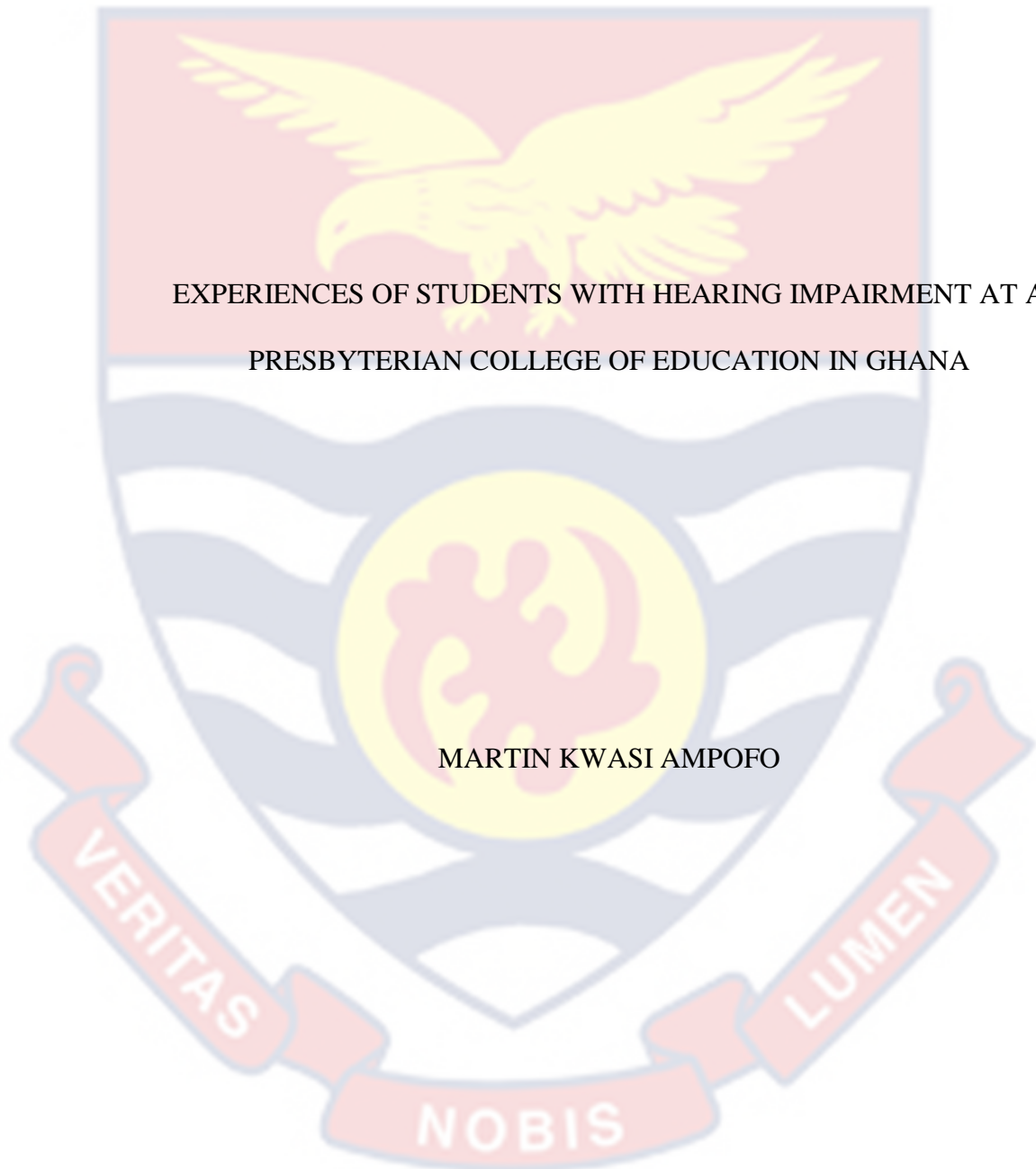


UNIVERSITY OF CAPE COAST



EXPERIENCES OF STUDENTS WITH HEARING IMPAIRMENT AT A  
PRESBYTERIAN COLLEGE OF EDUCATION IN GHANA

MARTIN KWASI AMPOFO

2022



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PRESBYTERIAN COLLEGES OF EDUCATION IN GHANA

BY

MARTIN KWASI AMPOFO

This thesis submitted to the Department of Education and Psychology of the  
Faculty of Educational Foundations, College of Education Studies, University  
of Cape Coast, in partial fulfilment of the requirements for the award of  
Master of Philosophy degree in Special Education

DECEMBER 2022

## DECLARATION

### Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature: ..... Date: .....

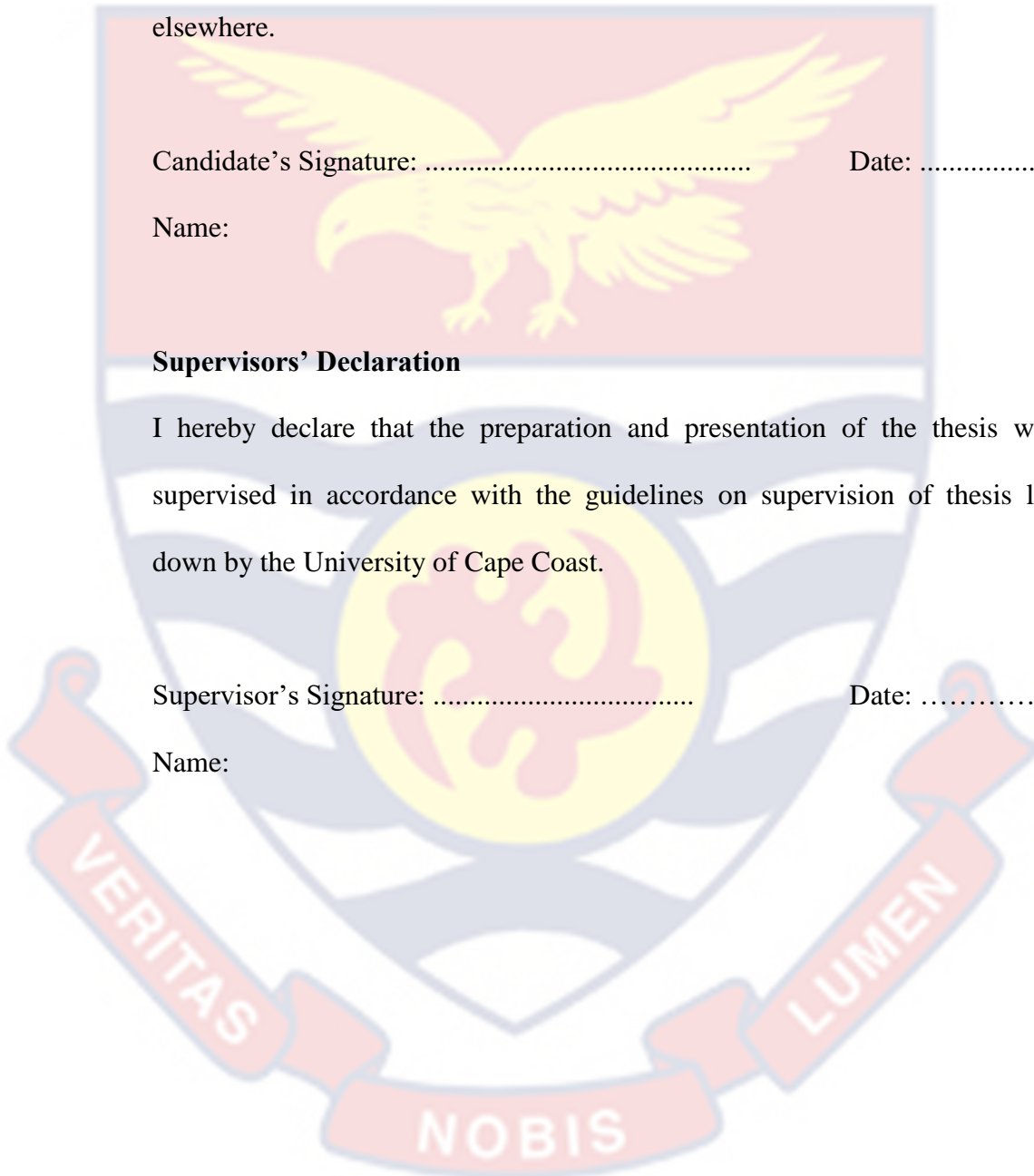
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### Supervisors' Declaration

I hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Supervisor's Signature: ..... Date: .....

Name:



## ABSTRACT

The study explored the experiences of students with hearing impairment (HI), their perceptions of academic participation, social interaction and supportive services offered to them at a College of Education in Ghana. The qualitative interpretative phenomenology design was employed for the study. Semi-structured interview was used for data collection. A sample of 12 students from the Presbyterian College of Education were selected. Thematic analysis by Braun, Clarke, Hayfield, and Terry (2019) was used for the data analysis of the study. Results showed that in the absence of a sign language interpreter, students with hearing impairment (HI) had difficulty accessing information at lectures. Additionally, the majority of students with hearing impairment (HI) believe that the sign language interpreting service is unsatisfactory. It was recommended among other things that to support efficient communication and easy learning process, the College authorities should hire skilled sign language interpreters who are familiar with hearing impairment culture. Hearing students should also be taught about deaf culture by the College authorities so that students who are deaf may readily associate with them.

## KEY WORDS

Deaf

Hard of Hearing

Social interaction

Academic experiences

Support services





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## DEDICATION

To my lovely sister: Mrs. Linda Antwiwaa and my family.





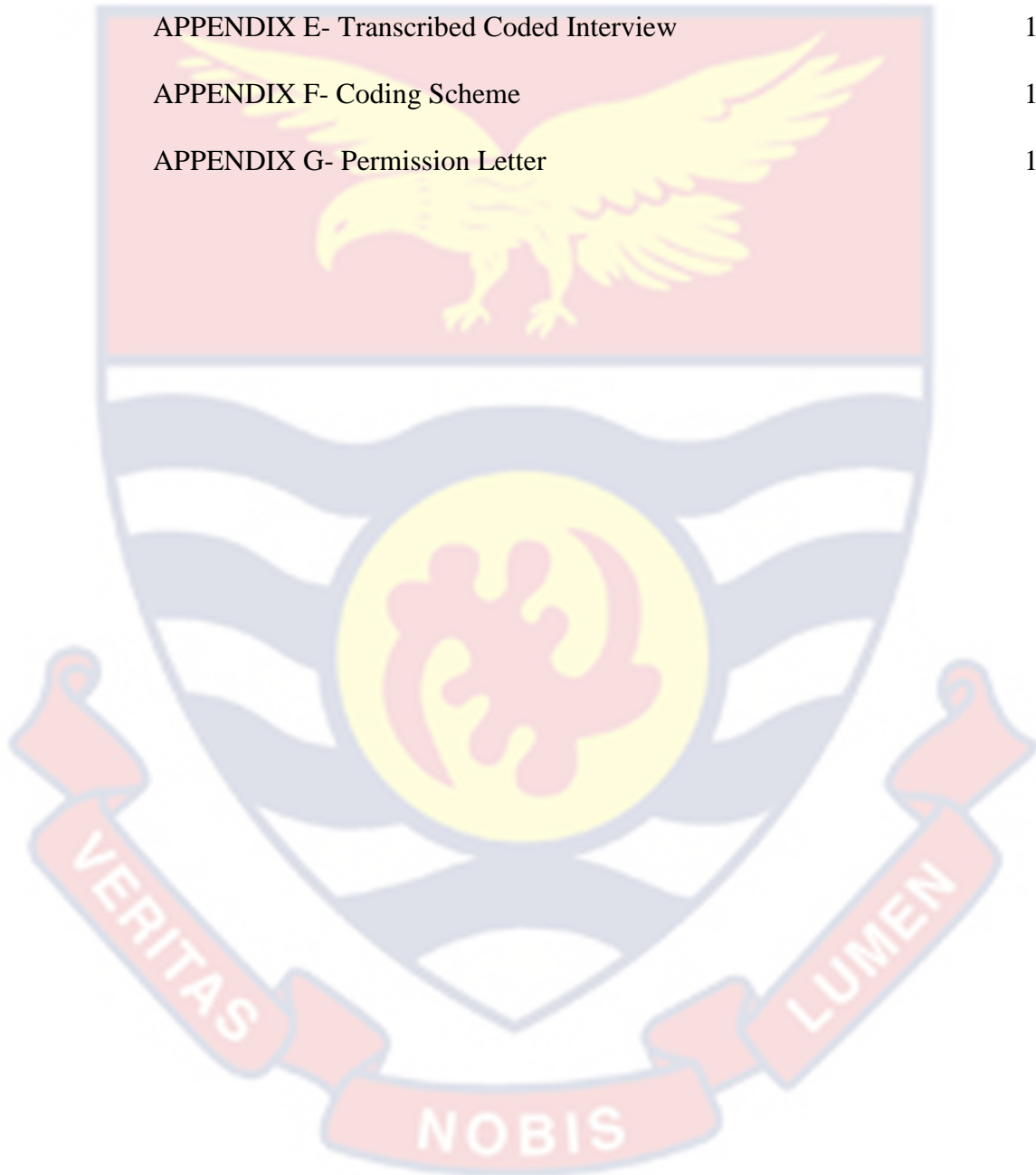
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**LIST OF ABBREVIATIONS**

USA	United States of America
d/HH	deaf or Hard of Hearing
HI	hearing impairment
GhSL	Ghanaian Sign Language
IDEA	Individuals with Disabilities Education Act
HL	Hearing Loss
dB	Decibel
WHO	World Health Organisation
EAHCA	Education for All Handicapped Children Act
PCE	Presbyterian College of Education
ERB	Ethical Review Board
SRC	Student Representative Council
HH	Hard of Hearing
ASL	American Sign Language
RIT	Rochester Institute of Technology
NTID	National Technical Institute for the Deaf
UNESCO	United Nations Educational, Scientific and Cultural Organisation
PWD'S	Persons with Disabilities



## CHAPTER ONE

### INTRODUCTION

#### Background to the study

In recent years, inclusive education has developed into a global policy initiative that supports the rights of individuals with disabilities to accessibility and meaningful participation in conventional educational settings. (Constantinou, Ioannou, Klironomos, Antona, & Stephanidis, 2018). According to the handbook on the right to education published by the United Nations Educational, Scientific, and Cultural Organisation (UNESCO) in 2019: "Education is a right for everyone; those with disabilities should be given equal opportunities for career advancement and continuous learning rather than being excluded from the official education system because of their condition. Students with hearing impairment (HI) have the option of obtaining tertiary education. In many countries, there is an increasing number of students with hearing impairments attending higher education institutions. (Antia, 2009; Standley, 2007; Stinson, 1999). Students with hearing impairment (HI) have different experiences peculiar to them in the tertiary institutions they find themselves in. Ghana has a large number of deaf people, and individuals with hearing impairment attending Senior High Technical School for the Deaf where signing in the form of Ghanaian Sign Language (GhSL) is the official way of communication and instruction. Many of these students with HI who complete Senior High Technical School for the Deaf continue their studies.

There is a widespread belief that both teaching and non-teaching staff frequently determine how well or unsuccessful students with disabilities fare in their postsecondary academic programme of study. For providers and other

stakeholders to improve the services offered to academic programme participants, It is crucial to ensure that the perspectives of students with hearing impairments are heard. The United Nations Convention on the Rights of the Child (2006) highlights people with disabilities' right to access educational facilities and equipment in educational institutions. The Ghanaian Persons with Disabilities Act of 2006 Act 715 emphasizes PWDs' entitlement to access educational resources and equipment in institutions of higher learning.

When students with HI have positive experiences at higher education institutions like the College of Education, it might assist them to feel better integrated into the campus community (Menchel, 1995; Stinson & Walter, 1997; Stinson, & Walter, 1998). Students with hearing impairment at the College will find it easier to integrate into the college community because of their prior capacity to adjust to a hearing environment, provision of supportive service, self-determination, commitment to college, and involvement in college extracurricular activities (Menchel, 1995; Stinson & Walter, 1991). However, negative experiences can impede their progress academically. In a South African university, for example, a study by Bell and Swart (2018) indicated that little change had been made to accommodate students with HI and teaching methods there were not inclusive and curricula were primarily restrictive. It stated that the university has only provided a few fair academic accommodations for students with HI. It also discovered that the learner faced numerous learning-related obstacles. Depending on the degree and age of the students' hearing loss and their diverse experiences, these obstacles were mostly in the areas of communication, instructional tactics, and evaluation.

Despite the aforementioned, the University was admitting high numbers of students who are HH. Despite this, individual students' lived academic experiences may vary from those of their peers and from assumptions made by the institution's teaching and non-teaching staff (Jarvis, Sinka, & Iantaffi, 2002).

An expanding body of research in the field of special education in international studies shows a keen interest in students with disabilities, especially those with hearing impairment to communicate and interact socially and academically with their hearing peers and instructors in higher education (Downing & Peckham-Hardin, 2007; Hunt, Soto, Maier, Libroiron & Bae, (2004) cited in Correa-Torres, 2008). According to Correa-Torres, there are benefits and positive results when students with HI are given the chance to interact and form relationships with their non-disabled peers. The classroom must, however, be organised significantly, professional obligations must be viewed differently, and there must be ongoing communication (Hunt, Soto, Maier & Doering, 2003, as cited in Correa-Torres, 2008).

In post-secondary schools, students with HI find it challenging to communicate with their hearing counterparts. (Levy-Shiff & Hoffman, 1985; Stinson & Liu, 1999). Additionally, putting students with hearing impairment in general education classes makes them feel lonelier and increases their social isolation (Stinson & Liu, 1999). Other studies have demonstrated that inclusion has a negative impact on students with hearing impairment's interpersonal and communication skills as well as their academic progress (Stinson & Liu, 1999). Students with HI in the United States of America (USA) had fewer acquaintances in mainstream schools because they found it

difficult to engage with their hearing counterparts and preferred to be alone (Angelides & Aravi, 2007). Also, due to their speech difficulties, they had low self-esteem and declined to take part in school activities (Angelides & Aravi, 2007). Mukuna and Maizere (2022) also studied experiences of students with HI in a mainstream school in Zimbabwe. The study found that due to communication barriers, these students did not have any hearing friends and instead opted to form friendships among themselves. The study also showed that discrimination and labelling inflicted on students with HI related to behavioural and mental health issues. (Mukuna, & Maizere, 2022). In Ghana, although students and individuals with HI also faced challenges such as communicating with hearing people and exclusion from some societal activities, they also had positive experiences (Nortey, 2009). Students and individuals with HI said they could communicate with friends who could sign and even attend church services where they had access to sign language interpreters (Nortey, 2009).

Supportive systems are necessary for students with HI to participate in the academic environment. They require equipment like hearing aids, as well as human resources like resource centres and sign language interpreters. These support them to participate in lectures, do assignments and partake in group activities. Students with HI are unable to completely benefit from their academic institutions and the programmes they are enrolled in because of the unavailability of these supports. Thus, it is essential that tertiary institutions provide sufficient supportive services for students with HI including both technical and human assistance (Bell & Swart, 2018). Students with HI have frequently emphasised how they feel left out of academic and social activities



when these support services are not available. In Ghana, the academic experiences of deaf students at the University of Education, Winneba, for instance, revealed that the sign language interpreting services offered to the deaf students to enable access to information, understand lectures, and assessment were insufficient (Oppong, Adu, Fobi, & Acheampong, 2018).

Therefore, the current study enables the researcher to examine into the social interactions and support services that students with HI at the Presbyterian College of Education in Ghana receive in addition to their academic experiences.

### **Statement of the Problem**

Ghana has welcomed the acceptance of students with HI into its tertiary institutions across the country. In the case of Colleges of Education, it is the Presbyterian College of Education that is practising inclusion for students with HI. In connection to this, it is prudent to be aware of the experiences students with HI go through so as to inform stakeholders about the development of the policy. Every experience has the potential to shape or derail their expectations for the future, as well as inform prospective students with HI who might attend the Presbyterian College of Education. Students with HI in Colleges of Education have varied experiences, academically, socially, and in terms of support services.

Although the College has been actively integrating students with HI for some time, it appears there is insufficient literature about their daily experiences. In Ghana, the few studies on students with HI that have been done focused on only their academic experiences and used a methodological approach that is different from what this current study seeks to achieve (Adu,

2015). Another study that was conducted on the experiences of students with HI outside of Colleges only examined their academic and social experiences (Asare, 2021). Due to the seeming dearth of literature on the experiences of students with HI in the only inclusive College of Education, this study seeks to fill in the gap by presenting the academic and social experiences and support services available.

### **Purpose of the Study**

The study was to explore the experiences of students with HI at the Presbyterian College of Education in Ghana. The following specific objectives were guided by the study:

1. Examine the experiences of students with HI about their academic participation in the College of Education in Ghana
2. Explore how students with HI manage their social interaction in the College of Education in Ghana.
3. Find out how students with HI experienced the supportive services offered in the College of Education in Ghana.

### **Research questions**

The following research questions served as the study's guide:

1. What are the experiences of students with HI about their academic participation in the College of Education in Ghana?
2. How do students with HI manage their social interaction in the College of Education in Ghana
3. How do students with HI experience the supportive services offered in the College of Education in Ghana?

### **Significance of the Study**

The findings of the study would be helpful to students with HI, faculty, decision-makers, and other stakeholders. This would support addressing the needs, interests, and goals of students with HI effectively. This study would also provide valuable information for students with HI who are planning to enrol and achieve success in higher educational institutions in Ghana. The study would also reveal the perspectives of students with HI and inform the Ministry of Education and school authority about the obstacles, challenges and positive and negative experiences that these students face. The results of this research would validate the previously proposed literature on the experiences of students with HI in Ghana's colleges of education and contribute to existing knowledge on deaf education.

### **Delimitations**

The study is delimited to the experiences of students with HI in the Presbyterian College of Education in Ghana. The study chose the Presbyterian College of Education because it is only the College that admits students with HI. The investigation was carried out geographically in the Eastern region of Ghana. In addition, the study was also delimited to level 200 and 300 students only because they had been a part of the College community for more than one academic year. Students at Level 100 were excluded from the study because they lacked sufficient engagement to the College community. Level 400 students were not a part of the study since they were engaged in an off-campus internship at the time when the study was carried out.



## Limitations

The researcher had some difficulties while interpreting the interview questions to the participants because specific vocabulary and grammatical structures in sign language are lacking. This in turn made the participants face difficulty in adequately expressing themselves. Thus, some verbatim responses may be affected.

## Definition of Terms

**Academic experience:** They are the learning and teaching processes that students participate in; interacting with their peers and tutors, taking quizzes and exams.

**Social experiences:** It is when the students socialise with their peers and other members in the college environment.

**Sign language:** is a special means of expressing oneself, a spatial and visual language that emphasises the use of the hands, faces, bodies, and eyes rather than voice as a means of communication.

**Hearing impairment:** It is the impairment of the hearing mechanism, whether it be total or partial, that negatively impacts a person's capacity to carry out specific duties in an educational setting, and it includes individuals who are deaf and hard of hearing.

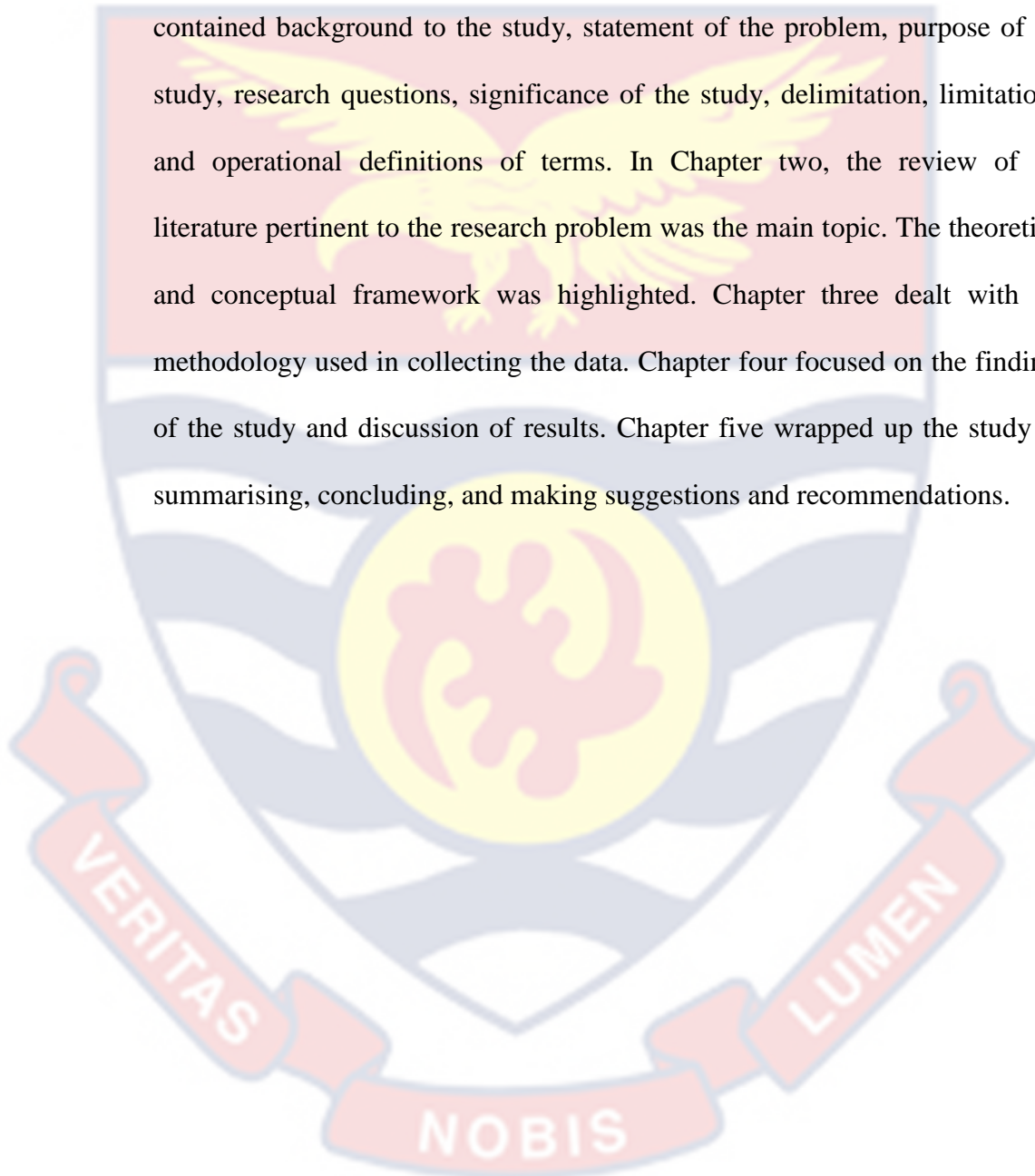
**Students who are Deaf:** They are students who depend on sign language interpretation and have hearing loss that ranges from severe to profound and also those who identify themselves as culturally Deaf.

**Students who are hard of hearing:** They are students whose level of hearing loss ranges from mild to severe and depend on hearing aid or sign language. Similarly, they are at a level of hearing loss that makes understanding of

speech through the ear alone difficult (use of residual hearing, benefit from hearing aid and lip reading).

### **Organisation of the Study**

There are five chapters in the study. The first chapter in the study contained background to the study, statement of the problem, purpose of the study, research questions, significance of the study, delimitation, limitations, and operational definitions of terms. In Chapter two, the review of the literature pertinent to the research problem was the main topic. The theoretical and conceptual framework was highlighted. Chapter three dealt with the methodology used in collecting the data. Chapter four focused on the findings of the study and discussion of results. Chapter five wrapped up the study by summarising, concluding, and making suggestions and recommendations.



## CHAPTER TWO

### LITERATURE REVIEW

#### Introduction

Throughout the review of recent research, keywords such as hearing impairment, deaf, hard of hearing, academic engagement, social contact, and support services were used to search scholarly peer-reviewed web pages and journals for relevant studies. This literature review covers the definitions of students with hearing impairment (HI) in addition to theories, concepts, and empirical studies on students with HI's academic and social experiences. This review is in three main sections; the theoretical review, conceptual review and empirical review. The study's theoretical base is built on the theory of integration (1997) and student experiences: practice and theory.

#### Theoretical Framework

Tinto (1977) defined integration as "the alignment of students' attitudes and values with the social component of student life, particularly peers, the academic life, particularly professors or staff, and the institutional aims of the Colleges of Education"(p. 2307-6267). The personal objectives that connect the student HI to the institution, progress along with integration. On the other hand, negative experiences drive a student away from the academic and social communities of the institution, weakening commitment to shared objectives (Pascarella & Terenzini, 2005; Tinto, 1993). Persistence is mediated by goal commitment, which is a result of integration into the academic and social components of the college system.

**Theory of Student Integration (1977)**

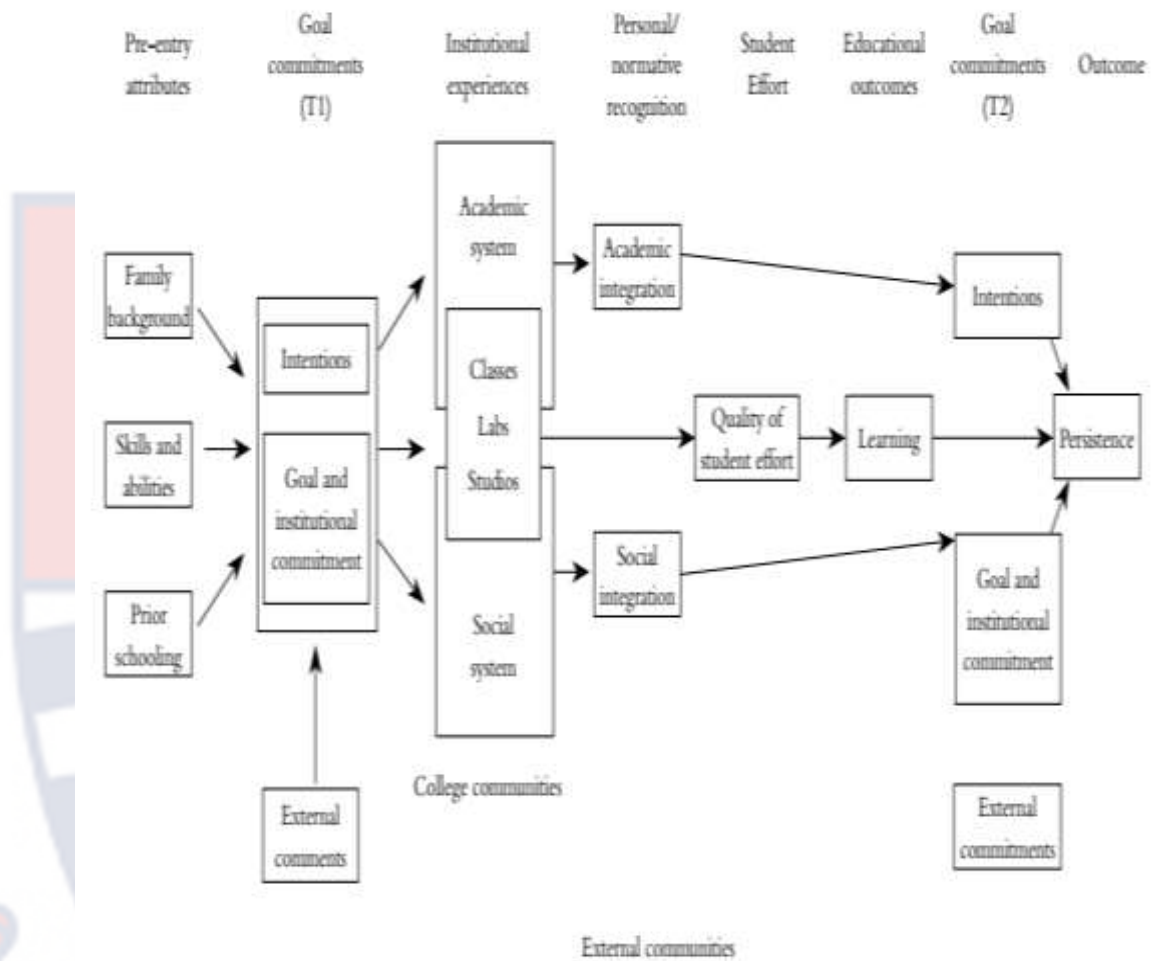


Figure 1: Theory of Integration (1977)

Source: (McCubbin, 2003) p.11

The Students' Integration Model (1997) establishes a link between a student's pre-university admission qualities, such as personal life history, skills, and prior education, and the institutional experience, and ultimately to educational outcomes, retention, and success. Academic and social integration, student effort and learning quality, institutional experiences relating to the academic and social systems, and the student's goals, aspirations, and commitments are all covered in this theory. Student Integration Model is also called a "sociological" "interactive model" (Tinto, 1993). It is dynamic, in that

interactions with the college and its academic and social institutions cause a student's goals and intents to continuously change.

According to Tinto (1993), students with hearing impairment are more likely to remain enrolled in college if they engage in the social and academic life of the institution. Students who make friends, take part in extracurricular activities, or work hard in class while being hearing impaired are more likely to continue with it than those who stay on the outside. The integration process could be hampered by inconsistency or a poor institutional fit. Students who do not feel comfortable at an institution or who do not think that an institution can help them achieve their goals are not likely to stay. Similar to this, students with hearing impairment who are constantly alone or who do not engage in social activities at the colleges are less likely to stay. The integrating process is hindered by inconsistency and isolation, which prevents persistence.

The student integration model into an institution, according to Tinto, can occur on two levels: intellectual and social. Students gain an academic dimension when they participate in the College's intellectual life, and they gain a social dimension when they make friends and connections outside of the classroom. Despite being analytically distinct, these two ideas interact and support one another. In order to increase their prospects of persistence, students must be integrated into the institution on all dimensions, though not equally. The student integration model also emphasises that there are official and informal systems inside institutions that may encourage integration and persistence.

The student integration model concept has been used in a number of studies of tertiary student persistence. Its usefulness for college students,



however, has been questioned because it is believed that universities offer fewer opportunities for social integration and that commuter students may find the social component of tertiary education less appealing. Tinto has questioned whether college students and commuter students in particular are affected by the elements that encourage social integration (Tinto, 1993). Despite its detractors, the theory of Integration, according to McCubbin (2003), is the most dominant model of postsecondary education attrition.

### **The implication of the theory to the study**

The theory of integration (1977) is the best theory for this study because it best explains how students with hearing impairment at the Presbyterian College of Education in Ghana experience their academic and social systems. This is due to Tinto's (1997) assertion that students with hearing impairment's pre-entry characteristics, such as personality, prior academic experience, financial situation, abilities, and values, are correlated with their academic and social integration as well as the level of student effort during the teaching and learning process. Moreover, the good experiences that helped students with hearing impairment succeed academically and achieve their personal objectives are linked to their capacity to engage in social and academic life in the college community.

Additionally, Tinto (1993) points out that students with hearing impairment who receive support services from the College, participate in extracurricular activities, and engage in academic activities are more likely to stay and become more academically and socially successful than those who do not. Tinto (1997) asserts that a student's interactions with the academic and social aspects of an institution affects the phenomenon of persistence.

However, if the students with HI can have access to all aspects of the academic programme of study individually without facing any difficulties, then they will keep on pursuing their academic programmes until they complete them (Oppong et al., 2018). On the other hand, if students with HI do not have access to all resources and support offered by the college community, individually, they may stop their course of study or have unfavourable academic and social experiences in the college (Oppong et al., 2018).

### **Conceptual Review**

In this study, concepts that serve as the study's foundation were examined. These include factors affecting academic participation in tertiary education, social interaction, sign language, deaf culture, and Deaf and Hard of Hearing.

### **Deaf and Hard of Hearing**

According to the World Health Organization (2015), deafness is described as the total loss of hearing in both ears, which has a negative impact on the ability of the child to undertake particular tasks. Similarly, deafness refers “to any degree of hearing loss, from mild to profound including those who are deaf or Hard of hearing” (Kushalnagar, 2019, p.1). Some persons with HI prefer the terms "deaf" and "Hard of Hearing," which to them has a more positive sense than "hearing impaired," which implies a deficit or that something is wrong that renders a person less than whole (Kushalnagar, 2019).

Worldwide, millions of people have hearing loss, which is considered to be the fourth leading cause of disability (World Health Organisation [WHO], 2015; Cunningham & Tucci, 2017). According to WHO, estimates



from 2008 show that 360 million individuals globally, including 32 million children and 180 million senior citizens, suffer from profound hearing loss (WHO, 2012). The number of people with profound hearing loss is estimated to be over 466 million in 2018. There are four levels of severity: mild, moderate, severe, and profound. The degree of hearing loss is measured by the loudness that a sound must reach before an individual can recognise it (Turunen-Taheeri, Carlsson, Johnson, & Hellstrom, 2019).

The term "hard of hearing" may be used to describe many deaf people who view spoken language as their primary language (Watson, 1998). It is important to take into account how a person identifies their hearing loss or deafness because this is a personal choice that signifies more than just their hearing capabilities (Bell, Carl & Swart, 2016).

Many people with HI will utilise an assistive technology such as a hearing aid in their daily lives. They might be able to communicate over the phone using telecommunications devices for the deaf (TDD) (Lysons, 1996). Typed text is sent over the phone using this gadget, which resembles a word processor. Video phones can also be used to communicate across long distances using sign language. In many Western countries, there are telephone relay services that let a deaf person speak with a hearing person on the phone via a human interpreter. Video conferencing and text messaging through cell phone/SMS are also available. The latter allows for both voice and sign communication between deaf and hearing people, as well as the assistance of an interpreter (Lysons, 1996).

According to Heward (2013), medical definitions categorize hearing loss into various severity degrees, from mild to profound. He also stated in his

study that the core of educational definitions of hearing loss, centre on a child's capacity to use his hearing to absorb communication and learn language, as well as the impacts on academic performance. For example, the Individuals with Disabilities Education Act (IDEA) utilises the category name "hearing impairment" to denote a hearing loss that negatively impacts academic achievement and so qualifies the child for special education. Thus, the use of the term hearing impairment in this study.

Furthermore, Heward explained how the human hearing mechanism works and how hearing impairment happens using the human ear, which has three major sections: the outside, middle, and inner ear.

#### ***How Hearing Occur***

According to Heward (2013), when sound waves reach the ear, the eardrum vibrates and transmits these vibrations to the malleus, incus, and stapes. The three tiny bones in the middle ear amplify the vibration. The cochlea, an inner ear snail-shaped structure filled with fluid, is where sound vibrations are picked up after being amplified or intensified by the middle ear bones (Heward, 2013). The cochlea is split into an upper and a lower section from beginning to end by an elastic barrier. This wall is referred to as the basilar membrane because it serves as the ground floor or foundation for significant hearing structures (Heward, 2013). Once the vibrations force the fluid inside the cochlea to shake, a travelling wave forms along the basilar membrane. On top of the basilar membrane, hair cells, which are sensory cells, ride the wave. Hair cells near the wide end of the cochlea are sensitive to higher-pitched sounds, such as a baby crying. The auditory nerve transmits

this electrical signal to the brain, which interprets it as a sound that we can hear and understand (Heward, 2013).

### *Types of Hearing loss*

The World Health Organization [WHO], (2015) states that there are several causes of hearing loss under the categories of conductive, sensorineural, and mixed hearing loss, although some are brought on by aging naturally and exposure to loud noises. In 2022, according to Starkey, a popular American Technological Company, too much fluid in the middle ear is the primary factor for hearing loss. Other potential causes include eardrum perforation, which occurs when there is a hole in the eardrum as a result of a severe ear infection, ear trauma, the ear canal narrowing due to illness or surgery, and ear wax build up that plugs the ear canal.

Good hearing is the consequence of the three regions of the ear working together well. Therefore, deafness happens when any of the organs in the ear's parts is damaged. Another cause of hearing loss could be inherited traits, infectious diseases, drugs, physical harm, and ear structural issues (Starkey, 2022).

Alshuaib, Al-Kandari, and Hasan (2015) stated that the middle ear and outer ear, which are responsible for air conduction, are connected to the conductive division of the human ear, and the inner ear is connected to the sensorineural division. Thus, conductive, sensorineural, and mixed hearing impairments are the three main classifications of hearing loss (Alshuaib et al., 2015). The issue with conducting or passing a sound vibration to the inner ear is known as conductive hearing loss (Heward, 2013). Deafness can develop through conductive division if the auditory canal has an excessive build-up of

wax, fluid, or debris; if a child is born with an imperfect or deformed auditory canal; or if the eardrum or ossicles do not move properly (Heward, 2013). Sensorineural hearing loss refers to damage to the auditory nerve fibres or other delicate systems in the inner ear. Alshuaib et al. (2015) posited that sensorineural division can cause deafness if there is injury to the organ, corti or the hair cell's failure to trigger the auditory nerve. Mixed hearing loss is a type of hearing loss which combine both sensorineural and conductive impairment.

However, deafness can be understood through the quantification measurement of hearing threshold (Martin, (1981) as cited in Gadagbui, 2013). The degree of a hearing impairment is determined by the additional intensity above a nominal threshold that a sound must achieve before being detected by a person (measured in decibels of hearing loss, or dB HL).

#### ***Classification of Hearing loss***

Alshuaib, Al-Kandari and Hasan (2015), ranked hearing impairment for every individual as:

- |                     |                                |
|---------------------|--------------------------------|
| a) -10-15dB         | Normal hearing loss            |
| b) 26-40 dB         | Mild hearing loss              |
| c) 41-55 dB         | Moderate hearing loss          |
| d) 56-70 dB         | Moderately severe hearing loss |
| e) 71-90 dB         | Severe hearing loss            |
| f) 91 dB or greater | Profound hearing loss          |

Hard of hearing people can have mild, moderate, or moderately severe hearing loss. Hallahan, Kauffman and Pullen (2014) defined individuals who are hard of hearing as those who find it difficult to hear but not impossible to



detect comprehensive speech sound through the ear alone, with or without the assistance of a hearing aid. Hard-of-hearing people have hearing levels between 26 and 70 decibels. This means that those individuals can hear a certain decibel of the sound within a quiet environment. However, people with moderately severe, severe, or profound hearing loss are regarded as being deaf (Hallahan et al. 2014). Deafness involves the full or complete loss of the ability to detect sound due to abnormality associated with the physiology, anatomy and function of the ear (Hallahan et al, 2014). The hearing level of an individual who are deaf ranges from 70-90 decibel. This means that deaf people whether they wear hearing aids or not they cannot hear any amount of speech sound.

According to Counsellman-Coarpeneter, Meltzer and Marquart (2020), the community views hearing impairment as the most appropriate and inclusive terminology. The capital "D" indicates that a person who identifies as culturally Deaf may or may not be able to hear some sounds and/or speak on some and/or all levels. Whereas the lowercase "d" stands in for a deaf individual who predominantly identifies as medically deaf but is not culturally Deaf. A person who identifies as Hard of Hearing may not be deaf or hard of hearing, or they may identify most with hearing some noises and/or speaking on some or all levels.

### **Communication**

Communication is a big issue for persons with hearing problems. Learners with HI have a wide range of communication abilities. The factors that affect the development of communication skills in people with hearing impairments include personality, intelligence, type and degree of deafness,



amount and type of residual hearing, extent of benefit from amplification by hearing aids, family, environment, and age of onset of impairment (Hill-Briggs, Dial, Morere, & Joyce, 2007; Marschark & Spencer, 2006). Unlike students who are hearing who speak English, not all students with HI use the same communication mode, language, or sign system, and each student with HI's communication style is usually determined by their hearing level and cultural exposure (Myers & Taylor, 2000). There are two types of communication modes: aural/oral and visual/gestural. Some individuals, referred to as Hard of Hearing, attempt to use both modes at the same time (Nomeland & Nomeland, 2012).

According to Rastgoo, Kiani, Escalera, and Sabokrou (2021), large populations of people who are d/HH in society utilise sign language as their primary but not exclusively dominant mode of communication. In 2020, WHO reported that there were more than 466 million people who were deaf worldwide. Different nationalities use different sign languages, including the USA (America Sign Language), Argentina (Argentina Sign Language), Poland sign language (Salto, 2021), German sign language (Thomas Hanke, 2021), Greece (Greek Sign Language), Spain (Spanish Sign Language), China (Chinese Sign Language), Korea (Korea Sign Language), Iran (Persian Sign Language), and so forth. If hearing and hearing impairment populations are to interact readily and mutually, it is crucial to build a solid system that can translate spoken languages into sign languages and vice versa. (Rastgoo et al., 2021).

However, American Sign Language (ASL), which has the largest sign language community in the world, is the sign language that is used most

frequently globally (Rastgoo et al., 2021). People who are hearing impaired may find it difficult to read or write spoken language, thus in order for them to connect with the rest of society, they need specialised communication tools (Rastgoo et al., 2021). The American Disability Act is fundamentally concerned with effective communication, which is defined as communication that is equal to that of a hearing person (Withers & Speight, 2017 as cited in Myers, Annis, Withers, Williamson, & Thomas, 2022).

Ghanaian Sign language (GhSL) is the predominant sign language used by the hearing-impaired population in Ghana with significant differences from the sign languages and cultural factors that contributed to its origin (Odartey, Huang, Asantewaa, & Agbedanu, 2019). Only community members who use GhSL can teach it to people who are hearing impaired and have not had formal education or to hearing impaired students who attend regular schools without sign language interpretation (Edward & Akanlig-Pare, 2021). It is unknown how many people in Ghana speak GhSL as either a first language or a second language (Edward & Akanlig-Pare, 2021). The Adamorobe Sign Language (AdaSL), Nanabin Sign Language (NanaSL), and other native sign languages of Ghana are linguistically distinct from GhSL (Edward & Akanlig-Pare, 2021). However, GhSL is the main tool of communication used by students with HI at tertiary institutions in Ghana.

### **Deaf Culture**

People with HI in a multicultural society like Ghana are exposed to many cultures from within the country as well as from Africa, Europe, Asia, and beyond. Furthermore, communication technology has made it easier for persons HI to interact with people from different countries and cultures

(Ntongelwa & Rivera-Sánchez, 2018). As a result, linguistic and cultural variations in the classroom have a significant influence. Cultural difference refers to interactions between persons whose cultural views and symbol systems differ enough to influence communication occurrences (Samovar et al., 2013). Culture influences the norms we use to communicate as well as how we understand words, gestures, and situations (Zhijing, 2009). In this study for example, students without problems would be regarded as part of a dominant culture, whereas students with HI would be considered members of a subculture, according to cultural differences (Sun, 2013).

The hearing and Deaf cultures differ significantly, in that, the people without hearing problems have a culture which employs spoken language, which is auditory and linear in character (McGuire 1992). Hearing-centred identities are associated with those who belong to this culture (Overstreet 1999). Ghana's Deaf culture, on the other hand, uses GhSL, which includes facial expressions as well as other body and hand movements. Signing "may appear to be occurring in time and place, with many syntactic and semantic aspects encoded within the gestures and facial/body grammar"(Grushkin, 2017. p. 508).

### **Academic Participation**

According to Bartley, Dimenäs, and Hallnäs (2010), formal and informal academic participation, which can be viewed as examples of representative and direct democracy, can be divided. Formal academic participation is collective in the sense that students engage in classroom activities, interact with academic staff and their peers. Informal academic participation refers to students' informal possibilities to shape their own circumstances and

education, such as through course evaluation and other forms of assessment (Högskoleverket, 2000). Influence and cooperation, which are frequently used as synonyms for participation, are other words that appear with descriptions of participation (Bartley et al., 2010). However, involvement or contribution may not always imply participation, and there is not always a link between participation and outcomes (Swedish Government Official Reports 2000:1).

According to Bartley et al. (2010), students who participate in the academic environment become involved in the decision-making process and find this important. Furthermore, they suggest that participation should include a fair chance to impact the students' study situation and experience involvement (Bartley et al., 2010). When participation has a good effect, the democratic process advances; but, when participation has a negative effect, it may decrease, which may result in feelings of exclusion and other forms of resistance (Swedish Government Official Reports 2000:1)

### **Factors influencing academic participation in Tertiary Education**

According to Silalahi (2020), through Education, individuals are given the chance to actively take part in the formation and development of their knowledge, skills, abilities, and attitudes. Factors, including lecturer attitudes, student behaviour, and classroom conditions, dorm/residence conditions, and amenities, have impact on how academic abilities develop. Individuals who are d/HH are not exempted from the factors mentioned above. When using cutting-edge technology and innovative techniques for instruction, behaviour management, and other activities, lecturers and other personnel in higher education should adopt attitudes that encourage the development of knowledge and character in relation to the material they teach (Maina, 2010).



That means lecturers and administrative staff must portray attitudes that would minimise the negative academic participation in the college community.

Besides, one of the factors that influences how an institution is changed is leadership. Students that are given leadership opportunities will have access to endless resources and achieve success (Ackerman, Moller & Katzenmyer, 1996). Unfortunately, students with HI are not given the chance to fully access their program of study. However, if the institution changed leadership to favour students with HI, their engagement in academic activities would be improved. Most higher education institutions do not provide students with hearing impairment with equitable access to student leadership roles.

According to the Council for Education Policy, Research, and Improvement (2019), the lecturer's skills have an impact on the educational experience. Therefore, the key elements in obtaining the level of education quality are the qualities and skills of the lecturers.

Resources and modifications to the curriculum are not the only factors that might affect what students and lecturers learn in class (Silalahi, 2020). For instance, students with HI have understood lectures and information from lecturers using techniques and methods that are appropriate for both learners with HI and hearing students (Silalahi, 2020).

Kudari (2016) discussed additional elements such as lesson plans that have been introduced and are being properly handled, teaching techniques, and classroom effectiveness. Learners with hearing impairment would benefit from discipline and effective communication as a result. It would aid students in learning more effectively in order to advance academically.



## Social Interaction

According to Cerulo (2009), social interaction is behaviour and response in relation to one another. Also, social interaction is defined as a meaningful conversation amongst students (Marks & Fraley, 2007). Socially active students are motivated students (Vacca, & Vacca, 2002). Routman (2005) suggests that “students learn more when they are able to talk to one another and be actively involved” (p. 207). Social connections improve one's quality of life and aid in thinking and learning (Antia, Jones, Luckner, Kreimeyer, & Reed, 2011).

For all people, the ability to interact socially is a key part of growth. Childhood social engagement and relationships have been associated with a number of psychologically advantageous consequences, such as defense against life stressors and developmental challenges, such as those faced by those who are deaf. (Batten, & Alexander, 2014). Increased self-esteem is associated with close, encouraging peer interactions (Bishop & Inderbitzen, 1995). Managing one's emotions (McElwain & Valling, 2005), having positive views regarding schooling and making easy transitions to school (Tomada, Schneider, de Domini, Greenman, & Fonzi, 2005), developing cognitive skills, including perspective-taking (McGuire & Weisz, 1982) are all linked to a successful social experience. Therefore, learners with HI may benefit from social engagement by getting the chance to practice certain social, emotional, and cognitive skills, as well as improve their general wellbeing and self-confidence (Batten, & Alexander, 2014).

According to Marks and Fraley (2007), social interaction is important because it helps students learn from others, makes learning interesting,

engages students, gives them a chance to speak in class, improves comprehension, turns the classroom into a learning environment, helps students feel at ease and confident, prepares them for life in the real world, teaches them how to work together, makes students want to come to class, aids with their social skill development, and aids in helping them communicate more effectively.

Language delays can have an impact on children's ability to communicate effectively and comprehend the thoughts and feelings of others, which is one of the difficult aspects of social interaction (Peterson & Slaughter, 2006), ability to control one's own behaviour, particularly with regards to impulsivity, mood, and attention (Mitchell & Quittner, 1996; Rieffe, 2011). However, individuals with hearing impairment are 1.5 to 2 times as likely than their counterparts without hearing problems to develop mental health problems (Hindley, 2005). Depression and loneliness are also both related to the problem (Most, 2007; Theunissen et al., 2011).

### **Supportive services**

Supportive services refer to a set of relevant accommodations that are available for students with hearing impairments (HI). These accommodations include digital classroom devices and services that enable effective communication between teachers and students with hearing impairments (Oreshkina & Safonova, 2022). Examples of supportive services are academic counseling and tutoring, interpretation, a network of peer note-takers, limited laptop note-taking service, the lending of FM systems, and staff development activities that involve liaison and interaction with university officials (Spradbrow & Power, 2004). Supportive services in tertiary institutions

provide assistance to students with disabilities, including those with hearing impairments. These services can support communication, language, academics, and social/emotional development (Borders et al., 2018).

Providing supported assistance to students with hearing impairment (HI) in university programs has been found to be beneficial according to Spradbrow and Power (2004). Supportive services can include academic counselling, tutoring, interpretation, a peer note-taking network, limited laptop note-taking service, FM system, communication with university officials, and staff development activities. These services aim to assist students who are unable to take notes on their own during classes, laboratories, and tutorials. Inclusive programs are available for students with hearing impairments, thanks to technologies such as tutoring, cognitive technology in education, visualising educational content, and digitally transforming classrooms. Supportive services are also available at community colleges, with specialised advising and specific orientation for both students and instructors. Using student feedback and raising awareness of available resources in the campus and community are also important aspects of supportive services (Johnson & Fann, 2016).

### **Empirical Review**

Under this heading, studies were reviewed to cover both major and sub salient points in the three research questions. They are grouped into academic participation of students with HI, social interaction of learners who are HI and support services offered to students with HI.

### **Academic Participation of Students who HI**

There are now significantly more individuals who are HI learning alongside students without hearing problems in general education settings (Eriks-Brophy & Whittingham, 2013; Luckner & Muir, 2002; Powers, 2002).

According to the Gallaudet Research Institute (2004), the percentage of students with HI in ordinary public schools in the United States climbed from 46% in 1977-1978 to 91% in 2002-2003. In general education, 14.1% of children with hearing impairment spend less than 40% of their schooldays there, 16.7% spend between 40 and 70% of their days there, and 56.1% spend more than 80% of their days there, according to data from the US Department of Education from 2013. However, only 8.3% of students with hearing impairment are still enrolled in special schools for students with HI, 3.4% are housed separately, 1.2% are sent to regular private schools by their parents, 0.2% are placed in homebound or hospital settings, and 0.1% are housed in correctional facilities.

A growing number of people with HI have attended college among their hearing counterparts rather than attending separate institutions expressly for students who are deaf as a result of changes in preference, policy, and legislation over the previous several decades. Although more than 25,000 students with HI were enrolled in post-secondary programmes in the United States of America (USA) in 2003, nearly tripling the amount from 10 years earlier, current numbers vary (Billies et al, 2003). Today, the majority of students with HI enrol in "mainstream" postsecondary programmes, where they can take advantage of support services that enable them to take part in learning activities and discussions to varying degrees. Antia, Jones, Reed, and



Kreimeyer (2009) predict that there will be an increase in the number of students with hearing impairment in general education classrooms as a result of the use of early diagnosis and intervention techniques like cochlear implants. Others attribute the increase in students with disabilities being enrolled in general education classes to three factors: economic constraints, parental expectations, and technology developments (Angelides & Aravi, 2007).

Despite the fact that in many nations, learners with HI are increasingly being placed in general education classes (Standley, 2007), numerous studies have shown that these learners struggle to participate in class and interact with their teachers and peers when they can't hear them (Levy-Shiff & Hoffman, 1985; Stinson & Liu, 1999). Studies show that placing students with HI in general education classes increases their social isolation and feelings of loneliness (Newcomb & Bagwell, 1995). Additionally, a number of studies have discovered that adding students with HI has a detrimental effect on their capacity for communication and social interaction as well as their academic outcomes (Stinson & Antia, 1999).

There is evidence to suggest that a variety of complex factors contribute to the academic success and experiences of students with HI (Marschark, Shaver, Nagle, & Newman, 2015). These components include student characteristics like language proficiency and communication styles, as well as characteristics of their families like socioeconomic standing and parent education levels, as well as experiences both within and outside of school, including the school's setting. Furthermore, more qualified deaf or special education teachers must be hired in order to meet the needs of the students



because the roles of teachers of these students are changing quickly, as are classroom environments and student demographics in schools (Knoors & Marschark, 2014; Shaver, Marschark, Newman, Marder, 2013).

Studies have been done on the interaction and communication between students with HI and their hearing peers. According to Jacobs (1977) as cited in (Marschark et al., 2006), students without hearing problems in college benefited significantly more from classroom education than deaf students who relied on sign language interpretation. Students with HI may not comprehend lectures as well as they think they do, according to results from interpreted lectures, and this finding does not appear to be related to any methodological or demographic confounders (Napier & Barker, 2004). These studies, among others, indicate that students with HI encounter academic difficulties beyond their inadequate literacy in English and communication difficulties in the classroom (Marschark et al., 2006). There is little doubt that the preferred method of communication employed by individuals with HI will have an effect on their academic and cognitive development, according to the findings of numerous studies in this area (Marschark et al., 2006).

According to Murphy and Newlon (1987), learners who are HI who did not feel comfortable using speech felt lonely both inside and outside of the classroom and students with HI who did not feel comfortable using sign language in the presence of peers without hearing problems or other individuals with HI, felt so because their sign language may be different. Communication skills are determined not only by a student with HI's ability with a communication mode, language, or sign system, but also by his or her level of comfort with such skills. This study suggests that deaf students may

find it challenging to communicate with hearing students and teachers through a sign language interpreter if they are not comfortable with sign language. In addition, Alasim (2018) said spoken language difficulties are the main barriers to students who are d/HH's engagement and involvement in general education classes.

### ***Prior educational experiences***

Prior educational experiences of students with HI are another example of internal experiences in academic involvement. Not all students with HI go to the same school (Myers & Taylor, 2000). Some attended a residential school for the deaf, while others went to a non-residential or mainstream institution. Students with HI often meet and receive teaching in their preferred communication method at residential and non-residential schools. The mainstreaming programme, on the other hand, focuses on oral communication and provides students with HI with communication accommodations such as a sign language translator and a note taker. It is undeniable that prior educational experience influences academic involvement. Because they are acclimated to mainstream settings, those who attended a mainstream school may find it simpler to adjust to college life. Students who attended a full-time residential school, on the other hand, may not find it easier to adjust since they are more confident in their identities and communication abilities, as well as more at ease with residential living (Marschark et al, 2013)

In addition, two more studies found a link between pre-entry characteristics of learners with HI and academic success (Franklin, 1988; Menchel, 1998). Their findings suggested that good pre-entry characteristics are important for learners with HI to suffer fewer internal hurdles. In a review

246 students who are deaf enrolled in seven mainstream community colleges. Franklin (1988) found that those who persisted had better speech abilities, attended high schools with little support, had some pre-college preparation experience, and made significant decisions during their first year of college.

Menchel (1998) interviewed 33 students who are deaf from 18 institutes of higher learning to learn more about their academic and social experience and every single student had a successful academic experience. Except for a few, they all used speech as their primary form of communication, and 28 of them attended mainstreaming from kindergarten to 12th grade. They were mainstreamed, from educated families, had high school GPAs above the national average, and used oral communication. Goal-oriented, highly driven, devoted, and intellectually and socially well-integrated students were also discovered in the study.

### *Instructional strategies*

Although the number of students with HI in inclusive settings has increased, not all educational contexts are suitable to address their special needs (Berndsen & Luckner, 2012) Teachers should consider the varying requirements of students while establishing their teaching methods, because a classroom may have a variety of learners. When teachers employ instructional strategies that enable them to teach subjects in a variety of methods, they may ensure that all students' educational needs are met, which is crucial (Cross, Salazar, Dopson-Campuzano & Batchelder 2009). Interviews for research on successful students with HI and their teachers indicated that both language support and additional instruction have a big impact on students' outcomes (Ayantoye & Luckner, 2016). In addition, teachers identified varied activities,

information repetition, and visual support as the most significant facilitators in the aforementioned study.

The duration of instruction is important since discussions and training that are shorter or more focused assist students with HI (Reich & Lavay, 2009). The pace of instruction and conversation, as well as frequent changes in topics, can make it challenging for students with hearing impairments to understand what is being said, according to Berndsen and Luckner (2010). They also found that students with hearing impairments find it challenging to follow class discussions when multiple speakers are speaking at once.

Delivering information with visuals is advantageous, according to several studies (Berndsen & Luckner, 2012; Cannon, Fredrick & Easterbrooks, 2010; Reich & Lavay 2009; Schultz et al., 2013). For students with HI, visual supports are necessary since they have a significant impact on them and have the capacity to improve students' understanding of instruction. Examples of these include movies, smart boards, iPads, posters, facial expressions, gestures, and body language (Schultz et al., 2013). After establishing a reading curriculum that included visual support, Trezek, Wang, Wood, Gampp, and Paul (2000) found statistically significant differences between the pre-tests and post-tests of students with HI relevant to the reading curriculum.

In a different study, Angelides and Aravi (2007) found that the social and academic environment affects students' participation and academic success. In order to promote understanding among students with HI, teachers may attempt to train their students in a variety of ways, develop goals based on students' abilities, and clarify lessons by providing text; all of these play a crucial role in student achievement. Due to the complexity of the subject and



the pupils' limited vocabulary, students with HI initially had trouble understanding the content of a history lecture. After seeing the students' difficulties, the teacher added new vocabulary that was easier to understand and more comprehensible. Additionally, the instructor wrote the vocabulary on the overhead projector. As a result of the teacher's efforts, hearing and students who are d/HH demonstrated enhanced understanding of the course material and had greater success in the history class.

### ***Seating arrangement and noise management***

Since they can easily monitor other students and the teacher, participate in both individual and group activities, and follow classroom dialogues, students with HI can benefit from a suitable seating arrangement (Guardino & Antia, 2012; Trussell, 2008). According to Trussell's (2008) study, the classroom's physical setting may encourage students to take an active role in learning. Since they could easily move between desks, teachers in Trussell's study had more influence over their classroom environments. Making it easier for students with HI to see their teachers increased their engagement in classes and activities and decreased their unexpected behaviour. According to a study by Eriks-Brophy et al. (2006), seating and arrangement in the classroom are crucial for learners with HI because they can help some of them see facial expressions and hand movements. However, it aids some students with HI in developing their lip-reading skills (Eriks-Brophy et al., 2006; Schultz et al., 2013).

Additionally, Eriks-Brophy et al. (2006) found that using facilitative techniques in the classroom was essential for teachers and students to get the most out of their education. For instance, in addition to how students are



seated, teachers' speaking rates, whether or not they assign written assignments and give lesson content in written form, and teachers' positions while speaking are important variables that can help students comprehend the information better. The positions in which professors stand while speaking can be especially beneficial for students with HI. According to Schultz et al. (2013), more facilitating positions or stances aid students in processing information more effectively and explicitly.

Similarly, noise control is necessary for students with hearing impairment to effectively comprehend spoken language (Bradlow, Kraus & Hayes, 2003). According to Bradlow et al. (2003), noisy environments were detrimental to both typical and special needs students, but the latter were more severely impacted. When students with HI were exposed to noisy environments, Crandell and Smaldino (2000) discovered that the quality of their perception of speech decreased. The study categorises noises that may affect students with HI into two groups: noises that happen outside of schools and noises that happen inside of classes. Outside of classrooms, one can hear noises from construction, traffic, and playgrounds. Inside noises include things like individual talks, Ventilation systems, and other noises. students with HI were readily distracted when attempting to listen and study in noisy environments, and this was likely to result in a reduction in their academic engagement. Thus, students with HI had more difficulty than students without hearing problems (Nelson & Soli, 2000).

### **Social Interaction of Students with Hearing Impairment**

Social connections improve one's capacity for thought and learning while also improving one's quality of life (Antia et al., 2011). More and more

research points to the necessity of strong social skills for societal success (Caprara, Barbaranelli, Pastorelli, Bandura & Zimbardo, 2000; Malecki & Elliott, 2002), adding employment success (Valdes, Williamson & Wagner, 1990). It has also been demonstrated that lacking social skills has negative outcomes. People who lack social skills frequently face rejection from others (Elksnin & Elksnin, 2006) and are at risk of developing mental health problems that last into adulthood. Bullis, Davis, Bull and Johnson (1997) asserted that social skills problems rather than job incompetence account for 90% of job losses.

In connection to their identities and self-perception, the social experiences of adults with HI were examined (Nikolaraze & Hadjidakou, 2006). The qualitative analysis discovered that the participants' interactions with peers with HI at school, as well as their communication language, were the most important educational experiences for the formation of their identities and self-perception. Additionally, Nikolaraze and Hadjidakou (2007) discovered that the type of educational, social, and intellectual experiences shared by participants, classmates, and teachers had a major impact on how these persons with HI developed their identities and perspectives. A study investigated by Ridsdale and Thompson (2002) indicated that students with HI may be socially excluded and have trouble making friends whereas speech, language and communication skills act as facilitative social interaction.

Lee and Pott (2018) who investigated a study on university students' attitudes towards learners with HI in the USA, showed that university students' perspectives and attitudes about students with HI are significantly influenced by their reasons for enrolling in a programme relating to sign language, Deaf

culture, or sign language major. In other words, those who attend the course as part of their degree programmes tend to have more empathetic perspectives and positive attitudes toward learners with HI. In addition, college students who take sign language courses to fulfil their modern language requirement tend to have a more medical perspective and negative opinions toward learners with HI. Similarly, according to Sari (2007), teachers' views about including students who are d/HH in the classroom may improve as their knowledge levels increase.

Bott and Saunders (2021) examined the connection between hearing loss, social isolation, and loneliness to pinpoint areas that require more investigation and guide clinical interventions. The study found that hearing loss is generally associated with social isolation and loneliness throughout life, regardless of the severity of hearing loss (Bott & Saunders, 2021). Similar findings were made by Patel, Bouldin, Tey, Govil, and Alfonso (2021), who suggested that the absence of a direct link between paediatric hearing loss and social isolation and loneliness may be caused by the absence of a valid assessment tool for identifying these conditions in the general population.

#### ***Perception about self and identity***

The idea of "self and identity perception" is used to describe the reaction to the questions "who am I?" and "who are you?" (Vignoles, 2017). According to Avci (2020), the concept of personal identity is derived from individuality. As a result, the prominence of uniqueness in modern times is an important fact that demonstrates the concept of personal identity (Celik, 2012). On the other hand, Asiliskender (2004) claims that identity is formed via individual experiences, and that it is these traits that separate people who are

d/HH from others. Academic and social influences result in the formation of identity (Chen & Chen, 2014). As a result, personal identity and self-perception are characterised as phenomena reflecting the impact of modernism, postmodernism, globalisation, religion, language, and other elements on individual identity and self-perception (Dalbay & Aci, 2018). Although Glickman, Holcomb, and Melick created the distinct classifications of deafness personal identity and self-perception, the way learners with HI describe themselves as individuals and members of their society is constantly changing (Maxwell-McCaw et al, 2000).

There is a lot of misinformation about people with HI, sign language, and HI styles in the environment that influences individual growth because the majority of persons with HI are born to hearing parents who communicate and educate their children largely in spoken languages (Fobi & Oppong, 2019). The person with HI would adapt to his or her surroundings and recognise the hearing culture. However, as a person with hearing impairment's self-perception develops, particularly after meeting other people with hearing impairment, they may come to feel that they are unable to be a part of both the hearing and deaf communities, leading to a discordant identity (Stewart & Wright, 2015). The majority of students with HI, then, identify with one of the following four stages: hearing identity, negative identity, deaf identity, or bicultural identity (Bayante & Inciuriene, 2012).

According to Bat- Chava (2000), students without hearing problems attended schools with a lower deafness orientation than those with culturally deaf identities. After graduating from deaf school, these students were quickly assimilated into the deaf community. On the other side, fully mainstreamed



students who are deaf were unaware of other students with HI or adults and did not grow up as members of the deaf community. Rose's study from 2001 discovered that educational experiences influenced participants' perceptions of self and identity as a component of their social interaction. Attending a residential school, for example, was a strong indicator of cultural deafness and hearing loss.

### *Linguistic and cultural differences*

An interviewee at Rochester Institute of Technology (RIT) and National Technical Institute of the Deaf (NTID) mentioned in a study by Saur, Layne, Hurley, and Opton (1986) that she found it difficult to find the right words in class and that it was simpler to participate when the conversation centred on concrete topics like real-life experiences rather than abstract information. This is because the student only got sign language instruction, and she had no direct access to the English words and phrases that her hearing classmates and instructor were using. Her case is an example of a linguistic experience. With its own grammar and syntax, sign language is a separate language from English that directly "shows" English words (Nomeland & Nomeland, 2012). Another participant in the Saur et al., (1986) study struggled to comprehend why their friends without hearing problems found an English joke amusing when they did not. This is likely to reflect both linguistic and cultural differences because such jokes may contain particular language and cultural traits to which a group can easily relate (Sutton-Spence & Napoli, 2012). Contrarily, students without hearing problems asserted that they were not aware that students who were deaf could not hear their jokes and conversations (Foster & Brown, 1991). Additionally, students without hearing



problems expressed a desire for the course to give them chances to practice communicating with their classmates who are deaf (Foster & Brown, 1991). Students with HI's efforts to form relationships with their hearing peers were also hampered by cultural and linguistic disparities (Sutton-Spence & Napoli, 2012).

### **Frustrations of Students with Hearing Impairment**

According to Zaidman-Zait and Dota (2017), contact with colleagues without hearing impairment and tutors regularly and elements of the learning and academic environment are all sources of frustration for students with HI. For instance, the acoustics of the classroom, the course topic, and how people without hearing problems perceive and are informed about hearing loss contribute to this frustration. Also, students with HI expressed difficult interactions with peers without hearing problems caused by stigma, hurdles to communication, and peer acceptance as causal factors of frustration. (Zaidman-Zait & Dotan, 2017).

Additionally, a study on peers without hearing problems revealed that students with HI experienced academic pressure in the tertiary setting (Gelhaar et al., 2007). Being in an inclusive oral environment and dealing with classroom learning faced them with daily problems, such as adhering to the lecturer's instructions and explanations, following class conversations, coping with issues linked to bad acoustics in the classroom, etc (Zaidman-Zait & Dotan, 2017). According to Leigh, Maxwell-McCaw, Bat-Chava, and Christiansen (2009), working in a hearing setting that requires auditory-verbal communication that is not always adapted to students with HI's auditory and visual demands results in everyday challenges. Some studies have reported

that hearing students may speak too softly or too quickly during class discussions. Therefore, when people talk short or refuse to repeat themselves, students with HI may find it challenging to understand the conversation (Ahlstrom, Tvingstedt & Preisler, 2005; Antia, Sabers, & Stinson, 2007; Crandell & Smaldino, 2000; Mather & Clark, 2012). They find it frustrating when such incidents occur frequently. Zaidman-Zait and Dota (2017) also found that some lecturers only partially understood the communication requirements of students with HI. This frequently happened in traditional classroom settings where lecturers were ignorant about hearing loss and the accommodations that they require, such as the use of visual cues for instructions, verbatim repetition of other students' words, and the FM system. Hyde et al. (2009) also discovered that several participants were dissatisfied with the support service's shortcomings, citing issues such as note-takers' lack of professionalism and difficulties with sign language interpreters. Therefore, peer note-takers and sign language interpreters ought to receive training given the range of classes taken by students with HI at the university.

### **Support Services Offered to Students with Hearing Impairment**

Students with HI need help in at least one of the following four areas: social and emotional development, learning and memory, behaviour, emotional and social development, and sensory or physical development (Agomoh & Kanu, 2011; Marschark et al., 2013) which borders on inclusive education. Inclusion refers to the education of students with and without impairments in the same classroom. Students with special needs receive the required support in this system in order to boost their learning (Antia & Stinson, 1999). The fundamental objective of inclusive education is to offer

students with special needs, equal educational opportunities so that they can attend general education curriculum in the least restrictive environment feasible (Blecker & Boakes, 2010). The Education for All Handicapped Children Act (EAHCA) of 1975 tried inclusion for students with special needs, but it was only partially effective. There was increased discussion on inclusive education within the first year after the Act's implementation (Lang, 2011). Some opponents even saw the admission of students with HI as a violation. It was thought that these educational settings would not be able to address the needs of these youngsters, who had varying degrees of hearing loss (Antia & Stinson, 1999).

The education of students with special needs has moved from more restrictive to less restrictive as students' educational rights have increased (Luckner & Muir, 2001). The number of students with HI attending regular classrooms has increased recently as a result of the advantages of new born screening, technological support (such as cochlear implants, hearing aids, speakers, and frequency modulation systems [FM]), early intervention services, and increased public awareness (Berndsen & Luckner, 2012).

The educational system in an inclusive setting is designed to fit the individual requirements of students, allowing each learner to progress academically and socially. In order to create a more inclusive educational environment, it is essential to adapt the curriculum to include suitable instructional methodologies, additional academic support, and social isolation prevention (Eriks-Brophy & Wlittingham, 2013). Teaching students with HI in general education classrooms enables them to practice their language skills with hearing classmates and develop a rich vocabulary. Being put in a hearing

environment makes life easier for them since it helps them to communicate more freely with individuals without hearing problems. Additionally, it provides them with more opportunities to participate in their local hearing communities (Berndsen & Luckner, 2012).

Their development is impacted when students with HI do not receive additional academic support, do not have the chance to interact with their peers without hearing problems, or do not reside in an inclusive setting. Furthermore, a lack of chances causes many students to withdraw and perform poorly academically (Bobzien et al., 2013). To maximize the benefits of the inclusive environment for the academic and social development of students with HI, the inclusive environment should be enhanced with opportunities for them to interact with the other students and teachers, such as effective teaching strategies and materials, effective classroom settings, and effective activities (Schultz, Lieberman, Ellis & Hilgenbrinck, 2013).

#### ***Types of specialised supportive services offered to students with HI***

O'Neill, Mowat, Gallagher, and Atkins (2000), looked at the assistance provided to students with HI in higher education and came to the conclusion that different colleges offer varied supportive services. It is tough to generalise the support students receive with the right language because the titles and credentials of the specialists working with students differ among institutions and issue areas. At universities, where duties and titles differ between institutions, a similar tendency can be seen. However, it is challenging to have a general understanding of the help provided in higher education due to terminology differences. Despite this, it is evident that transitioning students with HI from schools and higher education into a new and more complicated



system of support at the university offers a barrier (Saunders 2012). Students must be able to recognize and explain their own support needs if they are to succeed in college.

### *Tutoring*

It has long been recognized, according to Jacob (1977), that students with HI do not learn as much from classroom lectures as their hearing peers. Similarly, Spradbrow and Powers (2000) indicated that students with HI at Australian colleges have reported missing knowledge during lectures. However, one key supportive service provided to address this issue is tutoring.

Cremer (1991) indicated that about six out of every ten students in Germany said that tutoring was crucial to their success in higher education. Tutoring in Germany is a more direct institutional method than a means of supporting the reinforcement of classroom learning, similar to tutoring in England and other European nations. However, tutoring has grown over time in the United States into an extra support service that enables kids with HI pick learning and skill development in addition to their academic experience in the classroom (Lang, 2002)

Lang, Biser, Mousley, Orlando, and Porter (2004) evaluated perceptions of bachelor and sub-baccalaureate students with HI on tutoring in higher education. These groups had different perspectives on tutoring, and the emphasis on tutoring also corresponded to degree level. For baccalaureate students, the focus was mostly on the course subject, whereas for sub-baccalaureate students, tutoring focused more on the development of independent learning strategies, confidence building, planning for class, and other general learning skills.



Similar to this, Lang et al., (2004) discovered considerable discrepancies between students with HI and mainstream university professors' perspectives on the qualifications instructors ought to possess. Perhaps one factor contributing to the disconnection between students and their professors is the lack of training or education the professors have regarding the unique needs of students who are deaf. This has ramifications for how university teachers might better comprehend the intrinsic nature of the necessity for tutoring as an adjunct support service.

Despite the vast number of students with HI who receiving this support service, there has been minimal research on tutoring in higher education for students with HI and the impact of tutoring on academic performance outside of these perception studies. We know very little, in particular, about the best strategies to coach learners with HI to boost their success in the classroom. According to ratings concerning active learning, for instance, Lang et al., (2004) proposed that a study be done to establish whether instructors should lead students to find principles or strategies or model certain behaviours for students.

### ***Sign language interpreting***

The predominant mode of communication for people with HI is sign language. Although they are raised in a hearing society, they are truly functioning bilinguals (Ngobeni & Maimane, 2020). They can lip-read spoken words, which is helpful when there is a communication break-down (Bank, 2015; Grosjean, 2010). According to Marschark, Sapere, Convertino, and Seewagen (2005), even with sign language interpreting, students with HI receive less material in lectures than their hearing classmates. The experiences

of students with HI with sign language interpreting were investigated by Marschark et al. (2005) at the Rochester Institute of Technology (RIT) in the United States. Even with proficient sign language interpreters who were used for the students with HI, they found that the participants with HI did not benefit as much from lectures as their colleagues without hearing problems. Napier and Barker (2004) investigated four university students with HI who participated in a panel discussion in Australia as part of a study on how they felt about sign language interpreting in lectures. Participants said they never benefited from an entire lecture. According to a study by Powell (2013) in New Zealand, lecturers and sign language interpreters need to be sufficiently aware of how to work with students with HI and how to develop strategies to help them learn as much as possible in order to advance their understanding of sign language interpretation. However, Glaser and Van Pletzen (2012) gave evidence that sometimes the interpreter was insufficiently skilled in the discourse of commercial communication in English, which causes inconsistencies in interpretation.

A study conducted at the University of Education, Winneba in Ghana indicated that students with HI asked their hearing counterparts to interpret for them when there were no sign language interpreters accessible in the lecture room (Oppong et al., 2018). In the absence of a sign language interpreter, some individuals with HI, however, did not feel the need to use their peers without hearing problems. Oppong et al. (2018) further revealed that the students were given sign language interpreting services, but it was discovered that these services were not on regular basis because of the inconsistent quality

of the services offered. Thus, it is possible that students with HI would not get the knowledge they needed to keep attending the university.

### *Sign language interpreters' roles in general education classrooms*

According to Cawthon (2001), the role of interpreters in general education classes entails more than only translating between teachers' speech and sign language interpreters. Students with HI can use an interpreter to assist them interact with their hearing counterparts. Additionally, interpreters can support instruction by repeating information, explaining material, and, in some situations, providing a voice for them during class discussions. According to Zawlkw and DeFiore (1986), interpreters can help students with HI communicate better with their teachers and peers without hearing problems while also offering tutoring. The function of interpreters in inclusive classrooms was also documented by Luckner and Muir (2001). The results of semi-structured interviews the authors performed with students with HI, their parents, teachers, and interpreters supported Cawthon's findings regarding the role of interpreters in inclusive classrooms. The study's conclusions show that every participant named interpreters as the most important human resource for the achievement of students with HI in general education classrooms. This research highlighted the importance of collaboration between classroom teachers and interpreters in order to facilitate the inclusion of students with HI. In the context of small group activities, Alasim (2018) demonstrated the importance of the sign language interpreter in facilitating interactions between hearing and students with HI; without a sign language interpreter, the interaction would be challenging.

### *Note taking*

According to Powell, Hyde and Punch (2014), note taking is the practice of jotting down pieces of information in a systematic way. Taking notes is a crucial adjustment in any environment that calls for learning, such as the work place and internships. The ability to take effective notes is one that may be developed through practice and instruction and people with HI rely on it when they are in a classroom setting. The majority of students really consider taking notes to be a very helpful assistance. According to Hastings et al. (1997), a note-taker ensures equal access to information from the lecture room, whereas an interpreter ensures equal access to the classroom. Likewise, having access to tutors and using assistive listening tools in class are two examples of complimentary but different educational resources.

College students with HI who reviewed class notes and performed tests of recall, recognition, concept acquisition, and problem-solving had their learning outcomes investigated by Osguthorpe, Long, and Ellsworth in 1980, as cited in Lang (2002). They observed that while the idea of learning and problem solving were not facilitated by repeated study of the lecture notes, recall and recognition were. They came to the conclusion that the data show the drawbacks of review as a learning process facilitator. However, Elliot, Stinson, McKee, Everhart, and Francis (2001) also looked into how students with HI felt about using printed hard copies of classroom lectures that had real-time captioning. They claimed that while some students did not read the notes as part of their regular study habits, the majority of students found the notes to be very helpful.



### *Real-time captioning*

According to Millett (2018), real time captioning has been acknowledged as a crucial tool for accessibility for those with HI since the early 1980s. Millett added that "on the fly" captioning may now be provided in a variety of communication, professional, and educational contexts thanks to real-time captioning. This technology employs voice recognition to translate speech into print using computer software. According to Stinson, McKee, and Elliot (2000), real-time captioning has a number of advantages. First of all, some systems for real-time captioning leave the screen on long enough for students to go back and fill in any details they might have missed from the teacher or the interpreter (Stinson, McKee & Elliot, 2000). Secondly, a hard copy of the whole lecture transcript might be made available after class if the captions are saved in a computer's memory. Thirdly, the caption produces accurate technical details and specialized language. RIT students with good reading and writing skills who were HI preferred real-time verbatim transcribed text displays to interpreting and/or taking notes, according to Stinson (1988).

### *Assistive listening devices*

For students who have hearing loss, sound-field amplification tools like FM systems and desktop speakers can be effectively used in classrooms to amplify and deepen speakers' (referring to teachers) voices. FM systems transmit teacher microphone signals directly to students' hearing aids. In a study with 13 students with HI, the advantages of FM systems were examined. The findings indicate that FM systems have a positive effect on the speech perception of students with HI who wear hearing aids. Individuals with



hearing impairments demonstrated improved comprehension when FM devices were installed in the classroom, even in a noisy setting (Jacob et al., 2012).

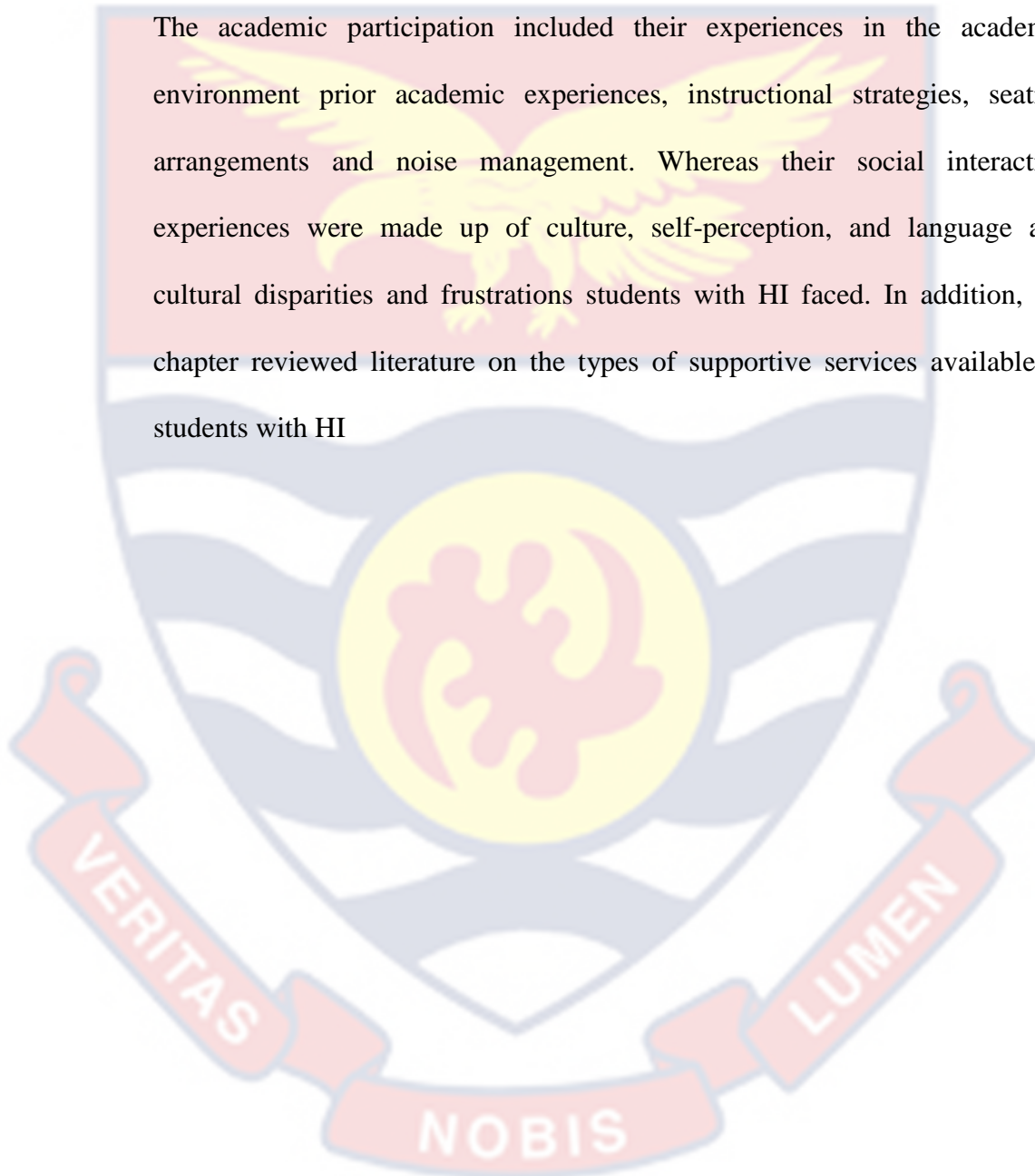
In the past 30 years, hearing aid technology has seen a significant development (Frush Holt, 2019). The spoken language and scholastic achievements of many modern people with HI are higher than those of the previous generation of people with hearing impairment who did not use hearing aids (Lederberg, Schick, & Spencer, 2013). According to Ching et al., McCreery, Bentler & Roush, (2013), the majority of people with HI continue to perform below averagely compared to their classmates without hearing problems who are similar to them in terms of age and socioeconomic background. That means the use of hearing aid among people with HI does not still solve their communication and interaction issues.

Hearing aids are particularly helpful for people with hearing loss caused by damage to the microscopic sensory cells in the inner ear, known as hair cells, according to the National Institute on Deafness and Other Communication Disorders (NIDCD) (2013) because they assist them hear and interpret speech. Sound waves that reach the ear are enhanced by hearing aids. Modern digital hearing aids differentially amplify sound across a wide frequency and input amplitude range, improving audibility, intelligibility, sound quality, satisfaction, and listener comfort (Blamey, Martin, & Saunders, 2010). According to reports, hearing technology is required to ensure that students with HI are included effectively in the classroom (Eriks-Brophy et al., 2006; Luckner & Muir, 2001), but because assistive technology is stigmatised, the equipment is occasionally used inadvertently.

### Summary of Chapter

The experiences of students with HI in terms of academic involvement, social interaction, and support services have been examined in the literature. It reviewed literature from a theoretical, conceptual and empirical point of view.

The academic participation included their experiences in the academic environment prior academic experiences, instructional strategies, seating arrangements and noise management. Whereas their social interaction experiences were made up of culture, self-perception, and language and cultural disparities and frustrations students with HI faced. In addition, the chapter reviewed literature on the types of supportive services available to students with HI



## CHAPTER THREE

### RESEARCH METHODS

#### Introduction

This chapter provides a brief description of the methods used to gather, organise, and analyse data of the study. Areas covered include the methodology of the study which has been explained in detail. The interpretative phenomenology design which serves as the research design for the study has been described. Additionally, this chapter covers the type of instrument used for data collecting, how the population of the study was sampled, and how data collection and analysis were carried out.

#### Research Design

The study used interpretive phenomenology as its research design because the researcher wanted to explore, describe, interpret, and situate how the participants make sense of their experiences. An interpretive phenomenology is concerned with understanding personal lived experiences and, as a result, it investigates participants' relationship to, or involvement in, a certain event or process (Smith, Flower & Larkin, 2009). The interpretive phenomenology's primary function is interpretation, but it also allows a researcher to participate actively in the research process (Pirone, 2016). The researcher can identify and understand what the participant's experiences contain for them by using his experiences as a lens. In interpretive phenomenology, a double hermeneutic method is employed, indicating that both the participants and the researcher are involved in the sense-making process (Smith & Osborn, 2008). The interpretive phenomenology was chosen since the researcher and participants shared similar characteristics

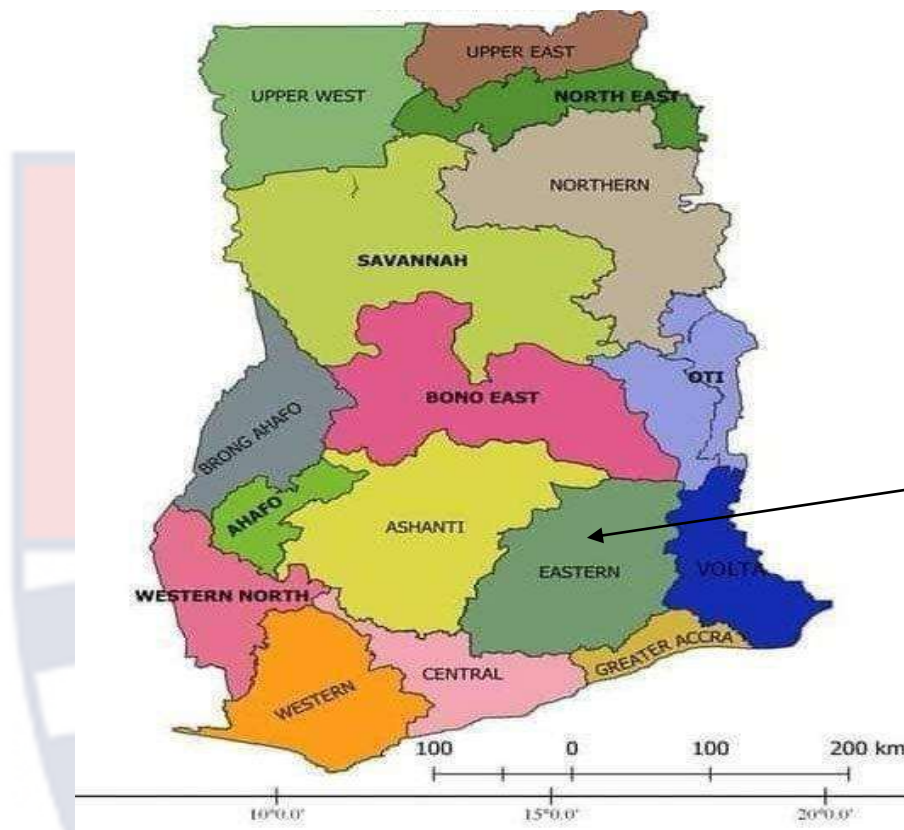
which are the researcher is hard of hearing, has a cultural identification with participants; that is the deaf culture and educational experiences as a person with hearing impairment (Smith et al. 2009). Furthermore, researcher must be fluent in the participants' native language in order for them to feel more comfortable providing accurate information; in this case the researcher is fluent in sign language. Pirone (2016) asserts that by promoting a thorough comprehension of the experiences and importance of the occurrences for d/HH students, the application of interpretative phenomenology helped to achieve the research purpose.

### **Study Area**

As a key study location for the investigation, the Presbyterian College of Education was selected. The study location was selected because it is the only College of Education in Ghana that provides training for students with HI. Similar to that, it was chosen to foster comprehension of student with HI's experiences in the campus community. Presbyterian Institution of Education is a trans teachers' college located in the Akwapim area of Akropong, in the Eastern region of Ghana. In June 1936, it was also the first teacher training institution to begin practising inclusive education (Gbedemah, 2014). According to Gadagbui (2013), The Presbyterian College of Education, Akropong-Akuapem has been accepting two main groups of special needs students; the visually impaired and students with HI, even before Ghana's official pilot programme on inclusive education began. The College has several programmes offered to the public including people with HI. According to Gaustausson (2004), including students with HI in regular classroom



settings improves their chances of acquiring the same academic and social skills as their counterparts without hearing problems.



*Figure 2:* Ghana map that shows where the study site is located

Source: Map of Ghana, 2021

### Population

The target population was all students with HI at the Presbyterian College of Education in Ghana, Eastern Region. Because the study concentrated on students who are students with HI in the Presbyterian College of Education, this population was chosen for the study (Adu, 2015). The total population for the study was 20 students with HI in level 300 and 400. Due to its practice of including persons with HI, the Presbyterian College of Education is the sole Training College in Ghana. All the participants under this study graduated from the same Senior High Technical School for the Deaf at Akropong-Akwapim in the Eastern Region of Ghana.



According to Gall and Borg's (2007) definition of the term "population" in a phenomenological study, this term refers to all individuals who participated in a real or fictitious group of activities, events, or things and who had college-related social and academic experiences.

### **Sampling and Sample Procedure**

Twelve students with HI from the Presbyterian College of Education were sampled for the study, with seven females and five males. Seven were hard of hearing and five were deaf. Creswell (2012) asserts that while a single study site may be useful, the researcher should prioritise finding people who have all observed the same phenomenon and can describe it. Participants from the Presbyterian College of Education who are in levels 200 and 300 were used in the study. They were used in the study because they were the only groups available when the study commenced and had more than a year's academic experience. Students at Level 100 were excluded from the study since they had only attended the College for one academic year or less and had little experience on campus. Level 400 were initially part of the study; however, they could not partake in the study because they had left campus for their one-year mandatory off campus teaching internship.

The study employed the purposive sampling method. Using this technique, the researcher can pick volunteers with similar traits and experiences to a particular occurrence (Mapp, 2008). They can "purposefully inform a knowledge of the research challenge and central phenomenon in the investigation" (Creswell, 2012, p.156). In this study, students with HI who experienced a phenomenon in which they used support services for social and academic interactions in a college setting were sampled (Pirone, 2016). Also,

the researcher verified from the participants and got two main categories, those who identified as deaf, and they used Ghanaian sign language as a primary language and those who identified as Hard of Hearing, and they used both Ghanaian sign and spoken language. Sampling these students with HI with these similar characteristics resulted in a comprehensive description of their lived experiences as well as valuable knowledge of the meanings the phenomenon carried for them. Furthermore, according to Fraenkel, Wallen, and Avoke (2005, 2009) purposive sampling is a technique where researchers utilise their judgment to choose a sample they think would provide the data they need based on previous knowledge.

#### **Data Collection Instrument**

According to Adosi (2020), a data collection instrument is an instrument such as a questionnaire, tests, interview protocol, and checklist, that is used to collect data so that analysis can result in the creation of believable responses to research questions or objectives. Data for the study were gathered using semi-structured interview guide (Appendix D). Smith et al. (2009) asserted that an interview guide provides comprehensive data in interpretative phenomenology because it allows participants to share rich, detailed thoughts, and feelings about their lived experiences. Consistent with this, Usher and Jackson (2020) opined that the interview guide allows participants “to tell their stories, speak freely and reflectively develop their idea and express their concern at some length” (p. 57). A semi-structured interview guide was used in the current study to further our understanding of the experiences of students with HI at the College of Education. The use of

this allowed the participants the chance to communicate their opinions and thoughts about the research problem and they did so using GhSI.

Furthermore, the use of a semi-structured interview guide was justified since it gave interviewers more freedom to obtain crucial information about the participants' actual experiences (Smith & Osborn, 2008). As a result of the participants' responses, the researcher was able to modify the first question using the semi-structured interview guide; it made it possible to go deeper into relevant issues that came up during the interview session (Smith et al., 2009). The semi-structured interview guide comprised four sections (that is Section A to Section D). Section A contained three questions to extract data on the participants' demographics. Section B elicited information on perceptions on academic experiences and it had nine questions. Section C elicited information on social experiences with six questions while the last section elicited information on supportive services with six question.

### **Trustworthiness of Qualitative Study**

Trustworthiness refers to “the degree to which the reader can assess whether the researchers have been honest in how the research has been carried out and reasonable in the conclusions they make” (Pratt, Sonenshein, & Feldman, 2022, p.2). Several authorities have recommended various criteria to ensure the trustworthiness in qualitative research (Creswell, 2015; Cope; 2014; Kyngas, Kaariainen, & Elo, 2020). The researcher decided to use the standards Kyngas, Kaariainen, and Elo suggested (2020). The criteria are authenticity, transferability, dependability, and confirmability.

**Authenticity:** According to Connelly (2016), authenticity refers the degree to which the researcher has provided a fair, faithful, honest, and balanced

portrayal of social life from the perspective of someone who lives it every day, displaying a diversity of realities. To ensure authenticity in this study, the researcher reported the findings with enough excerpts from the interviewees to support the findings and interpretations.

**Transferability:** To ensure transferability, a thorough account of the interviewee's experiences should be given so that readers can assess how effectively the results can be applied to other contexts (Nowell, Norris, White, & Moules, 2017). The researcher accurately collected, identified, documented, and presented the data in a way that reflected the information provided by the study participants in order to achieve transferability. Additionally, sufficient amounts of participant verbatim comments were included to make the report easier to understand.

**Dependability:** Cope (2014) described dependability as a consistency of findings over a period of time. Cope further posited that expert review is one of the ways to ensure dependability. In order to ensure dependability, the researcher gave a subject-matter expert (that is supervisor) access to the study's findings and conclusions so that they could review the various possible interpretations. The purpose of this exercise was to enable future researchers to follow the trail of the study and examine the similarities or differences in findings. The expert made an assessment of the findings and conclusions and assisted the researcher to fine tune them resulting in the final work in the study.

**Confirmability:** Confirmability is the assurance that the findings, inferences, and recommendations are supported by the data gathered and that the actual data and the researcher's interpretation are consistent and coherent (Burchett,



Mayhew, Lavis, & Doborw, 2013). With this, I used member checking to ensure confirmability. The transcribed data was shared with the participants for them to check whether the transcribed data reflect the information they gave during the interviews. The researcher then used sign language to communicate with the participants each to verify the transcription. Corrections were then made per the request of some participants

### **Pilot Testing**

Prior to beginning the data collection for the current study, the data collection tool underwent pilot testing. Pilot testing was conducted to collect vital information on the instrument (Kallio, Pietila, Johnson & Kangasniemi, 2016). As a result, the researcher used video conferencing to test the instrument on two students with HI who were in their final year at the Presbyterian College of Education. The test determined that the interview could last for about 35 minutes. Also, it helped to reconstruct some questions in the instrument. For example, under section B, I had to change the positions of two questions from:

#### 3. Comment on the sign language interpreting services at lectures

*Probe:* Do you benefit academically from the sign language interpreting services rendered to you?

To:

3. Do you benefit academically from the sign language interpreting services rendered to you? Explain your answer.

*Probe:* Comment on the sign language interpreting services at lectures.



The researcher also received a general overview of the study participants' potential responses to various questions. With their potential responses in mind, this helped me know how to phrase the queries.

### **Data Collection Procedures**

I firstly obtained ethical clearance for the research study from the Ethical Review Board (ERB), University of Cape Coast (see Appendix B) then I obtained the introductory letter from the head of my department; Education and Psychology, University of Cape Coast (see Appendix A), I sought permission from the heads of the departments whose students would be participating in the study (see Appendix G). The introductory letter was given to the Presbyterian College of Education's authorities, and approval was given for the interviews to be conducted at the appropriate time and date. After receiving approval, I went to the various departments of the College to interview the study participants. The interview was carried out at the participants' choice of location to avoid disturbance from fellow students. Again, I assured the participants that privacy and confidentiality would be maintained. Additionally, participants received detailed explanations in their language regarding their right to take part in, decline, or withdraw from the study. Following the participants' consent, those who wished to sign and those who preferred to write were given the opportunity to do so. The researcher was guided by Smith et al. (2009) idea for a semi-structured interview. These are:

- Develop a rapport with the audience.
- The participants must feel at ease with the researcher, understand what he or she is looking for, and have faith in him or her.

- Allow time for participants to offer as complete a response as possible, and prompt them if they appear unsure or restricted.

According to Smith and Osborn (2008), it is important to schedule the interview process in a flexible manner that incorporates ideas about how best to phrase the research questions. Data collection was conducted in January and March, 2022 after the introductory and clearance letter was issued and accepted. I visited the College of Education premises to establish rapport and familiarity with the participants at the initial phase of the data collection. I explained the research goals and objectives to the participants and asked for their consent. A colleague with HI assisted and organised the interview, three separate interviews were conducted. On the first day, four participants were interviewed. On the second day, another four participants were interviewed. On the last day, four more participants were interviewed. In all, 12 participants were interviewed. The duration of each interview was between 30 and 40 minutes. The participants gave their consent for the interviews to be captured on video.

### **Ethical Considerations**

“In any form of qualitative research that is conducted in human subjects’ protocol, ethical concerns related to the participants’ safety are of the utmost importance” (Adu, 2015, p. 47). The Ethical Review Board (ERB) at the University of Cape Coast granted me permission to conduct the study on the basis of ethics. The study with reference number CES-ERB/UCC-Edu/v5/21-64 been given approval to begin (see Appendix B). Along with the introduction letter, I also requested the Principal of the Presbyterian College of Education's permission to gather data on the participants' academic and social

backgrounds (see Appendix G). I also described the purpose of the informed consent form to those who volunteered to take part in the study. Participants were given the option to leave the study at any time and were advised that their participation was completely voluntary. I took adequate steps to ensure that their confidentiality and anonymity were treated with the utmost care by not asking them to provide data that revealed their personal identification. In order to ensure that participants' involvement was voluntary, permission was additionally requested from them using a consent form (see Appendix C). Anonymity and pseudonyms were observed. Pseudonyms such as 'Participants 1, Participants 2, etc.' were used during the initial analysis rather than the participants' actual names. Data protection was strictly observed. All the transcriptions, as well as the video interview recordings were saved with a password on my computer. The video interview recordings would be deleted once the study is completed (Ison, 2013).

### **Data Processing and Analysis**

Thematic analysis by Braun, Clarke, Hayfield, and Terry (2019) was used for the data analysis of the study because it helped to organise and describe the set of data, and understand students with HI's everyday experiences of reality in great detail (McLeod, 2001). "Thematic analysis is "the process of detecting, analysing, and reporting patterns within the data" (Braun & Clarke, 2006, p. 6). The six phases used to analyse the data in the study are listed and described as follows (Braun, Clarke, Hayfield, & Terry, 2019):

**Phase 1: Familiarisation:** I repeatedly watched the video recordings to the point where I was comfortable with the depth and breadth of the data acquired.

For simple identification, each participant was given a numeric designation, such as 'Participants 1 to Participants 12.' in the order in which they were interviewed. Thematic analysis was conducted by transcribing the video recording interview into written form (Braun & Clarke, 2006). To ensure the accuracy of transcription, I employed a colleague with HI to assist by reading the transcribed data.

**Phase 2: Generating Codes:** According to Creswell (2015), "Coding is the process of disassembling qualitative text data to determine what it produces before reassembling the data in a meaningful fashion" (p. 156). Simply, coding refers to phrases, word, symbols, or characters that are used to represent the central idea of a set of data acquired. The initial codes were generated through the phrases or the stories participants shared during the interview. The interview transcript was used to build an inductively generated codes frame that includes codes and subcodes. For example, 'sign language' was identified as a medium of communication in the lecture room, when participants were asked 'What medium do lecturers use to communicate with you?'

**Phase 3: Constructing Themes:** The construction of themes begins after all of the raw data has been processed and compiled, resulting in a huge list of various codes found in the data set (Braun & Clarke, 2006). According to Braun and Clarke, this phase refocuses the study on themes rather than codes, which entails grouping all the pertinent coded extracts into identified themes and sorting the various codes into the prospective themes. I constructed the themes based on the codes that were produced from the raw data. For example, the identification of sign language interpretation as the primary form



of communication for students with HI was made possible because of sign language services. This theme appears across the data from all the 12 participants

**Phase 4: Revising Themes:** In this phase, the themes are examined and refined at two different levels: the level of the coded data extract and the level of the complete data collection. This implies that I looked at every extract that was gathered for each theme and assessed whether a logical pattern seemed to emerge by making a thematic map (Braun & Clarke, 2006). I created a theme and subtheme to see if the theme was problematic or appropriate for the data analysis. Themes that had different central ideas were separated while themes with similar centre ideas were merged. Some of the responses given by the respondents were the same idea or concept and some responses also represented different ideas or concepts. The responses that presented the same idea were merged and those that had different meanings or concepts were separated. For example, use of pen and paper type, sign language interpreting services were merged were themed together as the medium of communication at lectures.

**Phase 5: Defining Themes:** According to Braun and Clark (2006), each topic must conduct and publish a complete analysis by determining what each theme says in order to fit into the total data. I made sure the themes were connected to the research questions to prevent excessive theme overlap. I made certain that all the themes and subthemes offer the reader a sense of the overall topic. I used concise names for the themes to reflect the exact information the participants gave during the interviews. The final themes and sub-themes are as follows:

**Table 1: List of Main Themes and Sub-Theme**

MAIN THEMES	SUB-THEMES
Access to information	Sign language interpreter. Inadequate information due to sign language issues.
Communication at lectures	Sign language. Writing.
Sign language interpreting service at lectures	Poor sign language interpreting services. Few professional interpreters.
View on academics in relation to hearing colleagues	Positive academic performance. Negative academic performance.
Experiences with the seating arrangement in the lecture hall	Special seating arrangement.
Inclusion in the teaching and learning process	Inclusion through sign language interpreter.
Academic interaction with colleagues without hearing problems	Positive interaction. Negative interaction.
Participation in group discussion or projects	Involved in group activities. Unfavourable experiences with group activities. Favourable experiences with group activities.
Effect of hearing loss on academic participation	Unfavourable experiences. Unaffected academics.
The major challenges faced during academic participation	Unproductive courses. Lack of professional sign language interpreters. Lack of resources. Receiving information late. Lack of attention.

**Table 1 continued**

<b>Main Themes</b>	<b>Sub-Themes</b>
Social participation experience	Participation in social activities. Coping Strategies. Feelings during social participation.
Social interaction between students with HI and students without hearing problems	Ways of interaction. Participation in field trips or excursions.
Attendance and participation at students' gathering	Reactions towards social gatherings. Attitude of students with HI toward students socially. Involvement in associations.
Major challenges faced in social interaction	Ignorance. Sign language interpreters.
Support services	Sign language interpreting services. Resource Centre.
Challenges in accessing support service	Limited access to sign language interpreters and resources.
Participation in the teaching and learning process through support services	Services. Sign language interpretation services. Effectiveness of support services. Preferable method of sign language interpretation. Additional supportive services.

**Phase 6: Producing the Report:** In order to persuade the reader of the analysis, the researcher's task while creating a thematic analysis final report, according to Braun and Clarke (2006), is to interpret the narrative from the

data. In a similar vein, the data must be used to develop a narrative that conveys the story the data tells within and between themes in a way that is obvious, consistent, logical, non-repetitive, and entertaining. I produced the final report after going over and improving the themes that contributed significantly to the research questions. I ensured that the final report was in consonance with the participants' views and perceptions. I solely relied on the participants' responses in producing the report.

### **Chapter Summary**

This chapter provided a summary of the methods utilised to gather, organise, and analyse the study's data. The interpretative phenomenology research method was employed for this investigation. This chapter also discussed population, sampling and sample procedure, data collection instrument, trustworthiness of the study and data collection procedure. Lastly, it discussed the processing of the data, coding, themes generating and analysing. The outcome and analysis of the findings would be covered in the following chapter.



## CHAPTER FOUR

### RESULTS AND DISCUSSION

#### Introduction

The purpose of this study was to investigate how students with HI manage their social interactions, their opinions of their academic engagement, and the supportive services offered to students with HI at the Presbyterian College of Education. This chapter is divided into three main parts. Section A presents the demographic information about the participants, whereas Section B presents the analysis. The section C focuses on the discussion of the findings. Responses of participants are presented verbatim with names such as Participant 1 and Participant 2. Analysis was done under each research question.

#### Section A

##### Demographic Information of Participants

The participants' demographic information is covered in this section. Participants in this study were 12 in all. They comprised seven females and five males. Seven of them were deaf while five of them were hard of hearing. The college offered programmes in both primary and Junior High School (JHS) categories; all participants in this study were students offering education programmes in the JHS category. They were the ones readily available for the study. They were from different majors which are Home Economics, Religious and Moral Education, Visual Art and Technical as indicated in Table 3. There are more participants in the Home Economics class because it is a course that is more involving and mostly preferred by the females.

**Table 2: Demographic information of participants**

Variable	Number of students
Gender	
Male	5
Female	7
Course	
Home Economics	5
Religious and Moral	3
Education	
Visual Art	3
Technical	1
Total	12

Source: Field data (2021/2022)

## Section B

### Analysis of Interview Data

This section provides an analysis of the interviews that were done. They are categorised under the three research questions that frame the investigation.

#### **Research question one: What are the Experiences of Students with HI about their Academic Participation in the College of Education in Ghana?**

The goal of this study was to find out how students with HI perceive their academic engagement at the Presbyterian College of Education. Information about the experiences and perception of students with HI while participating in their academics at the College of Education was gathered in response to the first research question. The set of interview questions sought to elicit information on how students with HI access and obtain information

during lectures, the medium of communication with lecturers and other students, their views on the sign language interpreting services, the perception of students with HI on seating arrangement, effects of hearing loss on academic participation and the major challenges faced in academic participation in the colleges. Under this research question there are themes and sub themes.

### **Theme 1: Access to Information**

This theme provided information about how students with HI access information at lectures in the Presbyterian College of Education in Ghana.

Two sub-themes emerged from this theme. They are as follows:

- a. Sign language interpreter
- b. Inadequate information due to sign language interpreter issues

#### ***Sign language interpreter***

Participants indicated that they mainly gained information through sign language interpreters. Most participants stated that lecturers made sure that sign language interpreters were present at the lectures to help students with HI understand the message being conveyed at lectures. For example, **participant 2** stated that:

*When lecturers enter the classroom, they are already aware of students with HI in the class. So, if the lecturer is giving information to the class, they always make sure a sign language interpreter is available.*

In the absence of a sign interpreter, students who understand sign language assist students with HI in accessing information. **Participant 10** stated that:

*I get information through sign language interpreters and sometimes also from the class rep who can sign for us.*

***Inadequate information due to sign language interpreter issues***

Some of the participants indicated that they are often unable to get all the information at lectures as some of the sign language interpreters do attend some of the lectures. In support of this, **participant 1** said that:

*I don't get all the information I need because sign language interpreters miss lectures frequently*

Some of the participants were also of the view that the standard of the translation was insufficient for them to comprehend what the lecturers were conveying. To buttress this **participant 3** said:

*I don't get all the information I need because of unskilful sign language interpreting.*

This shows that the students were dissatisfied with the sign language service they were receiving.

In comparison to what the lecturers are delivering, some of the participants commented that the sign language interpreters' interpretations are too brief. As a result, not all the information was obtained. In support of this

**Participant 2** said:

*I don't get all the information I need because the sign language interpreter gives us a brief interpretation*



It is clear from the participants' verbatim responses above that it is challenging for students with HI to acquire the information they need due to the fact that there is no standard in the sign language interpreting procedures. This is further evident in the statement made by **participant 5**

*... Sometimes the lecturer would be giving more instruction to the class while our sign language interpreter would wait for the lecturer to finish some paragraphs before interpreting for me but the sign language interpreter would interpret in brief so I don't get all the information I need.*

### **Theme 2: Communication at Lectures**

The aim of this theme reveals the medium of communication between the lecturers, students with HI and students without hearing problems. In this regard, the information collected from the students revealed two sub-themes:

1. Sign Language
2. Writing

#### ***Sign language***

Sign language is the most common medium of communication between students with HI and students without hearing problems as well. Sign language takes a high level of proficiency in two or more languages, a strong ability to focus on what is being said, a comprehensive understanding of the world, and professional, ethical conduct to interpret using sign language. The participants revealed that the lectures in the Presbyterian College of Education are given in spoken language for students without hearing problems and sign language interpreters communicate it to students with HI using sign language.

The majority of participants reported that sign language interpreters were frequently used by lecturers to communicate with students with HI. For example, **Participant 1** stated that:

*They usually use a microphone to speak to the class while students who are deaf/hard of hearing focus on sign language interpreters to get all the lecturer's communication.*

On the other side, students with HI communicated with lecturers and hearing classmates who could sign via sign language. These lecturers used to be sign language interpreters and they signed to them when they could. This was affirmed by **Participant 11**;

*Some of the lecturers who know how to communicate with me in sign language sign to me and other lecturers who don't know sign language always speak to the interpreter to interpret to me.*

### **Writing**

Students with HI communicate with lecturers and students without hearing problems by writing when there are no sign language interpreters since some of these lecturers do not know how to sign. They stated the following: **Participant 2** had this to say:

*Some of the lecturers communicate to me using pen and paper if the sign language interpreter is not around.*

### Theme 3: Sign language Interpreting Services at Lectures

Participants were asked to evaluate how well the lectures' sign language interpreting service provide to them during lectures. This aimed at evaluating the services of sign language interpreting. Two sub-themes emerged from this inquiry.

- a. Poor sign language interpreting services
- b. Few professional interpreters

#### *Poor sign language interpreting services*

According to the participants, the sign language interpreters provided brief interpretations. For instance, **participant 3**:

*I don't benefit academically from sign language interpreters because they interpret in brief instead of all the information. And some of them would wait for the lecturer to finish some paragraph before he/she interprets.*

According to several of the participants, sign language translation services are no longer effective. They stated that sign language interpreting services were satisfactory and efficient when they were in the first year on campus. However, the services in the subsequent years were unsatisfactory. As a result, they did not benefit academically and that the sign language interpreting services contributed little to their academic success. For example, **participant 11** said that;

*During level 100, there was a sign language interpreter who was very professional and qualified in interpreting but when I moved to*

*level 200 the interpreter who came made things hard for me and I think, that interpreter is unfit to interpret for me. Sometimes I don't get all the information as my hearing mates*

In addition to the decline in interpretation in the subsequent levels, **participant 9** said that some interpreters signed word by word;

*During my first year, I did not have any issues with sign language interpreters because they are all very experienced interpreters but when I moved to level 200, they were some new sign language interpreters and they always sign word by word which I find difficult to understand...*

The interpreters who were considered to be professional per the standards of the participants, were very few. **Participant 8** said,

*Yes, we have sign language interpreters here but the professional ones are not enough*

It is evident from the above quotations that sign language interpreting service on campus is not satisfying the needs of the students. As a result, students with HI find it challenging to completely understand the lectures.

#### **Theme 4: View on Academics in Relation to Students without Hearing Problems**

This enquiry sought to gather information on how students with HI feel when it comes to academic achievement in comparison to students without hearing problems. Two sub-themes were revealed. They are:



- a. Positive academic performance
- b. Negative academic performance

### *Positive academic performance*

The majority of the interviewed participants believed their academic achievement and that of their hearing colleague were similar, with only a few students with HI indicating otherwise. Participants disclosed that students with HI academic performance was comparable to their hearing counterparts.

**Participant 12** who is hard of hearing made the following statement in relation to the issue under discussion:

*I view myself as equal to them because I can talk the same as them so there is nothing different between me and students without hearing problems when it comes to academics.*

**Participant 9** also attested to the above statement regarding academics:

*We are all equally doing our best in academics because as a hard of students without hearing problems, I passed as well as students without hearing problems passed.*

### *Negative academic response*

However, some of the interviewed participants were of opposing views. They stated that due to the mode of communication in the lecture theatre, students without hearing problems tend to get more information than students with HI. As a result, they said that students without hearing problems tend to perform better than them. **Participant 10** was of the view that;

*Students without hearing problems are far ahead of me in terms of classroom communication like students without hearing problems get information before me so I can say students without hearing problems do better academically than us.*

**Participant 2** also said that;

*I do not benefit academically from sign language interpreters because sign language interpreters are not professional.*

Some of the participants believed that the communication method made students without hearing problems more successful academically. The sign language interpreters interpret the lecturers' instructions in brief. As a result, some essential contents of the instructions are lost or not conveyed properly.

**Participant 8** stated that;

*Students without hearing problems benefit more than me because of the kind of sign language interpretation used ... and sometimes the lecturer would give the class more instruction but the sign language interpreter interprets in brief.*

#### **Theme 5: Seating Arrangement in the Lecture Hall**

The seating arrangement in the lecture theatre is very important for the students with HI since they only depend on visual presentation (sign language). The aim of this question was to inquire whether there was any

special sitting arrangement made for students with HI. One sub-theme was revealed which is:

- a. Special seating arrangement

#### ***Special seating arrangement***

The students with HI had been assigned special seating arrangements. These were permanent front seats and they were satisfied with the arrangement. This aim of this arrangement was to enable students with HI to see what the sign language interpreter is communicating to them. Through the interpreter, students with HI are able to comprehend the points made by the lecturer. **Participant 2** expressed that;

*I always sit at the front of the classroom because of the sign language interpreter...lecturers also make sure all students with HI are present and seated.*

**Participant 4** also affirmed that he and his 'deaf mates' are always sitting in front of the class so that they can watch the sign language interpreter.

#### **Theme 6: Involvement in the Teaching and Learning Process**

When asked if they felt involved in the teaching and learning process, the participants responded in the affirmative. Based on their responses one sub-theme emerged. This is:

- a. Inclusion through sign language interpreter

#### ***Inclusion through sign language interpreter***

Participants acknowledged that they only felt a sense of inclusion in the teaching and learning process when a sign language interpreter was present. They learned less in the absence of the sign language interpreter,

which leaves them feeling less fully engaged in the teaching and learning process. For instance, **Participant 2** indicated that:

*I feel included in the process of teaching and learning when there is a sign language interpreter available for me but without a sign language interpreter, I would not feel included.*

Effective communication between the lecturer and students is paramount. Ability of the students with HI to better understand the concept being delivered in the lecture theatre depends on the presence and professionalism of the sign language interpreter. The presence of the sign language interpreter helps students with hearing impairment feel at least somewhat included in the teaching and learning process, even when the interpretation may not be 100%. **Participant 5** stated that:

*Yes, I feel included because of the sign language interpreter and the lecturer is also aware of the students who are deaf present in the lecture hall. Only I don't feel included when there is no sign language interpreter available.*

This is also affirmed by **Participant 11**:

*At lectures, I can say my inclusion can be estimated as 60% because of the sign language interpreters.*



### **Theme 7: Academic Interaction with Students without Hearing Problems**

This theme reveals what the students with HI think about their academic interaction with their students without hearing problems when it comes to academic activities. Two sub-themes were derived and they are:

- a. Positive interaction
- b. Negative interaction

#### ***Positive interaction***

Some of the study participants had positive interactions with students without hearing problems, according to the replies they provided. In the words of **Participant 4**:

*I feel comfortable interacting with some of my other colleagues because if there is something I could not hear they interpret for me. That makes it easy to interact with students without hearing problems*

#### ***Negative interaction***

Although some students with HI have positive interaction with their students without hearing problems, there were others who were not of the same opinion. For example, **Participant 2** said that:

*I don't feel like interacting with students without hearing problems in my classroom because not all of them understand our culture and disability status.*

### **Theme 8: Participation in Group Discussion or Projects**

This theme shows that students with HI participate in group activities together with their students without hearing problems. This theme had three sub-themes; they are:

- a. Involved in group activities
- b. Unfavourable experiences with group activities
- c. Favourable experiences with group activities

#### ***Involved in group activities***

The majority of study participants acknowledged that they were a part of study groups. These study groups were mostly for discussing solutions to assigned problems. Affirming this, the verbatim responses of two of the participants are as follows:

*Yes, I have been in a group work with students without hearing problems before...Participant 5*

*I have been in group discussion before...Participant 8*

#### ***Unfavourable experiences with group activities***

Despite the involvement of students with HI in group activities, Communication with students without hearing problems was difficult, according to several participants. Using pen and paper or signing with the few students who understood sign language were the only means of communication. Hence, group interaction between students without hearing problems and students with HI was usually an arduous task. They also received negative reactions from them.

According to **Participant 5**:

*... Whenever I have group work with students without hearing problems, I am side-lined because students without hearing problems don't know how to communicate with me...*

The participants stated that because communication barrier is the main barrier in their academic interaction with students without hearing problems, they were often not taken seriously when they expressed their opinions.

**Participant 5** further said that:

*I have been in group discussion before but you see, students without hearing problems would not take it seriously if I make any contribution to the work and also because they used spoken language to do the discussion, I sit quietly and do nothing...*

#### ***Favourable experiences with group activities***

Despite the challenges faced by the majority of students with HI in group work/discussions, a few of them said that they were sometimes fortunate to meet group members without hearing problems who assisted them in the discussions and made sure they received any relevant information. For instance, **Participant 4** said

*... when they are doing the discussion, students without hearing problems will ask me if I have any ideas to contribute... after the work, they will send me the original work for me to read and understand*

#### **Theme 9: Effect of Hearing Loss on Academic Participation**

This theme demonstrates how hearing loss affects participants' ability to participate in the classroom. Two sub-themes emerged from this theme.

They are:

- a. Unfavourable experiences

## b. Unaffected academics

*Unfavourable experiences*

The negative experiences reported by the participants are; receiving information late, difficulty comprehending lessons, less focus on students with HI and inability to partake in certain courses.

The students complained that they received information pertaining to their academics late. **Participant 4** stated that;

*Yes, having hearing impairment affects my academic participation because I always get information late and students without hearing problems get information before me.*

Without effective sign language interpreting services, communication between students and lecturers is unproductive, and students with HI comprehend little during lectures, which affects their learning process.

**Participant 5** said:

*My hearing loss affects my academic participation. Yes, it has affected me because I am struggling to cope with my academic participation without a sign language interpreter.*

Also, some participants were of the view that students without hearing problems were given greater attention compared to them.

**Participant 7** had this to say in relation to the issue:



*Most of the lecturers focus on students without hearing problems more than me ... it has been affecting my academic participation.*

Furthermore, some participants divulged information on how they could not partake in certain courses being offered due to their condition. In this case, **Participant 2** said...I want to study Ghanaian language but unfortunately students who are deaf are not eligible...

#### ***Unaffected academics***

On the other hand, a few of the participants were not affected too much by their hearing condition. For example, **participant 10** said:

*It doesn't affect my academic participation because I have been learning alongside hearing people during my early childhood so things are the same here in this college.*

#### **Theme 10: Major Challenges Faced during Academic Participation**

Students with HI experience a variety of difficulties in their academic life. This theme revealed the types of challenges students with HI encountered in the College of Education. This theme elicited five sub-themes. They are:

- a. Unproductive courses
- b. Lack of professional sign language interpreters
- c. Lack of resources
- d. Receiving information late
- e. Lack of attention

### *Unproductive courses*

Students with HI have difficulty in some courses. Meanwhile students are made to offer some of these courses that offer no benefits to them. An example of such courses is Music. **Participants10** said that, “There are some courses that don't benefit students who are deaf like music.”

### *Lack of professional sign language interpreter*

The absence of qualified sign language interpreters was mentioned by the participants as another difficulty they faced. They explained that the unprofessional behaviour of these interpreters made them face difficulty in understanding lectures. **Participant 4** emphatically said that, “This college does not have enough professional sign language interpreters”.

**Participants 5** added that, “...I'm struggling to cope with my academic participation without a sign language interpreter”.

### *Lack of resources*

Additionally, the participants indicated that students with HI require the use of certain resources to aid teaching and learning. However, these resources were lacking. In the words of **participants 5**, “Resources to assist deaf/ hard of hearing in teaching are lacking”.

### *Receiving information late*

Another major challenge the participants said they faced was in the area of information. They bemoaned the fact that they frequently did not get information quickly. Therefore, they lagged behind their students without hearing problems a lot. **Participant 4** emphatically said, “... I always get information late...”

### *Lack of attention*

Furthermore, the participants spoke about not receiving enough attention from their lecturers. They said lecturers paid more attention to their students without hearing problems and often ignored their needs for special attention which would facilitate smooth learning. An example is given by **participant 7** who said, “Most of the lecturers focus on students without hearing problems more than me...”

Per the above challenges outlined by participants in this study, learners who are students with HI face challenges that make it difficult for them to easily enjoy their academic experience.

### **Research question two: How do students with HI Manage their Social Interaction in the Colleges of Education in Ghana?**

This section entails analysis of the response on the social life of students with HI in the College of Education in Ghana. Four main themes emerged under this research question.

#### **Theme 1: Social Participation Experience**

Social activities are characterised as human leisure activities. Additionally, it is described as a behaviour deemed acceptable in social settings. Social interaction has long been acknowledged as being crucial to good ageing. These activities are meant to encourage social interaction and unite students, such as sports, morning devotion and games and many others. Under this theme three sub-themes emerged:

- a. Participation in social activities
- b. Coping strategies
- c. Feelings during social participation

### *Participation in social activities*

Participants in this study reported engaging in social activities like sports, morning devotions, and entertainment. According to **participant 5**, they “...have morning devotion here...”. **Participant 4** also said they, “...have social activities like sports...”

### *Coping strategies*

In the absence of a sign language translator, the participants found it challenging to participate in the activities due to communication obstacles. They said that without someone to interpret for them, they coped by using pen and paper. For instance, **Participant 1** said that, “...Whenever I see students without hearing problems gathering in great numbers, I ask them using pen and paper to know what’s going on”.

Although the participants said that without a sign language interpreter, participating in any social activity was difficult, apart from using pen and paper they also made use of students who understood sign language. According to **Participant 4**:

*I have some hearing friends who I always teach sign language. So anytime I have a problem or there is any announcement at the dormitory, they would interpret for me to understand.*

### *Feelings during social participation*

Despite the organisation of these activities, the majority of the participants said that they could not participate because they were either not included during selection because of their condition or they felt left out due to the absence of a sign language interpreter.



*...but the college selects only students without hearing problems to join but we students with HI never get a chance to participate, we have entertainment events and for that one it is difficult for me to join. (Participant 4)*

*...but I don't like to attend because there is no interpreter there (Participant 5)*

They also expressed disappointment in the absence of sign language interpreters at such events

*I felt very disappointed if there was no sign language interpreter at the social activities...*

**(Participant 1)**

## **Theme 2: Social Interaction between Students with HI and Students without Hearing Problems**

In terms of social interaction between students without hearing problems and their colleague students with HI, this study discovered that these two groups of students interacted with each other through various means. Two sub-themes emerged under this theme. They are:

- a. Ways of interaction
- b. Participation in field trips or excursions

### ***Ways of interaction***

Although interacting with students without hearing problems is difficult, the participants indicated that they interact with the students without hearing problems through body language, sign language and pen and paper. They asserted that they only communicated with people that interacted

with them. Some participants also indicated that they do not really relate or interact with students without hearing problems. According to **participant 3**:

*Interacting with students without hearing problems is something that I found very difficult to do because of past experiences. If one student with HI makes mistakes, a student without hearing problems would think all students with HI are the same so I'm a shy person who doesn't interact with them.*

**Participant 2** also confirmed that because students without hearing problems do not comprehend sign language, interactions between d/HH and students without hearing problems are not common. Therefore, students with HI sometimes resort to gestures and facial expressions to communicate with students without hearing problems or they prefer to interact with students who understand sign language. For instance, **participant 2** said:

*Sometimes it is difficult to interact with students without hearing problems socially because they don't know how to communicate with me in sign language. So, I talk to them using gestures and I always prefer to interact with those who can sign for me to understand.*

**Participant 11** also stated that;

*I don't often interact with students without hearing problems socially because of communication barriers and there are few*

*students who I can interact with because they can communicate with me in sign language. But those who can't sign, use body language or sometimes they use pen and paper*

This suggests that communication difficulties and shyness make it difficult for students with HI to communicate with students without hearing problems. They interact with students without hearing problems who understand them through gestures, facial expressions, sign language and writing. They asserted that they only communicate with people that interact with them. Some participants also indicated that they do not really relate or interact with the students without hearing problems.

#### ***Participation in a field trip or excursions***

The participants indicated that they had never participated in a field trip or an excursion. However, they had participated in field observation.

**Participant 11** said that:

*We never had any field trip before and it is only school observation which I go with my mates with hearing impairments so I don't have any issues with that*

Another participant said that participants had never been to excursions but only participated in field observations. **Participant 1** stated that:

*Since I was admitted by this college, I have never had any excursion or project trip before but we do have school observation and that one I never go with a*

*student without hearing problems because it is for only students with HI.*

### **Theme 3: Attendance and Participation at Students' Gatherings in the College**

Participants in the study stated that they attend campus gatherings with students without hearing problems. However, the presence of a sign language interpreter is necessary for them to participate in the gathering's activities.

Three sub-themes emerged from this theme. They are:

- a. Reaction towards social gatherings
- b. Attitude of students without hearing problems towards students with HI socially
- c. Involvement in associations

#### ***Reaction towards social gatherings***

Students with HI asserted that without an interpreter, the activities were inconvenient and uninteresting. As a result, they often felt abandoned among the students without hearing problems. **Participant 5** said that;

*I would not be able to attend students' gatherings if there was no sign language interpreter there... I felt isolated among students without hearing problems because students without hearing problems still don't understand anything about deafness and sometimes, they make mockery of me about how I write English.*

**Participant 4** affirmed that;

*I feel good anytime there is a sign language interpreter available at the students gathering*



*or if there are any students who can make me understand everything... Yes, I felt left out among students without hearing problems before because it is boring when students around me don't know how to communicate with me in sign language or maybe if I want to join them, I feel that they don't need me in their conversation.*

The participants also said that some of the students without hearing problems who are familiar with them expressed a positive attitude towards them as compared to those who do not. **Participant 7** said that, "Students without hearing problems who understand everything about me respect me but those who are not close with me don't respect me".

**Participant 9** also said that;

*Those who know more about students with hearing impairment respect and those who do not, do not respect at all.*

#### ***Attitude of students without hearing problems towards students with HI socially***

When participating in social activities, study participants were questioned about whether they felt excluded from their hearing counterparts. The majority of them responded that they did feel isolated mainly because most of their students without hearing problems either did not understand their condition or were not close to them. Also, some participants were too shy to

get close to their students without hearing problems for fear of being disrespected. **Participant 1** had this to say:

*I sometimes felt isolated from students without hearing problems because there are some students without hearing problems who don't know anything about me and sometimes, they make fun of me and are negative towards me*

*Yes, I ever felt isolated before because I'm deaf so I feel shy to associate myself among students without hearing problems and some of the students without hearing problems don't have any idea about how to students with HI behave.*

For the participants who did not feel isolated, they explained that they were familiar with students without hearing problems because they were hard of hearing or have sat in classes with students without hearing problems in their previous schools and could use both spoken and sign language. Others were simply not intimidated by their students without hearing problems.

*I never feel isolated before because I like to learn together with students without hearing problems*

**(Participant 7)**

*...so I don't feel isolated among students without hearing problems because I communicate in both spoken or sign language* **(Participant 12)**

In addition, most participants in this study observed the reason some of their students without hearing problems disrespected them. Disrespect towards

them emanated from lack of knowledge and ignorance about their condition. All the same, they were respected by close students without hearing problems.

*Students without hearing problems who know me are nice toward me but those who are not close to me do not show any respect. (Participant 12)*

#### ***Involvement in associations***

The participants said that they do not belong to any association with students without hearing problems because the environment is not welcoming for students with HI. They added that students with HI were not allowed to compete for leadership positions because of their condition. Also, sign language interpreters were not available at all times hence their lack of involvement. Others were also unmotivated to join associations. **Participant 2** said:

*I don't belong to any student body or club on campus because the school does not allow students with HI to participate in any position, because of our communication problem ... the college does not have enough sign language interpreter available for every activity in this college*

**Participant 7** also said:

*I don't belong to any student body because there was one student with HI who wanted to become SRC president but unfortunately the school*

*didn't allow it because the student hearing impaired*

**Participant 7** further added that:

*I don't belong to any student body or club in the college because the college does not give the needed assistance to me to join*

The few who were in associations were found in the disability union of the College.

*Yes, we have a sign language association where I hold the position as secretary. (Participant 4)*

In this regard, students with HI made an appeal for the creation of an environment that would allow them to engage in social activities. As expressed by **Participant 1**:

*...The college should create an enabling environment where students with HI can participate in every social activity.*

#### **Theme 4: Major Challenges Faced in Social Interaction**

According to participants, the major challenges they faced in under this theme are in two sub-themes. They are:

- a. Ignorance
- b. Sign language interpreters.

##### ***Ignorance***

Participants said that because most of their students without hearing problems and some staff of the college lacked understanding of the capabilities of students with HI they disregarded them. **Participant 10** said:



*The college staff don't believe that students with HI have a talent to join extracurricular activities*

While **Participant 5** also said:

*The school should have orientation for all students without hearing problems and educate them about deaf culture, attitude and behaviour.*

### ***Sign language interpreters***

The poor engagement of students with HI in social events is also due to the lack of sign language interpreters, who were unable to participate in the majority of social activities. Therefore, students with HI were limited in their social interaction with their hearing peers because in the words of **participant 2**, "Sign language interpreters are always not available".

### **Research question three: How do students with HI experience the supportive services offered in the College of Education in Ghana?**

This research question intended to unearth the college's support services for students with HI. The inquiry also considers the challenges they face in using these services, how they desire supportive services to operate and additional support they prefer to be provided for them. Three main themes were derived from this research question

#### **Theme 1: Supportive Services**

The participants revealed that there exist support services for students with HI in the College. They are the resource centre and the sign language interpreting services.

- a) Sign language interpreting services
- b) Resource centre

### *Sign language interpreting services*

Sign language services are available at the College. These according to the participants were the main services they sought for due to their condition.

**Participant 3** said that they, "...have... sign language interpreters".

### *Resource centre*

In addition to the sign language interpreters, the participants added that there was a resource centre for them. This is supported by the responses of two participants below:

*We have sign language interpreters; we also have a resource centre for students who are deaf and blind... (Participant 4)*

*Yes, we have sign language interpreters and a resource centre ... (Participant 6)*

### **Theme 2: Challenges in accessing support services**

The participants highlighted concerns about the accessibility of the college's support services for students with HI. The main sub -theme which emerged was

- a. Limited access to sign language interpreters and resources

#### ***Limited access to sign language interpreters and resources***

The majority of participants stated that sign language interpreting services are the most difficult to obtain. It was disclosed that the sign language interpreters were difficult to access for some classes such as evening classes. Additionally, some interpreters were unprofessional and their interpreting was inaccurate or poor. They also frequently provided short interpretations,

causing students with HI to gain less information than students without hearing problems. In view of this, **Participant 1** said:

*The main challenge I face in accessing supportive services is sign language. Most of the interpreters reside outside the College so whenever we want to access their service we struggle before we get in touch with them*

**Participant 10** also said that:

*I am always delayed when accessing sign language interpreters and also most of them are not professionals.*

**Participants 3** added that:

*The challenge I have with sign language interpreters is that, sometimes when we have lectures in the evening it is difficult to call them to come for our evening lectures. Most of the sign language interpreters don't stay on campus.*

Other participants stated that the resource centre did not have enough equipment to make the centre effective. That is, it lacked devices and tools needed by students with HI for teaching and learning. They also expressed their dissatisfaction about the location of the resource centre.

**Participant 5** said that:

*For the resource centre, it is located at the corner of the College where I sometimes find it*

*difficult to go and learn there. We don't have anything inside like printers, computers etc.*

**Participants 1** also said that:

*Supportive services in this college are not enough. We have a resource centre but things needed to make the resource centre run effectively are lacking. For example, no computer, audiometer, printer...*

### **Theme 3: Participation in Teaching and Learning through Supportive Services.**

When effective sign language interpreter services and resources are available, the participants felt totally engaged in the teaching and learning process. Five sub-themes emerged from this theme. They are:

- a. Services
- b. Sign language interpretation Services
- c. Effectiveness of Support Services
- d. Preferable method of sign language interpretation
- e. Additional supportive services

#### ***Services***

According to the participants, sign language interpreting is the most significant and useful service for students with HI. They claimed that in order for them to participate in the teaching and learning process, sign language interpreting services are necessary. In addition, they said that the resource centre was the other way through which they could effectively participate academically. **Participant 8** was of the view that he does not,



*... fully participate because of the problem we have with sign language interpreters. If the interpreter is experienced then my participation would not be a problem.*

**Participants 11** also said that

*I don't fully participate in the teaching and learning process because the services given to me are not enough.*

### ***Sign language interpretation services***

The participants were asked how they felt about the sign language interpreters that the College provided for them. According to the participants' personal experiences, the majority of sign language interpreters were not competent. They stated that the methods employed for interpretation were unsuitable. Therefore, because interpreters do not provide better interpretations of lecturers' explanations, students with HI do not acquire more information. Some students also complained that finding interpreters for evening or emergency classes was difficult because they live off campus.

Some participants said that:

*I want professional interpreters to take up courses that are difficult like general courses, and I don't want interpreters who are not professional to interpret courses that are difficult for me.*

**(Participant 1)**

*We have a few old sign language interpreters who stay on campus and some few sign language*

*interpreters... who are new. The old interpreters can't interpret for us in the evening lectures because there are not many... So, we need the sign language interpreters to stay on campus so that they can assist us anytime we need them. If a sign language interpreter is absent from lectures, we invite students without hearing problems who can sign to help us but we don't benefit fully from it. Also, sign language interpreter do not stay in one place so if there is an emergency lecture we have to struggle before we get in touch with them*

**(Participant 5)**

#### ***Effectiveness of support services***

The participants further expressed their views about the supportive services being provided by the College to students with HI. They stated that the supporting services cannot be considered effective without effective sign language interpreting service. **Participant 4** said that:

*I don't really think the service is effective because of the lack of skilful sign language interpreters but the rest of the services are effective.*

**Participants 12** also said:

*Some of the services are effective but my problem is sign language interpreters.*

### *Preferable method of sign language interpretation*

Participants further stated how they would like the interpreters to communicate with students with HI. They said that interpreters must utilise basic language and cease utilising precise English terms used by the lecturers. They should communicate to them the same way people with HI communicate with themselves. In addition, they pleaded that more skilled and experienced interpreters should be used. They said that:

*I want sign language interpreters to use simple language to make me understand the lecturer very well because I don't like to see most interpreters sign in exact English. I sometimes find it difficult to understand- Participant 1*

*I want a sign language interpreter to sign like the way people who are deaf communicate. Sign language interpreters have to add more explanation and examples to make me understand better and not just follow the exact words of the speaker. Participant 2*

### *Additional supportive services*

Participants in this study were asked to mention any other services they deemed necessary in their stay on the College campus. Responses showed that they wished to receive assistive devices and software that could aid them during lectures. Also, they wanted assistance from the staff in the College when in need of it. For instance, some of them said that:

*It will be good to have a hearing aid. Participant 2*

*Library support and some teaching and learning resources for students who are deaf will be good. Participant 8*

*Live captioning during lectures will be of help. Participant 9*

It can be deduced that the participants of this study expressed themselves well in order to bring out the kinds of additional support services they would require. The next section is section C which is the discussion of the findings.

## **Section C**

### **Discussion of Findings**

In this part, the analysis' findings are discussed. The conclusions are organised into three sub-headings that correspond to the three research questions. The sub-headings are:

- a. Perceptions of students who are students with HI about their academic participation
- b. How students with HI manage their social interaction
- c. Supportive services offered to students with HI

### **Experiences of students with HI about their academic participation**

The results of this study show that school administration frequently makes sure that sign language interpreters are available in the lecture hall to assist students with HI access the course content being taught. A larger percentage of participants indicated their displeasure with the performance of the sign language interpreter. The participants said that, in comparison to students who could hear, they did not have access to enough information. This finding is not novel as Napier and Barker (2004) reported that students with HI do not comprehend as much as they believe they do. This is because sign language interpreters lack professionalism and effectiveness. Students with HI



established that they can only get information if sign language interpreters are available to them. Some students with HI complained that the translation's accuracy was not high enough for them to understand what the lecturers were saying in class. The interpreter's skills or accuracy are crucial in this situation (Glaser & Van Pletzen, 2012). According to some participants, the sign language interpreters' interpretations of what the lecturers are presenting are too brief. Therefore, not all of the information from the lectures were passed onto them. This finding corroborates with Glaser and Van Pletzen (2012) whose study demonstrated that if the interpreter is insufficiently skilled in the discourse of commercial communication in English, it causes inconsistencies in interpretation. In their study, sign language interpreters could not sign the full meaning of the discourse that occurred in the classroom, including verbal exchanges between students and the teacher. Also, the interpreter lacked knowledge of some use of words and phrases and so failed to communicate the full meaning of the ongoing lesson (Glaser & Van Pletzen, 2012). In relation to students with HI are greatly affected by the dearth of information flowing to them.

The most popular form of communication between students without hearing problems and students with HI is sign language. To interpret using sign language, one must have a high level of fluency in two or more languages, a strong ability to concentrate, a thorough knowledge of the word, and professional, ethical behaviour. The absence of the above mentioned creates problems interpreting verbal language. When students with HI in this study did not have access to sign language interpreters, they communicated with students without hearing problems and lecturers using pen and paper. Pen

and paper were the easiest form of communication in such situations. The findings match with a study conducted in Saudi Arabia by Alasim (2018) which revealed that the biggest obstacle to participation and involvement of students with HI in general education classes is spoken language difficulty and that propelled them to use pen and paper to communicate with their hearing peers.

According to this current study, the majority of participants felt their academic accomplishment and that of their students without hearing problems are comparable despite issues such as lack of information and lack of professional sign language interpreters. Only a small number of participants said differently. Few of the participants gave an opposing view of their academic performance and revealed that the mode of communication in the lecture room favours students without hearing problems more than them. This finding corroborates the finding of a study conducted in the USA which revealed that students without hearing problems gained much more from classroom instruction than students with HI who relied on sign language interpretation (Jacobs, (1977) as cited in Marschark et al., 2006).

In addition, the current study revealed that the students with HI had been given permanent front seats and were comfortable with the seating arrangement. This made it possible for students with HI to see what the sign language interpreter was trying to say to them. This finding agrees with Guardino and Antia, (2012) and Trussell, (2008), whose separate studies indicated that students with HI can benefit from appropriate seating arrangement since they can readily observe other students and the teacher, participate in both individual and group activities and follow classroom

conversations. The importance of classroom layout and seating for students with HI was also emphasised by Ericks-Brophy et al. (2006) and Schultz et al. (2013). This is because certain students with HI may benefit from being able to observe the facial expressions and hand gestures of a sign language interpreter. According to the results of this recent study, students with HI only feel that they are a part of the teaching and learning process when a sign language interpreter is present. The absence of an interpreter made them feel left out. It is crucial that the instructor and the students communicate well. This finding is related to Ngobeni and Maimane's (2020) study which was conducted in South Africa, that revealed that students with HI were unable to engage successfully in class because the instructors and students without hearing problems were unable to use sign language in the teaching and learning process and the lack of basic signing made communication all but impossible. The ability of students with HI to fully understand the lectures depends on the accessibility and proficiency of the sign language interpreter. Even though the interpretation may not be perfect, the presence of the sign language interpreter helps the students who are students with HI feel at least partially included in the teaching and learning process.

A theme revealed in the current study concerns the interaction of students with HI with students without hearing problems when it comes to academic activities. The results showed that some of the students with HI have good interaction with students without hearing problems while a few of them are otherwise. They also participated in study groups. These study groups primarily serve as a forum for solving certain difficulties. However, students without hearing problems did not agree that it was easy to communicate with

students with HI. The sole forms of communication were pen and paper and students who could understand sign language. As a result, interactions between hearing and students with HI during group activities were quite ineffective. This finding matches with some studies which demonstrated that students with HI have difficulty participating in class and connecting with students without hearing problems and teachers (Levy-Shiff & Hoffman, 1985; Stinson & Liu, 1999). According to the students with HI in this study, the biggest issue in academic contact with students without hearing problems is communication barrier. As a result, when they shared their viewpoint, they were not taken seriously. Several studies acknowledged that students with HI find it difficult to follow the discourse when their hearing counterparts spoke which resulted in communication barrier (Ahlstrom et al. 2015; Antia, Sabers & Stinson, 2007; Crandell & Smaldino, 2000; Mather & Clark, 2012).

According to participant's responses, their disability had a negative impact on their academic related activities including receiving information late, difficulty comprehending lessons, less focus on students with HI and inability to partake in certain courses. Furthermore, students with HI indicated the number of challenges faced in their academic life such as unproductive courses, lack of professional sign language interpreters, lack of resources, lack of information and lack of attention. Related to this is a study conducted in Ethiopia by Hatiye (2016) which found that students who are deaf did not have resources, were excluded during lessons, were deemed as incapable and were discriminated against.

The findings of this study concur with those of Schultz et al. (2013), who found that students with HI communicate on campus using sign language,



spoken language, and texting. Classmates with HI turned to texts and body language when students without hearing problems found it difficult to communicate with them. This is how students with HI got their information. The study found that in the absence of a sign language interpreter, students with HI had difficulty accessing the information that the lecturer is attempting to convey. The influence of a sign interpreter in an institution with students with HI is demonstrated in this study. The results of this study concur with Luckner and Muir's (2001)'s conclusions regarding the role of the interpreter in the lives of students with HI on campus. Students with HI in general education courses require a key human resource. Students with HI are unable to obtain the necessary information due to inaccuracy in the interpretation of lecturers' presentations through sign language interpreters. As a result, in the absence of sign language interpreters or when the interpretation provided is inaccurate or inadequate, students with HI may feel isolated in learning and lecturing activities. Students with HI find it difficult to achieve in inclusive environments due to a lack of understanding and inadequate support (Eriks-Brophy & Whittingham, 2013; Eriks- Brophy et al. 2006).

#### **How students with Hearing Impairment manage their social interaction**

According to the findings of this study, there are social gatherings such as morning prayers and sports activities in which students with HI partake. However, the ability to participate in such social occasions is highly dependent on the presence of an interpreter. The participants also reported that because they do not comprehend sign language, students without hearing problems do not typically interact with students with HI. Therefore, students with HI had to resort to gestures, facial expressions, writing and communicating with the very

few sign language users. This finding is in accordance with literature on how communication can occur between people with HI (National Deaf Centre on Postsecondary Outcomes, 2019). According to them, one can use gestures or body language to communicate with individuals with HI. People are also encouraged to use a pen, pencil and paper or writing in general to communicate if they do not know sign language. People who are deaf can also read the lips as long as it is visible to them (National Deaf Center on Postsecondary Outcomes, 2019).

The participants felt that the students without hearing problems' treatment of them was unsatisfactory. A similar conclusion was reached by Lee and Pott (2018) whose study showed that college students who take sign language courses to fulfil their modern language requirement tend to have a more medical perspective and negative attitude toward students with HI. It's challenging for students with HI to form friendships with students without hearing problems due to uncomfortable circumstances among them. They tend to believe that they are insignificant, so they build their own environment. When hearing people are participating in interactions, they tend to treat those with HI as a burden. Moreover, the participants emphatically stated that their willingness to attend campus gatherings is reliant on the availability of sign language interpreters. Without the presence of sign language interpreters, the activities become inconvenient and uninteresting and that makes them feel abandoned among students without hearing problems. This finding is supported by Alasim (2018) whose study found the significance of the sign language interpreter in fostering interactions between hearing and Hard of Students without hearing problems in the context of small group activities.

Thus, without a sign language interpreter the interaction would become more difficult.

Furthermore, the majority of the participants revealed that they felt isolated among students without hearing problems because they do not understand their condition. This prevented students with HI from getting close to their students without hearing problems for fear of being disrespected. The result goes beyond previous reports, which shows that hearing loss affects adults with HI and is linked to loneliness and social isolation (Bott & Saunders, 2021). Additionally, Hyde et al. (2009) noted that students with HI struggled to socially communicate with their hearing peers and felt isolated.

Furthermore, in this current study, other participants who are hard of hearing stated otherwise that they were familiar with the use of both spoken and sign language in their previous schools so they did not feel isolated among students without hearing problems. In addition, the interviewees expressed that they do not belong to any association with students without hearing problems because the College's environment is not welcoming to them. They added that students with HI were not able to win any leadership position because of their condition. In agreement with this, Benedict and Sass-Lehrer (2007) discovered that there are few opportunities for students who are deaf to interact with other deaf students in the school setting. As a result, they consequently have fewer chances to grow in self-awareness, participate in social activities, and assume leadership roles.

One crucial part of communication is the comfort of the persons involved. Participants found it challenging to communicate with their students without hearing problems due to communication hurdles, which might force

them to avoid talking to individuals without hearing problems. The findings are consistent with what Zaidman-Zait and Dota (2017), found, which says that students with HI had difficulty interacting with hearing peers because of stigma, hurdles in communication and peers' acceptance. When they interacted with those who could hear them, these students were unable to freely express themselves. On the other hand, individuals without hearing problems struggled to understand messages being conveyed by individuals without hearing problems. The ease with which the participants engaged in the conversation is crucial because if one finds it difficult to interact, that person may find it difficult to maintain the contact. As a result, individuals who are deaf tend to engage mainly with other people who are deaf. They found solace in their connections with one another, but suffered in the hearing world. A similar pattern of result was obtained by Alasim (2018), whose study revealed that spoken language is the biggest barrier to students with HI participating and interacting in general education classes. This current study also found that since individuals with HI could communicate successfully using sign language; something most people in the hearing world are unfamiliar with; they avoided communicating with their hearing peers. This result ties well with a previous study conducted by Ridsdale and Thompson (2002) indicating that students with HI may be socially excluded and have trouble making friends because they find it difficult to express themselves in spoken language. As a result, this is one of the obstacles that prevents individuals who are deaf and hearing from interacting socially. Hearing participants would concur that there is a need for a greater knowledge of Deaf culture and how to engage with persons with HI (Hankins, 2015). A benefit for students with HI who



have contact with hearing persons was that such students who participated in more social activities with students without hearing problems had higher levels of social competence (Antia et al. 2011).

Participants indicated that the major challenges they faced were the ignorance of students without hearing problems and staff, inadequate and unprofessional sign language interpreters. Lee and Potts' (2018) study similarly explained that students in tertiary education who were not exposed to deaf culture and were ignorant about people with HI were more stereotyped towards people who are deaf.

This current study has highlighted that the social experiences that students with HI go through are more negative than positive despite the supposed inclusive nature of the College of Education. Students with HI will not have the maximum educational experience that they expect if these odds are not surmounted because social experiences are a big chunk of the holistic development of the individual. If it is ignored and underdeveloped, the with HI will always face challenges anywhere they go.

### **Supportive Services offered to students with HI**

The College provides two main supportive services namely sign language interpreting services and a resource centre according to the findings in this study. These services help students with HI achieve their academic goals to the fullest extent possible. Tertiary institutions may balance the academic assistance for all students by providing them with these resources. The respondents stated that the resource centre did not have enough equipment to make the centre effective. That is, they lacked devices and tools needed by students with HI for teaching and learning. Using technology to print

documents in larger fonts can help individuals who have trouble understanding smaller lettering. The sign language service is the most significant and relevant to students with HI, according to a review of the College's supporting services. The majority of students with HI in this study believed the sign language interpreting services are the most difficult service to obtain and inaccessible for some evening lectures. This result is entirely similar with those of a prior study. Oppong et al. (2018) conducted in Ghana, which found that the availability of sign language interpreters was irregular due to inconsistently high levels of service quality. The participants also indicated that some interpreters were unprofessional and their interpreting accuracy was poor. Thus, their interpretation was causing students with HI to gain less information than students without hearing problems. This finding is also similar to the one by Marschark, Sapere, Convertino, and Seewagen (2005), whose studies revealed that even with sign language interpreters, students with HI gained less information at lectures than their hearing classmates.

The study's participants suggested that sign language interpreters should use simple language and interact with participants in the same way that persons with HI interact with one another. This is related to a study by Powell (2013) in New Zealand, which found that sign language interpreters need to be sufficiently familiar with individuals with HI in order to translate as closely as possible to the way individuals with HI communicate with one another. In addition, the sign language interpreters had to discover strategies to enable the students with HI to maximise their understanding in their interpretation. Participants also showed that they wished to receive assistive devices, real-time captioning and assistance from college staff as additional supportive

services from the College. Therefore, Saunders (2012) proposed that students with HI may experience difficulties transitioning from school and higher education to a new and complex system of support at university. As a result, students with HI require additional support services to maintain their attendance at the college (Saunders, 2012).



## CHAPTER FIVE

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### Introduction

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

#### Summary

The primary objective of this study was to investigate how students with HI at the Presbyterian College of Education view their academic perception, social interaction, and access supportive services. The study employed the interpretative phenomenology as research design to be able to explore, describe, interpret, and situate how the participants make sense of their lived experiences. 12 students with HI were interviewed using a semi-structured interview guide to gather data. Thematic analysis by Braun et al. (2019) was used to analyse the collected data.

#### Key Findings

The key findings of the study have been stated as follows:

##### Research question one:

According to the study, students with HI still find it difficult to learn as much knowledge as their students without hearing problems despite the presence of sign language interpreters. This is because the standard of the sign language interpreting procedure was not satisfying. Furthermore, they did not benefit academically because the sign language interpreting services contributed little to their success. It was also found that students without hearing problems benefitted more academically due to communication barriers



between students with HI and lecturers. Additionally, the study revealed that students with HI had special seating arrangements in the lecture room. The study also found that communication difficulties made it difficult for students with HI and students without hearing problems to interact academically.

**Research question two:**

The study found that students with HI found it difficult to engage in social activities such as sports, morning devotions and games in the absence of a sign language interpreter thus sometimes felt isolated. This was because students with HI found the activities quite frustrating without getting someone to translate for them. The study also found that social interaction is not regular due to communication barriers between students with HI and students without hearing problems. Therefore, students with HI communicated with students without hearing problems using gestures, facial expressions, sign language in a few cases and pen and paper.

**Research question three:**

The study found out that there are existing supportive services such as sign language interpreting services, and a resource centre. However, sign language interpreting services were the most difficult to obtain and most of the interpreters were unprofessional. Students with HI posited that the resource centre does not have enough resources to make it more effective. The study also indicated that requesting for supportive service especially a sign language interpreter for evening lectures was more difficult. This is because most of the sign language interpreters live off campus. Again, students with HI wished that sign language interpreting would be delivered the same way people with HI communicate with each other.

## Conclusions

Many students with HI have graduated from the Presbyterian College of Education since inclusive education was implemented there; it is the only college of education that does so. This means over the years students with HI do not have enough available services. However, this current study has discovered numerous challenges with the academic perceptions, social interactions and supportive services of students with HI, and it shows that the College has not progressed much in its quest to provide inclusive education as expected. Thus, instead of moving forward, they are either stagnant or retrogressing.

These also indicate that the policies which brought about the implementation of integrating students with HI into mainstream education are not providing the full benefits to students with HI in the College of Education. This current research hopes to inform the stakeholders involved to do the needful for students with HI to gain better experiences.

## Recommendations

Based on the findings and conclusion of this study, the following recommendations are made.

1. To support efficient communication and an easy learning process, the Presbyterian College of Education's authority should hire skilled sign language interpreters who are familiar with Deaf culture and attitudes.
2. Presbyterian College of Education should ensure students without disabilities should be taught about deaf culture and attitudes so that students who are deaf may readily associate with them. Students with

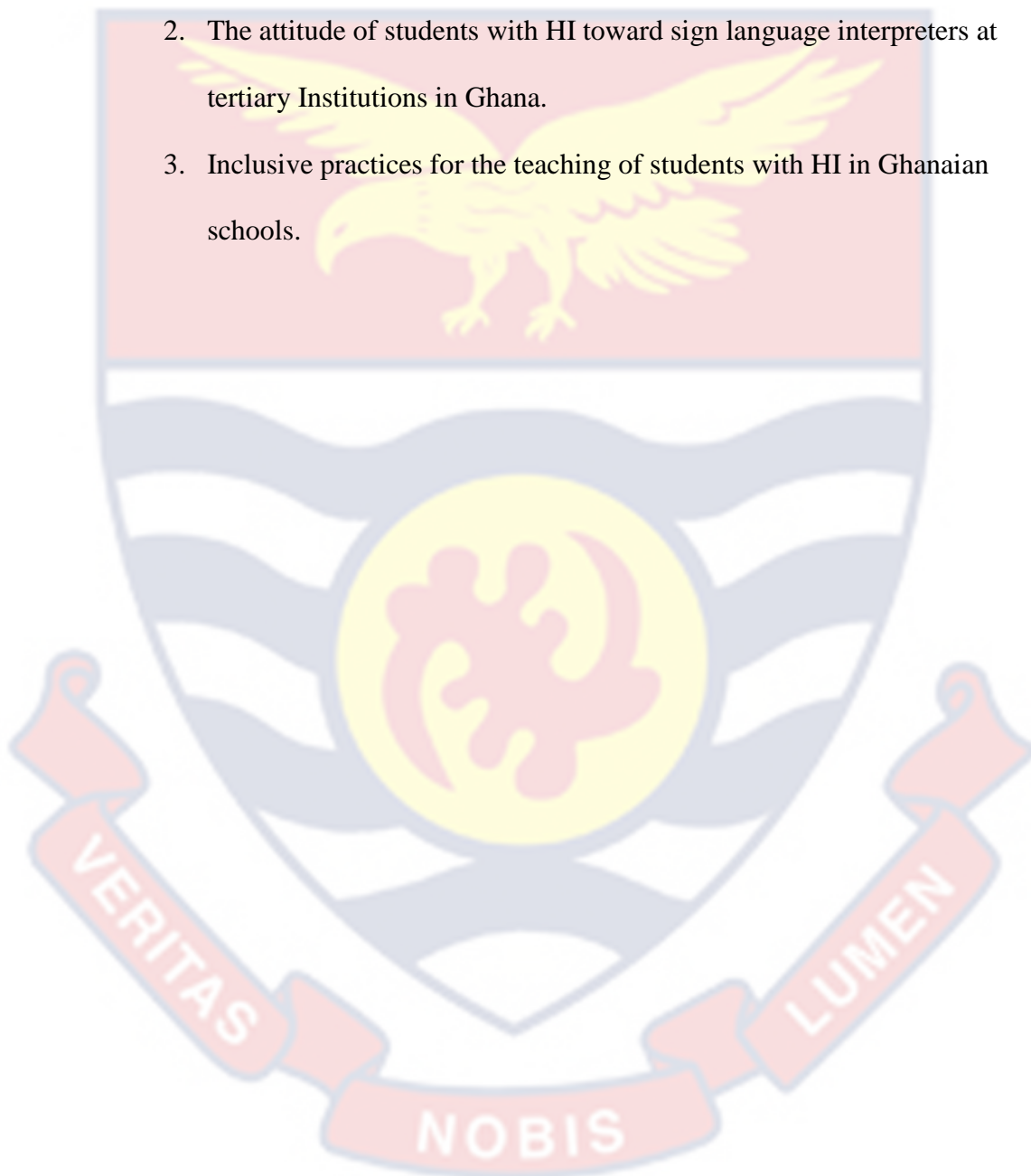
HI should be able to engage in all social activities provided their school creates an enabling environment.

3. The Presbyterian College of Education's principal should conduct general orientation for all the college authorities and staff about the inclusion of students with HI; their characteristics and support they need. This will minimise the discrimination, exclusion and misconceptions that students with HI go through when they interact with their students without hearing problems socially.
4. Institutions credited with training sign language interpreters should train more sign language interpreters to deliver professional interpreting services. This is because it will help to minimise the frustrations students with HI students go through when requesting for sign language interpreter for emergency meetings and evening classes.
5. The school authorities should assign sign language interpreters to interpret for students with HI based on the programmes or courses they study at their institutions. This will help sign language interpreters to render effective and efficient interpretation.
6. The resource Centre at the Presbyterian College of Education must be fully equipped to assist students with HI in their stay on campus.
7. Special education's policy maker should recommend other institutions to consider admitting more students with HI to fully implement inclusive education at all levels.

### Suggestions for Further Research

The following areas are suggested for further studies:

1. Attitudes of tertiary school authorities and staff towards inclusion of d/HH students in tertiary institutions.
2. The attitude of students with HI toward sign language interpreters at tertiary Institutions in Ghana.
3. Inclusive practices for the teaching of students with HI in Ghanaian schools.





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APPENDICES

APPENDIX A-Introduction letter

**UNIVERSITY OF CAPE COAST**  
**COLLEGE OF EDUCATION STUDIES**  
**FACULTY OF EDUCATIONAL FOUNDATIONS**  
**DEPARTMENT OF EDUCATION AND PSYCHOLOGY**

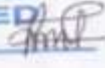
Telephone: 0332091697  
 Email: dep@ucc.edu.gh

Our Ref: DEP/26/Vol. 6  
 Your Ref:



UNIVERSITY POST OFFICE  
 CAPE COAST, GHANA

6<sup>th</sup> October, 2021

PRINCIPAL'S SECRETARY  
 PRESBYTERIAN COLLEGE OF EDUCATION  
 AKROPONG - AKUAPEM  
**RECEIVED**  
 DATE 27/10/2021 SIGN 

**TO WHOM IT MAY CONCERN**

Dear Sir/Madam,

**THESIS WORK**  
**LETTER OF INTRODUCTION**  
**MR. AMPOFO MARTIN KWASI – [EF/SDP/19/0006]**

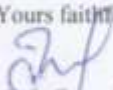
We introduce to you Mr. Ampofo a student with registration number EF/SDP/19/0006 from the University of Cape Coast, Department of Education and Psychology. He is pursuing a Master of Philosophy degree in Special Education and he is currently at the thesis stage.

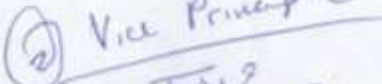
Mr. Ampofo is researching on the topic: **“LIVED EXPERIENCES OF DEAF AND HARD OF HEARING STUDENTS AT COLLEGE OF EDUCATION IN GHANA.”**

He has opted to collect or gather data at your institution/establishment for his thesis work. We would be most grateful if you could provide him the opportunity and assistance for the study. Any information provided would be treated strictly as confidential.

We sincerely appreciate your co-operation and assistance in this direction.

Thank you.

Yours faithfully,  
  
 Ama Ocran [Ms.]  
 Principal Administrative Assistant  
 For: HEAD


0247692589  
 (Text)  
 Vice Principal  


NOBIS

APPENDIX B- ETHICAL CLEARANCE

UNIVERSITY OF CAPE COAST  
COLLEGE OF EDUCATION STUDIES  
ETHICAL REVIEW BOARD

UNIVERSITY POST OFFICE  
CAPE COAST, GHANA

Our Ref: CC-EEB/ucc.edu.gh/15/21-64  Date: 2nd July, 2021  
Your Ref: .....

Dear Sir/Madam,

ETHICAL REQUIREMENTS CLEARANCE FOR RESEARCH STUDY

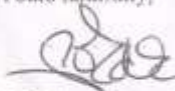
The bearer, Martin Kwasi Ampofo, Reg. No. EE/01/19/0006 is an M.Phil. / ~~Ph.D.~~ student in the Department of Education and Psychology in the College of Education Studies, University of Cape Coast, Cape Coast, Ghana. He / ~~She~~ wishes to undertake a research study on the topic:

Lived experiences of deaf and hard of hearing students at the Colleges of Education in Ghana.

The Ethical Review Board (ERB) of the College of Education Studies (CES) has assessed his/~~her~~ proposal and confirm that the proposal satisfies the College's ethical requirements for the conduct of the study.

In view of the above, the researcher has been cleared and given approval to commence his/~~her~~ study. The ERB would be grateful if you would give him/~~her~~ the necessary assistance to facilitate the conduct of the said research.

Thank you.  
Yours faithfully,



Prof. Linda Dzama Forde  
(Secretary, CES-ERB)

*Chairman, CES-ERB*  
Prof. J. A. Omosho  
jomosho@ucc.edu.gh  
0243784739

*Vice-Chairman, CES-ERB*  
Prof. K. Edjah  
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*Secretary, CES-ERB*  
Prof. Linda Dzama Forde  
lforde@ucc.edu.gh  
0244784680

**APPENDIX C-INFORMED CONSENT FORM****INFORMED CONSENT FORM*****PART I: INFORMATION SHEET***

Title: The Experiences of students who are hearing impaired at College of Education in Ghana.

Investigator: Martin Kwasi Ampofo

Address: University of Cape Coast, Faculty of Educational Psychology  
Department of Special Education.

**General Information about Research**

The study examines the experiences of students with Hearing impairment about their academic experience, social interaction and supportive service offered to them at the Presbyterian College of Education, Ghana.

**Description**

1. I have been given the opportunity to ask any question about the project and my participation and I am satisfied with the explanation provided to me
2. I choose to take part in the initiative. I am aware that there will be no payment for my participation.
3. If I engage in the interview but don't want to respond to any of the questions, I can say so, and the interviewer will move on to the next one.
4. The interview will take place in a quiet environment, and no one else but the interviewer will be present.
5. The information recorded during the interview is deemed confidential, and only the interviewer and interviewee will have access to it.



6. I agree to sign and date this informed consent form with the researcher.

***PART II: VOLUNTEER’S AGREEMENT***

The document's contents, which outline the benefits, dangers, and experiences of students who are d/HH, have been read to me and explained to me. I get the chance to ask any inquiries I might have about the research. I'm ready to lend a hand as a volunteer.

**Volunteer’s Name:** ..... **Volunteer’s**

**Mark/Thumbprint**.....

**Date:** .....

**If volunteer cannot read the form themselves, a witness must sign here:**

I watched as the volunteer was read the benefits, risks, and procedures. The volunteer has accepted to participate in the research after receiving all the necessary information.

**Witness’s Name:** .....

**Witness’s Mark/Thumbprint:** .....

**Date:** .....

I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the above individual.

**Researcher’s Name:** .....

**Researcher’s Signature:** .....

**Date:** .....



*Probe:* What medium do lecturers use to communicate with you?

3. Comment on the sign language interpreting services at lectures

*Probe:* Do you benefit academically from the sign language interpreting services rendered to you?

4. Tell me about how you view yourself academically in relation to your hearing colleagues.

5. Comment on your experiences with the seating arrangement in the lecture hall.

6. Do you feel included in the teaching and learning process?

7. Can you explain to me how you interact academically with your hearing colleagues?

*Probe:* Have you been in any group discussion or group project with your hearing peers before?

*Probe:* What was the experience like?

8. What is your opinion on how hearing loss affect academic participation?

*Probe:* What is your own experience like?

9. What can you say are the major challenges you face in your academic participation in the college?

### SECTION C

#### Social Experiences at the College

1. How do you facilitate your social participation in the college community?

*Probe:* how do you cope with it?

*Probe:* what was it like without sign language interpreter?

2. How do you interact with your hearing colleagues socially?

Probe: Have you participated in a field trip or an excursion before?

How was the experience?

3. How do you feel when you attend students' gatherings in the College?

*Probe: how was it alike when you attend students' gathering with your hearing colleagues in the college?*

4. Have you ever felt isolated among hearing students? Explain why or why not

*Probe: how do you feel about their attitude toward you?*

5. Do you belong to any student body or club on campus? why and why not?

6. What can you say are the major challenges you face in your social interaction in the campus?

*Probe: how did you cope with these challenges?*

## SECTION D

### Supportive Services provided on campus

1. Can you please talk more about the support services provided for d/HH students in the college?

*Probe: What are the challenges in accessing these support services?*

2. How do you fully participate in the teaching and learning process with respect to the support service offered to you?

3. Can you tell me about sign language interpreters provided by the college?



*Probe: what experience do you have with your sign language interpreter?*

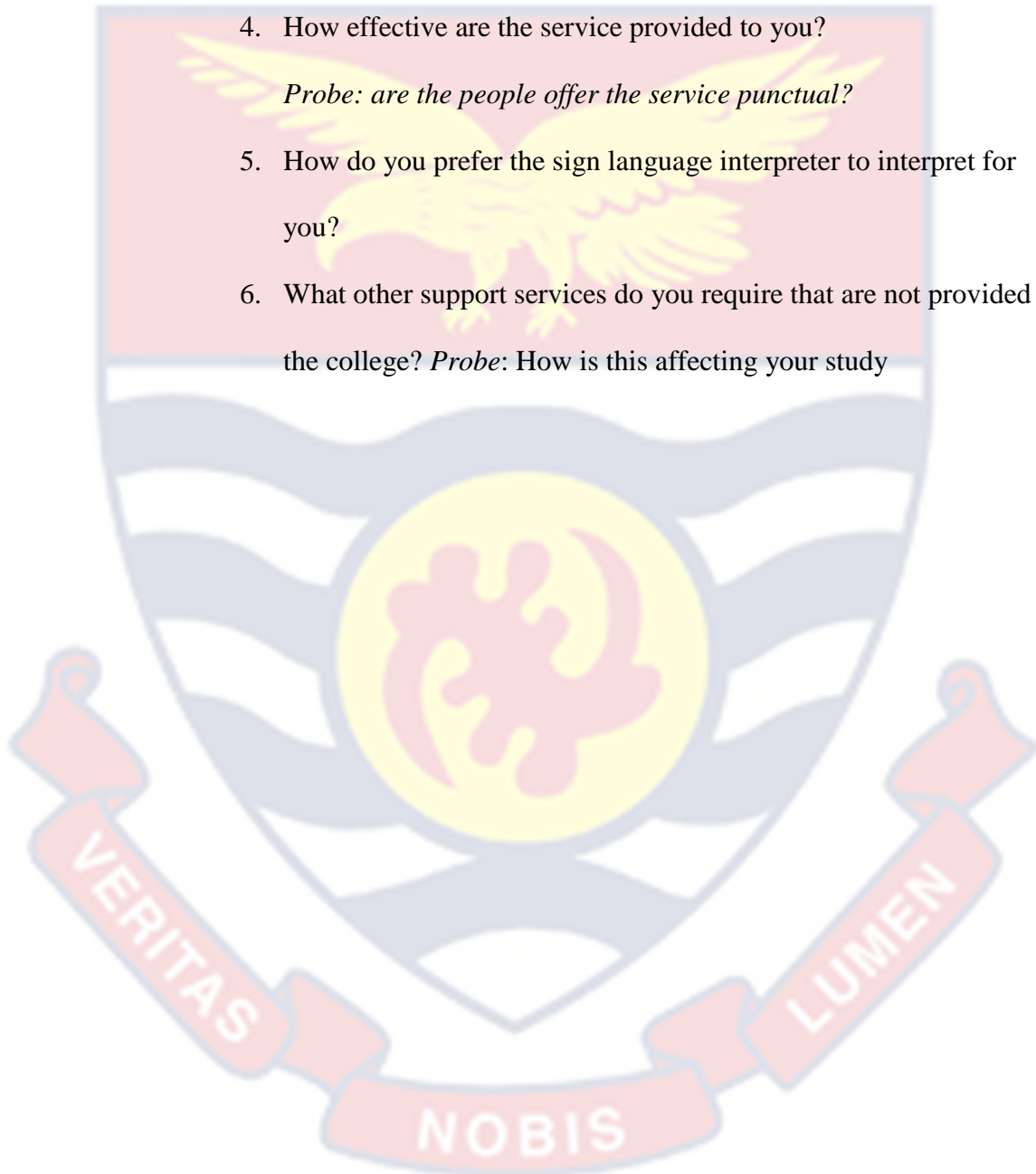
*Probe: do you encounter challenge in requesting for sign language interpreter?*

4. How effective are the service provided to you?

*Probe: are the people offer the service punctual?*

5. How do you prefer the sign language interpreter to interpret for you?

6. What other support services do you require that are not provided in the college? *Probe: How is this affecting your study*



## APPENDIX E- TRANSCRIBED CODED INTERVIEW

### Sample of transcribed and coded interview data for a student with HI

This interview lasted 34mins 25 sec.

#### SECTION A

##### Background Information of the Participant

**Interviewer: what is your Level of Education?**

Respondent: level 200

**Interviewer: what is your Level of hearing loss?**

Respondent: Moderate hearing loss

**Interviewer: what is your age range?**

Respondent: 30-35

#### SECTION B

##### Objective 1: Perception on academic experiences in the college

**Interviewer: What do you think about the access to information at lectures in the college?**

**Respondent:** In the lecture room, I get information through a sign language interpreter so anytime lecturers have some information for the class, the lecturer uses a sign language interpreter to interpret every information for me to understand. (**Availability of sign language interpreter**)

**Interviewer: Do you get all you need at lectures so far as information is concerned?**

Respondent: Sometime not all information I get in class and it depend on the skills of sign language interpreter that's mean sometime sign language interpreter explanation is not clear. (**Dissatisfaction in interpretation**)  
(**Unskilful sign language interpreter**)

**Interviewer: What is your take on the medium of communication at lectures?**

Respondent: In the classroom, sometimes as a hard of hearing student like me, it is not always appropriate for me to join classroom communication and sometimes I watch them to understand small information from students without hearing problems. I always like to communicate with deaf peers or some students who understand my language. If I want to communicate with hearing students, I use pen and paper to communicate with them. **(Writing)**

**Interviewer: what medium do lecturers use to communicate with you?**

Respondent: Lecturers used spoken language to communicate to me but I am hard of hearing so I can't hear him or her. Lecturer will call a sign language interpreter before communication happens. **(Lecturer communication between student and interpreters) (Using spoken language)**

**Interviewer: comment on the sign language interpreting services at lectures.**

Respondent: In the past, we used to complain about the small number of sign language interpreters but now we have enough sign language interpreters. Now we have some few sign language interpreters who can interpret to make me understand things in the classroom better. **(Decline in good interpretation)**

**Interviewer: do you benefit academically from the sign language interpreting services rendered to you?**

Respondent: I somehow benefit academically from a sign language interpreter because we do not have a sign for some words that lecturers use. So sign

language interpreters also only spell the word without explaining it for me to understand. (**Limited vocabulary is sign language**)

**Interviewer: tell me about how you view yourself academically in relation to your hearing colleagues.**

Respondent: Students without hearing problems are far ahead of me in terms of classroom communication because they get information before me. So I can say they do better academically than us (hard of hearing). (**Hearing students are far ahead**) (**Hearing student do better because of poor sign language interpretation**)

**Interviewer: comment on your experiences with the seating arrangement in the lecture hall.**

Respondent: In the classroom, we have a special place for students with hearing impairment. I sit with them. I always sit in front of the classroom so that I can see the sign language interpreter and also lip read the lecturer. (**Front seating**)

**Interviewer: do you feel included in the teaching and learning process?**

Respondent: Yes, I felt that I was included in the teaching and learning process especially when there is a sign language interpreter available but when there is no sign language interpreter, I do not feel included. (**Sometimes included**)

**Interviewer: can you explain to me how you interact academically with your colleagues without hearing problems?**

Respondent: There are some students without hearing problems who understand sign language so as a hard of hearing student like me I feel comfortable interacting with some hearing colleagues because if there is



something I could not hear, they will interpret for me. That makes it easy to interact with hearing students. (**Positive interaction**)

**Interviewer: have you been in any group discussion or group project with your peers without hearing problems before?**

Respondent: During group discussion, students without hearing problems are aware of students with hearing impairment's involvement in the group so anytime we do a discussion, students without hearing problems will ask me if I have any idea to contribute and after the work, they will send me the original work for me to read and understand. (**Involved in group discussion/work**)  
(**Challenges in communication**)

**Interviewer: what is your opinion on how hearing loss affects academic participation?**

Respondent: Yes, being hearing impaired affects my academic participation because I always get information late and students without hearing problems get information before me (**late information**)

**Interviewer: what can you say are the major challenges you face in your academic participation in college?**

Respondent: Getting resource in this college is very difficult and also, this college don't have enough professional sign language interpreters (**unprofessional sign language interpreter**) (**Lack of resources**)

**SECTION C****Objective 2: Social experience at the College**

**Interviewer: how do you facilitate your social participation in the college community?**

Respondent: We have social activities like sports. The college selects only students without hearing problems to join but we students with HI never get a chance to participate, we have entertainment events and for that one it is difficult for a students like me to join (**Sports**). At my dormitory I have some friends without hearing problems who I usually teach sign language to. So anytime I have a problem or any announcement at the dormitory, they would interpret for me to understand. (**Friendship**)

**Interviewer: what was it like without a sign language interpreter?**

**Respondent:** Without a sign language interpreter it will be difficult to participate in social activities on campus. So, as I said earlier, we have some students without hearing problems who understand our language and if I am participating in an event where students without hearing problems do not understand our language I use gestures to communicate with them. (**Communication difficulty**) (**Gestures**)

**Interviewer: how do you interact with your colleagues without hearing problems socially?**

Respondent: When I am interacting with students without hearing problems, they want to communicate with me but they know that I am hearing impaired so they use gestures to communicate with me. And I inform them that if they want to learn sign language, they should come to me so this would go a long

way for more students without hearing problems to come and learn. I also get to interact with them more (**gestures**)

**Interviewer: have you participated in a field trip or an excursion before?**

**How was the experience?**

Respondent: Since I came to the school, we never had any excursion before but we have field observation at various schools for the deaf and its designed for students with hearing impairment to observe any school for the deaf of your choice and we submit a report of it (**no excursion but a field observation**)

**Interviewer: How do you feel when you attend students' gatherings in the College?**

Respondent: I feel good anytime when there is sign language available at the students gathering (**I feel good**)

**Interviewer: how was it like when you attended students' gatherings with your colleagues without hearing problems in the college?**

**Respondent:** there are students who can make me understand everything.....  
(**Making student an interpreter**)

**Interviewer: have you ever felt isolated among students without hearing problems?**

Respondent: yes

**Interviewer: Explain why?**

Respondent: I ever felt isolated among students without hearing problems before because it is boring when students around me don't know how to communicate with me in sign language or maybe if I wanted to join them, I feel that they don't need me in their conversation. (**Felt isolated**) (**Boring**)

**Interviewer: how do you feel about their attitude toward you?**

Respondent: Students without hearing problems who do not have an idea of me as a hard of hearing student behave very bad because they think we don't know anything (**misbehaving toward me socially**)

**Interviewer: do you belong to any student body or club on campus?**

Respondent: yes, we have sign language association where I hold position as secretary (**Deaf owned association secretary**)

**Interviewer: what can you say are the major challenges you face in your social interaction on campus?**

Respondent: lack of proper training of college staff and students without hearing problems about students with hearing impairments' background (**improper training of school authority**)

#### **SECTION D**

##### **Objective 3: Supportive services provided on campus**

**Interviewer: Can you please talk more about the support services provided for students with hearing impairment in the college?**

Respondent: We have sign language interpreters, we also have a resource centre for students with HI and visually impaired, we also have mobile phones and laptops used to assist students with HI to be able learn and do other things. (**Few professional sign language interpreters**) (**Few Technological devices**) (**Centre**)

**Interviewer: What are the challenges in accessing these support services?**

Respondent: My big challenge of accessing this supportive service is sign language interpreter, for example, if the lecturer teaching a topic "statistic" and sign language interpreter does not have prior skill about this subject matter



so anything we have that particular lecture, sign language interpreter always finds it difficult to explain it clearly to me and other mates with HI. (**Assign task to interpreters with no prior experiences**)

**Interviewer: how do you fully participate in the teaching and learning process with respect to the support service offered to you?**

Respondent: I don't fully participate the teaching and learning process with respect to the supportive service because the services given to me are not professional. I want someone who is well trained to render proper service in order to reach maximum understanding (**unprofessional support service**)

**Interviewer: Can you tell me about sign language interpreters provided by the college?**

Respondent: Sign language interpreter in this college is good but their approach used to interpret for me is not helping me at all. (**Unprofessional interpretation**)

**Interviewer: how effective are the services provided to you?**

Respondent: I don't really think the service is effective because of the lack of skilful sign language interpreter but rest of the services are effective. (**Lack of competent sign language interpreter**)

**Interviewer: how do you prefer the sign language interpreter to interpret for you?**

Respondent: I want someone who can tutor students with HI after the lecture so that we understand the lesson better. (**Familiar sign language interpreter**)

**Interviewer: what other support services do you require that are not provided in the college?**

Respondent: I have no idea.....



## APPENDIX F- CODING SCHEME

Main themes	Sub-themes	Categories of Codes	Examples of patterns of responses
Access to information	Sign language interpreter	Availability of sign language interpreter	... they always make sure a sign language interpreter is available <b>(Participants 2)</b> .
		Accessing information from class rep	I get information through sign language interpreter and sometime also from class rep... <b>(Participants 10)</b>
	Inadequate information due to sign language issues	Dissatisfaction in interpretation	... sign language interpreter would interpret in brief... <b>(Participants 5)</b>
		Missing lectures	I don't get all the information I needed because sign language interpreters miss lectures frequently <b>(Participants 1)</b>
		Unskilful sign language interpreter	I don't get all the information I needed because of unskilful sign language <b>(Participants 3)</b>
Sign language interpreting service at lectures	Poor sign language interpreting services	Brief interpretation	...they interpret in brief instead of all the information... <b>(Participants 3)</b>
		Decline in good interpretation	... when I moved to level 200 the interpreter made things hard for me... <b>(Participants 11)</b>

		Words by word interpretation	... they always sign it word by words which I find difficult to understand... <b>(Participants 9)</b>
	Few professional interpreters		Yes, we have sign language interpreters here but the professional ones are not enough and those unprofessional ones are always interpreting for most of the class <b>(Participants 8)</b>
Communication at lectures	Sign language	Sign language	They usually use a microphone to speak to the class while students with HI focus on interpretation... <b>(Participants 1)</b>
		Lecturer communication between student and interpreters	Some of the lecturers who know how to communicate with me in sign language sign to me and other lecturers...speak to the interpreter to interpret to me. <b>(Participants 11)</b>
	Writing	Pen and paper	Some of the lecturers communicate to me using pen and paper if interpreter is not around <b>(Participants 2)</b>
View on academics in relation to colleagues without hearing problems	Positive academic performance	Equally doing their best	We are all equally doing our best in academics... <b>(Participants 9)</b>
	Negative academic	students without hearing problems	Students without hearing problems are

	performance	are far ahead	far ahead of me...like students without hearing problems get information before me so I can say students without hearing problems do better academically than us ( <b>Participants 10</b> )
		Students without hearing problems do better because of poor sign language interpretation	...sign language interpreters are not professional so my colleagues without hearing problems are ahead ( <b>Participants 2</b> )
		Do not benefit academically	students without hearing problems benefit more than me because of the kind of sign language interpretation used... ( <b>Participants 8</b> )
Experiences with the seating arrangement in the lecture hall	Special seating arrangement	Front seating	I always sit in front of the classroom because of the sign language interpreter ( <b>Participants 2</b> )
Inclusion in the teaching and learning process	Inclusion through sign language interpreter	Sometimes included	I felt that I was included... when there is a sign language interpreter...when there is no sign language interpreter, I do not feel included ( <b>Participants 4</b> )
Academic interaction with colleagues without hearing problems	Positive interaction	Good	...I feel comfortable interacting with some colleagues without hearing problems because if there is

			something I could not hear they will interpret for me. That makes it easy to interact with students without hearing problems <b>(Participants 4)</b>
	Negative interaction	Bad	I don't feel like interacting with students without hearing problems in my classroom because not all of them understand our culture and disability status. <b>(Participants 2)</b>
Participation in group discussion or projects	Involved in group activities	Group discussion/work	students without hearing problems are aware of students with HI involvement in the group... <b>(Participants 4)</b>
	Unfavourable experiences with group activities	Challenges in communication	Whenever we have group work with students without hearing problems, I am side-lined because they don't know how to communicate with me... <b>(Participants 5)</b>
		Taken for granted	.... you see students without hearing problems will not take me seriously if I make any contribution to the work.... <b>(Participants 5)</b>
	Favourable experiences	Helpful group members who are	...anytime when they are doing the

	with group activities	without hearing problems	discussion, students without hearing problems will ask me if I have any idea to contribute ... after the work, they will send me the original work for me to read and understand <b>(Participants 4)</b>
Effect of hearing loss on academic participation	Unfavourable experiences	Late information	Yes, ... being hearing impaired affected my academic participation because, I always get information late and colleagues without hearing problems get information before me <b>(Participants 4)</b>
		Difficulty in comprehending lessons	...you see the way I am struggling to cope with my academic participation without a sign language interpreter... <b>(Participants 5)</b>
		Less focus on students with HI	Most of the lecturers focus on students without hearing problems more than me... <b>(Participants 7)</b>
		Inability to partake in certain courses	...I want to study Ghanaian language but unfortunately students with HI are not eligible... <b>(Participants 2)</b>



	Unaffected academics	Does not affect academics	It doesn't affect my academic participation because I have been learning alongside with people without hearing problems during my early childhood so things are the same here in this college. <b>(Participants 10)</b>
The major challenges faced during academic participation	Unproductive courses	Courses	They are some courses that doesn't benefit student with HI like music <b>(Participants 10)</b>
	Lack of professional sign language interpreters	Sign language interpreter	This college does not have enough professional sign language interpreter <b>(Participants 4)</b>
		Struggling	... I'm struggling to cope with my academic participation without sign language interpreter <b>(Participants 5)</b>
	Lack of resources	Lack of resources	Resources to assist students with HI in teaching are lacking <b>(Participants 5)</b>
	Receiving Information late	Late information	... I always get information late... <b>(Participants 4)</b>
	Lack of attention	More attention on hearing student	Most of the lecturers focus on students without hearing problems more than me... <b>(Participants 7)</b>

Social participation experience	Participation in social activities	Morning devotion	We have morning devotion here ... <b>(Participants 5)</b> We have social activities like sports... <b>(Participants 4)</b>
	Coping Strategies	Pen and paper communication	...whenever I see students without hearing problems gathering in great number, I ask them questions using pen and paper ... <b>(Participants 1)</b>
		Friends	I have some friends who are without hearing problems ...so anytime I have a problem... they would interpret for me... <b>(Participants 4)</b>
	Feelings during social participation	Excluded	...but the college selects only students without hearing problems to join but we students with HI never get a chance to participate <b>(Participants 4)</b>
		Disappointment	I felt very disappointed if there is no sign language interpreter at the social activities ... <b>(Participants 1)</b>
Social interaction between students with HI and students without hearing	Ways of interaction	Communication difficulty	Interacting with colleagues without hearing problems is something that I found very difficult... <b>(Participants 3)</b>

problems		Gestures	...sometimes I have to talk to them using gestures... <b>(Participants 2)</b>
		Pen and paper	...those who can't sign, ... or sometimes they use pen and paper <b>(Participants 11)</b>
	Participation in field trips or excursions	School observation	We never had any field trip before and it is only a school observation.... <b>(Participants 11)</b>
Attendance and participation at students' gathering	Reactions towards social gatherings	Abandonment	I am not able to attend students' gatherings if there is no sign language interpreter there.....I always felt left out... <b>(Participants 5)</b>
		Boring	.... It is boring when students around me don't know how to communicate with me in sign language.... <b>(Participants 5)</b>
		Positive attitude	Those who know more about students with HI respect and those who do not, do not respect at all ... <b>(Participants 9)</b>
	Attitude of students without hearing problems towards students with HI socially	Isolation	I sometimes felt isolated from students without hearing problems because there are some hearing students who don't know anything about me and sometimes, they make fun of me and negative towards me <b>(Participants 1)</b>

		Respect	Students without hearing problems who know me are nice toward me but those who are not close to me do not show any respect. <b>(Participants 12)</b>
	Involvement in associations	No involvement	I don't belong to any student body because there was one student with HI who wanted to become SRC president but unfortunately the school didn't allow it <b>(Participants 7)</b>
		Some involvement	Yes, we have a sign language association where I hold the position of secretary. <b>(Participants 4)</b>
Major challenges faced in social interaction	Ignorance	Education	The school should have orientation for all students without hearing problems and educate them about deaf culture, attitude and behaviour. <b>(Participants 5)</b>
	Sign language interpreters	Unavailability	Sign language interpreters are always not available <b>(Participants 12)</b>
Supportive services provided	Sign language interpreting services	Sign language	We have a sign language interpreter available in this college... <b>(Participants 2)</b>
	Resource Centre	Centre	Yes, we have sign language interpreters and a resource centre ... <b>(Participants 6)</b>

Challenges in accessing support service	Limited access to sign language interpreters and resources	Staying outside campus	... sometimes we have lectures in the evening and most of the sign language interpreters don't stay on campus so it is difficult... <b>(Participants 3)</b>
		Delay in services	They always delay when accessing interpreters for us... <b>(Participants 10)</b>
		Difficulty locating resource centre	For the resource centre, it is located at the corner of the college and I sometimes find it difficult to go and learn there... <b>(Participants 5)</b>
		Lack of equipment	We have a resource centre but things needed to make the resource centre run effectively are lacking. For example, no computer, audiometer, printer... <b>(Participants 1)</b>
Participation in the teaching and learning process through supportive services	Services	Professional interpreter	It depends on how skilful the person is..... <b>(Participants 3)</b>
		Resource Centre	I don't fully participate in the teaching and learning process because the services given to me are not enough <b>(Participants 11)</b>
	Sign language interpretation Services	Unprofessional	.... I don't want interpreters who are not professional to interpret for me in courses that I find difficult.



			<b>(Participants 1)</b>
		Not enough	Sign language interpreters provided by this college are not enough.... <b>(Participants 12)</b>
	Effectiveness of Support Services	Ineffective	I don't really think the service is effective.... <b>(Participants 4)</b>
	Preferable method of sign language interpretation	Exact English interpretation	...I don't like to see most interpreters sign in exact English.... <b>(Participants 1)</b>
		Communicate in Deaf ways	I want the sign language interpreter to sign like the way people with HI communicate.... <b>(Participants 2)</b>
	Additional supportive services.	Hearing aid	It will be good to have a hearing aid. <b>(Participants 2)</b>
		Library support	Library support and some teaching and learning resources for students with HI <b>(Participants 8)</b>
	Live captioning	Live captioning during lectures will be of help <b>(Participants 9)</b>	

**APPENDIX G- PERMISSION LETTER**

**PRESBYTERIAN COLLEGE OF EDUCATION**

**AKROPONG AKUAPEM**

(FOUNDED 1848)



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Bankers: GCB Bank Akropong-Akuapem

Our Ref: .....  
Your Ref: .....

Date: 9<sup>th</sup> March, 2022

UNIVERSITY OF CAPE COAST  
FACULTY OF EDUCATIONAL PSYCHOLOGY  
CAPE COAST

PRINCIPAL'S SECRETARY  
PRESBYTERIAN COLLEGE OF EDUCATION  
AKROPONG - AKUAPEM  
RECEIVED  
DATE: 15/03/2022

Dear Sir,

**DATA COLLECTION FOR RESEARCH**

By this letter, I wish to indicate that Mr. Martin Kwasi Ampofo, a student with index number EF/SDP/19/0006 reported to the Presbyterian College of Education, Akropong on 28<sup>th</sup> January, 2022 to seek permission to collect data for his research.

He obtained the permission and consequently gathered the required data.

I hope the information given would be useful to your office.

Thank you.

Yours faithfully,

VICE PRINCIPAL  
PRESBYTERIAN COLLEGE OF EDUC.  
AKROPONG-AKUAPEM

**MS. VIVIENNE OCRAN**  
**AG. VICE PRINCIPAL**