, its flaws become readily apparent to the hearing receptor, and the interpreter's only recourse is to complain that interpretation from a sign language to a spoken language is a more difficult task. One possible reason might be the very high incidence in sign language of what Eco (1976) calls under-coding, which he defines as the operation by means of which in the absence of reliable pre-established rules, certain portions of certain texts are provisionally assumed to be pertinent units of a code in formation (Huenerfauth, 2005). Murphy (1978) has reported about the suppression of sign languages that have existed throughout the ages. But now, Individuals who are deaf are beginning to share in events and experiences that were once closed to them. They are constantly generating new lexical items in the form of finger spelled words. Sign language code in ways quite different from spoken languages, as Tweney and Heiman (1977) has demonstrated, not just in that they symbolise meanings through the manipulation of the hands but also in their extensive use of the face and upper body to signal grammatical functions.

Sign language Interpreting in inclusive tertiary classrooms

Interpreting, commonly known as the process where sign language interpreters convert spoken languages within tertiary classrooms into sign language and vice versa, facilitates communication between hearing individuals and deaf students (Smith, 2016). Lecturers and hearing students' spoken languages are interpreted into sign language for the benefit of deaf students. Conversely, sign languages used by deaf students are interpreted into spoken languages to facilitate understanding for hearing participants in the classroom. Therefore, in educational settings where deaf students learn alongside hearing peers, interpreting serves as a mediator between the deaf students and the

hearing individuals. Vygotsky (1978) introduced the concept of mediation as the process through which an experienced adult, acting as a mediator, facilitates children's language development within the social-cultural context. While Vygotsky's theory underscores the importance of adult guidance in language acquisition, it is essential to note that language development may not occur if the child is not prepared to engage in the learning process, regardless of the adult's expertise (Matusov & Hayes, 2000; Piaget, 1995).

Drawing from Vygotsky's concept of mediation, this study extends the idea to analyse interpreting as a tool for fostering inclusion for deaf students in tertiary classrooms. Deaf students, interpreters, and lecturers collaborate to achieve shared learning goals. In tertiary educational environments, interpreters decode spoken messages from hearing individuals into sign language for deaf students, and vice versa (Ingram, 1974; Wilcox & Shaffer, 2005). Interpreting thus acts as a mediator to facilitate inclusion for deaf students at the tertiary level.

Interpreters are required to be experienced and proficient to ensure effective communication and learning outcomes for deaf learners in tertiary classrooms (Bontempo, 2012; Leeson, 2012; Napier, 2011; Oppong et al., 2018; Vygotsky, 1978). They must accurately convey the meaning and content of messages while transitioning between languages (Fobi & Oppong, 2019; Leeson, 2012; Napier, 2011). However, the success of interpreting in tertiary classrooms relies not only on the expertise of interpreters but also on the collaborative efforts of deaf students and lecturers. Both parties must be prepared to engage in the interpreting process and provide the necessary support to promote inclusion and ensure successful learning outcomes (Leeson, 2012; Napier, 2011).

Interpreting in tertiary classrooms Classroom learning and teaching mediated by interpreters create a triadic interaction between deaf students, lecturers and interpreters (Leeson & Foley-Cave, 2007). Though classroom interactions are meant to be between the student and teachers, when interpreters become part of the process, it creates an intersubjective relationship between all the three actors of the classroom who may have distinct socio-cultural backgrounds and experiences (Janzen & Shaffer, 2008). Interpreters bring their views, experiences, expectations and intentions into the classrooms to mediate the interactions between the students and the lecturers. These interpreters' attributes may not always correspond to those of deaf students and lecturers engaged in the classroom interactions (Janzen & Shaffer, 2008). For example, there may be instances where there are mutual uncertainties about the professional responsibilities of lecturers and interpreters in the classrooms (De Meulder & Haualand, 2019; Ringsø & Agerup, 2018) and may lead to a lack of collaborations and dialogue. Wolbers et al. (2012) indicate that when these mutual uncertainties occur, interpreters may take on some tasks that usually belong to the lecturer (e.g., explaining concepts to the deaf students), without the students' or lecturer's knowledge or consent and any pedagogical training. Deaf students aside from seeking concept clarifications from their interpreters, may also perceive the interpreters as 'lecturers' and ask course-related questions from the interpreters.

In the university context where mostly classroom interactions are in a traditional lecture mode may not be as interactively participatory as other triadic settings (e.g. interactions between a doctor and a deaf patient). Turner and Harrington (2000) suggested that when interpreting becomes part of education, then studies in such settings should focus "on, for and with" stakeholders. Such studies should dwell on those that the inquiry has an impact (Knoors & Marschark, 2014, Power, 2003). When

interpreting mediates inclusion for deaf students, various actors play active roles (Heyerick & Vermeerbergen, 2012; Napier, 2011; Ramsey, 1997). The actors involved in interpreting in the interactive classrooms should aim to set up conditions that will facilitate effective interpretations that support improved learning outcomes for deaf students (Salter et al., 2017). Although interpreting research in tertiary classrooms is a developing sub-discipline of interpreting and translation studies (Napier, 2011, Napier et al., 2006, Witter-Merithew & Johnson, 2004), there is the need to examine the perspectives of all the actors regarding inclusion, and how they could put together their expertise and use available resources to support the practice. Whereas school-based empirical evidence in inclusive learning environments abounds in the literature, there continues to be a paucity of evidence from the classrooms on the understanding of the actors regarding the practices and their enactment of inclusion in these settings (Liasidou, 2015; Salter et al., 2017). The involvement of interpreters in tertiary classrooms necessitates a clear understanding of their roles by teachers to facilitate effective communication and promote learning for deaf students (Darroch & Marshall, 1998; Marschark et al., 2005). Recognizing that interpreters serve to bridge communication between lecturers and deaf students enables teachers to collaborate more effectively with them (Bontempo & Levitzke-Gray, 2009; Leeson, 2012; Napier, 2002). By acknowledging this role, teachers refrain from assigning non-related tasks to interpreters during class or mistaking interpreters for the primary educators of deaf students (Fobi & Oppong, 2019; Maroney et al., 2020; Oppong et al., 2016).

Teachers play a pivotal role in determining the optimal positioning of interpreters within the classroom setting (Bontempo, 2012; De Meulder et al., 2018; Roy & Metzger, 2014). Discussion regarding interpreter seating arrangements ensures

the deaf students benefit from optimal access while minimising distractions for other class members (Bentley-Sassaman & Dawson, 2012; Young et al., 2019). Moreover, teachers must consider classroom layout to foster interactive learning and teaching, advocating for circular or semi-circular seating arrangements (Darroch & Marshall, 1998).

Sharing lecture content with interpreters allows them to prepare adequately, particularly for complex topics, enhancing the quality of interpretation during classes (De Meulder et al., 2018; Napier, 2016; Russell, 2008). Additionally, when assessing students, teachers should accommodate diverse learning needs, offering alternative testing formats such as written assessments interpreted into sign language if preferred by deaf students (Cheng & Rose, 2008). It is crucial for teachers to communicate directly with deaf students, avoiding ambiguity and ensuring clear understanding facilitated by interpreters (Cawthon, 2001; Marschark et al., 2008).

In delivering lessons, teachers should maintain at moderate pace and provide regular pauses to accommodate interpreters' lag time (Bentley-Sassaman & Dawson, 2012; De Meulder et al., 2018). This consideration ensures interpreters can accurately convey class content to deaf students, promoting their active participation in classroom activities. Using personal references like "I" and "“You” aids in clarity of communication, while avoiding confusing third-person statements ("ask him," "tell her") (Metzger, 2005; Pöchhacker, 2016).

By aligning instructional practices with the needs of deaf students and the roles of interpreters, teachers create an inclusive learning environment conducive to the academic success of all students. In the subsequent section, the review will delve into

the expectations of interpreters by deaf students, lecturers, and department heads, further enriching our understanding of the dynamics within tertiary classrooms.

Ethics of Sign Language Interpreting

In United States, American Sign Language (ASL) Interpreters are expected to uphold the standards expressed in the National Association for the Deaf, Registry of Interpreters for the Deaf (NAD-RID) Code of Professional Conduct (CPC) regardless of setting. The tenets of the CPC cover the topics of confidentiality, professionalism, conduct, respect for consumers, respect for colleagues, ethical business practices, and professional development (Registry of Interpreters for the Deaf, Inc. [RID], 2005). While the process of interpreting is largely the same regardless of setting, there are some important differences in what is considered ethical conduct by setting, particularly in educational settings. The Educational Interpreter Performance Assessment (EIPA) has created a distinct set of ethical guidelines that are adhered to in the educational setting. It is important to acknowledge the legal side of this discussion with regards to the Individuals with Disabilities Education Act (IDEA) (2004). The IDEA (2004) influences this discussion in two main ways. These are:

1. Legally defining disability.
2. Officially labelling the role of sign language interpreters in education.

The IDEA (2004) delineates 13 disability categories including “deafness or hearing impairments” which qualify students for special education and related services. The term Deaf Individuals with Disabilities (DWD) does not consider Deafness to be a disability but does include the wide range of other disabilities listed in the aforementioned law that may occur comorbid to deafness.

Components of Visual Interpreting

According to the National Deaf Centre (2019), the act of facilitating communication between a visual communicator and an auditory communicator is accomplished using a number of modalities, with the modality of choice being identified by deaf students. The modalities are as follows:

1. ASL Interpretation is the most prominent type of interpreting used today. ASL interpreting occurs in two ways: simultaneously and consecutively. According to the RID (2007), simultaneous interpreting requires interpreters to listen and sign, or watch and speak, at the same time. The interpreter begins to convey a sentence in the target language while listening or watching the message being delivered in the source language.
2. Transliteration is also a prominent mode of interpreting. Interpreters transliterate between spoken English and a sign representation of English. Often times, elements of ASL interpreting are incorporated but overall it follows an English word order.
3. Tactile Interpretation is a method of interpreting used by individuals who are deaf-blind. In this mode, an interpreter creates signs in the person's hand, while using other tactile cues to describe affect and the environment.
4. Oral Transliteration is a less commonly used visual access system. Oral translators silently repeat the English being spoken, while using specialised techniques to supplement the mouthing (e.g., gestures, pointing, etc.).
5. Cued Speech Transliteration is a less commonly used visual access system. It is a unique system whereby the translator uses handshapes situated in different locations near the mouth to represent English phonetic markers.

Empirical Review

Sign Language Interpreters' Knowledge about their Role

Schein (1974) administered the Edwards Personality Preference Schedule to 34 interpreters in three Northeastern United States cities. Analysing the scores of the 20 interpreters who completed the tests, it was concluded in the study that the successful interpreter desires to be the centre of attention and to be independent, is not overly anxious, does not seek sympathy for self, and is not rigid. Anderson (1976), discussed the interpreter and their role in terms of the interpreter as bilingual, ambiguities and conflicts, and power. Each of these topics is applicable to the current study of the role of sign language interpreters. Due to societal pressure, spoken language becomes established as the dominant language, at least most of the time (Ingram, 1978). This reversal of dominant languages might help to explain why interpreters consider interpretation from a sign language to be a difficult task.

Additionally, Anderson (1976) posits that it is expected that the greater the linguistic dominance, the more likely an interpreter will identify with the speakers of the dominant language, rather than with clients speaking his other language. Some interpreters tend to be maternalistic. That is, they try to speak for the deaf person when they are perfectly capable of handling his own affairs. A good interpreter is the one who remains neutral in their role between two communicators (Ladd, 2003). The interpreter, whether of sign language or spoken languages, is unquestionably a person in a position of power. Sociological and social psychological studies of interpreters and their role are greatly needed to help understand why people become interpreters and how they behave as interpreters.

The quality and competency of sign language interpreters in education has historically been a challenge (Mason, 2020). Few interpreter training programmes have specialisations in educational interpreting, yet, as Jones (2005) noted that as language competencies are a prerequisite to interpreting proficiency, qualified interpreters are a

prerequisite to accessibility. This corroborates with the NAD-RID Code of Professional Conduct, which emphasises in Tenet 2.0 that interpreters must possess the professional skills and knowledge necessary for the specific interpreting situation (RID, 2005). Qualified interpreters, however, are a starting point for, rather than a guarantee of, full inclusion of deaf students.

The Role of Sign Language Interpreters

In the United States, the general role of sign language interpreters are to provide equal access to information for Deaf and hearing clients, bridging the communication gap between spoken and signed languages (Humphrey & Alcorn, 2007). According to the RID Code of Professional Conduct (2005), the personal influence of interpreters should be minimal or avoided if possible. However, the role of educational sign language interpreters is often viewed as wider in scope, encompassing responsibilities such as providing clarification to instructions, facilitating peer interactions, and informing educational professionals on the deaf child's progress in learning (Anita & Kreimeyer, 2001). Additionally, within the education setting, the roles of sign language interpreters in the following areas is crucial:

Teaching Learning Process

According to the Association of Visual Language Interpreters in Canada (1992), the role of sign language interpreters in the teaching and learning process includes the following:

1. Accurately interpret instructional information.
2. Convey a student's questions or replies to questions to the teacher and the class in the language level used by students.
3. Interpret subject matter without personal bias or emotion.

4. Consult with the deaf or hard of hearing student, members of the deaf or interpreting community regarding appropriate signs for new or technical terminology.
5. May be required to interpret questions on a test while ensuring the answer is not divulged.
6. Will be familiar with school rules.
7. Maintain confidentiality of information regarding students (such as grades, behaviour, and personal information). For instance, when an interpreter has acquired knowledge pertaining to any activity which pose a threat to the safety of the students and others, then the interpreter is required to report such instances to the appropriate school authorities.
8. Stay in the role of interpreter during the interpreting process.
9. Do not censor what is spoken or signed.
10. Must be aware of conflicts of interest and, in consultation with the school administration, have in place strategies for dealing with conflicts should they arise.

Educational Planning

To effectively fulfil their primary role of providing interpretation in the educational setting, the interpreter's work schedule should include preparation time. According to Fobi (2021), Valuable uses of preparation time may include:

1. Obtaining and previewing/reading course textbooks subject-related materials, media resources and support materials
2. Periodically reviewing course notes, past and present course syllabi, etc.
3. Addressing logistics by securing assignment location, necessary support equipment

4. Obtaining and translating written text such as music, poetry, scripts and recitations.
5. Practicing specific skills to interpreting: fingerspelling, voicing, vocabulary production/pronunciation, and grammatical structures and features of sign language.
6. Mentoring
7. Collaborative shared planning time
8. Reading and responding to e-mail and completing required paperwork
9. Completing activities identified in professional development plan
10. Creating and updating a substitute file
11. Communicating with supervisor regarding professional development plan assignment changes, service changes and possible alternate assignment.

Counselling Situations

According to Eriks-Brophy and Cameron (2018), Glickman and Gulati (2019), Marshark and Hauser (2012), the following are some of the counselling roles played by sign language interpreters:

1. In school counselling sessions, the role of the interpreter is clearly that of communication facilitator only.
2. Confidentiality must carefully be observed.
3. Special consideration should be given to the student's preference of interpreter or their need for an interpreter at all.

Standardised Testing Situations

When providing interpretation as a test accommodation, care should be taken to conform to the requirements of tests and not to interfere or adversely affect what is

being tested (Glickman & Gulati, 2019; Kretschmer et al., 2019). For clarity, it is important that interpreters and the evaluator meet prior to the testing situation to discuss such things as the student's background and role/expectations of the interpreters in this setting (Fobi, 2021). Furthermore, it is crucial to include the educational interpreter in all training associated with standardized testing including state and district assessments.

Special Considerations

Interpreters for plays, lectures, amongst others should have advanced access to the script, notes and time to prepare, or if possible, preview the event. If a class/event/lecture will last more than two hours, a team of two interpreters would be needed (Amoako 2019; Fobi 2019; Fobi & Oppong 2019; Moores 1992; Schick 2004; Schick et al. 2005). Unique situations (panels, interactive events, theater etc.) may also require a team of two or more interpreters. The educational team should make every attempt to be sure that any multimedia used in the classroom is captioned. If not, the same considerations as a play or lecture should apply. Students may need the captioning and interpreting in order to have full access. Educational interpreters would be used to interpret for curriculum-related speakers and extra-curricular activities.

Other Roles of Sign Language Interpreters

Brown and Schick (2011) argued that sign language interpreters in education have a completely different role than general interpreters based on the setting they work in. Brown and Schick (2011) further noted that sign language interpreters in education have a primary focus that reflects that of other educational professionals to maximise the student's educational opportunities and to serve as a language model for students. Most authors agree that interpreters' primary role is interpreting between sign and speech with secondary role possible (Mason, 2020; Schick et al. 2005). According to Mason (2020), this secondary role may include clarifying teacher directions and

instructions, facilitating peer interaction by teaching sign to hearing students, tutoring the deaf students, and keeping the teacher or other educational professionals informed of the progress of deaf students. The World Association of Sign Language Interpreters (WASLI) (2014), identified the following as the role of sign language interpreters:

1. The role of the interpreter is to interpret between people who use a signed language and a spoken language and provide complete and accurate information to both people who are deaf and hearing people. In order to work effectively as an interpreter, it is important that the interpreter focussed on impartially performing their interpreting work. Interpreters should provide interpretation including all the content, contextual information in order to realise the communication goals of the persons involved in the interaction and improve conditions for productive communication to both sides.
2. Interpreters should be aware of how to make ethical decisions, and this includes:
   i. Ensuring their skills are suitable for the assignment
   ii. Engaging in on-going professional development to better their skills and understanding interpreting.
   iii. Doing the preparation work required to do a good job of interpreting
   iv. Turing down work for which they are not qualified
   v. Turning down work when they know that they cannot take an impartial stance to the interaction.
3. People who are deaf have the right to represent themselves and direct their own lives. They expect interpreters to understand and be engaged in proactive activities aimed at achieving equality of people who are deaf. For example, people who are deaf need to represent themselves in all aspects of Board positions.

Swift (2012) discovered in a study on the roles of sing language interpreters in post-secondary education settings in south Africa that other norms that are described within the role of the sign language interpreter from the perspective of the African sign language interpreters are as follow:

1. Controlling the flow of talk in group situations.
2. Borrowing from the source language in the form of fingerspelling to ensure the academic terminology is transferred.
3. Ensuring linguistic competency, partly through socialising with deaf students
4. Developing sign lexicon in collaboration with a team consisting of deaf students and interpreters.
5. Maintaining flexibility to cope with the variety in content, venues and communication functions in higher education.
6. Portraying academic content accurately.

Shick et al. (2005), discovered in a study on look who is being left out: educational interpreters and access to education for deaf and hard of hearing students that a limited number of sign language interpreters in education had the expertise to play their role effectively. Also, Marschark, et al. (2004), reported in a study on predicting the academic achievement of deaf students conducted in the Netherlands that deaf students learned less in the classroom than their hearing peers. Consistent with this finding, Jelinek, Lewis, and Jackson (2001), revealed in a study on impact of interpreters filling multiple roles in mainstream classrooms on communication access that 4th and 6th grade deaf students learned less than their hearing peers when on-screen-text was used for teaching in the classroom. Also, Shick et al. (2005), reported that deaf and hard-of-hearing students were identified to be underperforming in mainstream classroom. However, Stinson et al. (2009), reported that there was no significant

difference among college students and their hearing peers in comprehension and memory during lecture which was supported by sign language interpreters in education.

Although sign language interpreters play diverse roles in the classroom, Antia and Kreimeyer (2001), discovered in a qualitative study conducted in America that sign language interpreter's role in education are undefined due to no definite policies in place to determine their role which can result in jumbled decision-making instead of the professional and collaborative decision-making that is required by law. Sanheim (2003), discovered that regarding the interpreter's role in regulating turn-taking, they concluded that the interpreter's choices about what gets interpreted can affect the outcome of the interpreting. Therefore, if the roles of sign language interpreters are not well defined it can lead to poor academic success of deaf students. Also, Smietanski (2016) revealed in a study conducted in America that the role of sign language interpreters in education was ambiguous and lacked a definite form. This is because sign language interpreters in education who claimed they were interpreting were rather tutoring and did not adhere clearly to their role of interpreting for deaf students and those with hard-of-hearing.

Additionally, Angelelli (2003) revealed that sign language interpreters play the role of a helper in order to bridge the communication gap between deaf pupils and their hearing peers. Also, Turner (2007) reported in a study that sign language interpreters actively engaged in coordinating and negotiating meanings in triadic interaction in the classroom. Oliva and Risser-Lytle (2013), discovered in a study conducted in America that deaf graduates were of the view that their sign language interpreters in education were not mere interpreters. This is because their sign language interpreters performed the role of therapists, tutors, assistant teachers and friends. Also, Smith (2013) reported that sign language interpreters in education performed role beyond interpretation which

included tutoring and helping deaf students. Similarly, Santos and Lacerda (2015), revealed that sign language interpreters in the education setting does not only bridge the communication gap in the classroom for deaf students but also exchanges their experiences with colleagues and plan meetings with the classroom teacher. This is probably why Albres and Rodrigues (2018), asserted that the role of the sign language interpreters in education requires collaboration with the classroom teacher in inclusive schools. Consistent with this, Mason (2020), discovered in a study conducted in America that there existed collaboration between interpreting team members, interpreters and their clients, and between other parties involved such as special educators and the IEP team, when exploring the experiences of sign language interpreters.

Furthermore, Clark and Scheele (2014), reported that the performance of role beyond interpretation by sign language interpreters in education can lead to over dependence of deaf students and those with hard-of-hearing on their interpreters. Also, Mason (2020), discovered that the role of the sign language interpreters in education is to enhance the accessibility of giving information to deaf students. Mason (2020), further revealed that the experiences of sign language interpreters in education are individualisation that is, making modifications and adaptations to suit the unique needs of each individual student who is deaf. Hauser and Hauser (2008) asserts that sign language interpreters are impartial or neutral, because they are a dynamic and active participants in the interpretation process. Resta (2013) posit that interpreters should build a transparent and neutral role in order to establish trust during the interpretation process. In the enactment of the role of sign language interpreters, there are several strategies that are adopted to enhance the effectiveness of their services. Mason (2020), revealed in a study conducted in America that sign language interpreters' experiences

involved production modification thus, provision of interpretation differently to deaf students based on their unique characteristics and providing adaptation which include physical adaptation by interpreters such as wearing black for deafblind student.

According to Powell (2013), the nature of sign language interpreter's role demands teaming because their work is demanding in interpreting high-level of material especially at the post-secondary level of education. Powell (2013), further posits that teaming usually involves two interpreters rotating every 15 - 20 minutes to alleviate both the stress on the upper body and the "brain fade" that occurs if required to interpret high-level material for any length of time. Lawson (2012), also noted that sign language interpreters in secondary schools experienced role straining. Consistent with this finding, Powell (2013), discovered that sign language interpreters in education working at the post-secondary level experience overuse syndrome in the performance of their role and this was due to inadequate interpreters in the school to provide opportunity to team up during interpreting session. Additionally, Powell (2013) noted that among the concerns of sign language interpreters are: unavailability of lecture materials to make preparation ahead of time, and lack of policies and plan guiding the role of sign language interpreters. Powell (2013) reported that sign language interpreters in New Zealand were limited for students at the post-secondary school to have access to their service during lectures and other social functions.

Concerns of Sign Language Interpreters

According to the findings reported in a study on a glimpse at the development of sign language interpretation in Uganda by Michael (2011), the concerns of sign language interpreters are grouped under a) office setting and b) educational setting.

Office Setting

Lack of awareness by the community of the role, duties, rights and obligations of sign language interpreters. One example that was reported is that people often blame interpreters for the actions of their clients. Secondly, because many organisations want to minimise their expenses, they tend to employ only one interpreter rather than two. This results in the interpreters working for a longer time than is recommended (interpretation is effective within the first 35 minutes), particularly during meetings, which can be dangerous to their health and also reduces the effectiveness of the service delivery. Additionally, lack of professional recognition: Because sign language interpreting is a new profession, there is no specific definition for the job description for interpreters. This results in interpreters being asked to do additional tasks as secretaries, helpers or guides. There was also the concern of low pay. Sign language interpreters are not paid competitive salaries for their work. There is no set standard payment rate for sign language interpreters.

According to Michael (2011), possible solutions to address these challenges include: sensitisation of the community about the role, duties, rights and obligations of sign language interpreters; establishing requirements for hiring an appropriate number of sign language interpreters for situations that continue for an extended time; education and sensitisation of managers and other professionals about sign language interpreting as a profession; and establishing standardised pay rates for sign language interpreters. On education setting, Michael (2011) identified five general concerns of sign language interpreters in the educational setting. The first concern is that, most lecturers are not aware of the special educational needs of deaf students with regard to the difficulty of writing and looking at the interpreter. As a result, it is a challenge for the interpreter when deaf students look down to write; the interpreter is expected to listen to the incoming information and remember it until deaf students look up. The second concern

is on how interpreters keep pace with tutors/instructors who speak very fast during the instruction period. Some teachers or lecturers speak very fast making it difficult and tiresome for the interpreter to keep up with the pace of the lecture. There is also lack of proper or standard pay for sign language interpreters: Because most schools/institutions do not have proper job descriptions, and responsibilities for sign language interpreters and as a result the pay for interpreters does not commensurate with the work they do. This discourages interpreters from providing interpreting services in educational settings.

Another concern is lack of signs for some of the subjects taught: There are no standardised signs for many terms in science, physics, chemistry, and mathematics. These courses also involve calculations that are often difficult to interpret because of the need to understand the processes involved. Michael (2011) recommended possible ways to minimise these concerns. First of all, lecturers should slow their pace as they dictate notes to avoid over loading the sign language interpreters with incoming words. Secondly, instructors should use a reasonable pace as they speak so that the sign language interpreter will be able to keep up with the lecture. Additionally, schools/institutions should develop proper job descriptions; this will help with standardising the pay for the sign language interpreters. Finally, teaching methods and curriculum should be well structured to suit the individual needs of deaf student.

Knowledge about how to use interpreters

In inclusive tertiary classrooms, the knowledge and understanding of regular class teachers regarding the use of sign language interpreters play a crucial role in facilitating effective communication and promoting the academic success of deaf students. Sign language interpreters serve as intermediaries between deaf students and the

instructional content delivered by teachers, making it essential for teachers to possess adequate knowledge and skills to collaborate with interpreters effectively.

Regular class teachers need to be aware of the roles and responsibilities of sign language interpreters within the classroom setting. Sign language interpreters are tasked with accurately conveying spoken information into sign language and vice versa, ensuring that deaf students have access to the same educational opportunities as their hearing peers (Darroch & Marshall, 1998; Marschark et al., 2005). Understanding these roles allows teachers to work collaboratively with interpreters to create an inclusive learning environment where all students can thrive.

Teachers must also recognize the importance of clear communication with interpreters regarding instructional content and classroom expectations. Sharing lecture materials and discussing course objectives with interpreters enables them to prepare adequately and deliver accurate interpretations during class sessions (De Meulder et al., 2018; Napier, 2016; Russell, 2008). Effective communication between teachers and interpreters fosters mutual understanding and enhances the quality of interpretation, benefiting deaf students' learning experiences.

Furthermore, regular class teachers should be knowledgeable about appropriate classroom arrangements and seating configurations to optimize communication access for deaf students. Collaborating with interpreters to determine optimal seating positions and ensuring unobstructed lines of sight between deaf students, interpreters, and instructional materials contribute to a supportive learning environment (Bontempo, 2012; De Meulder et al., 2018; Roy and Metzger, 2014). Teachers' awareness of these considerations promotes inclusivity and minimizes potential barriers to communication.

In addition to facilitating communication access, regular class teachers must consider alternative forms of assessment to accommodate the diverse learning needs of deaf students. Providing options such as written assessments interpreted into sign language allows deaf students to demonstrate their understanding of course content effectively (Cheng and Rose, 2008). Teachers should collaborate with interpreters and deaf students to establish appropriate testing accommodations and ensure equitable assessment opportunities for all students.

Moreover, teachers should actively engage in professional development opportunities to enhance their knowledge and skills related to working with sign language interpreters in inclusive tertiary classrooms. Training workshops, seminars, and continuing education courses offer valuable insights into effective communication strategies, classroom management techniques, and inclusive teaching practices (Cawthon, 2001; Marschark et al., 2008). By investing in professional growth, teachers can cultivate a supportive learning environment that promotes the academic success and well-being of all students, including those who are deaf or hard of hearing. It may be assumed that since deaf students have progressed through basic and secondary education and are now in higher education, assessing learning through interpreters may be easy for them because of their familiarities with such services (Maroney 2016; Maroney et al., 2020). Often in the tertiary classrooms, most deaf students are unaware of the services and support available to them at tertiary institutions (Oppong et al., 2017; Leeson, 2012; Maroney, 2016). The few deaf students who are aware, often do not know how to use those services (Maroney, 2016, Maroney et al. 2020). They might have heard of such services in the abstract, but, they do not know how such services are used in educational settings (Leeson, 2012; Maroney, 2016; Maroney et al. 2020). Schick and Williams

(2007) advocated for discussions on how deaf students use interpreters in educational institutions to centre on whether the students are ready

Summary

In the review of related literature, areas covered are a brief history of the development of deaf education in Ghana, the development of Ghanaian sign language, tertiary education for the deaf., legislation and channels of advocacy for the deaf, ethics of sign language interpreting, sign language interpreters' knowledge about their expected role, their roles in areas such as assessment and instructional sessions, and lastly, their concerns in supporting deaf students.

CHAPTER THREE

RESEARCH METHODS

Introduction

This chapter presented the research methods for the study. The methods are presented under research approach, research design, study area population of the study, sample size, sampling procedures, data collection instrument, pilot-testing of research instrument, data collection procedures, trustworthiness of qualitative data, ethical consideration, and data processing and data analysis.

Research Approach

A research paradigm is a philosophical framework or worldview that guides how research is conducted. It encompasses a set of beliefs, values, and assumptions about reality (ontology), knowledge (epistemology), and the methods used to gather and interpret data (methodology) (Kivunja & Kuyini, 2017). Essentially, a research paradigm shapes the entire research process, including the formulation of research questions, choice of methods, and interpretation of findings. This study adopted the interpretivist research paradigm. Interpretivist paradigm views reality as subjective and socially constructed, focusing on understanding individuals' lived experiences through qualitative methods. In order to understand the roles and support SLIs paly in an inclusive classroom since such specific role they play is unclear or not policy bond.

Research Approach

A qualitative approach was adopted for this study. The reason for employing a qualitative approach in this study was to collect in-depth data that is rich in content to provide a comprehensive insight into the problem under investigation (Pilot & Beck, 2017). The theory underpinning qualitative approach permits data to be gathered from participants reality and that reality exist within the social context of people. Therefore,

this approach helped the researcher to gather information from the sign language interpreter for in-depth understanding of the actual supports they provides to deaf students at PCE.

Research Design

A case study research design was chosen to closely examine the support interpreters offer deaf students at the PCE in the Eastern Region of Ghana. This is supported by Yin (2017) that a case study design is an appropriate way to explore case(s) within a specific context in order to understand it. The purpose of using a case study research design is to produce background material for a discussion about the concrete problem that has been identified (Solberg Soilen & Huber, 2006), that is, the role of sign language interpreters in supporting deaf students. However, case study research has been subjected to criticisms. The most common is concerned with the lack of scientific rigour, robustness, and statistical generalisation (Woodside, 2010). Despite these criticisms, it has rigorous inductive analysis (Pilot & Beck, 2010) and analytical generalisation (Yin, 2014). Case study research design is often described as qualitative inquiry where through rigorous inductive analysis, together with the use of confirmatory strategies address the credibility of the conclusions. Qualitative researchers can arrive at insightful and inductive generalisations regarding the phenomenon under study (Creswell, 2014; Pilot & Beck, 2010). Furthermore, case study research design has some advantages and disadvantages. The disadvantages include: it lacks scientific rigour and generalisability (Tetnowski, 2015). The advantages include: it presents a holistic view of a problem since multiple sources of evidence are used (Queirós, Faria, & Almeida, 2017).

Study Setting

The study setting was PCE, Akropong. It was formerly called Presbyterian Training College (PTC) established in 1848 by the Basel Evangelical Society. It is the first institution of higher learning in Ghana and in West Africa, it is second to Fourah Bay College in Siera Leone. As it went about its evangelical work, the Basel Evangelical Society found it prudent to establish schools to educate the indigenous people. This led to the establishment of the first preparatory school in Akropong, Akuapem in 1844 by Rev Andreas Riis. The increase in the number of pupils in the preparatory school resulted in higher demand for professionally trained teachers. This demand culminated in the establishment of a seminary in 1948 to train catechists and teachers to teach at the preparatory school. The main aim of PCE was to give teachers a sound basic education as well as attitudes and skills to live shining and exemplary lives. The seminary became purely teacher training college in the year 1951 (PCE, 2023). PCE is currently the only college in Ghana that provide education to both Deaf and visually impaired students at the college of education level in Ghana. The College was the first tertiary institution in Ghana to start training students with visual impairment in 1934, and the Deaf or Hard of Hearing students in 1997. Through the effort of Mr and Mrs Fefoame, the first deaf student (Mr. Manasseh Awudi) was admitted in 1997. Records available indicate that the college has successfully trained 102 students with various degrees of hearing problems as of 2022 (PCE Unit Head, 2022). The college currently has a total population of 32 deaf students spread across all levels of study who rely on sign-language interpreting services for their full participation in school life. The college has a dedicated unit for special needs students and resources persons comprising of nine sign language interpreters and two braillist.

Population

The population of the study was nine (9) sign language interpreters comprising five males and four females. The distribution of the demongraphics of the SLIs was presented is Table 1. A population is a complete set of people or subjects with a specialised set of characteristics that a researcher intends to take a representative sample from (Dannels, 2018).

Sex	**Number of persons**
Males	5
Females	4
Total	9
Highest Education & Qualification	
Bachelor's degree	5
Masters	4
Total	9
Interpreting Experience of SLIs	
5-9years	6
10-14years	3
Total	**9**

Sampling Procedure

According to Acharya et al., (2013), sampling is the process of selecting a representative subjects or people of a population. In support of this assertion, Daniel (2012) noted that census sampling is appropriate for investigating a small size of population where the researcher is interested in collecting data from all the members of the population to provide a comprehensive understanding of the problem under study.

Census sampling was employed for the study to select the sign language interpreters. With census sampling, all the nine sign language interpreters were involved in this study.

All the nine sign language interpreters in PCE were involved in this study because they met the criteria which was that, the participant should have served in the college as a sign language interpreter for a minimum of 5-years. Going by this criterion, all the sign language interpreters were included and since they were few, the researcher included

all to get a holistic perspective from all the subjects of study which will reflect the views of all the subjects under study.

Data Collection Instrument

The researcher developed a semi-structured interview guide for this study and a focus group discussion (FGD) guide for the student participants. The semi-structured interview allowed the researcher to probe further to collect in-depth information from the participants (Creswell & Creswell, 2018). The semi-structured interview guide was used because it gave the researcher the opportunity to modify the order of the questions and interview style in order to elicit detailed information from interviewees (Adams, 2015). All the nine sign language interpreters were interviewed one-on-one. However, the students had theirs in a group. The semi-structured interview guide was developed based on the research questions raised. The guide consisted of five (5) sections. Section A to section E. Section A elicited information on the demographic information of the participants. The demographic information were gender, age, educational qualification, and years of experience as a sign language interpreter. Section B elicited information to answer research question one. It was on sign language interpreters' knowledge of their role. It had five probing questions. Section C elicited information towards answering research question two. It consisted of questions focusing on the support sign language interpreters provide to deaf students in academic activities. Section D focused on answering research question three. It sought to elicit information on the support sign language interpreters provide to deaf students who are in non-academic activities. This had three main probing questions. The last section (section D) sought to elicit information on the concerns of sign language interpreters. This had five items.

Pilot-Testing of Research Instrument

Fraser, Fahlman, Arscott and Guillot (2018) posit that pilot-testing of research instruments helps researchers to adjust methodological issues of a study. The semi-structured interview guide was pilot-tested at Akenten Appiah Menka University of Skill Training and Entrepreneur Development (AAM-USTED). AAM-USTED was used for the pilot-test because it shares similar characteristics to the population of the study. The characteristics are: both are an IE setting and a tertiary educational institution. Pilot-testing of the semi-structured interview guide helped the researcher to make necessary modifications and corrections of the questions on the semi-structured interview guide. The corrections included ambiguities, typographical errors, double barrel questions and unclear statements. Additionally, pilot-testing the semi-structured interview guide helped to polish the researcher's interview skills. Essentially, the purpose of pilot-testing the instrument was to make it possible to have a trustworthy data collection instrument that will elicit reliable data for the study (Fraser et al., 2018).

Data Collection Procedures

First, the researcher sought permission from the school authorities by sending an introduction letter to them. The introductory letter was issued by the Department of Special Education, University of Education Winneba (see appendix A). In the letter, participants were informed on why the information is being solicited, what purpose it would serve, and how they were expected to take part in the study. Consent of participants was also sought through informed consent form (see appendix B). The researcher visited PCE to meet up with the college authorities and participants and arrange for convenient days and time to conduct the interviews. The interviews were conducted one on-one face to face and in group for the deaf students. Permission was sought from participants to audio record the interview sessions with a mobile phone (Techno Spark 5) to compliment the field notes that the researcher took. On the first

day of the actual data collection, the researcher interviewed four participants who were available and free from assignment because the remaining five were engaged in an activity. For ethical reasons, the researcher did not force them to stop what they were doing instead a different day and time was scheduled for the interview. The remaining five sign language interpreters were interviewed the following day. Subsequent dialogues were made with the research participants after the interviews to solicit for further information, clarifications, and issues that aroused. On the third visit, the researcher had transcribed the data and it was ready for member checking. The participants were presented with the transcribed data to check if they reflect the intended information and if there were changes participants wished to make. Eight of the participants confirmed data accuracy. The remaining one participant added further information to the data transcribed. Each interview lasted between 30 to 45 minutes. The interview sessions were conducted in an office at the disability resource center of the college which was conducive and privacy ensured. The researcher conducted the interviews personally. Since all the interpreters were fluent users of English language. To prevent biasness, much probing questions were used as much as possible to get much and defying views on the second day because it is assumed that since all the interpreters reside and interact in the same college environment, those interviewed on the first day might have briefed those interviewed on the first day. After all the interviews were done, the researcher sent a letter of appreciation to the college authority and the participants.

Trustworthiness

Trustworthiness in qualitative study is the degree of confidence in data, interpretation, and methods used to ensure the quality of a study (Pilot & Beck, 2017).

The study ensured trustworthiness based on the four criteria proposed by Lincoln and Guba (1986). These are; confirmability, transferability, dependability, and credibility.

Confirmability

Confirmability is the assurance that the results, conclusions and recommendations are backed by the data collected (Johnson & Christensen, 2012). In view of this, the researcher played back audio-recordings to the participants for them to make corrections and clarifications to come to an agreement that the information on the tape-recorded is theirs. The researcher reported findings to reflect interviewees' exact information given, and not the researcher's own perspective.

Credibility

Credibility is how a researcher represents the true and precise reflection of what research participants have said (Shufutinsky, 2020). To ensure credibility of the study, the researcher used member checking. With the member checking, the researcher played the tape recordings for the participants to listen. This was used to ascertain whether what was recorded by the researcher matches with what the participants said in the interviews. (Johnson & Christensen, 2012).

Transferability

Transferability refers to the extent to which findings of a study can be applicable to other settings (Guba & Lilncon, 1989). Simply, transferability is concerned with how readers will extend the results to their own situations. To ensure transferability, the researcher gave a thick and detailed description of the study area, participants characteristics and other necessary information which are very important to enable readers to decide if the study findings can be transferred to different settings. Also, the researcher gathered, interpreted, and reported the findings in a way that will facilitate

readers' understanding in order to evaluate the applicability of the findings to other settings.

Dependability

Dependability refers to the consistency of data over time (Ngunyulu, 2012). In order to ensure dependability, the researcher gave the findings and interpretations of the data to an expert in the field of the study who is familiar with the research area (that is, the supervisor) to examine its applicability. Comments, suggestions, critiques that were made by the supervisor were effected accordingly.

Ethical Considerations

Ethical consideration pertains to anonymity, confidentiality, informed consent and the opportunity available for research participants to withdraw where they are no longer interested in continuing with the study (Rani & Sharma, 2012). The current study considered a number of ethical issues. First, an introductory letter was sent to the principal of the college to inform them of my interest to use their college for my study and to seek their approval. Additionally, an informed consent letter was given to participants to sign to indicate their agreement to take part in the study (see appendix B). Participants were assured of confidentiality and anonymity. With confidentiality, participants were assured that any information they gave would not be shared with any third party. With anonymity, participants were instructed not to disclose their names when answering any of the questions. This was to ensure that their individual identities were not made public. No one would be able to identify them individually. Furthermore, participants' were made aware that their participation in the study was voluntary. Participants had the right to withdraw from the study at any point in time without any penalty. Before the interviews and observations began, participants' consent were sought to audio-record the interview sessions with a smart phone (techno spark

5device). Participants were not forced to respond to any question in the interview. They had the right not to respond to questions they felt uncomfortable with. After the collection of the data, the researcher sent a letter of appreciation to the school to show sincere gratitude to the school authorities for their support and the research participants for taking part in the study.

Data Analysis procedure

The interview data were analysed with thematic analysis employing triangulation. Braun et al.'s (2018) thematic analysis was adopted to analyse the data. The thematic analysis was in six phases. They are presented as follows:

Phase 1: Familiarising with the Data: In phase 1, the interview data were gathered and transcribed manually. After that, the researcher familiarised herself with the transcribed data by re-reading and listening to the audio recordings of the interviews. The purpose of this exercise was to have a general idea of the meaning and direction of the data.

Phase 2: Generating Initial Codes: In phase 2, the researcher applied codes to the data extracted and highlighted similar ideas in the interview data to generate the themes. Also, the researcher identified the units of analysis that contain important information related to the research questions.

Phase 3: Searching for Themes: In phase 3, the researcher sorted the different codes into potential themes, and collated all the relevant coded data extracts within the themes. Content of the interview data that did not relate to the research questions were collapsed.

Phase 4: Reviewing Themes: In phase 4, the researcher reviewed the themes that were generated from the interview data. Themes that appeared similar were merged and those that were different were separated.

Phase 5: Defining and Naming Themes: the researcher gave concise and precise names to the themes that emerged to reflect the content of the analysis under the themes. The themes were given clear and concise names to represent the central idea of the data.

Phase 6: Producing the Report: all the ideas collected were organised under the thematic areas and were reported. In the report, the researcher added enough verbatim responses from the participants to reflect the interpretations of the data.

Table 1: Themes generated from the responses

Research question	Themes Generated	No. of SLIs
RQ1	Schedules for playing their role	8
	Knowledge in playing their role	9
	Knowledge of expected role	9
RQ2	Support during instructional sessions	9
	Support during examination	8
	Support in assignments and tutorials	7
	Support during educational field trips	6
	Collaboration with regular education teachers	9
RQ3	Support during ceremonial events	7
	Support during sports and games	5
	Support during religious activities	6
	Training and collaborating with hearing students	4
RQ4	Lack of assistive technologies	9
	Negative attitude of regular education teachers	5

Inadequate availability of sign language interpreters	6
Inadequate training programmes	5

CHAPTER FOUR

RESULTS

Introduction

This chapter presents the results of the study. The chapter presents the transcriptions of data generated from the interviews conducted. The analysis reflected on the themes that emerged from the responses. The data was coded and subjected to thematic analyses and consequently, the themes have been used in the analysis of the main research questions. In all the analysis, participants' verbatim responses were presented to maintain the originality of the findings.

Demographic Information of Participants

In this study, demographic information of the research participants were considered. They were classified under sex, age, educational qualification and years of experience as a sign language interpreter. Table 1. Indicates the demographic information of participants.

Table 1: *Demographic Information of Participants*

Item	Frequency
Sex	
Male	5
Female	4
Age	
30-34	4
35-39	3
40-45	2
Educational qualification	
Bachelor's degree	5
Master's degree	4
Years of experience	
5-9	6
10-14	3

A total of 9 research participants comprising 5 males and 4 females were involved in the study. The age range of 4 of the participants was 30-34, 3 of them were 35-39 and 2 of them were 40-45. Five of the participants had a Bachelor's degree and 4 of them had a Master's degree. Regarding the years of experience as a sign language interpreter, 6 of the participants had 5-9 years and 3 of them had 10-14 years.

Results of the Study

1. **Research Question One**: What are the views of sign language interpreters regarding their knowledge and ability to support Deaf students?

This research question was intended to find out the knowledge of participants about their role in supporting deaf students in PCE. The responses constituted their schedules for playing their roles, level of knowledge in playing their role and

knowledge of their expected role in an inclusive education setting. Three themes emerged from their responses to this research question and are presented in Table 2.

Table 2: *Themes for Research Question One: Knowledge of sign language interrepters about their roles in supporting deaf students*

Themes	**Number of responses**
Schedules for playing their role	3
Knowledge in playing their role	9
Knowledge of expected role	9

Schedules for playing their role

During the interviews, participants talked about their schedule for performing their role. 6 out of the 9 of those interviewed reported that they did not have a specific slot where they were given a specific course or class to perform their duties. They further narrated that they were stationed in the lecture halls from the time lecture begins and to the time lecture ends. According to them,, they stayed on duty from 7 o'clock in the morning to 5 o'clock in the evening from Monday to Friday. Their descriptions suggested that they perform their role for a total of 9 hours every day with 1-hour break for breakfast and another 1-hour break for lunch. To buttress this assertion, the following responses depicts the above assession:

> *'Almost every day is a busy day as an interpreter because we do not have a slot. We are stationed in the lecture hall as much as lecturers come in, you have to be there. So almost every day is a busy day starting from 7 o'clock in the morning to 5 o'clock in the evening. We use 10 hours a day so that's 50 hours a week. So it's not easy at all'* **(Participant 5)**.

Participant 2 added that:

'Ooh actually, it begins on Monday to Friday. When we report to school, we go to the lecture halls. At times, the tutors call us to come to the lecture halls especially when there is a change of venue. We report to the lecture halls by 7AM and close at 5PM. We have an hour interval break but the truth is that we don't even go on break because as soon as the tutor leaves the class, another tutor comes. So we have to be there'.

Participant 4 enumerated that:

'Well, I will say that we come to school around 7 o'clock in the morning and end at 7 o'clock in the evening. We do this on all the days of the week. So you can imagine the workload. We have to be at the lecture halls and the resource centre so that they deaf students can reach us if they need any assistant'.

Based on the verbatim responses , it can be concluded that they were fully engaged throughout the week. They had to be in the lecture halls and the resource centre to assist deaf students from 7o'clock in the morning to 5 o'clock in the evening on Monday to Friday.

Knowledge in playing their role

The response given by 5 out of the 9 participants suggested that they were knowledgeable in playing their roles. According to them, they are to be in the lecture halls to interpret lessons delivered by the regular education teachers to deaf students. They added that they interpreted sign language by deaf students to hearing students, teachers and school authorities. The sign language interpreters further indicated that they interpreted for deaf students at morning devotions, matriculation, religious activities, and sport and games. In support of this assertion, examples of verbatim responses are presented below:

'Well, as an interpreter, we are here to interpret for the deaf students in class, morning devotions, matriculation and all that. We also prepare for class and make sure we get to the lecture hall on time. I can also say that we play the role of a mediator between those who can hear and the deaf students' **(Participant 4)**.

Participant 1 had this to say:

'We don't only interpret what the teacher says in the class. We also interpret what the deaf students also say in class. We do that so that each and everyone in the class will benefit. Sometimes, we don't interpret what the teacher says especially if it will create problems for the deaf students'.

Participant 7 added that:

'You see, the truth is that we are actually here because of the deaf students. We are to interpret for them and also assist them. For example, we accompany them to the administration if they want to go and make enquiries. Personally, I go to them and ask them if they need any help. I always make sure I am at the resource centre or the lecture rooms so that they can come to me for support'.

It can be inferred from the sign language interpreters' narratives that they were knowledgeable in playing their roles in PCE. They interpreted for deaf students in morning devotions, matriculation, instructional sessions, religious activities, sports and games among others.

Knowledge of expected role

The participants responded to questions to determine their knowledge of their expected roles in an inclusive setting. The narratives given by all the 9 participants suggested that they had limited knowledge of their expected role. They reported that they did not have any official documents that stipulated their expected role as sign language interpreters in an inclusive setting. Some participants reported that due to this situation, they did not have adequate knowledge of their expected roles although they provided some level of support to deaf students. To confirm this assertion, participants had this to say:

> *'Looking at the differences in sign language and because we don't have any official document in Ghana that states what our expected roles are, it makes it difficult for me to say what we are actually expected to do. Also, I don't actually understand what the expected roles entails. So I do what I think will help'* **(Participant 3)**.

Participant 5 added that:

> *'Well, I'm not sure of the expected roles because it wasn't stated in my appointment letter but intuitively, I know that as an interpreter, I am expected to interpret what a tutor teaches in classroom but if I am to do my work, diligently I need to prepare before I go to lecture halls. So I prepare in advance. So for the expected roles, I am not sure'.*

Participant 1 also had this to say:

> *'I am not exactly sure of what you are talking about* [expected roles]. *So I can say that I am here in the school to interpret to the deaf students. Apart from that I was not given any document that tells me what I am expected to do but as I said, we are here because of the deaf students. So we are to help them'.*

Based on the responses, it can be concluded that although participants had knowledge about the reason for which they were appointed, they had limited knowledge of their expected roles because according to them, they were not given any document that stipulated such.

Research Question Two: How do sign language interpreters support deaf students in academic activities?

The purpose of this research question was to describe how sign language interpreters support deaf students in academic activities in PCE. The participants gave an account of how they supported deaf students during instructional sessions, during examinations, working on assignments, tutorials, educational field trips and collaborating with regular education teachers. They also talked about how they collaborated with the regular education teachers to meet the academic needs of deaf students. Their responses to this research question constituted five themes. This is presented in Table 3.

Table 3: *Emerged Themes in Research Question Two*

Themes	Number of participants
Support during instructional sessions	9
Support during examination	8
Support in assignments and tutorials	7
Support during educational field trips	6
Collaboration with regular education teachers	9

Support during instructional sessions

The narratives suggested that they supported deaf students during instructional sessions. The responses of all the 9 participants indicated that they interpreted lessons regular education teachers delivered in the lecture halls. According to them, they prepared for the lessons in order to interpret to the understanding of deaf students. They indicated that they either stood or sat where all deaf students in the lecture hall can see their upper body and their faces. They further added that they stood in front of the class and on a platform where all students in the hall could see them during school gatherings and other occasions. In support of this information, the following are verbatim responses supportsthe asserstion:

> *'Actually, we are to interpret for them* [deaf students] *when the teachers are teaching. So we are always in the lecture halls. I position myself away from the board where all the students can see me. If they* [deaf students] *respond to questions or want to ask questions in class, we interpret for them and for the students who can hear'* **(Participant 7)**.

Participant 1 enumerated that:

> *'Well, the reason why we were brought here is to interpret for deaf students. So in class for example, as the teacher teaches, we also interpret… We stand on a high platform so that they* [deaf students] *can see our face and our upper body when interpreting to them. We also interpret what the hearing students say in class and vice versa'.*

Participant 3 added that:

> *'We are here because of the deaf students. So especially when the tutors are delivering their lessons, we are always in the classroom to interpret what is going on in the classroom. We actually interpret in a way they*

understand. At times, there are certain things we don't interpret especially if it will make the deaf students unhappy'.

It is evident from the responses that they supported deaf students during instructional sessions. The support was in the form of interpreting lessons being delivered by the regular education teachers. Sign language interpreters were adequately prepared for lessons and interpreted to the understanding of deaf students.

Support during examination

The participants indicated that they provided deaf students with support during examinations. The narratives of 8 out of the 9 participants interviewed suggested that they gave deaf students extra time during examinations. The descriptions given by the sign language interpreters suggested that deaf students were given 50% of the examination time as an extra time allowance to enable them answer the examination questions in their capacity. Additionally, they explained instructions on the examination paper that appeared complex to the understanding of deaf students. To buttress this information, the following verbatim responses are presented:

'Yeah, in examinations, they are given 50% of the examination time as their extra time. Those who do not complete it are allowed to stay and complete it. We are also allowed to explain the guidelines of the examinations so that they will understand. We stay with them throughout the examination period' **(Participant 5)**.

Participant 3 enumerated that:

'You see, the deaf students have problems in reading and understanding the examination questions. So what we do is that we give them additional time to what they have been given. So let's say if it's a 1 hour 30 minutes

paper, we add another 45 minutes for them so that they can finish. We also walk through to ensure that they understand the instructions'.

Participant 2 also stated that:

'Oh yes, anytime we write exams we give them additional time. Normally, we give them like half of the main duration of the exams. If we let them use the same time like the students who can hear, it won't favour them. We don't answer for them but we explain to them certain things they don't understand'.

A critical analysis of the responses confirmed that deaf students were given support during their examinations. The supports were in the form of extra time allowance and clarification of instructions and concepts on the examination paper.

Support in assignments and tutorials

Participants gave their perspectives on the support they gave to deaf students in completing assignments and organisation of tutorials. The narratives given by 8 out of the 9 participants interviewed suggested that they explained to deaf students the instructions of assignment and suggested sources they can access information from such as books and the internet. Additionally, they stated that they organised tutorials for deaf students to further discuss lessons taught by the regular education teachers. In connection to this assertion, verbatim responses given by some participants are presented:

''As for the support we give them in terms of assignment, I will say that we interpret the instructions of the assignment and give them the sources they can access information. Aside from that we sometimes go over with the students what the tutor had taught after the class'' **(Participant 9)**.

'Oh we do assist them with their assignment but honestly we don't do it for them because if I am the one going to search the answers to the questions for them, then I will be doing them more harm than good. But when they finish their assignment, they show it to me to go through for them before submitting' **(Participant 5)**.

'We let them know how they are to do the assignment and some sources they can get information like from the internet. We don't gather information for them. We expect them to read books on their own and go online to search for information' **(Participant 4)**.

It can be inferred from the narratives given by the participantsthat they provided some level of support to deaf students in completing their assignment. They further indicated they urged deaf students to do their assignment independently.

Support during educational field trips

Educational field trips are important in education because students get the opportunity to experience concepts taught in the classroom in real life or context. 6 out of the 9 participants interviewed reported that they supported deaf students during educational field trips. According to them, although they did not usually go on educational field trips, the few they went, they supported the deaf students in the form of explaining concepts to them while on the journey. They further reported that they interpreted the verbal communication of the tour guards to the deaf students and vice versa. This was to enable deaf students to actively participate and equally benefit from the trip. To buttress this assertion, some participants said that:

'Educational field trip, yes. I personally move with the deaf students. It's an educational trip so along the trip, they will be asking questions and I will interpret them. When we get there and the guards over there are

explaining things to the students, we interpret for those who are deaf' **(Participant 5)**.

'Well, as for the field trip, we don't normally go because it needs a lot of planning. But the few we went to, the interpreters went with the hearing students, deaf students and the tutors. Along the way, we explain some things to the deaf students' **(Participant 7)**.

Participant 2 added that:

'As far as I know, it's been a long time since we went on an educational field trip but I remember that the last time we went, some of us [sign language interpreters] *went with them. When we got to the destination, we mediated between the person who guided us in the tour and all the students'.*

Based on the responses of the sign language interpreters interviewed, it can be concluded that they provided deaf students with support during educational field trips although they did not embark on many.

Collaboration with regular education teachers

Collaboration in inclusive settings cannot be overemphasised. As such, the participants were asked questions to find out how they collaborated with the regular education teachers. The responses given by 5 out of the 9 participants interviewed indicated that they collaborated with some of the regular education teachers. According to them, they asked the regular education teachers about the topics they will be teaching in order to prepare for the lessons and they gave reasons for that. They said that having knowledge about the topics helped them to adequately prepare on how to interpret certain concepts they were not familiar with to the benefit of deaf students. They added

that they requested for the lecture notes of the regular education teachers. To buttress this information, this was what some participants said:

> *'You see, normally what we do is that we see the teachers and find out from them the topics they will be teaching. So when they tell us, we also go home and prepare. There are certain concepts that we have to find the best way to interpret so that the deaf students will understand'* **(Participant 6)**.

> *'The tutors cannot do the work without us so we go to them to take the lessons. I read over the lesson and prepare myself for the class. Even sometimes, we ask them to give us their course materials so that we can be familiar with the topics they will be teaching in class'* **(Participant 4)**.

> *'If we don't get the teachers notes, we can't prepare for the class. We will even end up interpreting in a way that will confuse the deaf students more. I personally ask them to give me their topics for like a week so that I can learn them ahead. At times I ask them to give me the books they use to teach'* **(Participant 2)**.

It can therefore be concluded from the statements of the resondents that they collaborated with some regular education teachers to support deaf students. They requested for the regular education teachers' course materials and topics to adequately prepare for the lessons.

Research Question Three: How do sign language interpreters support deaf students in non-academic activities?

This research question was envisioned to determine how participants support deaf students in non-academic activities in PCE. Participants narrated how they supported deaf students in gatherings and activities such as ceremonial events, sports and games, matriculation and religious activities. They also gave their perspectives on training they gave to some hearing students and how they collaborated with them to meet the non-academic needs of deaf students. Four themes emerged from their responses to this research question and can be seen in Table 4.

Table 4: *Emerged Themes in Research Question Three*

Themes	Number of participants
Support during ceremonial events	9
Support during sports and games	5
Support during religious activities	6
Training and collaborating with hearing students	4

Support during ceremonial occasions

During the interviews, the participants gave their perspective on how they supported deaf students in non-academic activities. The narratives of the participants indicated that they supported deaf students during morning devotions, orientations, graduation and matriculation. The descriptions of all the 9 participants interviewed suggested that they were available in the aforementioned gatherings and events to interpret information that is orally presented by speakers to deaf students. They further stated that in the aforementioned gatherings, deaf students were encouraged to occupy the front seats in order to maintain eye contact and see the upper body of the sign

language interpreters while interpreting. In connection to this assertion, the following are verbatim responses of some the participants:

> *'Assuming we are having an orientation, we are always around to interpret. So it's not only in the classroom. Even when we are having general gatherings like devotion we interpret whatever the speaker says so that deaf students can understand and also give their response if they have any'* **(Participant 2)**.

> *'Well, aside from interpreting in the lecture halls, we interpret on all occasions. In morning devotion, matriculation and let's say graduation ceremonies, we still interpret whatever the one speaking at the occasion says. So it's not only in the lecture halls'* **(Participant 5)**.

Participant 4 enumerated that:

> *'As far as I am concerned, we don't only interpret in the class. In all events, especially if the deaf students are present, we are always there to interpret. Even when we forget to be there, they ask someone to come and call us in the resource centre'.*

It can be inferred from the responses presented that sign language interpreters supported deaf students in the form of interpreting verbal communications in ceremonial events such as orientation, morning devotions, matriculation and graduation.

Support during sports and games

The participation in sports and games in an inclusive setting is essential because it provides an avenue for hearing students and deaf students to mingle and establish friendship hence, improving social skills. As such, the participants were asked

questions to find out the kind of support they gave to deaf students in games and sporting activities. The narratives of 5 out of the 9 participants interviewed suggested that they encouraged all deaf students partaking in the sporting activities and they interpreted verbal instructions from the sports teachers/instructors to them. The participants further reported that they recommended to the organisers of sporting events to include coloured flags, cards and handkerchiefs in addition to the whistle during the sporting events. In support of this, verbatim response of some of the sign language interpreters interviewed are presented:

> *'We encouraged all the deaf students who are taking part in the events. We also advise those who organise the sporting activities on how to support the students. We tell them that they should add flags, cards, or handkerchiefs with colours in addition to the whistles because the students cannot hear'* **(Participant 7)**.

> *'During sports activities, yes. When there is a student who is deaf participating in any of the sports activities, we advise and encourage him or her. If the sports teachers also have some information to give to them, we interpret for them'* **(Participant 4)**.

> *'When it is time for games, what we the interpreters normally do is we cheer the deaf students up. We let them know that they have potential so they should give their best in the competition. I think the encouragement we give them really help them to give their best'* **(Participant 6)**.

It is therefore evident from the sign language interpreters' responses that they supported deaf students during sports activities. The support was in the form of advice,

encouragement, suggestions to sports organisers and interpreting information delivered by sports teachers.

Support during religious activities

Deaf students had their religious denominations. As such, in church and mosque activities, participants reported that they supported them. 6 out of the 9 participants interviewed said that they interpreted to deaf students what the preacher says and the Bible or Quran that was read by the hearing students. They further stated that they allowed deaf students to read the Bible or Quran and they voiced out to the hearing students. To buttress this information, the following are verbatim responses given:

> *'When they are having worship for instance, we go there to interpret for the deaf students. As I was saying, when the speaker is sharing the word of God, we interpret. Sometimes the deaf students are allowed to read the Bible and then we interpret for the hearing students'* **(Participant 3)**.

Participant 5 added that:

> *'Some of the deaf students are Muslims so among us the interpreters who are Muslims like myself, we go to the mosque with them. Oh yes, we interpret what the Imam says to the deaf students although they are not many'.*

Participant 1 also said:

> *'When the hearing students are reading the Bible, we interpret to their colleagues who are deaf. At times, when they are having SU* [Spiritual Union] *meetings like church and all of that we go there to interpret so it's not only the classroom as I said'.*

From the verbatim responses of the participants interviewed, it can be inferred that they supported deaf students in their religious activities such as church and mosques meetings. They interpreted Bible and Quran readings and presentations by the preachers.

This was corroborated in the students interview when they indicated that they often receive interpreting service during social gatherings. According to them, with the interpreters service, they would be left out from taking part. They indicated

> *During social gathering such as church serviceson Sunday and morning devotion, the sign language interpreters are often there to make sure we also receive equal information from the service leaders just as the hearing stuents receive (FGD participants)*

Another member indicated that the sign language interpreters often support them during sporting activities. That moves them feel part of the college community.

> *The SLIs are doing well during sporting activities. They are always available to make sure we receive the needed instructions and also take part in the activities that the student body is undertaking*

Training and collaborating with hearing students

Since it practically appeared impossible for sign language interpreters to be with deaf students wherever they go in the school, it was imperative to train and collaborate with some hearing students to provide assistance to their colleagues who are deaf. The narratives given by 4 out of the 9 participants interviewed suggested that they trained some hearing students on the sign language to be able to support their colleagues who are deaf in their dormitories, dining, private and prep time. They also reported that since they cannot be with the deaf students all the time, they equipped some selected hearing students with the skills and knowledge to be able to interpret to their colleagues who

are deaf in group discussion and access to information. In line with this assertion, some sign language interpreters said that:

> *'Initially, we use to go to their dormitories and dining hall to interpret but with time, we have trained some selected hearing students to assist them in group discussions and in their dormitories because we cannot be with them* [deaf students] *all the time'* **(Participant 3)**.

> *'We cannot always be around because we have our personal things to do so we have selected some hearing students and we have given them some training. Even some of the hearing students know sign language so we have asked them to support their friends who are deaf'* **(Participant 1)**.

> *'Well, I will say that yes, we involve the students who can sign. What we do is that we advise them to help their deaf friends. I think it also helps the other hearing students support those who are deaf'* **(Participant 5)**.

Based on the comments advanced by the participants, it can be concluded that they taught some hearing students sign language to be able them support their colleagues who are deaf in their private and prep time, in their dormitories and in resolving misunderstandings with other hearing students.

The student participants also added that they often partake in sign language classes which are organized by the SLIs to train other hearing students who will be able to support the deaf facilitate communication at the hostel level and also at places where the interpreters are not available.

SLIs in this school have been teaching sign language to hearing students. These students in-turn assist us in our rooms and other areas where the SLIs are not around (FGD participant 2)

Research Question Four: What are the concerns of sign language interpreters in supporting deaf students?

The purpose of this research question was to find out the concerns of sign language interpreters in PCE. The concerns raised by the participants included the lack of available of assistive technologies, negative attitude of regular education teachers, inadequate availability of sign language interpreters and inadequate training programmes. Four themes were deduced from their responses. They are presented in the table 5 below;

Table 5: *Themes on concerns of sign language interpreters*

Themes	No. participants
Lack of assistive technologies	9
Negative attitude of regular education teachers	5
Inadequate availability of sign language interpreters	6
Inadequate training programmes	5

Lack of assistive technologies

Literature points to the significance of the use of assistive technologies in an inclusive setting by students with disabilities and impairment. The participants were asked questions to find out whether or not there were available and functioning assistive technologies in PCE. All the 9 participants reported that deaf students did not have adequate assistive technologies such as sign language recognition and learning applications, telecommunication systems, speech to text applications, assistive listening devices, visual aids and video alert systems. According to them, the only assistive device deaf students had was their personal mobile phones. They further indicated that inadequate assistive technologies in the school made it difficult for deaf students to be independent because they had to rely on sign language interpreters and their hearing colleagues for information. In support of this assertion, the participants had this to say:

> *'Well, as far as I know, we don't have enough visual aids and audio systems in the school. Because they are not available, the deaf students have to rely on their friends who can hear... They use their personal phones to assist themselves'* **(Participant 9)**.

Participant 4 added that:

> *'The deaf students use their own mobile phones to access information. Apart from that I have not seen anything like telecommunication systems or learning application here in the college. You see because of that the student* [deaf students] *suffer a lot'.*

Participant 7 also indicated that:

> *'The deaf students are allowed to use their phones to translate what the tutor says in class. That's what I know but here in the college, they don't have assistive technologies that really support the deaf students'.*

It can therefore be concluded from the responses above that there were inadequate assistive technologies for deaf students in PCE. The only assistive device was students' personal mobile phones.

Negative attitude of regular education teachers

Positive attitude of professionals in an inclusive setting cannot be overemphasised. The researcher asked the participants about the attitude of the regular education teachers in PCE towards sign language interpreters. The responses of 5 out of the 9 participants interviewed indicated that majority of the regular education teachers had a negative attitude towards them and did not show enough commitment to collaborate with them to support deaf students. Participants further enumerated that the regular education teachers were hesitant in giving out their lecture notes to prepare for lessons. Again, they were not recognised by the majority of the regular education teachers as professionals instead they perceived them as individuals who are in the college solely for deaf students and assistants to them. One participant said that in some instances, the regular education teachers used derogatory remarks which were insensitive to the deaf culture therefore leading to bias. To buttress this assertion, some responses include:

> *'Honestly, some of the tutors here are very difficult to work with. At times when you ask them to give you their lecture notes so that you can also go through before the class, they don't want to give it out'* **(Participant 1)**.

> *'You know something, the teachers* [regular education teachers] *see us as the deaf students because we are always with them. They don't recognise us in the school as their colleagues, meanwhile we are all graduates from the university'* **(Participant 5)**.

'I don't know whether they [regular education teachers] *see us as deaf people. The way some of them behave toward us is not fair. Sometimes the things they* [regular education teachers] *say is discriminatory against the deaf students and even us* [sign language interpreters]*'* **(Participant 3)**.

Based on the responses advanced by participants, it can be concluded that the regular education teachers had a negative attitude towards them and the deaf students. The majority of the regular education teachers were reluctant to collaborate with the sign language interpreters in PCE.

Inadequate sign language interpreters

Further concerns were raised by the participants interviewed as far as availability of sign language interpreters is concerned. The narratives given by 6 out of the 9 participants interviewed suggested that they did not have enough sign language interpreters in the college. According to them, in some situations, they had to sacrifice their break and time with their family to support deaf students in the school. They further stated that they felt tired and exhausted because they had to be in the lecture halls on 7 o'clock in the morning to 5 o'clock in the evening to interpret from Monday to Friday. They also enumerated that because they were not enough in the school, it increased their workload hence leading to fatigue. Verbatim responses indicates;

'My Dear, can you imagine this whole school, we have only seven interpreters? It's very tough for us. Sometimes I will be in the house during the weekend taking some rest and spending some time with my family and I will be called to come to the school to interpret' **(Participant 1)**.

Participant 4 had this to say:

'By the time we get to our homes, we are very exhausted. So I think we need more interpreters so that our workload will reduce. If we have enough interpreters, we can swap within the day. Like you do 3 hours then another person comes to continue'.

Participant 2 added that:

'We spend so much time interpreting in the lecture halls. We do it from 7 o'clock AM to 5 o'clock PM from Monday to Friday. By the time I get home, I feel very tired and restless. If we have enough interpreters, we can share among ourselves so that some can go on break and rest small'.

The responses above indicated that there was inadequate availability of sign language interpreters in PCE to support deaf students. The consequence of this was an increase in workload which led to fatigue on the part of the sign language interpreters. The interviews also revealed that the number of sign language interpreters currently working in the school were not adequate. One sign language interpreter is assigned to a full class. This makes them work throughout the day and further making them exhausted. They are unable to take notes for the deaf and also, due to the fact that they are often exhausted, they sometimes do not have time to attend to them at te resource room.

The college only have nine sign language interpreters as against the over 10 classrooms needing interpreters. This makes them over work themselves and sometimes are unable to assist us at the resource room **(Participant 3)**

Inadequate training programmes

It is important for professionals in an inclusive setting to update their knowledge and skills. This can be done through regular training programmes such as workshops and seminars. The participants expressed their concerns in this regard. 5 out of the 9

participants interviewed reported they did not receive any continuous professional training on sign language and sign language interpretation since they started working in PCE. Although they acknowledged the importance of continuous professional training programmes on their work, not receiving this all important training programmes in the college. One participant was quick to add that it is practically impossible to remember everything he learnt in the university so it is prudent to receive periodic training to update the knowledge in sign language. In connection to this, the participants said:

> *'We cannot remember all the things we were taught in the university so I think the school has to organise training programmes for us interpreters. I'm saying this because ever since I came here since 2011, we have not had any training'* **(Participant 7)**.

> *'Well, no. We have not had any training yet. I asked those who are here before me and they also said the same. I think the training is very necessary because we have to update ourselves and learn new things'* **(Participant 5)**.

It can be concluded from the responses presented above that sign language interpreters were offered adequate training programmes in PCE. This made it challenging for them to keep themselves updated on current trends and nuances in sign language and the rudiments of sign language interpreting.

CHAPTER FIVE

DISCUSSION OF FINDINGS

Introduction

This chapter presented the discussions of the results of the study. The discussions are presented in line with the research questions that guided the study.

Research Question One: Knowledge sign language interpreters have about their role in supporting deaf students?

Research question one was intended to find out the knowledge sign language interpreters about their role in supporting deaf students at PCE. The discussions are presented under the themes that emerged from the analysis.

Schedule for playing their role

The results of this study revealed that SLIs in PCE were stationed in the lecture halls from the time lecture begins through to the time lecture ends. The results further revealed that SLIs stayed on duty from Monday to Friday, 7 o'clock in the morning to 5 o'clock evening. Also, the SLIs indicated that they performed their role in the school for 10 hours a day and 50 hours a week.

It is evident that SLIs performed their role in providing support services to the deaf students in accordance with the protocols established by the authorities in the college. However, the researcher is of the view that there could be the tendency of work overload which could lead to burnout and stress on the part of the SLIs for interpreting in the lecture halls for 10 hours continually from Monday to Friday. This assertion is consistent with Schwenke (2012) who revealed that emotional exhaustion and burnout are identified among SLIs due to factors including high number of working hours.

Similarly, Sections 33 to 39 of the National Labour Act stipulate a maximum working hour of 8-hours a day or 40-hours a week and those workers have the right to a continuous daily rest period of not less than 12 hours between two consecutive working days and a weekly rest period of 48 consecutive hours in every 7 days of normal working hours. Meanwhile, the working hours for SLIs contradicts the National Labour Act. High number of working hours could lead to job dissatisfaction as highlighted in the findings of a study conducted in America by Humphrey (2015).

Awareness of actual support services provided

The results also revealed that SLIs were knowledgeable in providing support services to their deaf students. The results further showed that the SLIs worked for deaf students in academic and non-academic activities. The academic activities included instructional sessions, examinations, tutorials, educational field trips and assignments whereas the non-academic activities constituted morning devotions, matriculations, religious activities, and sports and games. This finding is in harmony with the World Association of Sign Language Interpreters (2014) which indicated that the role of SLIs is to interpret between people who use a signed language and a spoken language and provide complete and accurate information both to individuals who are deaf and hearing individuals at all places and times. Further, SLIs did not speak for the deaf students instead they remained neutral and only facilitated communication between deaf students and whoever is involved. This finding is consistent with Hauser (2008) and Ladd (2003) who asserted that a good sign language interpreter is the one who remains neutral in his or her role between two parties. From the researcher's perspective, although SLIsmay be tempted in some situations to speak for deaf students, that should not be encouraged because deaf students can handle their own affairs. This would help them to be self-reliant when they complete school. Although the SLIs maybe

overloaded with work in the school, the researcher is of the opinion that their knowledge in providing support services is significant in the education of deaf students in an inclusive setting.

Knowledge of expected role

The results of this study revealed that SLIs had limited knowledge of their expected role. Although the SLIs reported they were in the school to interpret to deaf students to enable their participation in academic and non-academic activities, they were not given any official documentation that stipulated their expected role as sign language interpreters. Some SLIs reported that due to this situation, they did not have adequate knowledge of their expected role. This assertion by them corroborates with Oppong, Fobi and Fobi (2016) who averred that there seem to be no available official documentation outlining their role in an inclusive setting. Comments from some authorities suggested that SLIs should have knowledge of their expected role based on the training they have received in the universities (Amoako, 2019; Stone, 2017). However, the researcher holds the view that an official document detailing their specific role in an inclusive setting cannot be overemphasised. Although foreign literature seems to suggest the role of SLIs (Association of Visual Language Interpreters in Canada, 1992), the researcher is of the opinion that this may not be entirely applicable in the Ghanaian context due differences in educational system, economic structure, culture, availability of material and human resources. The unavailability of official document detailing the role of SLIs could lead to role confusion, conflict with the regular education teachers and poor academic performance of deaf students. This assertion is consistent with Roberson, Russell and Shaw (2011), Powell (2013) and Antia and Kreimeyer (2001) who reported that role uncertainty and confusion are the

primary issues observed among SLIs working in the education setting due to undefined roles and no definite policy document.

How SLIs support deaf students in academic activities

The purpose of research question two was to describe how SLIs support deaf students in academic activities at Presbyterian College of Education. The discussions are organised under the themes that emerged from the analysis.

Support during instructional sessions

The findings showed that SLIs in PCE interpreted lessons regular education teachers delivered in the lecture halls. According to the sign language interpreters, they prepared for the lessons in order to interpret to the understanding of deaf students. The SLIs gave a description of their posture when interpreting. They stood or sat on a platform where deaf students in the lecture hall can see their upper body and their face when interpreting. This finding is in agreement with the International Association of Conference Interpreters (2016) which recommended that when interpreting, SLIs should face the audience and be placed on a raised platform for visibility of the upper part of their body. The researcher is of the opinion that maintaining a good posture when interpreting to deaf students is important. This is because deaf students need to clearly see the movement of the hand, fingers, mouth, body posture and facial expression of the one interpreting to them.

Support during examinations

It was discovered that SLIs provided some support for deaf students during examination. The SLIs reported that they gave deaf students extra time allowance during examinations. This is due to the unique needs of students the who are deaf, they were given 50% of the examination time as an extra time allowance to enable them answer the examination questions in their capacity. This finding confirmed that of

Smith and Amato (2012) and Ghana's Inclusive Education Policy which that students with sensory impairments should be given additional time in examinations. Additionally, it was found in this study that the SLIs explained instructions of the examination to deaf students. This suggested that deaf students in PCE were given extra time allowance in examinations and were given explanation of the instructions of the examinations by the sign language interpreters. This finding in is line with the statement advanced by the Australian Disability Clearinghouse on Education and Training (2022) that giving students equal opportunity to demonstrate skill and knowledge calls for adjustment to standard exam and assessment practices. They further posited that assessment should aim to respect the student's learning needs, defend academic integrity, and promote equity and consistency for all. Notwithstanding, existing literature emphasises the need for extra time allowance for students with disabilities in standard examinations and providing clarification of examination guidelines (Sireci, Scarpati, & Li, 2005; Sokal & Vermette, 2017; Zuriff, 2000). From the researcher's perspective, extra time allowance gives deaf students the opportunity be assessed in a pace that meets their unique educational needs.

Support in assignments and tutorials

The results of this study revealed that SLIs organised tutorials for deaf students. This finding confirms that of Smith (2013) who reported that SLIs in education performed role beyond interpretation which included tutoring and helping deaf students. It was further discovered in this study that the SLIs assisted them in their assignments. According to the sign language interpreters, they explained to deaf students the instructions of assignment and suggested sources they can access information from such as books and the internet. This finding is consistent with the finding of Mason (2020) that the role of the SLIs in education is to enhance the

accessibility of giving information to deaf students. Additionally, the participants indicated that they organised tutorials for deaf students to further discuss lessons taught by the regular education teachers.

It is therefore evident that they provided some assistance to deaf students in completing their assignments and further discussed with them what has been taught by the regular education teachers. This assertion is in harmony with the views of Brown and Schick (2011) that SLIs are not just to interpret to deaf students during instructional sessions but are to be resourceful in all areas of their academic and non-academic needs in an inclusive setting. The researcher agreed with the views of Brown and Schick (2011) because ultimately, SLIs serve as resource persons to deaf students in an inclusive education setting. Therefore, they are mandated to assist deaf students in working on project work, assignment and provide tutorial classes to further explain concepts, address their difficulties in learning and facilitate peer interactions. When tutorials are organised for deaf students, it gives them the opportunity to ask questions they could not ask in the class. This will help reduce marginalisation and promote inclusion in the college.

Support during educational field trips

The results of this study showed that SLIs supported deaf students during educational field trips although they rarely went on an educational field trip. The SLIs reported that although they did not usually go on educational field trips, the few they went, they interpreted what the tour guards said to students. It can be said that the support SLIs gave to deaf students during educational field trips enabled them to actively participate and equally benefit from the trip. Additionally, the researcher holds the view that educational field trips are essential because it gives deaf students the opportunity to see and feel concepts taught in class in real life. Interpreting in the

classroom is the typical type of they offer to student who are deaf in an inclusive setting as posited by the Association of Visual Language Interpreters in Canada (1992). However, the researcher is of the opinion that it is equally important for SLIs to support deaf students during educational field trips. This is perhaps why Anita and Kreimeyer (2001) maintained that the role of educational SLIs is often viewed as wider in scope, encompassing responsibilities such as clarifying instructions given by regular education teachers and facilitating productive and constructive discourse during educational field trips.

Collaboration with regular education teachers

The study revealed that SLIs collaborated with regular education teachers to support deaf students. This finding confirms Mason (2020) who reported in a study conducted in America that there existed collaboration between interpreters and other professionals involved in educating students with special educational needs. The findings also support the Communication Accommodation Theory (CAT), (Howard Giles in 1971) which indicates that individuals adjust to be able to work with other members in order to facilitate communication. According to the sign language interpreters, they asked the regular education teachers for their lecture notes and topics they will be teaching in order to adequately prepare on how to interpret certain concepts they were not familiar with to the benefit of deaf students in the lecture hall. This is in consistent with Albres and Rodrigues (2018) who stipulated that the role of the SLI in education requires collaboration with stakeholders including the regular classroom teacher. The researcher is of the view that collaboration in an inclusive education setting would help both regular education teachers and SLIs to better understand their different roles and areas of expertise, and promote greater clarity and precision in communication. This assertion

is in line with Ainscow (2016) and Giangreco, Suter and Doyle (2010) who posited that collaboration between professional in inclusive education improves understanding of colleagues, greater openness, honesty and mutual respect, greater professional satisfaction and improve staff morale. From the researcher perspective, the aforementioned benefits will therefore help improve the academic performance of deaf students at PCE.

Research Question Three: How do SLIs support deaf students in non-academic activities?

This research question was envisioned to determine how SLIs support deaf students in non-academic activities at PCE. The discussions are presented under the themes that emerged from the analysis.

Support during ceremonial occasions

The results showed that SLIs supported deaf students in non-academic activities such as morning devotions, orientations, graduation and matriculation. This finding confirms the study of with Anita and Kreimeyer (2001) who maintained that the role of SLIs encompasses non-academic activities. The participants indicated that they were available in the aforementioned gatherings and events to interpret information that were orally presented to deaf students. They further narrated that deaf student were encouraged to occupy the front seats in order to maintain clearly see the interpretation. It can be inferred SLIs provide interpretation to deaf students in ceremonial occasions such as orientation, matriculation and graduation. This finding is in line with the Communication Accommodation theory which suggested that inclusive education calls for all stakeholders particularly the SLIs who in this context are critical in the education of deaf students to bridge communication and to aid their access to information which will enhance their academic performance (Heil, 2014). The researcher holds the view

that the aforementioned non-academic activities are essential in the social development of student who are deaf because it help improve their interpersonal skills, improved their social network and build their social confidence and self-esteem. This is perhaps why Muzaffarova (2020) and Snoddon and Murray (2019) emphasised that educating persons with disabilities among persons without disabilities is geared toward reducing stigma in the society and preparing those with disabilities to live a socially and economically independent life after school.

Support during sports and games

SLIs in PCE supported deaf students in sports and games. According to the sign language interpreters, they advised and encouraged all students who is deaf partaking in the sporting activities in the school. They further indicated that they interpreted verbal instructions from the sports teachers to deaf students as they play football, volley ball, athletics among others. This finding corroborates the assertion advanced by the USA Deaf Sports Federation (2006) that sporting activities are critical areas for consideration to identify and develop the interest and non-academic potentials of deaf students in an inclusive setting. It was further discovered in this study that the SLIs advised the organisers of sporting events on how to support the deaf students. The recommendation from the participants included the use of varying modes such as coloured flags, cards and handkerchiefs to complement the whistle. Based on this, the researcher is of the opinion that participation in sports and games in an inclusive setting is essential because it makes it possible for hearing students and deaf students to mingle and establish friendship hence, improving social skills and self-confidence. In consonance with Groff, Lundberg and Zabriskie (2009) and the World Health Organisation (2003), participation in games and sports by deaf students does not only

promote peer interaction but provides an avenue for deaf students to improve their physical and psychological well-being. The researcher, therefore, holds the view that the support SLIs provide to deaf students during sporting activities gives them the chance to have fun and feel a sense of belongingness in PCE.

Support during religious activities

The spiritual needs of the deaf are not left out of the support services of the sign language interpreters. SLIs also serve the religious and counselling needs of the deaf student population through interpretation services at the religious centres. Participants indicated that they interpreted to the deaf students what the preacher said and the Bible or Quran that was read by the hearing students to the congregation and in the mosque respectively. They further reported allowing deaf students to read the Bible or the Quran and they interpreted to the hearing students.

The researcher stipulates that freedom of worship is a fundamental human right for deaf students and therefore they have the right to practice any religion of their choice so long as it does not cause public distraction. This assertion is evident in Article 21(1((c) of the 1992 constitution of the Republic of Ghana which prohibits religious discrimination and provides for individuals' freedom to profess and practice any religion. It is from this backdrop that the role of SLIs in an inclusive setting becomes vital. This is because deaf students' worship with hearing students at PCE to mitigate impediments to their choice of worship, they require the services of sign language interpreters.

Training and collaborating with hearing students

Collaboration is key to successful inclusion of deaf students in an inclusive setting. Participants indicated performing the role of training other hearing students sign language and collaborated with them to support their colleagues who are deaf in their

absence. This finding is consistent with Mason (2020) who revealed that apart from interpreting in the classroom, one of the secondary role of an educational sign language interpreter is to facilitate peer interaction by teaching hearing students sign language to assist their friends with hearing impairment and communicate with them. Furthermore, since they cannot be with the students all time, they equipped these selected hearing students with the skills and knowledge to be able to serve their colleagues who are deaf in group discussions and other meetings.

It is probably for some of these reasons why Florian (2017) argued that the heart of inclusion is collaboration. Humphrey (2015) supported the argument of Florian (2017) by positing that it is important to educate the general population about sign language as well as educate hearing students on sign language to prepare and help develop passion for the profession. From the researcher's perspective, teaching hearing students the sign language would also promote appreciation and acceptance of individual differences in PCE.

The concerns of SLIs in supporting deaf students

The discussions under the research question four are organised and discuss four themes.

Lack of assistive technologies

Assistive technologies are key to easing the burden of educational SLIs and also facilitating the smooth and success of deaf students. The participants indicated that they did not have assistive technologies such as sign language recognition and learning applications, telecommunication systems, speech to text applications, assistive listening devices, visual aids and video alert systems. In consonance with this finding, several studies have revealed challenges such as inadequate assistive technologies facing students with hearing impairment (Lartz et al., 2008; McPherson, 2014; Sanaman & Kumar, 2015). According to the sign language interpreters, the only assistive device

deaf students had was their personal mobile phones. They further reported that inadequate assistive technologies in the school made it difficult for deaf students to be independent because they had to rely on their hearing colleagues for information.

Based on this, the researcher posits that inadequate assistive technologies in an inclusive education setting can hinder socialisation with hearing students and effective teaching and learning for deaf students. This assertion is consistent with that of Yeager, Kaye, Reed and Doe (2006) who stipulated that although the services of SLIs are necessary, one cannot underestimate the positive impact of assistive technologies on individuals with disabilities. More so, Dhanjal and Singh (2019) reported in a study that assistive technologies such as alert systems, sign language recognition and learning applications, telecommunication systems and speech to text reduced the stress for hearing-impaired student to communicate with hearing persons. Therefore, the researcher is of the opinion that assistive technologies are crucial in removing barriers to integration and in enabling students with hearing impairment to be more productive and constructive in their approach to managing their affairs in an inclusive setting.

Negative attitude of regular education teachers

Positive attitude of professionals in an inclusive setting is important. The results of this study showed that the majority of the regular education teachers had a negative attitude toward SLIs and they did not show enough commitment to collaborate with them to support deaf students. The SLIs indicated that they were not recognised by the majority of the regular education as professionals instead they perceived them as individuals who are deaf.

Additionally, the SLIs reported that the regular education teachers were hesitant to give them their lecture notes to prepare for class. This finding is in line with the finding of a study conducted in New Zealand by Powell (2013) which reported that there were

unavailability of lecture materials for SLIs to make preparation ahead of time. In support of this finding, the researcher is of the view that the unavailability of lecture materials to SLIs prior to lecture time can make it stressful and frustrating hence, hampering the education of deaf students at PCE. It is perhaps for these narratives that Humphrey (2015) asserted that it is important to educate the general population including regular education teachers about sign language to promote recognition of sign language interpretation as a profession. Similarly, Michael (2011) emphasised the education and sensitisation regular education teachers about the significance of SLIs in inclusion. From the researcher's perspective, SLIs need to have access to lecture notes and topics to help them adequately prepare for classes.

Inadequate availability of sign language interpreters

The results of this study showed that the SLIs in PC E were not enough given the population of the deaf students. This finding is consistent with Powell, Hyde and Punch (2013) who reported that SLIs in New Zealand were limited for students at the post-secondary school to have access to during lectures and social functions. Further, the SLIs in this study reported that in some situations, they had to sacrifice their break and time with their family to support deaf students in the school. They further indicated that they felt tired and exhausted because they had to be in the lecture halls at 7am to 5pm from Monday to Friday. This finding is consistent with the finding of Schwenke (2012) that heavy workload on SLIs lead to stress, emotional burnout and exhaustion. The researcher stipulates that the inadequate availability of SLIs at PCE can increase the workload of the sign language interpreters. In support to this assertion, the SLIs in this study indicated that because they were not enough in the school, it increased their workload which lead to fatigue. This finding confirms the findings of Lawson (2012), Powell (2013), and Dean and Pollard (2001) that SLIs experience role overstrain and

overuse syndrome due to lack of sign language interpreters. The researcher is of the view that adequate availability of SLIs at Presbyterian College of Education would help them team up and rotate in performing their role as posited by Powell (2013). Powell (2013) maintained that two interpreters can team and rotate every 15-20 minutes to alleviate both the stress on the upper body and the "brain fade" that occurs in interpreting high-level material for any length of time. In view of this, Michael (2011) and McLaughlin (2010) recommended that the Ministry of Education should hire an appropriate number of SLIs based on the number of deaf students available. Therefore, the researcher holds the view that recruitment of SLIs is key to provide greater accessibility to deaf students at Presbyterian College of Education.

Inadequate training programmes

Participants indicated their concerns regarding training programmes. The results of this study revealed that SLIs did not receive adequate training. Existing literature shows the impact of training programmes on the competency of SLIs (Tarmey, 2007). The finding of Tarmey (2007) revealed a significant difference between SLIs who had received training and those who had not. During the interviews, the SLIs acknowledged the importance of training programmes but they did not receive training in PCE. The researcher is of the view that it is practically impossible for SLIs to remember everything they learnt in the university so it is prudent for them to receive periodic training to update their knowledge and skills in sign language through training programmes such as workshops and seminars. Consistent with this assertion, the findings of Napier, Skinner (2018) and McLaughlin (2010) suggested that training is key in expanding the professional growth of sign language interpreters. It was further discovered in this study that the SLIs were not happy about the lack of training programmes for them. This situation could lead to high level of job dissatisfaction as

indicated by Humphrey (2015). The researcher, therefore, holds the opinion that it would be of great benefit to SLIs at Presbyterian College of Education to be provided with periodic training programmes that will keep them up-to-date with current trends in sign language.

CHAPTER SIX

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter presented the summary of the study, key findings, conclusions and recommendations and suggestions for further research.

Summary

The purpose of this study was to explore the role of SLIs in supporting deaf students at PCE. This study adopted a qualitative approach with a single case study research design. Four research questions were formulated to guide this study. Census sampling was used to select all the nine SLIs comprising five males and four females were involved in this study. A semi-structured interview guide was employed to collect data for this study. The semi-structured interview guide was pilot-tested on three SLIs at Akenten Appiah Menka University of Skill Training and Entrepreneur Development (AAM-USTED) before it was used for the actual data collection. Braun et al's (2018) thematic analysis was adopted to analyse the data obtained for this study.

Key Findings

The following key findings were revealed in this study:

1. The SLIs had some level of knowledge in playing their role in providing support services to the deaf students but they had limited knowledge in their expected role in the college.
2. The SLIs supported deaf students during instructional sessions, examination and assignment. Although the SLIs supported deaf students in educational field trips, they were not often utilised in the field when they visited.
3. The SLIs supported deaf students during ceremonial occasions, religious activities and sports and games.

4. The concerns SLIs raised were lack of assistive technologies, negative attitude of regular education teachers, inadequate availability of SLIs and inadequate training programmes.

Conclusions

The services of SLIs are critical in an inclusive setting where deaf students learn with hearing students in the same environment. The implication of the communications theory stipulates the importance of the role SLIs in ensuring a successful inclusion. However, the lack of policy document and undefined role of SLIs coupled with negative attitude of regular education teachers, inadequate assistive technologies, inadequate training programmes and inadequate availability of SLIs make it challenging for deaf students to achieve the full benefits of inclusion. These concerns need to be addressed so that SLIs at PCE can do their work satisfactorily in inclusive setting at the college level.

Recommendations

Based on the findings, the following recommendations were made:

1. Since the SLIs supported deaf students in academic activities, the authorities at PCE should employ more SLIs to augment their number so as to reduce their workload
2. The PCE should provide telecommunication systems, visual aids and video alert systems.
3. The authorities at PCE should collaborate with Special Education Departments in universities to provide training programmes for SLIs to keep them up-to-date on current issues in sign language.
4. Lastly, authorities at PCE should organise sensitisation programmes for the regular education teachers on working with sign language.

Suggestions for Further Research

The following suggestions are offered for further research:

1. This study was conducted in only PCE. Due to this, the findings may not be generalised to other settings. The researcher, therefore, suggests that further studies should involve other inclusive tertiary institutions in other regions of Ghana to increase the degree to which findings can be generalised.
2. This study adopted only interview as the data collection instrument. This might not have elicited some vital information concerning the role of SLIs at PCE. The researcher suggests that further studies should employ observations to confirm the responses of SLIs in the interviews.

REFERENCES

References

Acharya, A. S., Prakash, A., Saxena, P., & Nigam, A. (2013). Sampling: Why and how of it? *Indian Journal of Medical Specialities*, *4*(2). https://doi.org/10.7713/ijms.2013.0032

Adams, W. C. (2015). Conducting semi-structured interviews. *Handbook of Practical Program Evaluation*, *4*(6), 492-505.

Agyire-Tettey, E. E. M., Cobbina, M., & Hamenoo, E. S. (2017). Academic challenges of students with hearing impairment (SHIs) in Ghana. *Disability, CBR & Inclusive Development*, *28*(3), 23-34.

Albres, N. D. A., & Rodrigues, C. H. (2018). The Roles of the Educational Interpreter: Between Social Practices and Education Policies. *Bakhtiniana: Revista de Estudos do Discurso*, *13*(13), 15-41.

Amoako, S. F. (2019). Sixty years of deaf education in Ghana (1957-2017). *Commun Disorder Deaf Stud Hearing Aids*, *7*(1), 1-11.

Ainscow, M. (2016). Collaboration as a strategy for promoting equity in education: Possibilities and barriers. *Journal of Professional Capital and Community*, *1*(2), 159-172. https://doi.org/10.1108/jpcc-12-2015-0013

American Sign Language Interpreting for d/Deaf Individuals with Disabilities: A Qualitative Study and Practical Guide [Unpublished master's thesis]. Liberty University. Virginia. (2020).

Antia, S. D., & Kreimeyer, K. H. (2001). The role of interpreters in inclusive classrooms. *American Annals of the Deaf*, *146*(4), 355-365. https://doi.org/10.1353/aad.2012.0142

Arnold, P. (1984). The education of the deaf child: For integration or autonomy? *American Annals of the Deaf*, *129*(1), 29-37. https://doi.org/10.1353/aad.2012.0911

Asare, O. A. (2018). *Asare, O. A. (2018). Academic challenges of deaf students at Presbyterian College of Education, Akropong-Akuapem, Eastern Region, Ghana* [Unpublished doctoral dissertation]. University of Education. Winneba.

Australian Disability Clearing housing on Education and Training. (2022). *Exams Adjustment*.

Bentley-Sassaman, J. & Dawson, C. (2012). Deaf-Hearing Interpreter Teams: A Teamwork

Approach. *Journal Of Interpretation,* 22**,** 2.

Bontempo, K. M. (2012). *Interpreting By Design: A Study Of Aptitude, Ability And Achievement In Australian Sign Language Interpreters* [Doctoral dissertation].

Cheng, S., & Rose, S. (2009). Investigating the technical adequacy of curriculum-based measurement in written expression for students who are deaf or hard of hearing. *Journal of Deaf Studies and Deaf Education*, *14*(4), 503-515. https://doi.org/10.1093/deafed/enp013

Choosing between taking a census and sampling. (2012). *Sampling Essentials: Practical Guidelines for Making Sampling Choices*, 23-65. https://doi.org/10.4135/9781452272047.n2

Cope, D. G. (2013). Methods and meanings: Credibility and trustworthiness of qualitative research. *Oncology Nursing Forum*, *41*(1), 89-91. https://doi.org/10.1188/14.onf.89-91

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. SAGE Publications.

Dannels, S. A. (2018). Research design. *The Reviewer's Guide to Quantitative Methods in the Social Sciences*, 402-416. https://doi.org/10.4324/9781315755649-30

De Meulder, M., & Haualand, H. (2019). Sign language interpreting services. *Translation and Interpreting Studies*, *16*(1), 19-40. https://doi.org/10.1075/tis.18008.dem

Darroch, A., & Marshall, L. (1998). Strategies for facilitating inclusive classrooms. New Zealand Journal of Educational Studies, 33(1), 115-126.

Dean, R. K. (2001). Application of demand-control theory to sign language interpreting: Implications for stress and interpreter training. *Journal of Deaf Studies and Deaf Education*, *6*(1), 1-14. https://doi.org/10.1093/deafed/6.1.1

Dhanjal, A. S., & Singh, W. (2019). Tools and techniques of assistive technology for hearing impaired people. *2019 International Conference on Machine Learning, Big Data, Cloud and Parallel Computing (COMITCon)*, 205-210. https://doi.org/10.1109/comitcon.2019.8862454

Dickinson, J., & Turner, G. H. (2008). 12. Sign language interpreters and role conflict in the workplace. *Benjamins Translation Library*, 231-244. https://doi.org/10.1075/btl.76.12dic

Domingue, R. L., & Ingram, B. L. (1978). Sign language interpretation: The state of the art. *Language Interpretation and Communication*, 81-85. https://doi.org/10.1007/978-1-4615-9077-4_8

Drugan, J. (2017). Ethics and social responsibility in practice: Interpreters and translators engaging with and beyond the professions. *The Translator*, *23*(2), 126-142. https://doi.org/10.1080/13556509.2017.1281204

Florian, L. (2017). The heart of inclusive education is collaboration. *Pedagogika*, *126*(2), 248-253. https://doi.org/10.15823/p.2017.32

Fobi, D. (2015). *Implications of deaf students' learning approaches on their academic performance at the University of Education, Winneba* [Doctoral dissertation].

Fobi, D. (2021). *Role of interpreting in the inclusion of Deaf students in tertiary education in Ghana* [Doctoral dissertation].

Fobi, D., & Oppong, A. M. (2016). Approaches to learning among deaf students at the University of education, Winneba. *International Journal of Applied Research and Studies*, *4*(9). https://doi.org/10.20908/ijars.v4i9.10729

Foster, S. (1989). Reflections of a group of deaf adults on their experiences in mainstream and residential school programs in the United States. *Disability, Handicap & Society*, *4*(1), 37-56. https://doi.org/10.1080/02674648966780031

Gareema Sanaman, G. S., & Kumar, S. (2014). Assistive technologies for people with disabilities in national capital region libraries of India. *Deafness And Education International*, *35*(19), 40-49. https://doi.org/10.14429/djlit.35.2.8274

Giangreco, M. F., Suter, J. C., & Doyle, M. B. (2010). Paraprofessionals in inclusive schools: A review of recent research. *Journal of Educational and*

Psychological Consultation, *20*(1), 41-57. https://doi.org/10.1080/10474410903535356

GILES, H. (1971). Patterns of evaluation to R.P., south Welsh and Somerset accented speech. *British Journal of Social and Clinical Psychology*, *10*(3), 280-281. https://doi.org/10.1111/j.2044-8260.1971.tb00748.x

Giuliani, M. (2017). Robert K. Yin, case study research. Design and methods, London, Thousand Oaks (CA) E new Dehli, sage, 1994 [2], pp. xvii-171. *Italian Political Science Review/Rivista Italiana di Scienza Politica*, *25*(3), 584-585. https://doi.org/10.1017/s0048840200023960

Goldenberg, C., Saunders, W., & Marcelletti, D. (2013). English Language Development. *America Educator*, *37*(2), 13-17. https://doi.org/10.4324/9780203840412.ch28

Graham, V. F. (2011). The literature review: A step-by-step guide for students. *Evaluation & Research in Education*, *24*(3), 224-225. https://doi.org/10.1080/09500790.2011.583140

Groff, D. G., Lundberg, N. R., & Zabriskie, R. B. (2009). Influence of adapted sport on quality of life: Perceptions of athletes with cerebral palsy. *Disability and Rehabilitation*, *31*(4), 318-326. https://doi.org/10.1080/09638280801976233

Hameed, A., & Ain, Q. (2020). Challenges Faced by Higher Education Institutions in Including Students with Hearing Impairment. *Journal of Inclusive Education*, *4*(1), 13-28.

Huenerfauth, M. (2005). American Sign Language generation. *Proceedings of the ACL Student Research Workshop on - ACL '05*, 37. https://doi.org/10.3115/1628960.1628968

Heyerick, I. & Vermeerbergen, M. (2012). Sign Language Interpreting In Educational Settings In

Flanders, Belgium. *Interpreting With The Deaf Community: Mental Health, Education And Interpreting*.

Humphrey, C. (2015). *Job satisfaction, role strain, burnout, and self-care among American Sign Language/English interpreters* [Master's thesis]. https://digitalcommons. wou.edu/ theses/24

Hyde, M., & Power, D. (2003). Characteristics of deaf and hard-of-hearing students in Australian regular schools: Hearing level comparisons. *Deafness & Education International*, *5*(3), 133-143. https://doi.org/10.1002/dei.152

Ingram, R. M. (1978). undefined. *Language Interpretation and Communication*, 109-118. https://doi.org/10.1007/978-1-4615-9077-4_11

Janzen, T., & Shaffer, B. (2008). undefined. *Converging Evidence in Language and Communication Research*, 333-355. https://doi.org/10.1075/celcr.12.18jan

Jones, B. E. (2005). Competencies of K-12 educational interpreters. In E. A. Winston (Ed.), *Educational interpreting: How it can succeed* (pp. 9-47). Washington, D.C.: Gallaudet University Press.

Kigotho, L. W. (2016). *Barriers faced by students with hearing impairment in inclusive learning environment, a case of the University of Nairobi* [Doctoral dissertation].

Knoors, H., & Marschark, M. (2014). Teaching deaf learners. https://doi.org/10.1093/acprof:oso/9780199792023.001.0001

Langer, E. C. (2004). Perspectives on educational interpreting from educational anthropology and an internet discussion group. *Educational Interpreting*, 91-112. https://doi.org/10.2307/j.ctv2rr3fvx.8

Lartz, M. N., Stoner, J. B., & Stout, L. J. (2008). Perspectives of assistive technology from deaf students at a hearing university. *Assistive Technology Outcomes and Benefits, 5*(1), 72-91.

Lawson, H. R. (2012). *Impact of interpreters filling multiple roles in mainstream classrooms on communication access for deaf students*.

Leeson, L., & Foley-Cave, S. (2007). Deep and meaningful conversation:. *Translation, Sociolinguistic, and Consumer Issues in Interpreting*, 45-68. https://doi.org/10.2307/j.ctv2rcnnz0.4

Leeson, L. (2012). Interpreters In Tertiary Education. *Working With The Deaf Community:*

Mental Health, Education And Interpreting, 157-182.

Liasidou, A. (2015). Inclusive classrooms and the issue of change. *theory, policy and pedagogy, springer*, 89-104. https://doi.org/10.1057/9781137333704_5

Maroney, E., Fobi, D., Puhlman, B., & Buadee, C. M. (2020). Interpreting in Ghana. *The Second International Symposium on Signed Language Interpretation and Translation Research*, 20-35. https://doi.org/10.2307/j.ctv2rcnnk9.5

Marschark, M., Lampropoulou, V., & Skordilis, E. K. (2016). Recognizing diversity in deaf education. *Diversity in Deaf Education*, 507-536. https://doi.org/10.1093/acprof:oso/9780190493073.003.0018

Marschark, M., Lang, H. G., & Albertini, J. A. (2002). Educating deaf students. *From research to practice. Oxford University Press*. https://doi.org/10.1093/oso/9780195310702.001.0001

Marschark, M., Pelz, J. B., Convertino, C., Sapere, P., Arndt, M. E., & Seewagen, R. (2005). Classroom interpreting and visual information processing in mainstream education for deaf students: Live or Memorex®? *American Educational Research Journal*, *42*(4), 727-761. https://doi.org/10.3102/00028312042004727

Marschark, M., Sapere, P., Convertino, C., Seewagen, R., & Maltzen, H. (2004). Comprehension of sign language interpreting: Deciphering a complex task situation. *Sign Language Studies*, *4*(4), 345-368. https://doi.org/10.1353/sls.2004.0018

Marschark, M., Sapere, P., Convertino, C., & Seewagen, R. (2005). Access to postsecondary education through sign language interpreting. *Journal of Deaf Studies and Deaf Education*, *10*(1), 38-50. https://doi.org/10.1093/deafed/eni002

Marschark, M., Sapere, P., Convertino, C., & Pelz, J. (2008). Learning via direct and mediated instruction by deaf students. *Journal of Deaf Studies and Deaf Education*, *13*(4), 546-561. https://doi.org/10.1093/deafed/enn014

Marschark, M., Shaver, D. M., Nagle, K. M., & Newman, L. A. (2015). Predicting the academic achievement of deaf and hard-of-Hearing students from individual, household, communication, and educational factors. *Exceptional Children*, *81*(3), 350-369. https://doi.org/10.1177/0014402914563700

Matusov, E., & Hayes, R. (2000). Sociocultural critique of Piaget and Vygotsky. *New Ideas in Psychology*, *18*(2-3), 215-239. https://doi.org/10.1016/s0732-118x(00)00009-x

McDonald, P. (2004). Understanding deaf culture: In search of deafhood. Paddy Ladd, multilingual matters, Clevedon, 2003, 502pp, ISBN 1 85359 545 4. *Deafness & Education International*, *6*(3), 174-175. https://doi.org/10.1002/dei.181

McLaughlin, J. (2010). *Sign language interpreter shortage in California: Perceptions of stakeholders*.

McPherson, B. (2014). Hearing assistive technologies in developing countries: Background, achievements and challenges. *Disability and Rehabilitation: Assistive Technology*, *9*(5), 360-364. https://doi.org/10.3109/17483107.2014.907365

Mendoza, M. E. (2010). *Thinking through ethics: The processes of ethical decision-making by novice and expert American Sign Language interpreters* [Doctoral dissertation].

METZGER, M. (2005). Interpreted discourse:: Learning and Recognizing What Interpreters Do In Interaction. *Advances in Teaching Sign Language Interpreters*, 100-122. https://doi.org/10.2307/j.ctv2rcnf98.8

Michael, A. P. (2011, July). A glimpse at the development of sign language interpretation in Uganda. In *Proceedings of the 4th Conference of the World Association of Sign Language Interpreters, Durban, South Africa* (pp. 24-35).

Miner, A. (2015). Designated interpreters: An Examination of Roles, Relationship, and Responsibilities. *Signed Language Interpretation and Translation Research: Selected papers from the first international symposium*, 49-70. https://doi.org/10.2307/j.ctv2rh2b69.12

Murphy, H. J. (1978). Research in sign language interpreting at California State University, Northridge. *Language Interpretation and Communication*, 87-97. https://doi.org/10.1007/978-1-4615-9077-4_9

Napier, J. (2016). Linguistic coping strategies in sign language interpreting. https://doi.org/10.2307/j.ctv2rcnffb

Napier, J. (2016). Sign language interpreting: Theory and practice in Australia and New Zealand.

Federation Press.

Napier, J., & Banna, K. (2018). Walking a fine line – The legal system and sign language interpreters. *Journal of Applied Linguistics and Professional Practice*, *13*(1-3), 233-253. https://doi.org/10.1558/japl.31859

Napier, J., Skinner, R., & Turner, G. (2017). "It's good for them but not so for me": Inside the sign language interpreting call centre. *The International Journal of Translation and Interpreting Research*, *9*(2). https://doi.org/10.12807/ti.109202.2017.a01

(2019). National Deaf Center - National Deaf Center. https://www.nationaldeafcenter.org/sites/default/files/Sign%20Language%20Interpreters_%20An%20Introduction.pdf

Napier, J., McKee, R., & Goswell, D. (2006). *Sign language interpreting: Theory and practice in Australia and New Zealand*. Massachusetts: The federation press.

Nazarqosimov, Q., Muzaffarova, H., & Rizayeva, S. (2020). The corrective importance of inclusive education for children with disabilities. *ACADEMICIA: An International Multidisciplinary Research Journal*, *10*(6), 816. https://doi.org/10.5958/2249-7137.2020.00666.7

Obosu, G. K. (2012). *The value of visual art in deaf education-investigating visual teaching in some schools for the deaf* [Master's thesis].

Ocran, V. I. (2021). *Deaf students reading comprehension, a case study of Presbyterian College of Education* [Doctoral dissertation].

Oliva, G. A., & Lytle, L. R. (2014). Turning the tide. *Making life better for deaf and hard of hearing schoolchildren.*. https://doi.org/10.2307/j.ctv2rcnnc6

Oppong, A. M., & Fobi, D. (2019). Deaf education in Ghana. *Deaf Education Beyond the Western World*, 53-72. https://doi.org/10.1093/oso/9780190880514.003.0004

Oppong, A. M., Adu, J., Fobi, D., & Acheampong, E. K. (2018). Academic Experiences of Students Who Are Deaf at the University of Education, Winneba, Ghana. *Journal of the American Academy of Special Education Professionals*, *66*, 81.

Oppong, A. M., Fobi, D., & Fobi, J. (2016). Deaf students 'perceptions about quality of sign language interpreting services. *International Journal of Educational Leadership*, *7*(17), 63-72.

Otieno, O. H. (2019). *Teachers' perceptions toward de-brailling of work by students with visual impairment in secondary schools for visually impaired learners in Kenya. (Master's Thesis. Kenyatta University, Kenya* [Master's thesis].

Palmer, S. B., & Williams-Diehm, K. L. (2020). The importance of elements of inclusive education. *Inclusion*, *8*(1), 2-5. https://doi.org/10.1352/2326-6988-8.1.2

Piaget, J. (1995). Sociological studies. https://doi.org/10.4324/9780203714065

Powell, D., Hyde, M., & Punch, R. (2013). Inclusion in postsecondary institutions with small numbers of deaf and hard-of-Hearing students: Highlights and challenges. *Journal of Deaf Studies and Deaf Education*, *19*(1), 126-140. https://doi.org/10.1093/deafed/ent035

Professional_Sign_Language_Interpreter_SPP.pdf. (n.d.). Google Docs. https://www.tinyurl.com/interpretingSPP

Pöchhacker, F. (2016). Introducing interpreting studies. https://doi.org/10.4324/9781315649573

Pichler, D. C., & Koulidobrova, H. (2016). Acquisition of sign language as a second language. *The Oxford handbook of deaf studies in language*, *7*(16), 218-230.

Pilot, D. F., & Beck, C. T. (2017). *Essentials of nursing research: Appraising evidence for nursing practice* (9th ed). Philadelphia: Lippincott Williams and Wilkins.

Powell, D. (2013). A Case Study of Two Sign Language Interpreters Working in Post-Secondary Education in New Zealand. *International Journal of Teaching and Learning in Higher Education*, *25*(3), 297-304.

Ramsey, C. L. (1997). Deaf children in public schools. *: Placement, Context, And Consequences, Gallaudet University Press*. https://doi.org/10.2307/j.ctv2rr3dh8

Queirós, A., Faria, D., & Almeida, F. (2017). Strengths and limitations of qualitative and quantitative research methods. *European Journal of Education Studies*, *9*(4), 121-134.

Ringsø, T. & Agerup, C. (2018). Two Professions In A Classroom – Challenges And Opportunities In The Interpreter-Mediated Classroom. In Hilde Haualand, Anna-Lena Nilsson, And Eli Raanes, Tolking: Språkarbeid Og Profesjonsutøvelse, Pp. 336–351. Oslo: Gyldendal Akademisk

Roy, C., & Metzger, M. (2014). Researching signed language interpreting through a sociolinguistic approach. *The International Journal of Translation and Interpreting Research*, *6*(1). https://doi.org/10.12807/ti.106201.2014.a09

Russell, D. (2008). Access To Education: Deaf Students In Inclusive Settings. Unpublished Raw Data.

Salter, J. M. (2015). *Developing understandings of deaf students' learning in mainstream secondary classrooms: Teaching assistants' perspectives*.

Salter, J. M., Swanwick, R. A., & Pearson, S. E. (2017). Collaborative working practices in inclusive mainstream deaf education settings: Teaching assistant perspectives. *Deafness & Education International*, *19*(1), 40-49. https://doi.org/10.1080/14643154.2017.1301693

Schick, B. (2005). undefined. *Journal of Deaf Studies and Deaf Education*, *11*(1), 3-20. https://doi.org/10.1093/deafed/enj007

Shufutinsky, A. (2020). *Employing use of self for transparency, rigor, trustworthiness, and credibility in qualitative organizational research methods*. Organization Development Review, 52(1), 50-58.

Schwenke, T. J. (2012). Sign language interpreters and burnout. *International Journal of Research*, *20*(1), 31-54. https://doi.org/10.1075/intp.16.2.04sch

Serving Deaf Students in Higher Education: A Toolkit for Disability Services Professionals. (2021, 29). National Deaf Center. https://www.nationaldeafcenter.org/dsptoolkit

Singleton, J. L., Martin, A. J., & Morgan, G. (2015). Ethics, deaf-friendly research, and good practice when studying sign languages. *Research Methods in Sign Language Studies*, 5-20. https://doi.org/10.1002/9781118346013.ch1

Sireci, S. G., Scarpati, S. E., & Li, S. (2005). Test accommodations for students with disabilities: An analysis of the interaction hypothesis. *Review of Educational Research*, *75*(4), 457-490. https://doi.org/10.3102/00346543075004457

Skinner, C. (2018). Issues and challenges in census taking. *Annual Review of Statistics and Its Application*, *5*(1), 49-63. https://doi.org/10.1146/annurev-statistics-041715-033713

Smeitanski, R. (2018). *Secondary educational interpreters: role ambiguity and role strain* [Master's thesis].

Smith, A. R., Cancel, P. D., & Maroney, E. M. (2012). Creating innovative opportunities for interpreter education program graduate: Transitioning to the professional world. In L. Robinson, & S. Shaw (Eds.), *iCore: Innovative and creative opportunities for research education* (pp. 35-54). Washington, D.C.: Gallaudet University Press.

Smith, D. W., & Amato, S. (2012). Synthesis of available accommodations for students with visual impairments on standardized assessments. *Journal of Visual Impairment & Blindness*, *106*(5), 299-304. https://doi.org/10.1177/0145482x1210600505

Smith, S. W. (2016). *Roles, conflicts, and disclosures: American Sign language/English interpreters' adherence to best practices in Legal settings*. New York: Routledge.

Snoddon, K., & Murray, J. J. (2019). undefined. *International Journal of Inclusive Education*, *23*(7-8), 740-753. https://doi.org/10.1080/13603116.2019.1622807

Sokal, L., & Vermette, L. A. (2017). Double Time? Examining Extended Testing Time Accommodations (ETTA) in Postsecondary Settings. *Journal of Postsecondary Education and Disability*, *30*(2), 185-200.

Stinson, M. S., Elliot, L. B., Kelly, R. R., & Yufang Liu. (2008). Deaf and hard-of-Hearing students' memory of lectures with speech-to-Text and

interpreting/Note taking services. *The Journal of Special Education*, *43*(1), 52-64. https://doi.org/10.1177/0022466907313453

Stokoe, W. C. (2001). The study and use of sign language. *Sign Language Studies*, *1*(4), 369-406. https://doi.org/10.1353/sls.2001.0016

Stone, C. (2017). Sign language interpreter aptitude: The trials and tribulations of a longitudinal study. *The International Journal of Translation and Interpreting Research*, *9*(1). https://doi.org/10.12807/ti.109201.2017.a06

Swift, O. B. (2012). *The roles of signed language interpreters in post-secondary education settings in South Africa* [Doctoral dissertation].

Turner, G. & Harrington, F. J. (2000). *Power And Method In Interpreting Research,* Manchester,

Uk, St. Jerome Publishing.

Tarmey, A. H. (2007). *A relational-exploratory study: how attitudes towards deafness affect quality of behavioural health services provided to the deaf/deaf/hard of hearing client* [Master's thesis]. https://scholarworks.smith.edu/theses/1283

Tetnowski, J. (2015). Qualitative case study research design. *Perspectives on Fluency and Fluency Disorders*, *25*(1), 39-45. https://doi.org/10.1044/ffd25.1.39

Tweney, R. D., & Heiman, G. W. (1977). The effect of sign language grammatical structure on recall. *Bulletin of the Psychonomic Society*, *10*(4), 331-334. https://doi.org/10.3758/bf03329352

Whitchurch, G. G., & Constantine, L. L. (n.d.). Systems theory. *Sourcebook of Family Theories and Methods*, 325-355. https://doi.org/10.1007/978-0-387-85764-0_14

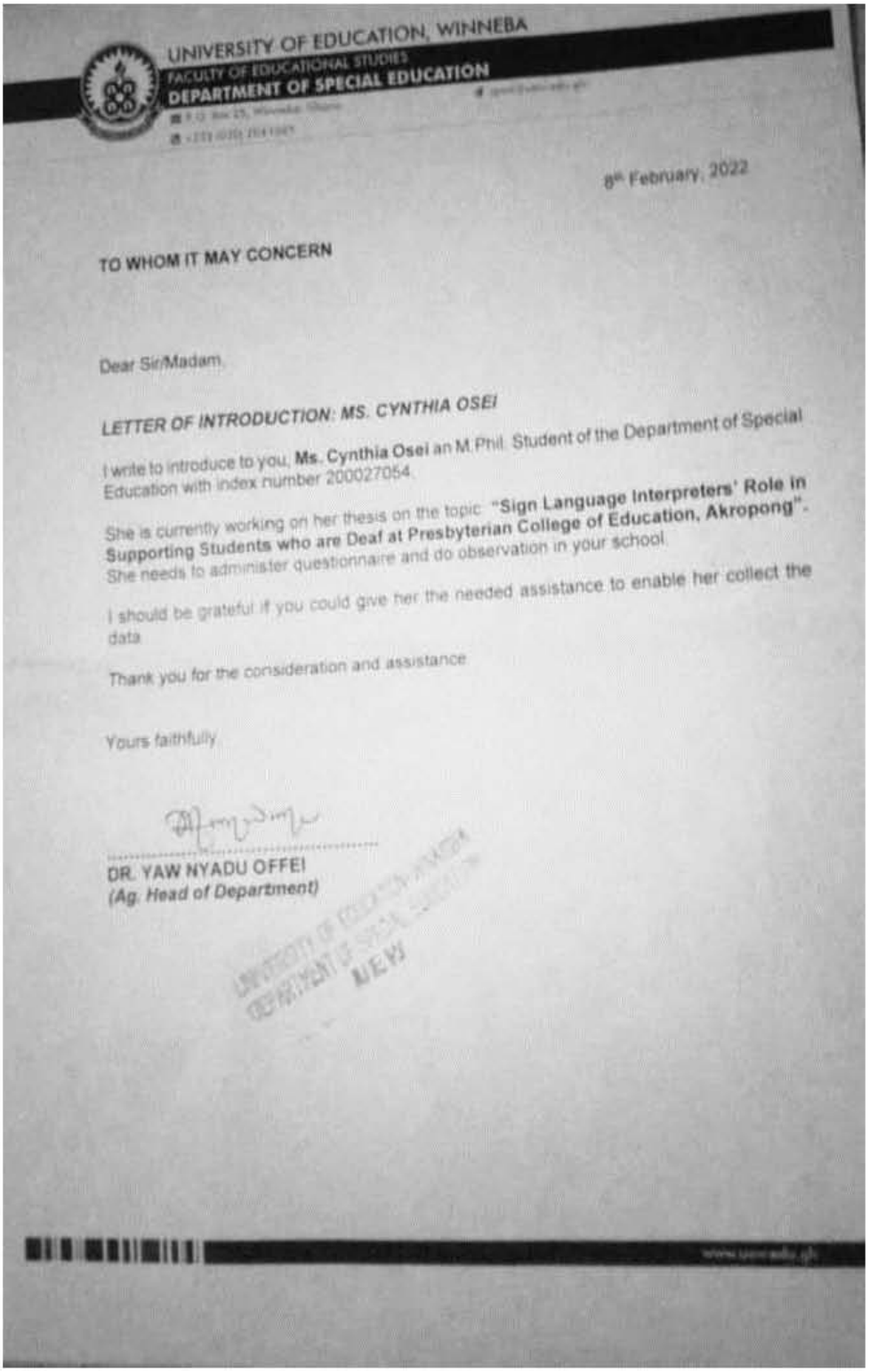
Witter-Merithew, A. & Johnson, L. (2004). Market Disorder Within The Field Of Sign Language Interpreting: Professionalization Implications. *Journal Of Interpretation,* 14**,** 19-56.

Wolbers, K. A., Dimling, L. M., Lawson, H. R., & Golos, D. B. (2012). Parallel and divergent interpreting in an elementary school classroom. *American Annals of the Deaf*, *157*(1), 48-65. https://doi.org/10.1353/aad.2012.1609

Zuriff, G. E. (2000). Extra examination time for students with learning disabilities: An examination of the maximum potential thesis. *Applied Measurement in Education*, *13*(1), 99-117. https://doi.org/10.1207/s15324818ame1301_5

APPENDICESAPPENDIX A:

INTRODUCTORY LETTER



UNIVERSITY OF EDUCATION, WINNEBA
FACULTY OF EDUCATIONAL STUDIES
DEPARTMENT OF SPECIAL EDUCATION

8th February, 2022

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

LETTER OF INTRODUCTION: MS. CYNTHIA OSEI

I write to introduce to you, **Ms. Cynthia Osei** an M.Phil. Student of the Department of Special Education with index number 200027054.

She is currently working on her thesis on the topic **"Sign Language Interpreters' Role in Supporting Students who are Deaf at Presbyterian College of Education, Akropong"**. She needs to administer questionnaire and do observation in your school.

I should 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,

DR. YAW NYADU OFFEI
(Ag. Head of Department)

APPENDIX B: INFORMED CONSENT FORM

University of Education, Winneba

Department of Special Education

5th February, 2022.

Dear Sir/Madam,

INFORMED CONSENT TO PARTICIPATE IN RESEARCH

I am a student at the University of Education, Winneba perusing a Master of Philosophy Special Education. I am to conduct research in your College of Education as one of the requirements for the course. The focus of my research is to explore the role of sign language interpreters in supporting deaf students at Presbyterian College of Education, Akropong Akuapem. This college was specifically selected for the study to explore the role of sign language interpreters. The interpreters will be interviewed. However, interpreters may choose to participate or not and to withdraw from the study voluntarily. All the information provided will solely be used for the research purposes and shall be treated with confidentiality.

On your part, you are requested to decide voluntarily by answering below if you accept to be a participant in this research. Please your name should not be written.

Thank you

……

Research Participant.

APPENDIX C: RESEARCH INSTRUMENT

UNIVERSITY OF EDUCATION, WINNEBA

FACULTY OF EDUCATIONAL STUDIES

DEPARTMENT OF SPECIAL EDUCATION

RESEARCH TOPIC: Support Services Sign Language Interpreters provide to Deaf students at Presbyterian College of Education, Akropong.

DURATION OF INTERVIEW: 35 minutes

INTRODUCTION: Please, I want you to listen carefully and respond to the questions about the "

Support Services Sign Language Interpreters provide to Deaf students at Presbyterian College of Education, Akropong.

Support Services Sign Language Interpreters provide to Deaf students at Presbyterian College of Education, Akropong.

". There is no correct or wrong response. Therefore, kindly respond to the questions with honesty.

SECTION A: **DEMOGRAPHIC INFORMATION**

1. What is your gender?
2. What is your age range?
3. What is your educational qualification?
4. How many years of experience do you have as a professional Sign Language Interpreter?

SECTION B: **SLIs' KNOWLEDGE OF THEIR ROLE**

1. What is your schedule for performing your role?
2. What role do you perform in the school?

3. What roles are you expected to play as a Sign Language Interpreter?
4. Which of the role(s) do you consider very important?
5. Have you received any training after taking the role of a Sign Language Interpreter?
    a. If yes, how many times?
    b. Kindly describe the focus of the training programme(s)?

SECTION C: ACADEMIC SUPPORT FOR DEAF STUDENTS

1. In what ways do you support deaf students in the following:
    a. Examination
    b. Assignment
    c. Educational field trip
    d. Sports and games
    e. Private time
2. How do you position yourself when interpreting for deaf students during instructional periods?
3. How often do you interpret verbal instructions from the regular education teacher to deaf students?
4. Apart from interpreting in the instructional sessions, what other support do you provide to the deaf students?
5. How do you collaborate with other teachers to meet the needs academic needs of deaf students?

SECTION D: NON-ACADEMIC SUPPORT FOR DEAF STUDENTS

1. What role do you play in terms of the following:
    a. Ceremonial Occasions (matriculation, orientation and graduation)
    b. Sports and games

c. Devotions

d. Dinning

e. Church and mosque activities

f. Private time

2. How do you collaborate with other teachers or individuals to meet the non-academic needs of deaf students?
3. Apart from interpreting during instructional sessions, what other support do you give to deaf students during instructional periods?

SECTION E: THE CONCERNS OF SLIs IN SUPPORTING DEAF STUDENTS

1. What are your concerns regarding the availability of technology in the school to support deaf students?
2. What are your concerns in terms of working with the regular education teachers?
3. What are your concerns regarding the attitudes of deaf students?
4. What are your challenges in terms of receiving training?
5. What are your concerns regarding your condition of service?

Thank you