

UNIVERSITY OF EDUCATION, WINNEBA

**CURRICULUM ADAPTATION FOR THE INCLUSION OF DEAF
STUDENTS AT PRESBYTERIAN COLLEGE OF EDUCATION,
AKROPONG AKUAPEM IN GHANA**



MASTER OF PHILOSOPHY

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UNIVERSITY OF EDUCATION, WINNEBA

**CURRICULUM ADAPTATION FOR THE INCLUSION OF DEAF STUDENTS
AT PRESBYTERIAN COLLEGE OF EDUCATION, AKROPONG AKUAPEM -
GHANA**



**A Thesis in the Department of Special Education, Faculty of Education Studies,
Submitted to the School of Graduate Studies in Partial Fulfilment of the
Requirements for the Award of a Degree of
Master of Philosophy
(Special Education)
in the University of Education, Winneba.**

2023

DECLARATION

Student's Declaration

I, **Yaw Gyebi** declare that this thesis, apart from quotations and references contained in published works which have all been identified and duly acknowledged, is entirely my own original work, and it has not been submitted, either in part or whole, for another degree elsewhere.

Signature

Date

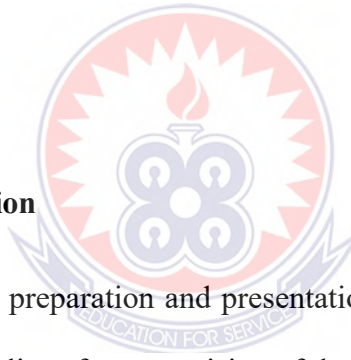
Supervisor's Declaration

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

Name: Prof. Nyadu Offei (Supervisor)

Signature

Date.



DEDICATION

To My Children: Caroline Gyebi, Phyllis Gyebi and Huldah Gyebi



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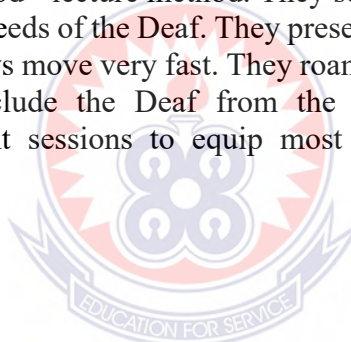
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ABSTRACT

This study sought to explore how tutors of the Presbyterian College of Education, Akropong adapt the general curriculum for the inclusion of students who are Deaf. Using a qualitative approach with a constructivist phenomenological design, the study employed a semi-structured interview and observation to elicit data from fourteen participants made up of seven tutors and seven students who are Deaf. The data were analysed using deductive thematic approach. The findings revealed that in relation to content adaptations, the tutors expose the whole class to the level appropriate vocabularies and concepts. However, during teaching and learning, the tutors take measures to explain vocabularies and abstract concepts. Some tutors use teaching and learning materials like map and globe to teach abstract concepts. Others allow learners to use their mobile phones to search for meaning of words on the internet, others also use pictures, sketches and demonstrations to explain abstract concepts during teaching and learning. Again, in relation to instructional methods adaptation, the tutors of PCE, employ same teaching methods for inclusive classes but in choosing the teaching methods, they consult specialist in deaf education. They employ small group discussions, demonstrations, role-play, and problem-solving approaches to involve all the learners most especially the Deaf. But there were some tutors who still go by the traditional teaching method - lecture method. They see the sign language interpreter as responsible to serve the needs of the Deaf. They present audio content with no captions, those with captions always move very fast. They roam a lot in the class during teaching and learning which exclude the Deaf from the lesson. These findings call for professional development sessions to equip most tutors of PCE with curriculum adaptation skills.



CHAPTER ONE

INTRODUCTION

1.0 Background to the Study

Curriculum adaptation is considered one of the appropriate inclusive education practices for serving the diverse needs of all learners in an inclusive setting (Agbenyega & Deku, 2011; Kuyini & Abosi, 2011; Lipkin & Okamoto 2015; UNESCO, 2018; Workgroup of Teachers of Learners who are Deaf, 2018). The World Declaration on Education for All reported that the most urgent priority in education is to remove any impediment that hampers students' participation to ensure access for all (UNESCO, 1992) This educational policy underscores the need for more flexible adaptive systems to cater for differential needs of all learners in inclusive classroom to result in educational success for all (EFA, 2004 cited in Operti, & Zhang, 2014; SDGs. 4.5 cited in Ydo, 2020).

The general curriculum is one of the adaptive systems which defines all acceptable activities carried out in equipping learners with the requisite knowledge, skills and values under the watch of the school. UNESCO (2018) explained curriculum as what is learned, how it is taught, the resources used to support delivery, and how it is assessed. The general curriculum unintentionally places barriers before the Deaf (Sinead, et al. 2020), making it so challenging for them to access the curriculum content, follow its' teaching methodology, and navigate through assessment procedures successfully on their own.

According to Iliana (2015), most learners with special needs mostly, Deaf students complain about complex sentence structures, abstract concepts, vocabularies and content structure as factors which exclude them from full access to the general curriculum and recommending content adaptations as support to make the content

accessible to the Deaf. Iliana. (2015) explained that content adaptations reduce vocabulary difficulties, the abstractness of concepts and the complexity of sentences or content structure serve as barriers to curricular access by diverse learners, mostly the Deaf in inclusive classrooms.

Mukhopadhyay, et al. (2012) noted that teaching methods are prescriptive or rigid in the general curriculum. It is a factor that excludes learners with special needs, especially the Deaf from full access to the general curriculum. However, Mukhopadhyay, et al. (2012) discovered that when teachers adapt their teaching methods based on the needs of their learners, it facilitates their inclusion.

Goffman, (2014) also reported that academic failure experienced by many learners with special needs, is partly attributed to unfriendly assessment procedures. Explaining further, Goffman added that some assessment instructions, test items, mode of response and the assessment location could be factors which can impede their success in the assessment. Teachers of inclusive classes were advised to adapt assessment procedures to serve learning needs and style of their learners, to enable all learners to read the test items and procedures, understand everything clearly and provide appropriate responses in a learner-friendly mode.

OECD, (2020) emphasised that teachers are drivers of the general curriculum and expected them to adapt the curriculum to serve the diverse needs of all learners including, the Deaf in inclusive settings. Curriculum adaptation refers to changes, flexibilities and accommodations allowed in the general curriculum to make equal access to the curriculum possible for all learners in inclusive settings. When the curriculum is adapted, it puts both teachers and learners in a comfort zone for participatory teaching and learning (Sinead, et al. 2020).

However, (Sinead, et al. 2020) reported that many teachers find curriculum adaptation a burden, so they stick to a one-size-fit-all approach in their implementation of the general curriculum, which as a result, excludes learners with special needs, especially the Deaf, from full access to the curriculum.

What is the situation in colleges of education in Ghana, especially Presbyterian College of Education, Akropong Akuapem (PCE) - the first teacher training college in Ghana and the first College to train pre-service teachers who are Deaf alongside their hearing mates since 1997. The tutors of PCE implement the general curriculum during teaching and learning. PCE provides sign language interpreting support service at every lecture to bridge the communication gap between the hearing tutors, the hearing students and students who are Deaf in the classroom.

As a sign language interpreter at PCE, I received a lot of complaints from the students who are Deaf about their difficulty understanding what they read from their course manual or textbooks. According to the students, the books are full of difficult vocabularies, abstract concepts, complex sentence structures and complex content structures which are difficult to understand when they read. Upon receiving more of these complaints, I decided to find out how the tutors adapt their curriculum (textbooks or course manuals) for inclusion of the students who are Deaf. So, I observed the tutors planning their lessons at professional development sessions, but I never saw them discussing how they can adapt their content, teaching methods, and assessment procedure for inclusion of the Deaf.

In the researcher's quest for literature to confirm PCE tutors' experiences of curriculum adaptation for inclusion of the Deaf, it came to light that most of the studies on curriculum adaptation were conducted outside Ghana (Adewumi et al., 2017; Bohning, 2000) and their emphasis was on meeting the needs of learners with

disabilities and learners with special needs in general. The few conducted in Ghana (Abdul-Razak & Abosi, 2014; Apau, 2020; Deku & Vanderpuye, 2017) were conducted at the pre-tertiary level in regular and special school settings. The studies encouraged teachers to practice curriculum adaptation for inclusion of all learners. None of the studies assessed how tutors adapt the general curriculum for inclusion of the Deaf at the college or university level in Ghana, hence the need to fill this research gap.

1.1 Statement of the Problem

Inclusive education aims at accepting learners of diverse backgrounds, love them and provide them the needed support to facilitate their equal access of the general curriculum (UNESCO, 2018). Presbyterian College of Education, Akropong Akuapem is the first teacher training college in Ghana and the first college to train pre-service teachers who are Deaf alongside their hearing mates in the same classroom since 1997.

As a sign language interpreter at PCE, I always received complaints from the students who are Deaf about their difficulty understanding what they read from their course manual or textbooks. According to the students, the textbooks are full of difficult vocabularies, abstract concepts, complex sentence structures and contain no pictures or diagrams to complement their understanding. I observed at professional development sessions that, tutors hardly discussed how they can adapt their content, teaching methods, and assessment procedure for inclusion of the students who are Deaf during teaching and learning. Now the question is how do tutors of PCE adapt the general curriculum for inclusion of the students who are Deaf in the classroom? What has been the perception of the Deaf, on the curriculum adaptation services they receive from their tutors? The answers to the questions above are important for decision making on inclusive education at the college level most especially PCE, Akropong.

However, in the researcher's quest for literature to describe how PCE tutors adapt the general curriculum for inclusion of the Deaf, it came to light that, most studies on curriculum adaptation were conducted outside Ghana (Adewumi, et al., 2017; Bohning, 2000; Mara, & Mara, 2012) and their emphasis was on meeting the needs of learners with disabilities and learners with special needs in general. The few studies conducted in Ghana (Abdul-Razak & Abosi, 2014; Apau, 2020; Deku & Vanderpuye, 2017) were conducted at the pre-tertiary level in regular and special school settings. The studies encouraged teachers to practice curriculum adaptation for inclusion of all learners. None of the studies accessed how tutors adapt the general curriculum for inclusion of the Deaf at college or university level in Ghana, hence the need to fill this knowledge gap.

1.2 The Purpose of the Study

The study was purposed to explore how tutors of PCE, Akropong Akuapem adapt the general curriculum for inclusion of students who are Deaf.

1.3 Objectives of the Study

The study sought to:

- a) explore how tutors of PCE adapt their content for inclusion of the Deaf,
- b) investigate how tutors of PCE adapt their teaching methodology for inclusion of the Deaf,
- c) explore how tutors of PCE adapt their assessment procedure for inclusion of the Deaf.
- d) find out the perception of the Deaf on curriculum adaptation services they receive from tutors.

1.4 Research Questions

The study was driven by the research questions below:

1. How do tutors adapt the content of the curriculum for inclusion of the Deaf?
2. What adaptations do tutors make to their teaching methodology for the inclusion of the Deaf in the College?
3. How do tutors adapt their assessment procedures for inclusion of students who are Deaf in the College?
4. What is the perception of students who are Deaf on curriculum adaptation services they receive from tutors?

1.5 Significance of the Study

The findings of this study would impact in the areas of research, practice and policy. In terms of research, the results of this study would contribute to reduction of knowledge deficiency of tutors in the areas of curriculum adaptation for inclusion of the Deaf at PCE, Akropong Akuapem. In terms of practice, the study would serve as a relevant material for educational practitioners such as, tutors and learners of Colleges of Education and other people who have interest in this area of study to practice how to adapt the general curriculum for inclusion of the Deaf.

The results of this study would also inform relevant stakeholders (Ministry of Education, Curriculum Division, Directorates of Education and the Special Education Unit to formulate formidable policies on curriculum adaptation at inclusive settings in Ghana.

In terms of theory, the results of the study would serve as a reference material for future researchers and teachers in both tertiary and pre-tertiary institutions who teach

inclusive classes to have knowledge on curriculum adaptations for serving learners with diverse needs in the classroom.

1.6 Delimitation of the Study

Among all the 46 colleges of education in Ghana, this study was delimited to only Presbyterian College of Education, Akropong Akuapem because it is the only college, which trains students who are Deaf among their hearing peers. Furthermore, the study was delimited to tutors who teach the Deaf at inclusive settings on the assumption that, they have much experience when it comes to curriculum adaptation and are required to cater for the differential needs of all their students including the Deaf.

1.7. Limitations

Generally, the study was carried out successfully. However, the researcher encountered some challenges which are worth mentioning: Due to the shift system being run in colleges of education in Ghana as at the time of this study, data collection from both tutors and students became a challenge. Although adaptation was made by using zoom conference, what's app platform linked to google form for the data collection, it took the researcher so many weeks to uncover this idea. Again, the researcher being less competent in the use of these technology had to go for tutorials which also took a lot of his time. Again, some of the students delayed more than one month before responding to the questions.

1.8 Operational Definition of Terms

The terminologies below were used in the study in the context below:

Deaf: A person whose hearing loss is deviated making it impossible to understand speech or sound with or without an amplification device.

Curriculum: In the context of this study, curriculum refers to written experiences (textbooks) that students are taken through under the supervision of a school.

Adaptation: This refers to adjustments and accommodations made or allowed in the curriculum content, teaching methodology and assessment procedure to serve the diverse needs of learners with special education needs.

Inclusion: In the context of this study, “inclusion” simply means participation.

1.8 Abbreviations

PCE: Presbyterian College of Education, Akropong Akuapem

NTS: National Teachers’ Standards

SDGs: Sustainable Development Goals

UNESCO: United Nations Educational, Scientific and Cultural Organization.

TLRs: Teaching Learning Resources.

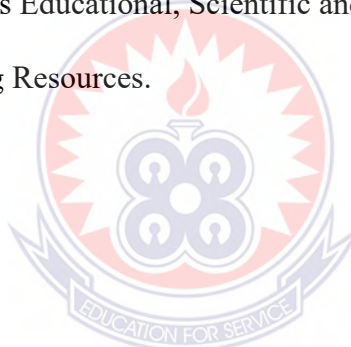
PT: Participant Tutor

PS: Participant Student

TH: Typical Hearing

OECD: Organisation for Economic Co-operation and Development

IDEA: Individuals with Disabilities Educational Act



1.9 Organization of the Study

The study is made up of five chapters. The first chapter introduced the study with the background to the study, statement of the problem, objectives, research questions, significance and delimitation of the study. Chapter two focused on the literature review and theoretical orientations of the study. Chapter three presented the methodology of the study which included the profile of the study setting, the research philosophy, research design and approach, study population, sample and sampling technique, data collection instruments, data collection (fieldwork) procedure, data

analysis and ethical concerns. Chapter four reported the results and discussion, while chapter five covered the summary, conclusions and recommendation of the study.



CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter presents a review of works done by others related to this study. The discussion has been organized under the following sub-headings:

1. Theoretical framework (Social Model of Disability)
2. The General Curriculum
3. Adaptation of Curriculum Content for the deaf
4. Adaptation of Teaching Methodology for the deaf
5. Adaptation of Assessment Procedure for the deaf
6. The Perception of the Deaf on Curriculum Adaptation Services They Receive
7. Summary of Literature Review

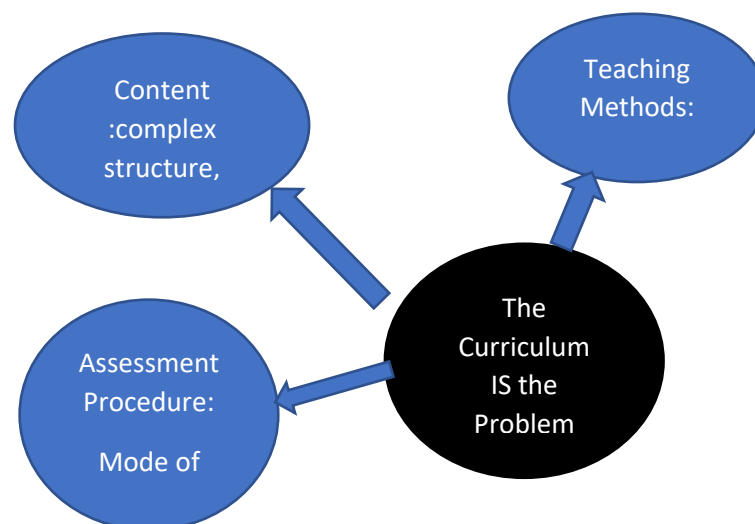
2.1. Theoretical Framework of the Study (Social Model of Disability)

Theoretical framework is analytical tool used to organize and explain general set of assumptions about the nature of phenomena. It attempts to clarify why things are the way they are based on theories. It helps to formulate research problems and defines the relevant data (Creswell, 2018). There are many theories which apply to different fields of study such as education, work and development. The underpinning theory of this study is the social model of Disability. The social model of disability holds the assumption that, disability is not solely a medical condition, but because of social barriers and attitudes towards individuals with disabilities (Lisicki, 2013). According to this model, the emphasis should be placed on addressing societal and environmental factors that hinder the full participation and inclusion of individuals with disabilities.

Applying this model in the context of curriculum adaptation for inclusion of the Deaf, it is essential to recognize that the exclusion experienced by Deaf individuals at inclusive settings because society fail to provide adequate adaptations and accommodations rather than solely being a consequence of their deafness. In this lens, the focus should be on fostering an inclusive education that ensures equal opportunities for Deaf students to access and engage with the curriculum. Curriculum adaptation for inclusion of the Deaf may involve implementing various strategies such as providing sign language interpreters, subtitles for audio-visual materials, visual aids and diagrams, incorporating Deaf culture and history into the curriculum and promoting inclusive classroom practices that encourage collaboration and participation of both Deaf and hearing students. By adopting curriculum adaptation practices, educational institutions can actively facilitate inclusion of the Deaf at inclusive settings (McCarthy & Woodard, 2018).

In this context, the attention then shifts from the Deaf as being the inherent of the problem to the general curriculum as shown in the diagram 1. bellow.

Figure 1: The Social Model of Disability.



Source: Adapted from Lisicki, (2013).

2.3 The Curriculum

Many studies have argued that some writers and curriculum thinkers advocate for their preferred definition of curriculum, which may emphasize other connotations and meanings. It could be why Mizanur, (2022) explained that other curriculum scholars might be concerned about either restricting what the term means or establishes. However, curriculum scholars such as Zongyi, (2018) have criticized reviewers in the field of curriculum that focus only on some facets of the curriculum while ignoring others. One-sided and biased definitions that only capture a few of the various characteristics and dimensions of the curriculum should not be entertained since they also have more misleading the way education is viewed and conducted.

Over the years different philosophies of education have existed and these have had huge impact on the way curriculum was and is viewed. Mizanur, (2022) asserted that in the determination of the curriculum, the first step must obviously be to classify the philosophical thinking behind a proposed curriculum since such a background will help to determine leading kinds of activities which constitute human education. To this principle there can be no objection. Each curriculum that is in existence has a philosophical underpinning which determines the way such a curriculum is organised and implemented. It is for this reason that in a paper such as this one it is inevitable that a discussion on the influence of Philosophy on how a curriculum is defined must be done. The philosophy of education has over the years guided the development of curriculum in a very significant way.

The reason is obvious since the way a curriculum is defined from educational philosophical point of view, determines its construction. The discussion of general philosophy is, however, beyond the scope of this paper, but let's relate the definition of a curriculum to some of the educational philosophical thinking as a way of showing the

existing relationship and thus widening the comprehension of a curriculum. The philosophy of education facilitates understanding of the world through school activities and the body of knowledge. Linden, et al. (2017), acknowledged that philosophical assumptions are always present in any curriculum, whether they are consciously reflected on or not. Additionally, Colby, et al. (2013) observed that there is an agency that dictates continuous appraisal and reappraisal of the roles of educational institutions, which calls for a philosophy of education. Without philosophy, curriculum developers would be without direction as a foundation for organising and implementing what they would be trying to achieve.

Furthermore, Colby, et al. (2013) pointed out that almost all elements of curriculum are based on a philosophy. Thus, philosophy is in a way one of the criteria for determining the aims of a curriculum. Aims or purposes are statements of value that are based on philosophical beliefs. The means represent the processes and methods which reflect philosophical choices. The ends connote the facts, concepts and principles of the knowledge or behaviour learned, that is, what is important to learning. Hence philosophy is essential in formulating and justifying an educational basis of procedures and activities (Colby, et al. (2013). Four major philosophies have received the attention of educators over the years. Although these philosophies are known by various names, the four are referred to as Social reconstructionism, Progressivism, Essentialism and Perennialism.

2.3.1 Social Reconstructionism

The social reconstructionist philosophy is based on the early socialistic and utopian ideas of the nineteenth century. It was economic pressure that gave birth to this philosophy (Ornstein and Hunkins, 1998 cited in Colby, et al. 2013). At the beginning

of social reconstructionism, the progressive educational movement was still popular, but a few significant progressive educators became disillusioned and impatient with the American education reform. These educators argued that progressivism put too much emphasis on learner centred education which mainly served the individual learner in middle class and private schools. What was needed was more emphasis on society-centred education that took into consideration the needs of society and all classes of people, not only the middle class.

Tuomela, R. (2011) contended that social reconstructionism is interested in the relationship between the curriculum and the social, political and economic development of society. Thus, a curriculum in this context is defined in terms of how it will help learners acquire skills, values, knowledge and attitudes that will help them solve social, political and economic challenges of society. Social reconstructionist are convinced that a curriculum should bring improvements in society (Tuomela, R. (2011). Social reconstructionism holds the view that educational institutions should not simply transmit the cultural heritage or simply study social problems but should become agencies of solving social, political and economic problems (Tuomela, R. (2011).

2.3.2 Progressivism

Progressivism emerged in the late nineteenth and early twentieth centuries (Milkis, 2023). The progressive movement in education was also part of the largest social and political movement of reform in America. The educational roots of progressivism can be traced back to the work of John Dewey in the early twentieth century. In his most comprehensive work, *Democracy and Education*, Dewey claimed that democracy and education go hand in hand. Dewey viewed an educational institution, such as a school, as a miniature democratic society in which learners could learn and practice the skills and tools necessary for democratic living (Milkis, 2023).

According to progressivist, the skills and tools for learning include problem-solving methods and scientific enquiry. Progressivism placed more emphasis on how to think, not on what to think. The progressive movement consisted of many components. Among the most influential were the learner centred and the activity-centred curriculum. As Ornstein and Hunkins (1998 as cited in Milkis, 2023) pointed out, the emphasis on subject matter was replaced by emphasis on the learner, meaning that the needs and interests of the learner dominated the curriculum designing process. A definition of a curriculum from this point of view will have to place the needs of the learner first before any other. A curriculum slogan such as learning by doing is what the progressivists promote in curriculum construction. Thus, this educational philosophy would promote a curriculum where learners would test ideas by active experimentation.

2.3.3 Essentialism

As stated by Sahin, (2018), this is another form of the traditional and conservative philosophy. Rooted in both idealism and realism, essentialism emphasises an academic subject-matter curriculum and encourages educators to stress order, discipline and effort (Sahin, 2018). It is important to note that during the period of essentialism, progressivism emerged for a short period of time as the most popular educational philosophy. Due to essentialist criticism, progressivism experienced a somewhat rocky path. In 1957 essentialism reclaimed its predominant position (Oliva, 1997 as cited in Sahin, 2018).

The purpose of an essentialist curriculum is the transmission of the cultural heritage. Unlike the social reconstructionist, who want to change society, the essentialists want to preserve it (Sahin, 2018). According to Sahin, (2018), an essentialist curriculum seeks to promote the intellectual growth of the learner and thus

this school of thought promote essential subjects; namely English, Mathematics, Science, History and foreign languages at the secondary level. Carl, (2012) acknowledged that, according to essentialists, knowledge is based on what is termed as essential skills, academic subjects, and mastery of concepts and principles in the subject matter.

He further explained that academic subjects form the core of the essentialist curriculum. Organised courses are the vehicles for transmitting the culture and promoting mental discipline. In a sense, the essentialist tailors the learner to the curriculum, whereas the progressivist tailors the curriculum to suit the learners' needs and interests (Sahin, 2018).

The curriculum of essentialists is dominated by hard academic inflexibility and training and a good deal of homework. The student must be made to work hard at his or her own studies (Milkis, 2023). In the essentialism point of view, the teacher is considered a master of a subject or discipline. Therefore, a curriculum is defined in terms of its focus on teaching the essential elements of academic and moral knowledge which constitute a strong core curriculum and high academic standards.

2.3.4 Perennialism.

Perennialism is regarded as the oldest and the most conservative education philosophy rooted in realism. The purposes of education according to perennialism are the disciplining of the mind, the development of the ability to reason, the pursuit of the truth and the cultivation of the intellect (Sahin, 2018; Milkis, 2023). Unlike progressivists who believe that truth is relative and changing, the Perennialists believe that truth is eternal, everlasting and unchanging. Milkis, 2023 contended that perennialism relies on the past, universal knowledge and cherished values of society.

Perennialists describe the universe, human nature, truth, knowledge, virtue and beauty as unchanging.

From the lens of Perennialism, the aim of education is the same in every age and in every society. The perennialism curriculum is subject centred. It draws heavily on defined disciplines or logically organised bodies of content, what proponents call 'liberal' education with emphasis on language, literature, mathematics, grammar, rhetoric and great books of the Western World (Milkis, 2023; Sahin, 2018). Like essentialism, the perennialist view the teacher as the authority in the field whose knowledge and expertise are unquestionable. Teaching is primarily based on the Socratic method 'oral exposition' lecture and explication. Learners' interests are irrelevant for curriculum designing because learners are immature and not experienced and lack the judgement to determine what are the best knowledge and values to learn (Sahin, 2018). The perennialist look backwards for the answers to social problems.

In defining a curriculum from the perennialist view point, a curriculum is seen in the light of ideas that have lasted over centuries since such ideas are as relevant and meaningful today as when they were written. It is vital to retaliante that since philosophy helps to explain and give meaning to people's decisions and actions, in the absence of educational philosophy, the curriculum developer is vulnerable to externally imposed prescriptions, trends and frills, authorization schemes and other 'isms'' or philosophies.

Very few education systems adopt a single curriculum philosophy but most of them combine various philosophies (Sahin, 2018). Mulenga (2015) also cautioned that too much emphasis on any one philosophy at the expense of the others might do harm and cause conflict in a curriculum. The educational philosophies discussed implicitly or explicitly represent a perspective on curriculum and its proponents which in turn determine a particular approach to curriculum designing. Thus, usually what we see in

practice is that a national school curriculum for example would reflect several philosophies which add to the dynamics of the curriculum in the school. Depending on their philosophical orientation, curriculum scholars will have varied conceptualisations of curriculum.

Definitions of Curriculum through the lens of Scholars Educators have over the years defined curriculum in different ways because they bring to the task different perceptions of what curriculum should be. Perhaps the most common definition derives from the word's Latin root, 'currere'- which is the Latin infinitive of curriculum, which means 'racecourse'. By coming up with such a definition Mulenga, (2018) wanted to highlight the running or the curriculum lived experience of the learner.

The dimensions of curriculum include not only the planned, but also the unplanned experiences as well. Glatthorn, et. al. (2012) reported that definitions of curriculum are varied because they are either descriptive, prescriptive or both. Prescriptive definitions provide us with what "ought" to happen, and they more often than not take the form of a plan, an intended programme, or some kind of expert opinion about what needs to take place in the course of study, while the descriptive definitions go beyond the prescriptive terms as they force thought about curriculum nor merely in terms of how things ought to be in real classrooms or any other educational situations (Ellis, 2011). Some authors' definitions of either slant are presented in the following paragraphs. Some prescriptive definitions of curriculum are expressed in Flinders, and Thornton, (2013).

Routledge. explained that a curriculum is a continuous process of educational reconstruction that should help the child move from his present experience into what is represented by the organized bodies of truth that we call studies which present new experiences to the learner. Flinders, and Thornton, (2013) stated that curriculum is all

the learning experiences planned and directed by the school to attain its educational goals. Mizanur, (2022) defined a curriculum as all the planned learning opportunities offered to learners by the educational institution and the experiences learners encounter when the curriculum is implemented. Mulenga, (2018) explained curriculum as a planned interaction of pupils with instructional content, materials, resources, and processes for evaluating the attainment of educational objectives. These are just some of the prescriptive definitions of curriculum that exist in literature. But it is also true as mentioned earlier that other definitions are quite descriptive such as Ellis (2011), defined curriculum as all the experiences of the child for which the school accepts responsibility.

Silva, (2009) viewed a curriculum as an emphasis on what students can do with knowledge, rather than what units of knowledge they have, is the essence of 21st century skills. With all these varied definitions of curriculum from renowned curriculum scholars, there seem to be underlying elements that are commonly agreed as constituent of a good definition of a curriculum Anwaar, (2021). Elements of curriculum & implications: Curriculum development. <https://educarepk.com/elements-of-curriculum.html> listed these elements as (1) goals and objectives (the curriculum intent), (2) content or subject and subject matter, (3) learning experiences, and (4) evaluation. These four are referred to in the studies of curriculum as curriculum components, elements or simply pillars of the curriculum. These are what holds the discipline together and any curriculum specialist worth the name will have to understand them well. Mukoro, (2022) viewed curriculum as: What is to be learnt – content; Why it is to be learnt – process; How it is to be learnt – process; When it is to be learnt – structure of the learning process. It includes consideration of how the learning will be demonstrated and achievement assured. Curriculum is the planned and guided learning

experiences and intended learning outcomes, formulated through the systematic reconstruction of knowledge and experience, under the auspices of the school, for the learner's continuous and wilful growth in personal-social competence. An analysis of this definition in the light of the challenges of defining a curriculum will be helpful at this point.

As a way of capping this discourse therefore, a submission is being made as a concluding definition of a curriculum as: Curriculum is all the selected, organized, integrative, innovative and evaluative educational experiences provided to learners consciously or unconsciously under the school authority in order to achieve the designated learning outcomes which are achieved as a result of growth, maturation and learning meant to be best utilized for life in a changing society. In other words, Curriculum is all accepted experiences, planned and unplanned that learners are taken through under the watch of an educational institution. In this study, the emphasis is on the planned experiences as in the form of, modules, course textbooks, teacher made pamphlets etc. To be able to satisfy the needs of diverse learners at inclusive setting, what adaptations do teachers of PCE make in the curricular content, teaching methodology, and assessment procedure?

2.4 Curriculum Adaptations

According to Julka, (2016) curriculum adaptation involves differentiation to meet the needs of all students. The content, the teaching process, assessment and evaluation, and the physical environment may be modified to help students to achieve success in the classroom. Adapting the curriculum also involved adding or transforming existing materials to promote active learning.

However, the two terms; adaptation, and modification related to curriculum create some amount of confusion, perhaps misunderstanding. While adaptation refers

to adjusting assessments, material, curriculum or classroom environment, to accommodate a student's needs to enable him/ her to participate in and achieve the teaching-learning goals, modifications involve making changes to learning goals, teaching processes, assignments and/or assessments to accommodate a student's learning needs.

In general, curriculum adaptation can be usefully applied by educators to ensure that curriculum materials elicit questions and respond to student ideas as well as provide students with the authority to take ownership of their learning. Thus, it can encourage purposive teacher-student and student-student interactions (Debarger, et al., 2017).

The kind of activities chosen by the teacher, including group activities, must be flexible and reflect the background knowledge of small groups or individual students. The following shows the adaptations that are required in different areas for inclusion of learners from varied background. However, the two terms adaptation and modification related to curriculum create some amount of confusion, perhaps misunderstanding. While adaptation refers to adjusting assessment procedure, material, curriculum or classroom environment, to accommodate a student's needs to enable him/ her to participate in and achieve the teaching-learning goals, modifications involve making changes to the overall structure of the curriculum or the integration of new material or teaching strategies. Curriculum modification may be based on research or feedback from learners, teachers or other stakeholders.

Li and Harfitt, (2018) reported that teachers made adaptation typically through reorganizing. In addition, they performed, supplementing, omitting/delaying, completing and reducing/ simplification. The participants also frequently highlighted changes such as changing the way activities were performed, reorganizing the topics according to students' level, preparing materials for the students who have difficulties,

preparing different assessment tools appropriate to students' level, and detailing the topic to raise cognitive awareness. It was found that the participants omitted or reduced/simplified the topics and activities that they considered inappropriate to the student level. Most of the participants were found to add information about the concepts to generate prior knowledge and ensure topic integrity.

Li and Harfitt, (2018) found that, participants made adaptations considering mainly school, social environment, family, and student characteristics, and the adaptations demonstrated variety, and they did the adaptations mainly about content, learning instruction process, and assessment and evaluation tools. Similarly, Colby, et al. (2013) reported that teachers mainly made adaptations such as ignoring partially or completely, adding and reviewing, changing out-of-class activities as in-class activities, changing group activities as individual activities, changing the materials, and adding duration.

Li and Harfitt, (2017) reported that teachers made adaptations such as adjusting, replacing and revising, supplementing and omitting, and inventing in the curriculum materials. Yazıcılar and Bumen, (2019) found that teachers made adaptations such as “omitting, creating new material, making changes in duration, covering superficially, using different sources/ materials, and these adaptations were mainly related to content and duration.

The adaptation types reported in the study yielded similar results with earlier studies (Burkhauser, & Lesaux, 2017; Fogo, et al., 2019; Tokgoz, & Bumen, 2021; Troyer, 2019; Yazıcılar, & Bumen, 2019). As a result, teachers seem to frequently make changes in the activities recommended in the curriculum considering students' knowledge level and school conditions to eliminate inadequacies in students' prior knowledge and make understanding easier. Teachers can make adaptations by being

affected by the curriculum structure, perceptions about curriculum and profession, experiences, school context, nature of the information, families, and administration forces (administrators, inspectors) (Tokgoz, 2021). The study noted that student characteristics and school context were the determinant factors of curriculum adaptation. In other words, the characteristics of socio-demographically disadvantaged students and schools formed the context of adaptation.

Considering student characteristics in adaptation is also reported in similar studies. For instance, teachers are reported to make adaptations to improve deep conceptual understanding and eliminate misunderstandings, meet students' needs and inadequacies about understanding and content, eliminating the insufficiencies. (Fogo, et al., 2019); enhance students' understanding of abstract concepts and active participation (Maniates, 2017); and complete students' lack of information and bring them to a determined learning level (Yazıcılar, 2019). Student-related factors are not issues cannot be solved by curriculum planners alone. However, it is possible to design curriculum materials to be used by teachers considering disadvantaged schools and students in the local context. In this process, it is self-evident that textbooks are not enough. Particularly novice teachers indicated that they needed guidebooks. This study found that the difficulties experienced by the participants in the curriculum adaptation were mainly associated with planning the instruction process and organizing and presenting the content. It is possible to say that the participants made adaptations covertly and generally extemporarily during instruction, without reflecting the changes in the annual plans due to legal responsibilities.

Teachers' adaptations could happen before, during, and after instruction. reported that, even if teachers made a mental plan beforehand, they did not put it in writing and generally decided on the adaptations during instruction. Only one

participant stated that she reflected on the changes she made in the daily plan. This finding is like the results reported by Yazıcılar, (2019). As teachers did not reflect the adaptations they made in their instruction plans, there is a disconnection between the plan and practice. When teachers are given the support, they need while making adaptations, more successful adaptations could be achieved through mutual collaboration (Tas, 2022). Drayton, et al. (2020) found that collaboration with teachers in the adaptation process enabled more effective adaptations through innovative materials developed by designers without harming the core of the curriculum.

2.4.1 Curriculum Content Adaptation

The content of the general curriculum needs to be adapted to provide a variety of learning experiences to meet the learning needs of the Deaf. By content adaptation, all learners will be included in the teaching and learning process and each one of them including the Deaf will feel at home to take active part (Iliana, 2015). The Deaf benefit from the general curriculum when its content is adapted to conform to their learning needs and style (Naimie et al., 2010). Bornman and Rose (2010) stressed that, curriculum content should be adapted to facilitate participation and learning, but educators should guard against limiting or “watering down” the outcome. To promote inclusion of the Deaf community, it is necessary to adapt sentence structure to enhance accessibility. By making sentences more concise and clearer, individuals who are Deaf can easily comprehend the written information. For instance, avoiding long and complex sentences that may lead to confusion is crucial when considering this linguistic adaptation (Smith, 2018).

Additionally, incorporating shorter sentences with straightforward syntax can enhance the reading ability and accessibility of the text (Jones, 2017). Moreover, utilizing visual cues in the form of sign language videos or graphical representations

can aid in the understanding of complex sentence structures or concepts (Brown, 2019). These visual elements provide a means of conveying information that is particularly valuable to the Deaf community (Wong, 2020). Additionally, the use of bullet points can assist in organizing information and presenting it in a more easily digestible format (Smith, 2018).

Furthermore, it is important to be mindful of the use of jargon and technical terms, as these can create barriers for individuals who are Deaf (Johnson, 2016). Simplifying language and providing explanations or definition for any specialized vocabulary used can greatly enhance inclusivity and understanding (Wong, 2020).

Iliana, (2015) reported some important practices in content adaptation. For instance: practicing task analysis. Thus, making sure that, the content to cover will be breaking down to teachable and learnable unit to enable the Deaf to grasp the material bit by bit to facilitate retention of the content (Iliana, 2015), the tasks or activities they attempt are usually easier to accomplish, the objectives set for the lesson might involve mastery of fewer concepts and the application of easier skills, the nature of the learning tasks set for deaf learners will be matched to their learning rate and abilities; some tasks may take a longer time to complete than others, differentiated content for homework assignments could be used as a way of meeting the needs of deaf learners, educators should rephrase questions and sentences rather than merely repeating them, educators should use concise statements or simplified vocabulary, the present tense could be used to simplify the sentences, new vocabulary is introduced at the beginning of a new theme.

In addition, Scruggs and Mastropieri, (2017) recommend that teachers should, simplify language, pre-teach vocabulary, use mnemonics, use picture clues, implement peer tutoring, and evaluate which vocabulary is essential for students who are Deaf. Special attention needs to be paid to abstract concepts (e.g., predict, estimate) and

complex statement. Provide graphic organizers and framed outlines, highlight important vocabulary and key concepts, implement partner reading, use trade books at various reading levels. However, to properly perform adaptation, it is necessary to process high volumes of data, both from profiles to characterize users and context, and parameters utilized to enrich services (Dey, & Abowd, 2000). Making decisions, about which services are the best to provide to each user, requires advanced data processing techniques. That way, the system can determine the most adequate information to each student.

In conclusion, adapting sentence structure to promote the inclusion of the Deaf community involves utilizing concise and clear language, incorporation of visual elements, practicing task analysis, providing graphic organizers and framed outlines, implement partner reading, use trade books at various reading levels, and avoiding jargons. These linguistic adaptations are essential in creating accessible content for individuals who are Deaf (Brown, 2019).

2.4.2 Teaching Methods Adaptation

Teaching methodology refers to a systematic, orderly or procedural way of impacting knowledge to learners. Teaching methods are numerous but to be able to respond to the diverse needs of learners in an inclusive class, teachers are advised to choose their teaching methods based on their learner's learning needs and learning style (Parsons, et al. 2018). There are several teaching methods adaptations that can be used to promote the inclusion of the Deaf students in mainstream educational settings. These adaptations focus on enhancing visual communication, providing accessible materials, and fostering a supportive learning environment.

One effective teaching method adaptation is the use of sign language interpreters or qualified signing teachers in the inclusive classroom (Fobi, 2021). Adding to this,

Marschark and Hauser, (2012) explained that, sign language interpreters facilitate communication between Deaf students and hearing teachers, allowing Deaf students access information and actively participate in classroom discussions. Sign language interpreters can also provide visual clues and explanations, making the content more comprehensible for Deaf students (Fobi, 2021).

Another teaching method adaptation is the use of visual aids and materials. Research study has shown that Deaf students benefit from visual representations of information, such as diagrams, charts and pictures (Anwaar, 2021). These visual aids can help facilitate understanding and retention of concepts by providing additional context and reducing reliance on auditory information.

Additionally, captioned videos and multimedia resources can be used to make educational materials more accessible for Deaf students. According to Luckner and Bowen (2018), captioned videos provide access to spoken information for Deaf students, allowing them to follow along with the content and fully participate in classroom activities.

Creating supporting learning environment is also crucial for promoting inclusion. Teachers can implement strategies such as peer support and cooperative learning to encourage interaction and collaboration among all students including Deaf students (Anita, et al. 2012). Collaborative activities enable Deaf students to work with their peers, fostering social interaction and the development of communication skills.

In terms of experience in teaching methods adaptation for inclusion of the Deaf, the review of literature indicates that there is a significant difference between the competence level of teachers who have 11 and above years of teaching experience and that of teachers who have teaching experience less than 11 years (Luckner, & Bowen, 2018). The finding suggested that teachers with many years of teaching experience were

more competent in addressing the instructional needs of pupils with special needs in the regular classroom than inexperienced teachers (Luckner, & Bowen, 2018). This means that teaching experience plays a crucial role in the effective teaching of learners with special needs in the regular classroom. This implies that, when it comes to curriculum adaptation for serving the needs of the Deaf, tutors with more than 11 years of teaching experience in an inclusive classroom would have more experience as compared to tutors with less than 11 years' experience in teaching in inclusive classroom.

The finding is also congruent with Mukhopadhyay, et al. (2012). They find that teachers who have no teaching experience and no training in inclusive teaching practices encounter difficulties in managing learners with disabilities in the regular classroom. In view of the challenges experienced by teachers in using inclusive teaching pedagogies, there is the need for the GoG to re-examine the pedagogical competences of trained and the untrained teachers in the regular classroom.

Similar concerns have been reiterated by the European Agency for Development in Special Needs Education for other European countries (Schwab, 2020). For instance, Watkins, et al. (2016) contend that if the goal of inclusive education is to be achieved, teachers need to be trained in inclusive teaching methods that incorporate adaptive instructional strategies, corporative learning strategies, collaborative problem solving, and heterogeneous grouping techniques.

Abdul and Abosi, (2014) examined teachers' pedagogical competencies in adapting instruction to meet the needs of children with LDs in the regular classroom in Ghana. The results of the study showed that regular teachers have limited to moderate competence in adaptive instruction. However, teachers need to have adequate competence in adaptive instruction to be able to address the growing needs of children with LDs in the regular classroom setting. In addition, the study indicated that an

adaptive instruction is an important competence domain for any effective inclusion of pupils with LDs in the regular classroom. Furthermore, it is concluded that teachers' background variables have some sort of impact on their capacity to adapt instruction to meet the needs of children with LDs in the regular classroom. For instance, the study reveals that school location, teachers' teaching experience, educational level, and training in inclusive education have tremendous influence on teachers' competence in adapting instruction for children with LDs in the regular classroom in Ghana.

According to Bornman and Rose, (2010) Deaf students are visual learners, so teachers should employ teaching methods which are audio-visual to serve both the Deaf and the hearing at inclusive settings. For example: modelling, role-play, art projects to demonstrate understanding of the information. Modify how the material is presented, include visual organizers, present concrete examples, pre-teach prerequisite information, provide additional application activities, use a variety of instructional strategies, provide advanced organizers, use cooperative learning groups, integrate other content areas into science, shorten lessons, and provide structure. Provide multi-textured materials, concrete models, materials that are easily manipulated and large enough for small hands, materials that can be taken apart and reassembled, manipulatives for linear measurement, and materials that can be felt or heard when solutions are stirred or shaken.

Teachers in higher achieving schools consistently adapt instructions to meet students' individual needs and that results in high success (Charalambousa, et al, 2018). There are many ways to make instructional adaptations. Charalambousa, et al. (2018) found that one-way teachers adapt instruction is to use specific strategies such as peer tutoring, cooperative learning, behaviour management systems, and technology. Class wide peer tutoring provides each student with chances to work at his or her own

instructional level, work as a tutor and tutee, communicate with students with various skill and ability levels, and be engaged in arrangements that centre around a collective performance.

Another instructional adaptation is the use of advanced organizers. In a study of teachers, Teng, (2022) found that when the teachers used advanced organizers at the beginning of the day and at the beginning of lessons to show the sequence and flow of content, students with learning disabilities had fewer questions than when the organizers were not used. The organizers were on the board and often had picture icons to correspond with the text. The use of specific adaptations can be especially beneficial for students with disabilities.

Guha, (2016) reported that, to reduce complexity of an information or statement to the Deaf, teachers need to repeat or rephrase information when necessary and frequently check for the students' understanding during teaching.

Always have eye to eye contact with the Deaf, when giving them information, that will enable you know from their facial expression, whether they have understood you or not (De Vroey, 2016). Use natural gestures to give students added cues about what you want them to do most especially when there is no sign language interpreter (Ahuja, 2017).

Curricular adaptations are often varied according to the content and grade level expectations. Miller-Day, et al. (2013) suggest that one type of curricular adaptation is allowing students to participate in setting their own learning and social objectives combined with the teachers' objectives in the same areas.

The students can then evaluate their progress on their goals as well as the teacher's goals. However, Swineford-Johnson, (2023). suggest that writing separate or varying learning outcomes for one student or small groups of students can foster a sense

of isolation and separateness in the general education setting. Curricular adaptations can be designed for groups of students, as well as for individual students. Miller-Day, et al. (2013) found that teachers rated identifying alternate ways to manage student behaviour, implementing alternative instructional methodologies, using a variety of instructional materials, and using alternative grouping practices as desirable classroom adaptations.

Moore, et al. (2018) encouraged that teachers should employ important strategies to create an environment in which students are engaged in practical activities which students who are Deaf can learn in an interesting and meaningful way. This is a movement from the former practice which was text-book-driven teacher centred and consisted mainly of transmission of knowledge from the teacher to the students (Moore, et al. 2018).

McCarthy, and Woodard, (2018) reported that professional development opportunities were limited in rural areas, and teachers struggled alone to create significant activities in the adaptation process. Therefore, teachers' instructional competence should be strengthened to create a balance between faithfulness to curriculum and adaptation and prevent inconsistencies (Maniates, 2017). If teachers are provided with the support they need while making adaptations, more successful adaptations could be achieved through mutual collaboration. Drayton, et al. (2020) found that collaboration with teachers in the adaptation process enabled more effective adaptations through innovative materials developed by designers without harming the core of the curriculum.

2.4.3 Assessment Procedure Adaptation

Assessment procedure adaptations for inclusion of students who are Deaf involve making appropriate accommodations for their specific needs to ensure fair and

equitable assessment opportunities. The adaptations below have been recommended by various scholars and organizations.

Firstly, the use of sign language interpreters. Deaf students who communicate primarily by sign language may require the presence of a qualified sign language interpreter during assessment procedures (Tang, 2015).

Again, provide visual supports. Incorporate visual supports such as, pictures, diagrams, or videos to enhance comprehension of text items for Deaf students who rely solely on visual cues (Marschark, et al., 2014).

Thirdly, provide clear written instructions. Ensure that assessment instructions are provided in written form, along with any verbal instructions, to facilitate understanding of the directions for answering the assessment questions (Watt, & Mestre, 2012).

Allow extra time. Provide additional time for the Deaf students to complete assessments, as they may require more time to process information or communicate their responses (Knoors, & Marschark, 2014).

Furthermore, provide assessment materials in accessible formats. Teachers are expected to make sure that all assessment materials, including written texts and multimedia resources, are available in accessible formats such as closed captions or transcripts for Deaf students (Marschark, et al., 2014).

Assessment procedure adaptations includes the use of alternative assessment methods. Consider using alternative assessment methods that focus on Deaf students' strength and abilities such as performance-based assessments or portfolios (Guardino, et al. (2016).

Again, enable peer collaboration. Peer collaboration and group work among Deaf students facilitates communication and supports learning during assessment tasks

(Richter, & Schwarz, 2015) communication in the students' preference mode allow Deaf students to communicate their responses in their preferred mode, whether sign language, written or typed responses or a combination of modes (Marschark, et al., 2014). Guardino, et al. (2016) recommended implementation of alternative assessment methods in educational assessment of the Deaf.

Marschark, et al. (2015) conducted a study which sought to explore the reasons for persistent underachievement of Deaf students by focusing on results from the National Mathematics tests taken in the UK by all 14-year olds. The study analysed a sample of test papers with the aim of identifying ways in which deaf and hearing response to the test items differed and possible explanations for these differences in terms of access to the mathematics teaching, assessment and curriculum provision. Findings from the project led to preliminary conclusions regarding the range of national test entry levels for deaf pupils, the types of linguistic issues they encounter, the learning strengths they demonstrate and their experience of subject specific curriculum provision. The concluding analysis raised significant questions about deaf pupils' access to mathematics educational provision and more specifically about the deaf experience of mathematics learning and how they perceive themselves as mathematicians.

Several important laws require the participation of learners with disabilities, including those who are deaf or hard of hearing, in standards-based instruction and assessment initiatives. The federal laws, notably No Child Left Behind (NCLB, 2001 as cited in Nolen, & Dignan, 2023) and the Individuals with Disabilities Education Improvement Act (IDEA, 2004 as cited in Every Student Succeed Act, 2015), provide direction for teacher-made or standardised assessment development and implementation at the local level. These requirements directly impact the inclusive class

teachers working with children who are deaf or hard of hearing to have reasonable adaptations and accommodations for the Deaf. Other IDEA provisions related to accountability address the development of the long-standing IEP for accountability at the individual level, the requirement to include in the IEP a statement of any individual modifications in the administration of state or district-wide assessments of student achievement that are needed in order for the learner to participate in such assessment; and if the IEP team determines that the learner will not participate in a particular state or district-wide assessment of student achievement (or part of such assessment), a statement of why that assessment is not appropriate for the learner; and how the learner will be assessed.

Teachers are critical players in ensuring that learners who are deaf or hard of hearing have equal access to grade-level content standards and participate in the accountability measures that are increasingly required. Teachers of the deaf and hard of hearing bring their specialized skills and knowledge of specific instructional strategies needed by students with hearing loss as well as providing accommodations during instruction and assessments. Effective teachers of the deaf or hard of hearing have always recognized the critical link between assessment and instruction in curricular areas. Even though such linkage has been formalized in policy initiatives at the federal and state levels, it remains critical to individual learning and progress. The linkage for the individual student between instruction and assessment must not be neglected or forgotten because of efforts required to meet national requirements. Success at the individual student level remains paramount to special education service design and delivery.

2.4.3.1 Standardized Test

Standardized practices are designed to ensure that the student's score and test results can be compared to the scores and performance of the individuals within the test's norming sample. The assumption is that the student took the test under the same conditions as those in the normative group. The paucity of assessments designed for use with deaf or hard of hearing students makes this expectation nearly impossible to achieve. The inclusive class teacher often needs to adapt the administration, scoring, and interpretation of assessment tools when using them with this population (Goffman, 2007). It is important for teachers to have good understanding of how adaptation can be made without changing the test quality and level.

2.4.3.2 Standardized Test for the Deaf

Salvia, et al. (2009) provide a list of adaptations that can be made to a standardized test procedure for the Deaf without weakening assessor's confidence, or validity of the assessment results: For instance: adaptation of test items, adaptation of required time limits, modification of the mode by which test instructions are communicated (e.g., ASL, Signed English, Cued Language, pantomime or print in place of or in combination with spoken directions). Accepting responses different from those specified in the test directions. Luo and Padden, (2006) found that, a teacher of inclusive class need to understand how some variables interact and impact assessment process especially when Deaf students are involved.

Farah, (2017) noted that, verbal intelligence tests or standardise tests are dependent on English language skills. So, using spoken or written language scales or tests that rely on spoken or written instructions leads to questionable validity for learners who are Deaf. The assumption is that a learner who is Deaf has been exposed to the linguistic, semantic and pragmatic information inherent in the test items in a manner

that is like those in the normative sample (Braden & Athanasiou, 2005). This is not a valid assumption due to the potential impact of Deafness on access to language and auditory information (Braden, and Athanasiou, 2005). Farah, (2017) explored the use of standardise test with Deaf students. They found that the Deaf who took the test often achieved lower grades than those who did non-standardised test. this suggest that, assessment procedures that are not designed based on the needs and learning style of the Deaf can be a barrier to their academic achievements.

Braden, and Athanasiou, (2005) reported that learners who are Deaf tend to perform within the normal range in nonverbal tests of intelligence. However, if the nonverbal test does not include the manipulation of materials (non-motor), Deaf learners, on average, may score lower than the mean for hearing learners on tests that are both non-motor and nonverbal (Farah, 2017). For young learners who are Deaf or if a cognitive disability is suspected, it is a best practice to conduct both an intellectual assessment and a functional skills assessment for comparison before making any educational decisions.

In addition, some Deaf may also have physical disabilities that affect their motor skills. It is important to consider the impact this can have on assessment results that require manipulation of materials such as blocks, pen, chalk (Farah, 2017). A multi-method assessment approach that includes systematic observation of the targeted behaviour(s), interviews with relevant informants using a structured interview procedure, behavioural checklists or rating scales, and norm-referenced tests are appropriate (Maller & French, 2004). Allow for multiple opportunities to demonstrate acquired knowledge and skills, implement portfolio assessment, teach test-taking skills and study techniques. Keep directions short and simple (De Vroey, 2016). Break tasks

and assignments into short, easy-to-manage steps. Write down these steps on the board or students' desks so they can use them as a reference.

2.5 The Perception of the Deaf on Curriculum Adaptation Services of Tutors.

A Report from Karas, and Joanne. (2014) in Northern Irish states that, Deaf participants felt their communication needs were not being catered for. The students reported some non-inclusive factors included lack of exposure to sign language or deaf role models, inadequate training and poor deaf awareness, causing the Deaf to feel inferior and perceive negative attitudes. The Deaf reported that they could learn better when British Sign Language was used to educate them as they had suffered negative experiences within the Total Communication system, such as ineffective communication, comprehension difficulties, lack of support and inadequate resources (Karas, and Joanne, (2014).

According to Karas, and Joanne, (2014) the Deaf reported that they had good relationships with their staff and made them feel being included. The study explained that, this inclusive factor was due to an ongoing exposure to sign language, a deaf cultural environment in school, teachers' ability to sign, and the ease of communicating and socialising with friends. In contrast, Angelides and Aravi, (2007) investigated Deaf students' experiences in regular schools versus schools for the deaf in Cyprus. The authors of the study attributed the poor relationships that Deaf students in regular school had with their teachers and classmates to the low self-esteem of Deaf students more than the language barriers.

Erbas, (2017) investigated the Deaf students' perception and preference for inclusion versus resource rooms. Thirty-two elementary Deaf students were interviewed in the study. Half of the students had learning disabilities, whereas the other half did not have any disability. All participants had experienced both placement options under

investigation, as the school used to provide special education programs via the resource room then shifted to an inclusive program where students never left the general classroom. The results of the study indicated that students who experienced both settings held different views, but majority of them believed the pull-out program to be more beneficial and favoured it over the inclusive one. This finding was consistent with an earlier study by John, et al. (2010) which reported that Deaf students preferred pull-out programs to mainstream systems. According to the Deaf, to avoid embarrassment and stigma they had to hide their skills in the mainstream.

Greenfield, et al. (2016) also reviewed eight studies that had examined students with learning disabilities' perceptions of their educational settings. Out of the eight studies, two studied high school students, and six studied elementary schools' students. The review analysis showed five major results. 1) Most of the students with learning disabilities preferred to receive the special education services outside the general classroom for a part of the school day. Most students preferred the resource room because they thought it was fun, easier, and helped them to do their work. 3) Students like inclusion because it helps them to make friends. 4) Most students appreciate the support they receive in the general classroom but do not know the teacher is a special education teacher. 5) Most students with special needs do not have much understanding of the educational settings.

In support of the perceptions of the Deaf towards curriculum adaptation support they receive in an inclusive classroom, the American Society for Deaf Children (ASDC) and the National Association of the Deaf (NAD) have expressed strong opposition to any attempt to make regular classrooms the first placement option for Deaf students (Glickman, 2013). These organizations who represent thousands of Deaf people, parents, professionals, and advocates explain that the regular classroom is not

necessarily the best learning environment for Deaf students because it may fail to meet their unique communicative, linguistic, and social needs. As a result, the classroom becomes a place of exclusion instead of inclusion and most restrictive rather than least restrictive.

Again, schools for the deaf bring large numbers of Deaf children together in one place, along with Deaf adults, who become role models for the children. This community helps them to communicate successfully, learn Deaf culture, and gain social skills and a high level of language skills. Accordingly, by the definition of the law, special schools for the deaf could be the least restrictive environments for Deaf students because they meet the students' social, communication, and academic needs, especially when the schools receive state support just like regular education schools for the general students (Harvey, 2021). Research suggests that students can, but most often do not play a role in curricular change. Historically, the voice of students mostly the Deaf in the curriculum development process has been minimal (Macdonald, 2000). The absence of the student perspective has not been a concern, it just has not raised enough concern to warrant any empirical research in this area; curriculum leaders and instructional staff have been content in keeping the student voice a passive one when it comes to curriculum review (Wallace, 2012).

Foster, (1989 as cited in Amoako, 2019) asked a group of deaf students about their experience in regular schools and residential schools. The participants stated that both settings had advantages and disadvantages and, thus, they could not say that one was a better option. They highlighted some significant points, such as that residential schools were important to their culture and to the Deaf community while regular schools put obstacles (e.g., lack of communication, uninteresting lessons, culturally unfriendly teaching methods and assessment procedures, the feeling of isolation and

embarrassment, and limited resources) which despite how much they force to work harder, they are not able to catch up with their hearing peers.

Doherty, (2012) interviewed 16 Deaf students (eight from Northern Ireland and eight from Sweden) regarding their educational experiences. Most of the participants in both countries thought that deaf students should be taught in separate settings. However, all participants expressed positive feelings toward inclusive settings. The Swedish students showed more positive attitudes because the Deaf culture and sign language were more integrated in their school environment and the entire community. It is essential to note that the students' experience showed that regular school was more challenging for them, as it held higher expectations, and, yet, it provided them with richer academic experiences that eventually increased their learning. This finding is consistent with the advantages that Foster, (1989 as cited in Amoako, 2019) reported. More importantly, the Deaf students tended to swap academic achievement for the social and communication opportunities they have in segregated schools. Although the Deaf students had more learning opportunities in inclusive settings, they felt excluded, which is why most Deaf students prefer to go to a special school for the deaf rather than to public school.

The findings of Deaf students' perception about inclusion can be summarized in two main points. First, Deaf students thought that regular school provided them with more learning experiences and prepared them better for the world. Second, Deaf students thought that special schools were better for them about social relationships and cultural identity. These two points may explain the difficulty Deaf students had when they were asked to favour one setting over the other. Lang, Dowaliby, and Anderson, (1994 as cited in Cohort, 2016) analysed 839 critical incidents describing effective and ineffective teaching collected from in-depth interviews with 56 deaf college students.

The most frequently mentioned incidents pertaining to effective teaching were those concerned with clarity of sign communication skills and the quality of lecture/explanations. These were followed by incidents relating to the teacher being flexible and using a variety of instructional strategies. These findings suggest a need, as perceived by Deaf students, for teachers to recognise individual differences with regards to learning styles.

2.6 Summary of Literature Review

This chapter has reviewed related studies on the topic, ‘curriculum adaptation for inclusion of the Deaf at the Presbyterian College of Education, Akropong Akuapem.’ Taken coverage of both international and local empirical reviews, the gaps in the literature reveal that, most studies on curriculum adaptation were conducted outside Ghana and their emphasis was on meeting the needs of learners with disabilities and learners with special needs in general. The few conducted in Ghana were conducted at the pre-tertiary level in regular and special school settings. The studies encouraged teachers to practice curriculum adaptation for inclusion of all learners. None of the studies accessed how tutors or lecturers adapt the general curriculum to meet the special needs and learning style of the Deaf at the tertiary level.

The review of related literature has also revealed that many Deaf students have expressed ill feelings about how the inclusive system has excluded them from teaching and learning in the classroom, all because their teachers are not paying attention to their special needs. The next chapter would report on methodology for investigating into the case of tutors of the Presbyterian College of Education in relation to their lived experiences on curriculum adaptation for inclusion of the Deaf.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presents the methodological issues of the study. These include: the profile of the study area, the research design, population, sample and sampling procedure, instruments for data collection, data collection procedure, data analysis and ethical concerns.

3.1 Profile of the Research Site

The Presbyterian College of Education, Akropong (PCE) formerly known as Presbyterian Training College (PTC), Akropong, established on the 3rd July 1848 by the Basel Evangelical Society is the first and oldest institution of higher learning in Ghana and second only to the Fourah Bay College in Sierra Leone. This great initiative was taken after the death of seven earlier missionaries, leaving alone Andreas Riis, who was later returned to Basel in 1840. Riis's second coming with some Jamaicans was successful and the first preparatory school was established in Akropong – Akuapem in 1844. With the increase in the number of pupils at the preparatory school, the need for specially trained teachers was highly sought for in 1847. As a means of obtaining these teachers, an institution (PTC) was established in 1848 with five pioneer students and Rev. Johann Dieterie as the first Principal (Offei, 2022 n.p).

The Presbyterian College of Education, formally known as Presbyterian Training College (PTC) is located at Akropong Akuapem in the Akuapem North Municipal Assembly in the Eastern Region of Ghana. The college as at the time of this study had a staff size of one hundred and six (106) which is made up of sixty-four (64) teaching staff and forty-two (42) non-teaching staff. The teaching staff is made up of forty (40) males and twenty-four (24) females. Among the teaching staff are eleven (11) special

needs resource tutors. Nine of the resource tutors provide sign language interpreting service to the Deaf students and two (2) also provide resource work for the visually impaired students. The students' population of the college as at the time of this study was nine hundred and sixty-six (966) which constitutes five hundred and ninety -seven (597) males and three hundred and sixty- nine (369) females. Among the student population are twenty-eight (28) students who are Deaf and fifteen (15) students who are visually impaired. Among the unique feature of PCE is the training of persons with disability. The College was the first to start training students with visual impairment in 1934, and the training of the Deaf or Hard of Hearing also started in 1997 (Offei, 2022 n.p). As at now, PCE, Akropong Akuapem remains the only College of Education which trains both visually impaired and the Deaf or Hard of Hearing among all the 46 colleges of Education in Ghana.



3.2 Philosophical Underpinning

The Constructivists philosophy was adopted for the study. According to Yin, (2018) constructivists claim that truth is relative and that it is dependent on one's perspective. This paradigm "recognizes the importance of the subjective human creation of meaning but doesn't reject outright some notion of objectivity. Pluralism, not relativism, is stressed with focus on the circular dynamic tension of subject and object" (Miller & Crabtree, 1999, p. 10 as cited in Baxter, & Jack, 2008). Constructivism is built upon the premise of a social construction of reality (Searle, 1995 as cited in Tuomela, 2011). One of the advantages of this approach is the close collaboration between the researcher and the participant, while enabling participants to tell their stories (Crabtree & Miller, 1999 as cited in Baxter, & Jack, 2008). Through these stories the participants can describe their views of reality and this enables the researcher to better understand the participants' actions Shields, (2016). In relation to this study, the researcher wished to gather lived experience stories related to curriculum adaptation for inclusion of the Deaf through scientific processes to better understand and describe how tutors of PCE, Akropong Akuapem adapt the general curriculum to include the Deaf. The researcher was interested in participants' subjective experiences related to curriculum adaptation for inclusion of the Deaf.

3.3 The researcher's Positionality

Positionality is a philosophical stance that a researcher takes in relation to the various perspectives that underpins a research approach (Robin, et al. 2017). In the context of this study, the researcher chose a stance of an insider and a covert observer, with a philosophical belief which stresses on participants' subjective experiences grounded in socio – cultural context (Hesse-Biber & Leavy, 2010). The researcher trusts in the need to first identify what is expected to discover and deliberately put them in

brackets as he carries on his role as participant observer (Robin, et al. 2017). Meaning, the researcher's experiences, interest and ideas about curriculum adaptation was bracketed, excluded as part of the data but only the lived experiences of participants. The researcher therefore values participants' subjective description and understanding of their experiences related to curriculum adaptation for inclusion of the Deaf (Leavy, 2017).

3.4 Research Approach

The researcher adopted the qualitative approach to examine how tutors adapt the general curriculum for inclusion of the Deaf at PCE, Akropong Akuapem. A qualitative approach provides a comprehensive summary of experience gained in a specific event of participants (Giorgi, et al. 2017)). Researchers use this approach to explore; vigorously investigate and learn about social phenomenon; to build a clear understanding and hands on experience about some events of social life (Giorgi, et al. 2017). Qualitative research is generally appropriate when the primary purpose of the study is to explore, describe, or explain a phenomenon (Giorgi, et al. 2017). In line with the description of a qualitative study according to Giorgi, et al. (2017), This study had the objective to describe how tutors of PCE adapt the general curriculum for the inclusion of students who are Deaf and explore the reactions of the Deaf students on the curriculum adaptation services they receive from tutors of PCE. The employment of qualitative approach enabled the researcher to gather first hand data on the demographic characteristics of participants and the lived experiences of both tutors and Deaf students of PCE through interviews and observations and analysed it by deductive thematic approach to describe pertinent issues involved in how tutors of PCE adapt the general curriculum for inclusion of the Deaf to inform decision making about inclusive education implementation at PCE, Akropong Akuapem.

3.5 Research Design

The researcher employed a Phenomenology design for the study. Phenomenology emphasizes investigation of the way individuals construct their lives and make meaning of their experiences (Cridland et al, 2014; Vagle, 2014). The term phenomenography has its Greek etymological root, derived from two words: 'phainomenon' (appearance) and 'graphein' (description). Therefore, the term phenomenography is a research design for mapping the qualitatively different ways in which people experience, conceptualise, perceive, and understand various aspects of phenomena in the world around them (Shahadat, 2014). Phenomenology is a descriptive, open, flexible and responsive method which allows researchers to deeply and thoughtfully settle into and sit with the phenomenon under investigation (Vagle, 2014). A person's lived experience is a philosophical construct that describes meaning with no personal preconceptions and bias (Vagle, 2014).

According to Creswell, (2018) the descriptive nature of a phenomenology design gives a wider meaning to the lived experiences under study as the core of phenomenological research with the assumption to know about the phenomena under study through consciousness. This design is used to study phenomena in its natural state where people have no or little knowledge about it (Leavy, 2017). Creswell, (2018) reported that in phenomenological research, participants describe their experiences as they perceive them. The participants may write about their experiences. Their subjective experience stories could be obtained through interviews, discussions and Observations to enable researchers understand and describe the lived experience inductively or deductively. In this study, the researcher aimed at collecting the lived experiences of participants through interview and observation to describe how tutors adapt the general

curriculum for inclusion of the Deaf. The researcher needed to examine the experiences of tutors and Deaf students of PCE, Akropong Akuapem to describe how tutors of PCE adapt their content, teaching methods and assessment procedure for inclusion of the Deaf. Descriptive deductive phenomenological inquiry was appropriate to assess the effectiveness of the tutors' curriculum adaptation practices for inclusion of the Deaf.

3.6 Population

A total of 27 made up of 15 tutors and 12 students who are Deaf formed the population of the study. A proper definition and specification of population for this study was critical because it served as a guide in appraising the sample credibility, sampling technique and the outcome of the study as well (Asiamah, et al. 2017).

3.7 Sample

A total of 14 participants made up of 7 tutors and 7 Deaf students were purposively sampled for the study. The tutors were sampled to participate in the study because they had taught inclusive classes made up of the hearing and Deaf students more than one academic year. The researcher presumed those tutors would have more experience in adaptation of the general curriculum for inclusion of students who are Deaf. The students are Deaf were also selected to participate in the study from 3rd and 4th year groups. These students have received curriculum adaptation services for at least three years and would have more experience needed for this study. In accordance with (Giorgi, et al. 2017) sample of a qualitative study are purposively made based on their possession of certain characteristics and knowledge that are of much relevance to the topic under study. With respect to determination of sample size in qualitative study, MCDSARE (2020) reported that, in case of interview-based qualitative study sample size need to be small ranging from 6 to 12. In relation to phenomenological study, Jacob, et al., (2022) opine that researchers should consider fewer participants typically between

6 and 10. However, Guetterman, (2015) noted an average sample size of 15, ranging between 8 and 31 to be able to achieve data saturation. In this study, the researcher chose a sample size of 14 to make adequate capturing of the lived experiences of participants possible and sufficiently rich.

3.8 Sampling Procedure

A google form link to an open-ended interview questions were posted on Level 300 and Level 400 Deaf students' WhatsApp platform, for all to answer but at the end of the one-week duration, seven (7) out of a total of twelve (12) Deaf students responded to the open-ended interview questions. The researcher had initial contact with all the 15 tutors who were purposively sampled as potential participants. The researcher explained the topic and purpose of the study to the tutors and requested each of them to register their agreement to participate in the study by calling the researcher's contact line. However, at the end of the one-week duration, seven (7) out of the 15 potential participants called to register their acceptance to participate in the study. At the end, a total of 14 participants, made up of seven (7) tutors and seven (7) Deaf students formed the sample size of the study.

3.9 Instruments for Data Collection

The researcher employed interviews and observation guides as instruments for data collection in this study.

3.9.1 Interview Guide

A semi structured interview guide was employed as the instrument for data collection from the participants. A semi-structured interview is a qualitative research tool for data collection. It is significant in unfolding opinions, experiences, values and other aspects of the population under study (Crossman, 2017). It combines a pre-determined set of open questions with the opportunity for the interviewer to explore

themes or responses further for detailed first-hand information (Harvey, 2021). In the context of this study, the researcher employed a semi-structured interview guide to collect information on tutors' experience in curriculum adaptation for inclusion of the Deaf at PCE, Akropong Akuapem. It was also used to collect information on Deaf students' perception on curriculum adaptation service that they receive from tutors of PCE, Akropong Akuapem. The researcher used Semi-structured interview guide knowing that it would allow participants the freedom to express their views in their own terms, and permitted the researcher to use probes and prompts, explain or rephrase the questions that seemed unclear to the participants to arrive at a highly personalized data (Tomko, et al., 2022).

In relation to the deficiency of semi-structured interview guide, Tomko, et al., (2022) explained that, an inexperienced researcher may not be able to ask probing questions which may lead to loss of some relevant data. To avoid this, the researcher made sure that the interview questions were written in simple terms, easy to understand and unambiguous by allowing expertise in interviews to go through to ensure content validity. This exercise was crucial to ensure maximum credibility, confirmability and dependability of the research instrument (Lemon & Hayes, 2020). The semi-structured interview guide used in this study was constructed based on the tutors' lived experience in relation to the various themes from the literature review and research questions of the study. The guide was categorized into five sections. Section one was designed to gather data on the biographical information of participants. Section two consisted of items eliciting responses to answer research question one, section three based on research question two. Section four was designed to answer research question three and finally section five was designed to answer research question five and recommendation. Tutors were expected to unfold their experiences in adaptation of the general curriculum for

inclusion of the Deaf under each of the 4 research objectives. See Appendix 1 for sample of the semi-structured interview guide.

3.9.2 Observation

The researcher employed participant covert observation approach to gather data to support the information gathered through the semi-structured interview. This approach allowed the researcher to partake in the classroom activities as sign language interpreter, bridging the communication gap between the class tutors, the hearing students and the Deaf students, while the tutors and the students were not aware they were being observed. This approach allowed the researcher to check the teaching methods adaptations that were not captured during the interviews. It also gave the researcher the opportunity to observe curriculum adaptation practices that participants described in the interviews. Findings were written down as field notes to support analysis. This observational approach provided a holistic understanding of the phenomena under study. Marshal and Rossman (2016) explained observation as a systematic description of events, behaviours and artefacts in a social setting chosen for study. Louise (2020) explained Observation as an activity which enable a researcher to describe existing situations using the five senses, providing a "written photograph" of the situation under study. Marshall And Rossman, (2016) further affirmed that participant observation increases the validity of the study. It helped the researcher to have a better understanding of the context and phenomenon under study (DeWalt, et al. 2016).

3.10 Procedure for Data Collection

The researcher employed semi-structured interview as the main instrument for data collection of the study and supported it with participant observation. The semi-structured interview contained items which focused on five major areas of which four

were drawn from the research objectives and the other from scientific research ethics and structure: demographic characteristics, how the tutors adapt their curricular content for inclusion of the Deaf, how the tutors adapt their teaching methods for inclusion of the Deaf, how tutors adapt their assessment procedure for inclusion of the Deaf and Deaf students' feedback on curriculum adaptation services they receive. Each of the themes had one (1) question drawn from related literature (Boakye, et al. 2016); Busch, 2014; Etkind, et al. 2016). The researcher did the initial construction of the interview items and gave to two M.Phil. course mates and the research supervisor to read through to ensure content validity. The interview guide was piloted on some tutors and Deaf students who were not part of the participants of the study. Based on the findings of the pilot study, modifications were made in the instruments taking into consideration, its 'coverage, relevance and consistency.

The researcher submitted an introductory letter sought from the department of special education, university of education, Winneba which is the department of the researcher. This letter introduced the researcher and the research topic to the college as an institution and to the specific participants. Since the researcher is a member of the college community, it was easy for the college to grant permission and access to the participants. In the process of data collection, the researcher involved respondent tutors in face -to -face conversation guided by the semi-structured interview guide, while the two research assistants took written notes of the tutors' responses as they were being attended to one after the other based on their own schedule. Each interview session lasted for forty-five (45) minutes. The data collection started on 28th August 2022 and ended on the 15th November 2022.

The researcher called the deaf participants who were at home through zoom conferencing to further explain the google form to them and how it was to be responded

to. This adapted method of data collection became necessary due to the shift system in the colleges of education recently in Ghana. The level 300 students were at home as at the time of the data collection and the level 400 students although were on campus, were preparing for their exams and presentations so they preferred zoom meeting to face-to-face briefing on the tool. When all the participants had joined the zoom call, the researcher explained the purpose of the study. The interview items were explained one after the other and addressed all the clarification questions from the students using sign language. The participants were then allowed to respond to the questions by typing their response and send through the google form linked to their WhatsApp platform from the comfort of their homes. The zoom meeting lasted for 1 hour.

Barnes et al. (2020), noted that, in times of many restrictions on mobility, data collection through remote online platform is feasible, safe, and very convenient. Considering the practicality and feasibility of online data collection methods, researchers cannot be constrained by distance, language, quarantine and health protocols in pursuing reliable, honest, and high-quality qualitative research outputs (Torrentira, et al., 2022). Adding to this, Oates, et al. (2022) explained that, online interview can be taken by communication through text, limited use of images through exchange of pictures, and it can be conducted by phone or computer. It can also be taken through videoconference or video call (audio or video). Based on the visual nature of the Deaf, the researcher used zoom video conference and Google form linked to participants' WhatsApp platform. This served as an adapted method which made qualitative data collection possible for this study.

To ensure objective analysis and prevent researcher's bias, the researcher adopted triangulation of methods by complimenting the interview with the observation. The researcher observed teaching and learning in the inclusive classes to gather additional

data to support the interview data for triangulation purpose. The researcher as sign language interpreter attended each of those lessons with a team interpreter. The researcher started the interpreting and after 30 minutes took a rest. The team interpreter then took over to interpret. While the researcher sat close to the team interpreter to rest, he observed the teaching and learning process and took field notes related to adaptations made by the tutors.

The researcher observed how the tutors adapted their teaching methodology and the Deaf responded to those adaptations at various lectures and took notes on any adaptation that tutors made during the teaching and learning process. Some of the notes were taken during a reflection on the lesson a few minutes after the lesson. The researcher noted the circumstances which called for those adaptations and the reactions of the Deaf students to the adaptation services. See appendix C for sample of the field notes.

3.11 Trustworthiness

Establishing trustworthiness in a phenomenological study is as important as in any other qualitative study. Phenomenographers emphasize the need to ensure trustworthiness to establish rigor in the study (Shahadat, 2014). To bring about trustworthiness, the researcher incorporated four aspects of trustworthiness into the study: credibility, dependability, confirmability, and authenticity.

3.12 Credibility

To ascertain credibility, the researcher used member checking. In the process of member checking the researcher returns data, analytic categories, data interpretations, and/or even conclusions to study participants. The rationale is that by giving participants the opportunity to review research work, a researcher can claim that the work adequately presents their own views. Establishing the credibility of findings entails ensuring that

the research is carried out according to the canons of good practice and submitting research findings to the members of the social world (Amin et al., 2020; Shufutinsky, 2020). In other words, this criterion of trustworthiness examines if readers of the research believe what the authors are reporting.

3.13 Dependability

To ascertain qualitative reliability (dependability), the researcher used a detailed thick description to convey the findings. According to Johnson, et al. (2021) dependability description may transport readers to the setting and give the discussion an element of shared experiences. When qualitative researchers provide detailed descriptions of the setting, for example offer many perspectives about a theme, the results become more realistic and richer. This entails ensuring that complete records are kept of all phases of the research process— problem formulation, selection of research participants, fieldwork notes, transcripts data analysis decisions, and so on, in an accessible manner. The researcher kept detailed records of the observation process to allow comparison. This procedure added to the dependability of the findings.

3.14 Confirmability

Confirmability is a measure of how well the study findings are supported by the collected data (Connelly, 2016). This aspect of trustworthiness is concerned with the connection between the data and the results. Triangulation is a general approach to check and establish both credibility and confirmability of qualitative findings by analyzing a research question from more than one perspective. Triangulation can be categorized into four classical types: methodological, data, investigator, and theoretical triangulation, along with a growingly important and prevalent fifth one called environmental triangulation (Amin et al., 2020). A methodological triangulation was used in this study. With this frequently used approach to triangulation, the researcher

used a combination of methods to compensate for the limitations of one approach with the strengths of another, aiming to improve the confirmability of the findings when these are broadly convergent.

Amin et al. (2020), explained that, there are within-method triangulation and between-method triangulation. The first uses assortments of the same method; for example, conducting an open-ended, drawing-based interview as well as a semi-structured interview with the same participants. The second uses contrasting methods, such as combining interviews with observation on the same participants. The researcher used triangulation of interview and observation in the use of qualitative method. This enabled the researcher to effectively assess various outcomes on teachers' practices of curriculum adaptation.

3.15 Authenticity (Transferrable)

Authenticity describes the extent to which researchers fairly and faithfully show a range of realities (Connelly, 2016). A study that has enough authenticity will include various citations that clearly demonstrate the connection between the results and data. These citations should be used systematically throughout the text, for example, each identified category should include at least one relevant citation. According to (Kyngas et al., 2020), it is important to include citations from different participants. The researcher should also be able to demonstrate that the citation originates from the original data for example, by using an 'identification' code (Kyngas et al., 2020). For example, the code 'RT 1' in this study demonstrated respondent tutor 1, (RS 5) means, respondent student 5. Also, the researcher ensured that the identification codes were in line with current data protection guidelines and could not be used to identify the participant.

3.16 Data Analysis

The researcher adopted deductive thematic analysis. This is a top-down approach to qualitative data analysis where themes are developed from theories, literature review, objectives or research questions to form a basis for assessing a phenomenon in the lens of participants (Miles et al., 2020). The researcher started the data analysis by listing all the relevant expressions of participants, read through for familiarization of the raw data which was in the form of text. The researcher took initial notes of the data which would be relevant to the study. This action was taken to reduce the experience stories to the invariant constituents. The researcher sorted the data into organised categories based on participants and used it to develop a schema or diagram to serve as a plan to guide the researcher to stay focused on the research questions. The diagram was created to have main themes and sub-themes. Participants' data were then sort into those categories which allowed the researcher to focus on relevant data in subsequent rounds of analysis.

Thematic analysis following deductive approach was employed in this study because of its ability to sort people's views, opinions, knowledge, experiences or values from a set of qualitative data from interviews, observation and documentary in alignment of the research questions (Caulfield, 2019).

3.17 Ethical Considerations

Ethics are the concerns, dilemmas, and conflicts that arise over the proper way to conduct research. Ethics help to define what is or is not legitimate to do, or what a "moral" research procedure involves (Brittain et al. 2020).

Permission to conduct the study was obtained from the Department of Special Education, University of Education, Winneba.

To address the issue of ethics, informed consent was obtained by the researcher from the principals of the Presbyterian College of Education, Akropong and participants. Participants were made aware of the purpose of the study before informed consent was obtained (Appendix 1). Voluntary participation was a prerequisite (Leedy & Ormrod, 2015). Participants were assured that their privacy was protected by firm standards of concealment where coding was used. Participants in the research study were in no way disadvantaged if they chose not to participate, and this was clearly indicated to them.



CHAPTER FOUR

RESULTS AND DISCUSSION

4.0 Introduction

This chapter presents the results and discussion of the study. The chapter begins with the descriptive analysis of the demographic characteristics of participants of the study which include age, gender, educational level, programmes offered, and years of teaching experience in an inclusive class. It also presents the outcome of the data collected through interview and observation in relation to the research questions of the study.

4.1 Table 1. Demographic Description of Respondent Tutors

Gender	Frequency	Percentage (%)
Male	4	57.1
Female	3	42.9
Age Range		
35 – 39 years	1	14.3
40 – 44 years	2	28.6
45 – 49 years	3	42.9
50 – 54 years	1	14.3
55- 59 years	0	0
Area of specialization		
English Language	1	14.3
Social Studies	1	14.3
Science Education	1	14.3
ICT	1	14.3
SPED	1	14.3
Mathematics	1	14.3
Home Econs	1	14.3
Yrs. of Teaching Exp. in Inclusive Class.		
0 – 2 years	1	14.3
3 – 4 years	1	14.3
5 – 6 years	3	42.8
7 – 8 years	1	14.3
9 – 10 years	1	14.3

The Deaf		
Participants		
Gender		
Male	4	57.1
Female	3	42.9
Age Range		
18 – 20 years	1	14.3
21 – 23 years	5	71.4
24 – 26 years	1	14.3
Type of disability		
Deaf	7	100
Additional		
Disability		
No additional	7	100
disability		
Year Groups		
Year 3	3	42.9
Year 4	4	57.1

Table 4.1 above shows the sex distribution of the participants of the study. As shown in the table, 4(57.1%) of the total participant tutors were male while 3(42.9%) of the total participant tutors were female. In terms of Age range of participant tutors, the table indicates 1(14.3%) of the total participants had age range of 35 to 39 years, 2(28.6%) of the total participant tutors had age range of 40 to 44 years, 3(42.9%) of the total participant tutors were from 45 to 49 years, 1(14.3%) of the total participant tutors were within the age range of 50 to 54 years and none of the participant tutors was above 54 years. The age range distribution shown in the table above shows that majority of the participant tutors are in their youthful age and as youth can learn a lot and adapt systems to the benefit of all.

Again, Table 4.1 shows specialized course area distribution of participant tutors. From the table, the participant tutors were selected from 7 course areas which include: English Language, Science, Mathematics, ICT, Social Studies, Home Economics and Special Education. Each participant tutor, representing 14.3% had one of the above courses as their area of specialization.

In relation to the participant tutors' years of teaching experience in an inclusive classroom, the table shows that, 1(14.3%) of the total participant tutors had from 0 to 2 years' teaching experience in an inclusive classroom. 1(14.3%) of total participant tutors had from 3 to 4 years teaching experience in an inclusive classroom. 3(42.8%) of the total participant tutors had from 5 to 6 years teaching experience in an inclusive classroom.

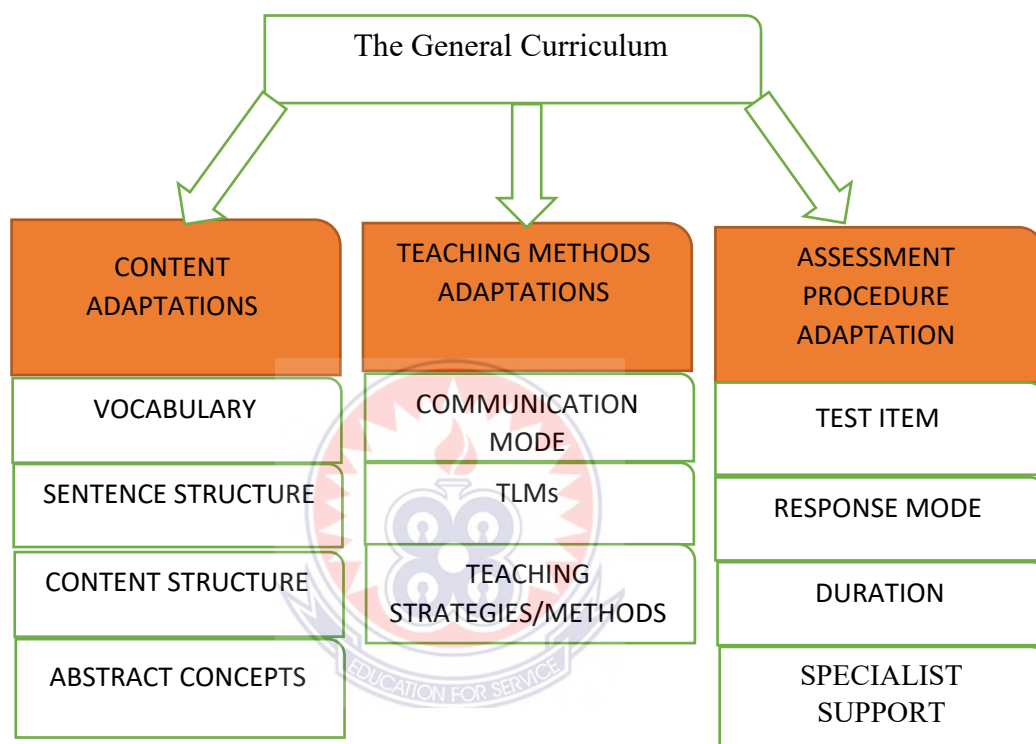
Furthermore, 1(14.3%) of the total participant tutors had 7 to 8 years' experience of teaching in an inclusive classroom. Lastly, 1(14.3%) of the total participant tutors had from 9 to 10 years teaching experience in an inclusive classroom. It can also be deduced from the data in table 4.1 that, 6 (85.7%) of the total tutor participants did not specialise in special education. The researcher wished to explore how each of those tutors adapt the general curriculum to match the diverse needs of all learners in the inclusive classrooms most especially, the Deaf to inform decision making. In relation to the demographic characteristics of participant students who are Deaf, table 4.1 shows 4(57.1%) of the total participant were male students who are Deaf, while 3(42.8%) of the total participants are female students who are Deaf. Again, the table indicates that, 1(14.3%) of the total Deaf participants had an age range of 18 to 20 years, 5(71.4%) of the total Deaf participants had 21 to 23 years and 1(14.3%) of the total participants who are Deaf had 24 to 26 years.

Table 4.1 further shows that, 7(100%) of the total student participants were Deaf and none of them had additional disability. In terms of year groups, data from table 4.1 shows that, 4(57.1%) of the total Deaf participants were in year 4 while 3(42.8%) of the total participants who are Deaf were in year 3.

The demographic characteristics of the participant students who are Deaf presents young and ambitious Deaf participants who are chasing a brighter future in an inclusive

classroom. These individuals have 3 to 4 years learning experience in an inclusive setting. The researcher believed that they would have rich experience in relation to curriculum adaptation service from tutors of Presbyterian College of Education to facilitate this study.

Table 4.2: Structural Description of the Tutors' Curriculum Adaptation



Source: *Field work (2022)*

4.3 Research Question 1: *How do tutors of PCE adapt their content for inclusion of the Deaf?*

This question expected the participant tutors to describe how they adapt curricular content for inclusion of the Deaf. One major theme emerged under this research question (content adaption), and four sub-themes raised to further explain the major theme. These include: vocabulary adaptation, abstract concept adaptation, sentence structure adaptation and unit content structure adaptations. These are explained in detail below;

4.3.1 Vocabulary

Vocabulary use is very critical in teaching and learning. For tutors in the study school, they indicated they adapt vocabularies by using simple words to explain them, using sketches, diagrams, pictures and using ICT tools as explained in anecdotal experience of the tutor participants;

“What I normally do is that, I use simple language to explain the vocabularies in my content to enable the Deaf understand those big words used in their pamphlets and books when teaching in class.” (RT 5)

“I compliment my content with sketches, diagrams and pictures to enable all my students most especially the Deaf to understand vocabularies they read in textbooks and class notes.” (RT 3)

“I normally ask the students to use their mobile phones to search the meaning of vocabularies during teaching and learning.” (RT 7)

The experience stories above imitate the work of Scruggs and Mastropieri (2017) who recommended that teachers should, simplify language, pre-teach vocabulary, use mnemonics, use picture clues, implement peer tutoring as a way of adapting vocabularies for easy access among the Deaf. From the demographic background of participant tutors, about 90% of them do not have special education background, yet from their experience stories it could be seen that the tutors are doing well in adapting vocabularies for inclusion of the Deaf.

4.3.2 Sentence Structure.

The tutors shared their experiences in relation to how they adapt their sentence structure for inclusion of the Deaf. It came to light that, the tutors break complex sentences into simple sentences, use level-appropriate sentences but

break the sentences into units that makes it easier for the Deaf to understand during teaching and learning as expressed in the quotes below:

“I break complex sentences into simple sentences for easy reading, understanding and recall among all my learners most especially the Deaf”. (RT 5)

‘In the books and lesson notes I prepare for the students, I make sure that reading and understanding of the material become easy for the students, so I use simple sentences.’ (RT 4)

‘I use level - appropriate sentence structure in order to help the learners develop at their level. However, when I find out that my Deaf students are finding it difficult understanding the sentence structure, I break the sentences into parts to make it easier for them to understand.’ (RT 2)

Although some tutors see the need to adapt sentence structures for inclusion of the Deaf, there were other tutors who seem to have different assumption as below;

‘Learners in the college are expected to read and understand college level sentence structure. So, if the Deaf don’t understand the sentence structure then they don’t qualify to be in the college.’ (PT 1)

‘I think the sign language interpreters are responsible for that. They have the skill, I have no idea.’ (PT 3)

The responses above are in line with the findings of Jones, (2017) who reported that shorter sentences with straightforward syntax can enhance the reading ability and accessibility of text. Adding to this, Brown, (2019) recommended the use of visual cues

in the form of sign language videos or graphical representations to aid the understanding of complex sentence structures or concepts. However, it takes staff members who understand the inclusive education policy and willing to implement its adaptation strategies to ensure successful inclusion of all learners mostly the Deaf in the general curriculum. The response from some of the tutors clearly implies that, they have not accepted the inclusive education policy and its implementation strategies.

4.3.3 Abstract Concepts

Teachers of inclusive classrooms are encouraged to adapt abstract concepts to facilitate learners' understanding of content. The participant tutors explained that they use demonstration, board illustration, dramatization, and TLMs like globe etc to facilitate learners understanding of abstract concepts as indicated:

“Sometimes, I call the students to demonstrate some of the abstract concepts”. (PT 4)

“Normally, I illustrate some of the abstract concepts on the board”. (PT 3)

“Sometimes, I dramatize to depict the meaning of abstract concepts during teaching and learning to facilitate learners' understanding.” (PT 5)

“I use TLMs (e.g. a globe etc) to facilitate learners' understanding of abstract concepts.” (PT 2)

“it has not been easy but through guidance from sign language interpreters, the use of videos and pictures help facilitate the understanding of abstract concepts among the Deaf.” (PT 1)

The adaptation strategies adopted by participant tutors above are in line with the findings of Anwaar, (2021) who reported that the use of teaching and learning materials facilitate learners' understanding of abstract concepts. From the experience stories of the participants above, it could be seen that, apart from their use of TLRs, they go further to use other means like dramatization or performance to teach abstract concepts which means that, the tutors are doing their best to ensure that all their learners including the Deaf are included in the curricular access. Teamwork among the teaching staff and the sign language interpreting staff also seem to be a contributing factor to the adoption of adaptation strategies which serve the needs of the Deaf students.

4.3.4 Content Structure

In relation to adaptation of content structure for inclusion of the Deaf, tutors of PCE explained that they make sure that their content format is uniform, they use bullets, charts and diagrams to facilitate learners' easy access of their content. The tutors had these to say;

‘i make sure my format is same throughout the textbook or pamphlet to facilitate easy reading and understanding among my students.’ (PT 2)

‘When needed, I use bulleting to direct my students' attention on important points or summarize lengthy paragraphs to make learning easy.’ (PT 5)

‘I use charts and diagrams when necessary to summarise my content to make reading and understanding easy for my students.’ (PT 1)

However, some of the tutors had different opinion about unit content structure adaptation at the college level as mimicked in the quotations below:

“I know Deaf learners like pictures but employing pictures to compliment explanation of text seem too basic for college students. So, I make books with no pictures in the content.” (PT 7)

“I know the Deaf can read text, so I do not worry myself linking passages to corresponding videos or illustrations in structuring the content of my coursebooks.” (PT 3)

“Although I know there are Deaf students in my class, but I don’t plan any content adaptation for them. I know the sign language interpreters are always there to help them to understand the content.” (PT 4)

Although adaptation strategies being implemented by some of the participant tutors mimic Anwaar, (2021) who reported that Deaf students benefit from visual representations of information, such as diagrams, charts and pictures.

However, there were some participants who have the perception that, including visual representations of information in content is too basic for college students. Again, some of the tutors seem to have knowledge deficit in relation to the role of sign language interpreters in inclusive classroom that is why they say sign language interpreters are responsible for seeing to students who are Deaf’s understanding of curricular content. Inclusive education aims to provide equal opportunities and support for all students including the Deaf. Assuming that, sign language interpreters alone are responsible for Deaf students disregards the concept of inclusive classrooms where teachers are expected to accommodate the diverse needs of all students.

Again, students who are Deaf may have different learning styles and needs compared to their hearing peers. Relying solely on interpreters may not address these specific requirements. Teachers should consider adapting their teaching

material, instruction methods and assessment procedure to ensure that Deaf students are fully participate and benefit from the curriculum. These adaptations go beyond the presence of sign language interpreters. It may include multiple means of presentation, adaptation of sentence and content structures.

4.4 Research Question 2: *How do tutors of PCE adapt their instructional methodology for inclusion of the Deaf?*

This question sought the respondent tutors to describe how they adapt their teaching methodology and teaching and learning resources for inclusion of the Deaf. One theme was raised from the responses (Teaching method adaptation). 3 sub-themes also emerged detailing the major theme. These were; communication mode, teaching and learning resources (TLRs), and teaching methods.

4.4.1 Communication Mode

The participant tutors shared their perspectives related to communication mode adaptations for inclusion of the Deaf during teaching and learning. The participants reported that they use sign language interpreters as mediators, and written mode of communication as shown in the quotes below:

“the sign language interpreters are always in class to interpret the lesson to the Deaf.” (PT 1)

“When I visit them in their group discussions in class, I communicate with them through exchange of writing. How I wish I can sign at those moments!!” (PT 4)

“It would have been a disaster if sign language interpreters were not regular in the class. The interpreters bridge the communication gap between me and the Deaf, the TH and the Deaf.” (PT 5)

The participants' adaptation strategies in relation to communication mode for inclusion of the Deaf agrees with the report of Fobi, (2021) who noted that, sign language interpreters facilitate communication between Deaf students and hearing teachers to make it possible for Deaf students access information and actively participate in classroom discussions. From the participants' experience shared, it could be seen that, aside the use of sign language interpreters for bridging the communication gap between the Deaf students and their tutors, students who are Deaf to ensure free flow of information in the classroom, there were other tutors who wish to have the signing skills to enable them to have direct instruction with the Deaf without a mediator.

4.4. 2 Teaching and Learning Resources

The participants again shared their experience about adaptations they make in their TLRs for inclusion of the Deaf. They narrated that, they use projectors, videos, pictures, charts, real objects and diagrams as mimicked in the quotes below:

'In my delivery, I use projector to show videos and pictures related to the topic under discussion. I do this to facilitate understanding of the topic to all learners including the Deaf.' (PT 4)

I always call the Deaf through their interpreters to demonstrate or find the meaning of concepts using their phones.' (PT 3)

'I use charts and diagrams when necessary to summarise my content to make reading and understanding easy for my students.' (PT 1)

'Sometimes I bring real objects to the class to facilitate the teaching and learning'' (PT 6)

The experience stories above mimics Charalambousa, et al. (2018) who reported that visual learners would learn by watching movies, field strips, pictures, and graphs which help integrate the lesson. Adding to this, Erabs, (2017) opine that multiple representations of information by including visual and technological aids is an effective teaching method which sustains the interest and active participation of visual learners including the Deaf. From the experiences above, it could be deduced that, the adaptation strategies being implemented by tutors of PCE is not different from the professionally accepted inclusive strategies although about 90% of the tutors do not have special education background. Could it be because of long period of teaching in inclusive setting as reported by Luckner and Bowen, (2018).

4.4.3 Teaching Methods Adaptation

Adding to the instructional adaptations, the tutors of PCE again told their experience stories about how they adapt their teaching methods for inclusion of the Deaf. They shared that, they use the traditional method of teaching, learner-centred teaching methods, demonstration, small group discussion, role play etc as shown in the quotes below:

“ I know the classes are made up of the hearing and the Deaf. However, I was not trained to teach in inclusive class, so I go by the traditional methods of teaching.” (PT 3)

“the interpreters made me aware that teaching strategies that involve all learners in the teaching and learning process is ideal for inclusive settings and that has been my philosophy in choosing teaching methods.” (PT 2)

“I always call the Deaf through their interpreters to demonstrate or find the meaning of concepts using their phones, they write their responses on papers and I go around to check” (PT 6)

‘I have been using small group discussion, demonstrations, role play and inquiry approaches.’ (PT 4)

‘I use the same teaching methods for the whole class, I don’t make a particular method special to only the Deaf. However, I always make sure both the Deaf and the hearing students have understood the lesson.’ (PT 7)

The above experience story is in harmony with the findings of Erabs, (2017) who reported that teachers may teach new concepts from different perspectives by various approaches so that pupils can grasp the ideas through meaningful repeated illustrations.

From the experience shared above, tutors with no Deaf education background are doing all their possible best to serve the diverse needs of learners in inclusive class as also indicated in the field note (Appendix C).

The lecture observation has given a vivid descriptive picture of how far some tutors of PCE go in getting the Deaf involved in the teaching and learning process. This lived experience in the inclusive classroom context described that, the Deaf prefer demonstration strategy of teaching. Again, the experience story also mimics Drayton, et al. (2020) who found that collaboration with teachers in the adaptation process enable more effective adaptations through innovative materials developed by designers without harming the core of the curriculum.

4.5 Research Question 3: How do tutors adapt their assessment procedures for inclusion of the Deaf?

This question sought respondent tutors’ experiences on how they adapt their assessment procedure for inclusion of the Deaf. Table 4.2 presents the main theme (assessment procedure adaptation) and four (4) sub-themes (test items, response mode, Duration and Specialist support) emerged as in the quotations below:

4.5. 1 Test items adaptations

The way a test item is constructed can be exclusion or inclusion factor for students who are Deaf, so tutors need to consider the strength and need of their students in test item construction. In relation to test items adaptation for inclusion of the Deaf, the participants reported that they use simple and direct instructions, they reduce the number of objective test items with complex optional answers, as well as the number of essay type questions as in the quotes:

“I normally set objective items for their quiz, but I try to reduce the number of complex items with optional responses like:

i....., ii....., iii....., iv.....

A. I and ii

B. ii and iv

C. iii and iv

D. I, ii, iii, and iv

I don't set more of this type of objective question because, the Deaf always get them wrong.” (PT 3)

“I set few descriptive or essay type questions and complement with more objective type questions considering the linguistic deficit of the Deaf.” (PT 5)

“I always pay much attention to instructions on how to answer the test items. I make sure that it is clear and simple. This is because the student's ability to answer the test items correctly partly depends on the clarity of its instructions.” (PT 7)

The experience story above is supported by Gathoo, (2016) who described the Deaf as people who have difficulty understanding complex statements, orders and directions. That notwithstanding, Naimie et al., (2010) are of the view that, instructional methods and assessment procedure should not always match the strength of the student else it will not challenge the student to think critically. I beg to differ in relation to the view point of Naimie et al., (2010). this is because research on educational assessment practices for the Deaf students suggest that test items should be fair, focused, and appropriate, rather than solely focusing on the items being challenging. A study by Marschark, et al. (2017) found that test items should account for the accessibility needs of different deaf students, including ensuring clear visual representation or the provision of accommodations like sign language interpreters or captioning.

The notion of designing challenging test items for students who are Deaf raises concerns about fairness and equity. According to Fobi, (2021), Deaf students often face linguistic and academic disparities compared to their hearing peers, due to various factors including limited access to language and communication barriers. Consequently, designating tests as challenging without considering these disparities may disadvantage Deaf students in relation to the hearing students they are being compared to. Therefore, it is important to approach test items design with a focus on providing equitable and accessible assessment that accurately measure their knowledge and skills, rather than merely aiming for challenges. The goal should be to ensure fairness and inclusivity in education assessments, aligning them with the specific needs and abilities of the Deaf students.

4.5.2 Modes of Response

The universal design for learning encourages given students' opportunity for multiple modes of response in assessment to cater for the differential needs

of learners. Responding to adaptations made in mode of response in assessment, participants shared that, during teaching and learning evaluations, students who are Deaf were allowed to write, sign or demonstrate their response while the hearing voice out or use oral presentations. The quotes below throw vivid description:

‘The Deaf respond to questions during assessment in class by written or signing through the interpreter.’ (PT 2)

‘In relation to mode of response, while the hearing students are presenting their assignments orally, the Deaf are permitted to present theirs in written form. (PT 5)

‘Sometimes, I form a panel of tutors who can sign and understand sign language to score the Deaf as they use sign language to present their work while the TH students do oral presentation.’ (PT 7)

‘during teaching and learning, I often ask the class to write their individual responses on pieces of paper while I go around to check. This way, I include all in the assessment.’ (PT 3)

The experience stories of respondent tutors are supported by Salvia and Ysseldyke (2009) who noted that, while the regular students are responding to questions orally, the Deaf should be allowed to use written expressions. Gathoo, (2016) shares the same view that, learners must be offered the opportunity to respond to instructions in a varied way depending on the learner’s ability other than through typical oral recitation or written expression as prescribed in the general curriculum. The experience narrations in relation to mode of response adaptations, matches the findings in the literature. However, the researcher is of the view that responding to assessment questions using sign language and mediated by an interpreter can influence the reliability of the deaf

students' score hence the need to allow the Deaf to respond to assessment questions directly on their own with no mediators by written or signing.

4.5.3 Assessment Duration

Deaf students require more time to read and understand test items. Time allocation in an assessment can influence the results of the candidates hence the need for adaptations in assessment duration for candidates most especially those with diverse needs. In finding out how participants adapt assessment duration for students who are Deaf, they reported that they allow extra time to the Deaf. Below are quotations of the tutors:

“in relation to duration of quiz or exams, additional 30 minute is allowed for the Deaf students to complete any 2-hour duration paper.” (PT 1)

“15 minutes extra time is allowed for the Deaf to complete any paper with less than 2-hour duration.” (PT 5)

In support of the responses above, Gathoo, (2016) reported that, teachers should allow extra time for test or examination among special needs learners including the Deaf. The researcher is okay with the assessment duration adaptations for the Deaf from both literature and participants responses. This is because the Deaf need more time to read, comprehend the assessment instructions, and test items. More so, the Deaf need more time to construct correct grammatical responses unlike their TH mates in the inclusive classroom.

4.6 Research question 4: What is the perception of the Deaf on curriculum adaptation services they receive?

The Deaf students shared their responses to the adaptation services they receive from their tutors at the Presbyterian College of Education, Akropong Akuapem. Two

(2) themes emerged from the Deaf participants' responses which are Satisfactory remarks, and unsatisfactory remarks, as illustrated in the quotes below:

4.6.1 Content Adaptations

4.6.1. 1 Satisfactory Remarks

Some of the respondent Deaf students expressed their satisfaction toward the content adaptations offered by their tutors. According to some of the participants, vocabulary level is okay, they are fine with the use of pictures, bulleting of points, use of chart and diagrams in contents as shown in the quotes below:

“I am okay with the ‘vocabulary level’ use in notes and books prepared by tutors.” (PS 1)

“Some tutors use pictures and other teaching and learning materials like map and globe to help us understand abstract concepts. This helps us to take active part in the lesson, I wish other tutors do the same.” (PS 4)

“Some tutors bullet points in the textbooks and handouts. It makes learning easy for me.” (PS 7)

“ Some tutors make summary and short points in their books, it makes learning so easy for me’”. (PS 2)

The above experiences affirm the findings of (Brown, 2019; Smith, 2020) who reported that utilizing visual cues in the form of sign language videos or graphical representations, charts and bulleting can aid in the understanding of complex sentence structures or concepts. This confirms the content adaptation strategies implemented by some respondent tutors as okay in the perspective of the Deaf. This implies that, textbooks or any educational curricular content meant for inclusive classes with deaf

students should include visual representations or cues. It would not be appropriate to presume that, the Deaf at the tertiary level do not need visual cues.

4.6.1.2 Unsatisfactory Remarks

Other Deaf participants gave unsatisfactory feedback about some of the tutors' content adaptations services. According to the respondent Deaf, vocabularies use in some contents are difficult, some contents contain long and complex sentences, some books contain not even a single visual cue which put them into confusion as quoted below:

'Some of the tutors don't consider our language ability at all. They use big vocabularies and expressions in their content and it makes us confuse and feel excluded.' (PS, 7)

'other tutors use sentences which are too long and complex, understanding them become difficult.' (PS 5)

'Some tutors make a whole course book with a nice cover but when you open, there is no single picture, diagram or illustrations, sketches or drawings to explain the plenty words or sentences. They are not being fair to we the Deaf.' (PR 1)

In contrast to the quotes above, Gathoo, (2016) admonished teachers to avoid the use of complex sentences since learners with special needs most especially the Deaf find it difficult to understand and remember due to their short attention span.

4.7.0 The Deaf' perception on Instructional Methods Adaptation

The Deaf participants told their experience stories related to their feedback after accessing PCE tutors adapted instructional methods. Two (2) themes emerged: Satisfactory remarks and unsatisfactory remarks as illustrated in the quotations bellow:

4.7.1 Satisfactory Remarks

The feedback stories from some of the Deaf participants shows that they are satisfied with the tutors' instructional adaptations. According to the Deaf, the tutors use practical methods of teaching as well as technology and they are okay with that as illustrated in the quotations bellow:

'Most tutors call us to demonstrate or find the meaning of concepts using our mobile phones, they allow us to write our responses on sheets of papers as they come around to check. Other times too, we respond to direct questions through sign language interpreters. These methods make me active and comfortable in class.' (PS 6)

"These days because of the use of videos, demonstrations and role play by most of the tutors, I can equally laugh together with my hearing mates. It really gives me joy." (PS 7)

'Two tutors always try to ask me questions using sign language during teaching and learning. I always feel as a true citizen of the class any time they do that. I wish all tutors could sign even a little.' (PS 5)

'I like mall group discussions. Although the hearing mates cannot sign, we are able to communicate in the group by writing and sometimes through a sign language interpreter.' (PS 3)

4.7.2 Unsatisfactory Remarks

On the contrary, some Deaf participants registered their unsatisfactory reaction towards instructional methods of some tutors. They reported about too much roaming in class while teaching, uncaptioned videos, swift movement of captions, fast tongue of tutors during delivery which exclude them from full participation of lessons as quoted below:

“Some of the tutors always roam too much in the classroom during teaching and learning. This distance the tutors from the sign language interpreters so, the interpreters don’t hear the tutors and interpret to us. This practice excludes us from the lesson.” (PS 1)

“Some of the tutors also show video when teaching. However, some of the videos do not have captions, those with captions too, always move so fast that I find it difficult to read or follow.” (PS 7)

“Some tutors come to class without TLMs and it makes learning so difficult for us.” (PS 4)

“Some tutors speak so fast that the interpreters find it difficult to interpret. The interpreters prompt them but no change. This exclude us from lessons” (PS 1)

According to Luckner and Bowen (2018), captioned videos provide access to spoken information for Deaf students, allowing them to follow along with the content and fully participate in classroom activities. Although swift movement of video captions can improve learners reading speed, it has potential difficulty for Deaf students who are slow readers or have reading difficulty. These individuals may struggle to keep up with rapidly moving captions, leading to incomplete comprehension.

There is an educational conflict in the issue of some teachers roaming in class during teaching and learning. The traditional teacher is expected to move around in the classroom to ensure learners attention and participation, however, inclusive class where there is a sign language interpreter supporting the Deaf students, the teacher is expected to be closer to the sign language interpreter to enable the interpreter to get the information clearly to facilitate effective interpretation. In the cause of the teacher roaming in the classroom, the information source is distanced from the interpreter

making it difficult to hear from the source to interpret. Again, some deaf prefer reading the lips of teachers to watching the sign language interpreter, so roaming while teaching makes it difficult for such ones. Too much roaming in class while teaching can exclude the Deaf students from access to the information. There is the need to have public addressing systems in inclusive classrooms. When this happen, the teacher can stand closer to the sign language interpreter when delivering to serve the diverse deaf students as well as the hearing students in inclusive classroom.

4.8.0 Assessment Procedure Adaptation

Most of the Deaf participants reported that they are Satisfied with the extra time offered them, the sign language interpreting service offer during examination or quiz, fill in test items and separate examination centre location. However, others registered their unsatisfactory remarks on objective type questions with complex optional answers. They also requested adaptation of examination rules as illustrated in the quotes bellow:

4.8.1 Satisfactory Remarks

Some respondent Deaf expressed their satisfaction on assessment procedure adaptations of their tutors. According to them, the tutors give them varied assessment mode, separate examination centre and objective test items and they are okay with these adaptations as quoted below:

‘I felt well catered for during my VIVA presentation. While my hearing mates were doing oral presentation, the panel preferred to read our projected work and ask us questions through the sign language interpreters for clarifications on areas that were not clear to them. I really felt well included.’

(PS 5)

“In my first year, the hearing and the Deaf were assessed in the same examination hall and I was not comfortable at all. I was always afraid it was

time when the hearing students are asked to stop work. Their movement always distracted me. But these days the Deaf are made to write exams in a separate room. I am happy with this new arrangement'' (PS 2).

''During teaching and learning some tutors assess us by writing, demonstrations and sometimes we answer questions through sign language interpreters'' (PS 3).

''Tutors use fill in or true or false objective test items, Deaf people okay with them''. (PS 5)

4.8.2 Unsatisfactory Remarks

On the contrary, other participants offered unsatisfactory remarks on assessment procedure adaptations of their tutors. The students elaborated that, the some of the tutors offer them objective test items with complex optional answers. Again, the college policy does not permit them to answer examination questions using computer as quoted below:

'' I don't like objective type questions which display optional answers as:

I....., II..... III....., IV.....

- A. I and IV*
- B. II, I and III*
- C. IV and II*
- D. I, II, III, IV*

I always get this type of question wrong because it confuses me. I wish tutors don't set this type of question in exam.'' (PS 1)

''I wish the college examination rules are adapted to allow the Deaf to use computers to answer questions in examination.'' (PS 4)

The unsatisfactory remarks made about complex test items is supported by Gathoo, (2016) who reported that the Deaf have difficulty understanding

complex statements, orders and directions. Talking about deaf-friendly test items, Marschark et al. (2017) found that test items should account for the accessibility needs of different deaf students, including ensuring clear visual representation or the provision of accommodations like sign language interpreters. It would not be appropriate to create complex test items all in the name of challenging students while not considering the learning needs of the students.

On the issue of the Deaf requesting adaptation in examination rules to allow them to use computers to answer the test items, the researcher is of the view that although there could be concerns about the security and invigilation of the exams if students who are Deaf can use computers. Are they not going to access unauthorized materials or receiving assistance from others during the examination? Indeed, these are some challenges one can anticipate should the deaf be allowed to answer exam questions using computers. However, these anticipations could easily be controlled. What assessors should think about first is the needs and preferences of the learner and the appropriate adaptations to serve those needs and preferences. It is a general truth that the Deaf have linguistic problems related to grammar. Allowing the Deaf to use computers in answering exam questions can easily help to manage their grammar issues. Typing with a computer is also faster and could even solve the issue of lag time which calls for giving them extra time. Allowing the Deaf to answer questions in exams could be a positive step towards inclusive education.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0: Introduction

This chapter presents a summary of the findings of the study, conclusions drawn from the study and recommendations made. The purpose of the study was to explore how tutors of PCE, adapt the general curriculum for inclusion of the Deaf. The study sought to explore how the participant tutors adapt their content for inclusion of the Deaf, investigate how the tutors adapt their teaching methodology for inclusion of the Deaf, explore how the tutors adapt their assessment procedure for inclusion of the Deaf, and find out the perception of students who are Deaf on curriculum adaptation services they receive from the tutors.

The study employed the social model of disability as theoretical framework to guide the study in addressing the research questions formulated for this study. Using a qualitative approach with phenomenological descriptive design, the study employed a semi-structured interview and observational field notes to elicit data from fourteen (14) participants drawn from PCE, Akropong Akuapem who are made up of seven (7) Deaf students and seven (7) tutors.

Findings

In relation to how tutors adapt the general curriculum for inclusion of the Deaf, it has been revealed that, tutors of PCE expose the whole class to the level appropriate vocabularies and concepts. However, during teaching and learning, the tutors take measures to explain the vocabularies and abstract concepts. For instance, some of the tutors use teaching and learning materials like map and globe to teach abstract concepts. Others guide the learners to use their mobile phones to search for meaning of words on

the internet, others also use pictures, sketches and demonstrations to explain abstract words or concepts during teaching and learning.

In relation to teaching methods adaptation, the study has revealed that tutors of PCE, Akropong Akuapem employ same teaching methods for inclusive classes but in choosing the teaching methods, they consult specialist in deaf education (sign language interpreters, professional teachers of the Deaf) for guidance. They employ learner-centred approaches like: small group discussions, demonstrations, role-play, and problem-solving approaches to involve all the learners most especially the Deaf. Other tutors also use teaching and learning materials including ICT tools like projector, laptop computers and mobile phones to support teaching and learning in the inclusive classroom. However, despite the number of years of teaching inclusive class, other tutors still go by the traditional teaching method (lecture method). They see the sign language interpreter as responsible to serve the needs of the Deaf in the class during teaching and learning. They present audio content with no captions, those who show videos with captions, have their captions always moving very fast, some of the tutors roam a lot during teaching and learning which exclude the Deaf from the lesson.

In relation to assessment procedure adaptations, the study has revealed that tutors of PCE adapt assessment procedures through i. extension of exams duration (addition of 30 minutes to every 2-hour paper and addition of 15 minutes to every 30 minutes or 1hour paper for persons with disabilities including the Deaf).

ii. Employing the supportive services of sign language interpreters during exams for the Deaf. In teacher-made assessments during teaching and learning, findings of the study have revealed that, tutors of PCE allow varied mode of responds like: written, demonstration and signing with interpreting support. But in the case of quiz and assignments, the tutors give group assignments which require oral presentation, and

individual assignment by written presentation mode. It was also reported that, adaptations during VIVA is in two forms: one with panel who can sign and understand others signing. Here, the Deaf present their projects by signing with no interpreter support. The one with hearing panel. At that session, the services of sign language interpreters are employed. The panel read the slides and throw questions for explanations from the Deaf through the sign language interpreters.

In relation to the Deaf students' feedback to the curriculum adaptation services they receive from their tutors, it was revealed that, most of the Deaf, praised some tutors because, although the vocabularies they used in their notes and books were difficult, the tutors explain them during their delivery. Other tutors also use pictures and word maps to explain abstract concepts. Some Deaf students praised some of the tutors on how they employ adaptive measures like the use of TLMs for instance, pictures, globe as well as ICT tools like mobile phones, computers and projectors to guide them find the meaning of vocabularies and abstract concepts during teaching and learning. However, Some Deaf students complained that, although some of the tutors are aware of their needs, yet they do nothing about their audio contents, and difficult level of their vocabularies and abstract concepts during teaching and learning. In terms of teaching methods adaptations, the Deaf of PCE, Akropong Akuapem revealed that some of their tutors use mediators (sign language interpreters) to bridge communication gap between tutor/deaf students, TH students/ Deaf students. Again, the findings of the study have revealed that, the Deaf students testify that most of the tutors use learner-centred approaches like: small groups discussion, role-play and demonstration and it helps them to fully partake in class activities.

The study has again established that, most tutors of PCE use videos and pictures during teaching and learning and those TLMs help them understand the lessons. The

Deaf registered their appreciation to tutors for always allowing them to use ICT tool (mobile phones) to find meaning of vocabularies in the teaching and learning process. On the contrary, the study has established that, some tutors of PCE do not care about the Deaf students. Those tutors use teacher - centred approach like lecture method which excludes the Deaf from the teaching and learning process because they understand best when they take the centre stage. The study has again revealed that, some tutors move around a lot in the classroom during the teaching and learning process. Other tutors also teach too fast and it makes the Deaf lose so much information as the interpreters are not able to hear the tutors' information clearly to interpret.

In terms of assessment procedure adaptations, the study has revealed that the Deaf of PCE feel well catered for when allowed to project their write up on the wall, and the panel read through the work and ask them questions through sign language interpreters for clarifications on areas that were not clear to them. Again, the Deaf wish to be given the chance to present their project in front of a panel who understand sign language.

Again, the Deaf lauded tutors for extra time offer and sign language interpreter services given to them during examinations. On the other hand, they expressed the need to adapt the college examination rules to allow them use computers to write their examinations. According to the Deaf, the inbuilt grammar checker will help them improve upon their English grammar. The study has also revealed the discomfort of Deaf students on objective type questions which display complex optional answers. According to the Deaf, they always get it wrong because it looks so complex. The Deaf feel well catered for at VIVA presentation when the panel read through their work and ask them questions through sign language interpreters for clarifications on areas that were not clear.

5.2 Conclusions

Based on the findings of the lived experiences of participant tutors and Deaf students of this study, it can be concluded that most tutors of PCE, Akropong Akuapem, although do not have deaf education or special education backgrounds, try their possible best to adapt the major elements of the general curriculum for inclusion of the Deaf.

For instance, in relation to content, the tutors use level appropriate vocabularies and concepts in their content, but they employ adaptive measures to explain them during teaching and learning and the Deaf have pronounced their satisfaction about those adaptations. But the Deaf have reported that, some tutors of PCE, Akropong Akuapem prepare course books with many complex sentence structures and little or no visual cues despite knowing that students who are Deaf also access those books. The Deaf reported they are not satisfied with that. It can also be concluded that, some tutors of PCE, Akropong Akuapem still stick to the use of the prescribed curriculum content without adaptations to the vocabularies, abstract concepts, audio materials and the large volume of content. Given feedback on this, the Deaf said it excludes them from equal access of the content. Furthermore, it can be concluded that, tutors of PCE, Akropong Akuapem do not practice task analysis and frequent repetition of new concepts because of the large volume of content they need to complete within a semester despite the inclusion of the Deaf. However, remark from the Deaf has revealed their dissatisfaction towards that practice.

Based on findings of the study, it can be concluded that, tutors of PCE, Akropong Akuapem adapt their teaching methods by employing: problem solving approach, small group discussion, demonstrations, role play, inquiry, and field trip with sign language interpreter support and the Deaf remarked, they are satisfied with those adaptations.

Again, it can be resolved that, most of the tutors move about in the classrooms a lot during teaching and learning despite the presence of the Deaf and sign language interpreters. Reacting to this, the Deaf commented that they are not happy with it because it excludes them from equal access of lessons. In addition, it can be concluded that most of the tutors make use of concrete teaching and learning materials, projectors and other ICT tools like phones and laptop computers to facilitate inclusion of the Deaf in the classroom and the Deaf remarked that they are satisfied with those adaptations.

Based on findings on perception of students who are Deaf on curriculum adaptation services they receive from tutors, it can be concluded that, students who are Deaf are satisfied with contents which have age appropriate vocabularies, and are complemented with pictures, sketches, drawings and linked videos to facilitate understanding. Again, the findings of the study has revealed that, students who are Deaf show dissatisfaction when tutors adopt lecture method, large group discussions, when tutors roam too much in the classroom during teaching and learning as it does not facilitate lipreading of tutors to complement understanding or keep the sign language interpreter away from the information source, making it difficult to hear the tutor and interpret to the Deaf.

5.4 Recommendations

In the light of the study findings and conclusions drawn, the following recommendations are being submitted for consideration:

The management of PCE, Akropong Akuapem should arrange professional development sessions for newly appointed tutors on the topic: curriculum content adaptations for inclusion of the Deaf to equip them with vocabulary, abstract concepts, sentence and content structures adaptations for inclusion of students who are Deaf.

Furthermore, management of PCE is recommended to arrange professional development sessions on instructional methods adaptations for inclusion of the Deaf. These sessions will impact knowledge and skills in adapting communication modes in the classroom, adapt teaching techniques and strategies as well as teaching and learning resources for effective inclusion of students who are Deaf at inclusive classrooms.

More so, the researcher is recommending to PCE management to organize professional development sessions on the topic, assessment procedure adaptations for inclusion of students who are Deaf, at the beginning of every academic year to equip tutors (both new and old) with knowledge and skills on construction of test items which are friendly to learners with diverse needs and for that matter, the Deaf.

The researcher recommends that, management of PCE, should make it a yearly routine to seek the perception of students who are Deaf on aspects of the curriculum content, methods and assessment procedure which require adaptation to facilitate their inclusion.

5.5 Suggestion for Further Research

The researcher suggests further studies on 'team teaching for inclusion of students who are Deaf: The case of Presbyterian College of Education, Akropong Akuapem.' A qualitative study of this topic would inform decision making among stakeholders to improve the implementation of inclusive education at the tertiary level.

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Appendix A

SEMI – STRUCTURED INTERVIEW GUIDE

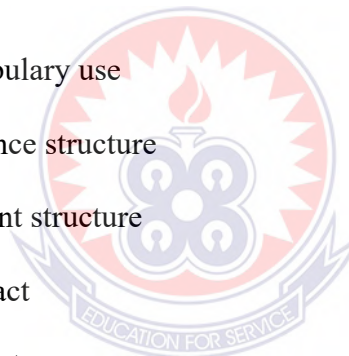
A. Demographic Characteristics of Respondent Tutors

- i. Gender:
- ii. Age
- iii. Course of specialization
- iv. Years of teaching inclusive class

1. Content Adaptations

What adaptations have you been making in your content for inclusion of the Deaf in relation to:

- i. Vocabulary use
- ii. Sentence structure
- iii. Content structure
- iv. Abstract
- v. concepts



2. What **adaptations** do you make in your **teaching methodology** for inclusion the Deaf in relation to:

- i. Communication mode?
- ii. Your choice of teaching and learning materials?
- iii. Your teaching strategies?

3. What adaptations do you make in your assessment procedure for inclusion of the Deaf in relation to:

- i. Your test items construction?
- ii. response mode?

- iii. timing or duration of the exams/test?
- iv. Specialist Support?



Appendix B

AN INTERVIEW GUIDE FOR THE DEAF

A. Demographic Characteristics of the Deaf Participants

Gender Characteristics

- i. Age range
 - ii. What type of disability do you have?
 - iii. What type of tertiary educational institution do you attend?
(inclusive, regular or segregated)
 - iv. Level of program?
1. What is your feedback after your experience with adapted course content (books and pamphlets) of your tutors?
 - i. What is your feedback on the level of the Vocabularies?
 - ii. What is your feedback on the Content structure?
 - iii. What is your feedback on the Sentence structure?
 - iv. What is your feedback on the abstract concepts?
 - v. What recommendations do you have in relation to content adaptation for the Deaf?
 2. What is your feedback after your experience with adapted teaching methods of your tutors?
 - i. What is your feedback in relation to your tutors' Communication mode?
 - ii. What is your feedback in relation to your tutors' choice of teaching and learning materials?
 - iii. What is your feedback in relation to their teaching methods/strategies?

- iv. What recommendations do you have in relation to teaching method adaptation for the Deaf?
3. What is your feedback after your experience with adapted assessment procedure of your tutors?
 - i. What is your feedback in relation to the location of your quiz or exams centre?
 - ii. What is your feedback in relation to the test items?
 - iii. What is your feedback in relation to mode of response?
 - iv. What is your feedback in relation to Duration of the quiz or exams?



The University of Education Winneba
Faculty of Educational Studies
Department of Special Education

A Consent Form for Thesis on the topic:

Curriculum Adaptation for inclusion of the Deaf at Presbyterian College
of Education, Akropong Akuapem-Ghana.

Introduction

You are being invited to participate in a research study conducted by Yaw Gyebi, a student pursuing M.Phil. in Special Education at University of Education, Winneba.

The study is purposed to explore how tutors of PCE, Akropong Akuapem adapt the general curriculum for inclusion of the Deaf students in the college. Your participation in this study is completely voluntary and you may withdraw your consent at any point in time without any penalty.

Procedure

If you agree to participate in this study, the steps bellow shall be followed:

- You will be asked to provide demographic information such as gender, age range, area of speciality, years of teaching in an inclusive class with Deaf students.
- You will be interviewed about how you adapt your content, teaching methods, and assessment procedure for inclusion of the Deaf.
- You shall be observed while teaching to ascertain the curriculum adaptations you make.

Benefits:

Your participation in this study will help identify the gaps in the curriculum implementation at PCE which will assist in creating a more inclusive and effective educational environment for the Deaf community. Although there will be no direct benefit to you, your input will contribute to the betterment of inclusive education at the college level for the Deaf.

Risk

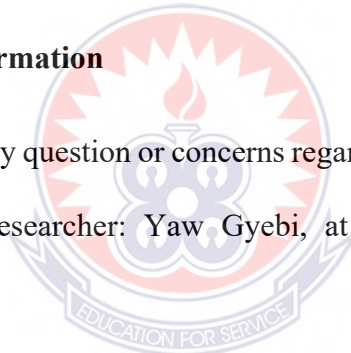
There are no anticipated risks associated with participating in this study.

Confidentiality

Your participation in this study will remain confidential. All collected data will be stored securely and only be accessed by the researcher for this study. Your identity will never be disclosed in the study or any other related publication.

Contact Information

If you have any question or concerns regarding this research study, you may contact the researcher: Yaw Gyebi, at yawgyebi79@gmail.com or on 0242684316.



Consent

I have read and understood the information provided above. By signing this consent form, I voluntarily agree to participate in this research study.

Participant's Name

.....

Participant's Signature

.....

Date:

Appendix C

The Observation Field Note

The course code: JBB 242; Course: Differentiated Planning, observed on November 7, 2022. The tutor started explaining how day and night come about.

[After series of oral explanations on the movement of the solar system with sign language interpreting support to the Deaf, the Deaf and almost all the hearing students were still confused (from their facial expressions). The tutor had her computer and projector set to show video on how the solar system orbit around the sun to come about with day and night, but the light suddenly went off. The tutor went to the board and made sketches to complement the oral explanation, the Deaf students still wore the same face but about half of the hearing students began to express understanding (some nodding, others saying okay, alright).

The tutor stood for few minutes, tapping her feet on the ground, then approached the interpreter on what they could do at that moment. After about three minutes of discussion, the tutor called five hearing students in front of the class to represent five planets. The tutor positioned one student at the centre representing the sun and the rest in a circle formation

around the centre person representing some of the planets. The tutor asked the student at the centre to remain standing while she guided each of the four students to orbit around the centre person. (the Deaf started smiling).

One of the Deaf students got up on his own and joined the students who were demonstrating. The tutor (surprised by his action) held the Deaf along his orbit and left him. (the tutor started applauding and the whole class joined applauding the Deaf). The Deaf as well as his hearing mates revolved around the centre person perfectly as the tutor expected the class to understand].

