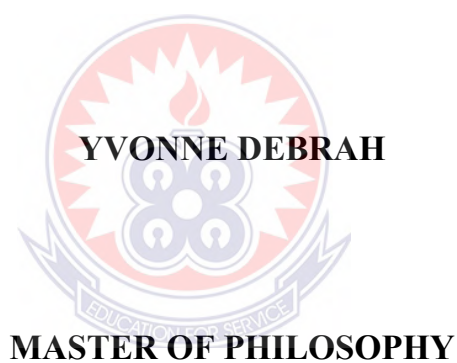


UNIVERSITY OF EDUCATION, WINNEBA

**TEACHING STRATEGIES FOR DEAF STUDENTS AT THE
UNIVERSITY BASIC PRACTICE SCHOOL WINNEBA, GHANA**



2021

UNIVERSITY OF EDUCATION, WINNEBA

**TEACHING STRATEGIES FOR DEAF LEARNERS AT UNIVERSITY
PRACTICE SCHOOL IN WINNEBA, GHANA**



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**A thesis in the Department of Special Education
Faculty of Educational Studies, submitted to the School
of Graduate Studies in partial fulfilment
of the requirements for the award of the degree of
Master of Philosophy
(Special Education)
in the University of Education, Winneba**

MAY, 2021

DECLARATION

Student's Declaration

I, Yvonne Debrah declare that this thesis, with the exception of quotations and references contained in published works which have been identified and acknowledged, is entirely my own original work, and it has not been submitted, either in part or whole, for another degree elsewhere.

Signature:

Date:

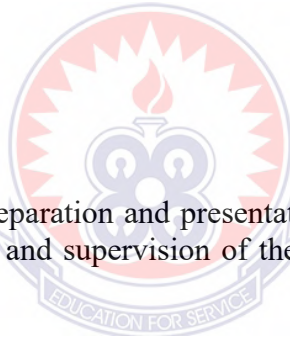
Supervisor's Declaration

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

Principal Supervisor: Yaw Nyadu Offei (Ph.D).

Signature:

Date:



DEDICATION

To my beloved mother, Yaa Tweneboah.



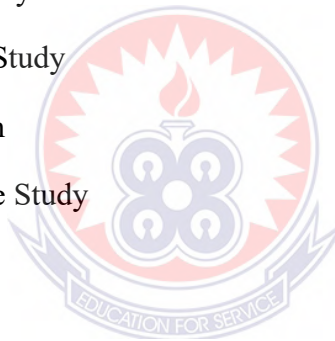
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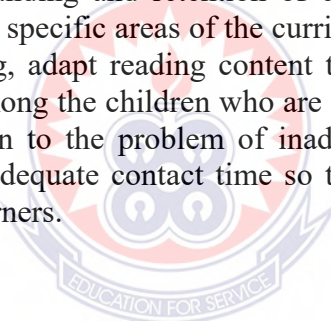
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ABSTRACT

The purpose of the study was to investigate the strategies teachers adapt for learners who are deaf at the University Practice South Inclusive Basic school in Winneba. The study was qualitative, which utilized a case study design with interview and observation as the data collection procedures. A purposive sampling technique was used to select ten (10) participants comprising nine (9) teachers and the head teacher who teach children who are deaf at the University Practice South Inclusive Basic school in Winneba. Data from the study were analysed based on themes that emerged from the study. Findings from the study revealed that teachers used strategies such as multi-sensory approach during teaching. It was also revealed that the teachers allowed additional time on task and adjusted the pace of lesson delivery. Again, the result of study revealed the specific areas of the curriculum teachers adapt for learners who are deaf which include; modifying reading contents, the use of alternate learning materials and development of specific study guide. However, some factors affect teachers adaption strategies for learners who are deaf in the inclusive school which include inadequate qualified personnel, large class sizes as well as limited time factor. The study recommended that teachers teaching in inclusive schools should continuously use strategies such as the multi-sensory approach, allow additional time on task and adjust the pace of delivery during teaching to help the children who are deaf gain deeper understanding and retention of concepts taught. Again, teachers should endeavour to adapt specific areas of the curriculum such as the use of alternate materials in their teaching, adapt reading content to learner's learning styles to aid effective reading skills among the children who are deaf. Lastly, head teachers should endeavour to find solution to the problem of inadequate qualified personnel, large class sizes, as well as inadequate contact time so that teachers adaptation strategies would be beneficial to learners.



CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

In an inclusive education setting, learners are expected to possess an increased degree of autonomy and show initiative in learning processes, inspecting learning materials and understanding contents. An efficient growth of knowledge inside and outside of school is only possible if students have skills which initiate, guide and control the search for information and later on its processing and storage. In learning and teaching research those techniques are called learning strategies.

Strategies teachers adapt for learners who are deaf in an inclusive school is significant as it makes them feel part of the school system. Instructional strategies are techniques teachers use to help students become independent, strategic learners. These strategies become learning strategies when students independently select the appropriate ones and use them effectively to accomplish tasks or meet goals. Again, instructional strategies encompass any type of learning technique a teacher uses to help students learn or gain a better understanding of the course material. Instructional strategies allow teachers to make the learning experience more fun and practical and can also encourage students to take more of an active role in their education. The objective of using instructional strategies beyond subject comprehension is to create students who are independent strategic learners.

Adapting instructional strategies is a method that allows educators to meet the needs of all learners according to their strengths, ability levels, and needs, without separating learners homogeneously (according to their ability levels). Educators are able to create lesson plans based on educational objectives for the entire class, while

modifying the delivery, product, or assessment for classroom learners. By providing instruction in this situation, learners recognise that they are all learning the same material; however, it is presented in the way that meets their unique needs (Gartin, Murdick, Imbeau & Perner, 2002:12).

In Ghana, Inclusive Education was officially started as a pilot programme in 2003/2004 academic year with the Education Strategic plan (ESP) 2003-2015 when the Ministry of Education, Science and Sports (MOESS) adopted inclusive education as the main principle which will inform the direction for Special Education provision in Ghana. As a result, GES under the its strategic plan of 2003 to 2015 adopted IE strategies which lead to the establishment of the University Practise Basic Inclusive School South Campus, Winnba in the Central Region of Ghana. The school policy is to enrol regular learners and those with disabilities placing much emphasis on the deaf and hard of hearing. This change in policy has a major implication for teachers in the school especially teachers that have deaf student in their classroom. Numerous studies have shown that deaf students experiences difficulties participating and interacting with general education teachers and hearing peers (Stinson & Liu, 1999). Hence it is important that all staff in the school, particularly teachers who work in the inclusive education classroom, create conditions and develop varieties of strategies that eliminate barriers facing deaf student's participation (Stinson & Liu, 1999).

Lessons should not be presented in only one way to all learners. Methods of presentation should be adapted to learners' learning styles, levels of thinking, and levels of participation. In order to reach all learners, material should be adapted and the method of presentation should be differentiated. This also involves a change in the learners' instructional input. Effective adaptation of instructional strategies can be

done if the educator creates a more positive learning environment in which deaf learners feel valued and encouraged to take risks (Department of Education, 2010:59).

Teachers in effective inclusive classrooms may use one or a combination of several adaptation types to meet the needs of diverse learners in the content areas. There are numerous adaptation types teachers can use to increase student learning and participation in inclusive settings (Deschenes et al., 1994) provide a model that includes nine types of adaptations. These types of adaptations are summarized below: adapt the amount of items that the student is expected to complete, adapt the time allowed for learning, task completion or assessment increase the amount of individualized assistance for the student, adapt the method of instructional delivery, adapt how the student can respond to the instruction.

Teachers employ and adapt strategies in all facet of teaching and learning process of which testing is no exception. This Offers learners the opportunity to respond to instruction in a non-traditional manner, in some way(s) other than through typical oral recitation or written expression, is also encompassed in the test adaptations category. Alternative learner responses might include collage, sculpture, drama, dramatic portrayal, musical composition, motoric demonstration, photographic presentation, or graphics display (Bashinski 2002:1).

UNESCO (2000) stressed that the importance of support services is to ensure that all students who are included benefit from the school programme, if not then inclusive schools become a dumping ground for students with disabilities and special needs. These authors' view suggested that when inclusive schools are adequately supported or have the right support services, they provide numerous benefits to students with

special needs. Teachers often need to make curricular and instructional adaptations in their efforts to keep students actively engaged in lessons. Without the implementation of the required adaptation strategies, most learners who are deaf will not be included in the teaching and learning process, meaning they may be physically present in the inclusive classroom without the needed adaptations to support them.

Effective teachers of students who are deaf have always understood the link between assessment and instruction that results in increased learning. Teachers therefore endeavour to adopt several approaches during assessment of learners who are deaf. For example portfolio is a collection of representatives, on-going, and changing samples of student work and may include products from more than one academic area that demonstrates a student's highest level of performance (Paulson, Paulson, & Meyer, 1991). The student is actively involved with the teacher in determining the contents of the portfolio, in assessing performance, and in determining needs and goals. Developing and maintaining a portfolio is an exercise in developing an organized collection of work but, more importantly, it is a process in learning. Each product included in the portfolio represents learning experiences and goals determined by the student, sometimes in collaboration with the teacher and/or peers. Modification of test items may be needed to accommodate the learner's sensory needs and reading level. Inappropriate items (e.g., items that reference iPods or cell phone use) should be deleted or modified to include use of adaptive technology (e.g. videophones or text messaging) and these modifications must be addressed within the body of the report, including their impact on test result interpretation.

1.2 Statement of the Problem

The number of deaf students who are educated in the general education classroom or inclusive classroom has significantly increased (Erik-Brophy & Whittingham, 2013). Therefore, there is urgent need to identify all keys and strategies concerning their participation and success in the inclusive environment. However, reports from teachers in Unipra Inclusive Basic school South Campus, Winneba, during a Parent Teacher Association meeting held on 20th June 2019 indicated that, majority of the learners who are deaf struggle to cope with teaching and learning processes. Also, minutes read from previous Parent Teacher Association meetings (5h February 2019) indicated that, most of the deaf learners were lagging behind in terms of classroom activities and academic achievement. The researcher had an opportunity to teach in the school from 2018 to 20019 and it was observed that majority of students who are deaf were achieving below expectation as far as the achievement targets of the general curriculum is concerned. Again, Interactions with the deaf learners indicated that, teachers used the same assessment procedures for all learners.

1.3 Purpose of the Study

The purpose of this study was to investigate the strategies teachers adapt for learners who are deaf at the University Practice Basic schools in Winneba.

1.4 Objectives of the Study

The specific objectives of this study were to:

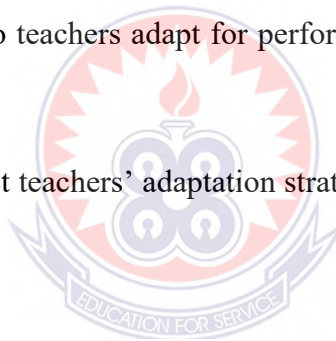
- i. Find out the instructional strategies teachers adapt to teach learners who are deaf.
- ii. Examine the specific areas of the curriculum teachers adapt for learners who are deaf.

- iii. Describe the strategies teachers adapt for performance evaluation of learners who are deaf.
- iv. Determine the factors that affect strategies teachers adapt for learners who are deaf.

1.5 Research Question

The following questions were formulated to guide this study:

1. What are the instructional strategies teachers adapt to teach learners who are deaf?
2. What specific areas of the curriculum do teachers adapt for learners who are deaf?
3. What strategies do teachers adapt for performance evaluation of learners who are deaf?
4. What factors affect teachers' adaptation strategies in teaching learners who are deaf?



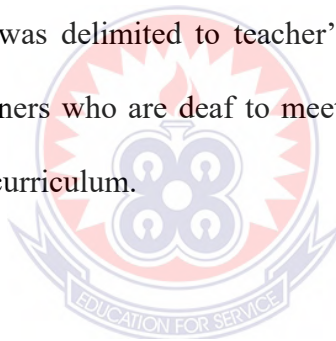
1.6 Significance of the Study

It is anticipated that, the findings from this study would reveal instructional adaptation strategies for teaching learners who are deaf at the University Practice Inclusive Basic school, South Campus, Winneba. This would enable teachers to effectively adapt instructions to ensure full participation and enhance the academic performance of learners who are deaf. The findings of the study would further enable teachers at the University Basic School understand how to adapt the curriculum to ensure the full participation of learners who are deaf in an inclusive school and design effective lessons to enhance and cater for their unique learning styles. Besides, the results of the study would reveal teacher's adaptation strategies when evaluating the performances

of learners who are deaf in an inclusive school. Again, the study would discover the factors that affect teachers' adaptation strategies for learners who are deaf in an inclusive school. Again, the results of the study would add to the body of literature available in Ghana concerning how teachers adapt strategies for learners who are deaf in inclusive schools. Lastly, it will generate new understanding that will be useful for future researchers.

1.7 Delimitation

Even though there are other inclusive schools in the Central Region of the Republic of Ghana, yet this study was delimited to the teachers and the head teacher, also whereas there are other issues affecting the teaching and learning at the University Practice Basic School, the study was delimited to teacher's adaptation strategies because it allows flexibility for learners who are deaf to meet the standard and requirement of the class and the general curriculum.



1.8 Limitations

The limitation of this study is that data were collected from teachers in a specific inclusive school who were from a restricted geographical area. Therefore, their responses may not be representative of inclusive schools in Ghana. The scope of the study could have covered a larger area or more districts and given more holistic picture of the issue under study. Due to small sample size, the researcher did not intend to generalize the findings.

1.9 Operational Definition of Terms

Adaptation: Adaptation is a modification of how a concept is presented based on an individual learning needs without changing the content of the concept.

Deaf: a profound hearing loss

Strategies: a set of plans for achieving a specific goal

Teaching: the activity of providing education to others through the use of variety of teaching strategies and methods at the level of learners to enable them to make progress

1.10 Organisation of the Study

The study was organized into five chapters. Chapter one constituted the introduction which discusses the background to the study, statement of the problem, purpose of the study, research questions, research objectives, significance of the study, delimitation, limitation, definition of terms and organisation of the study.

The second chapter dilates on the review of related literature. The review included the theoretical framework and teachers' adaptation strategies that enhance the participation of learners who are deaf in an inclusive school.

Chapter three was about the methodology employed in the study. The Chapter three highlights the population, sample size/sampling technique, research design, instrumentation, data collection procedures and methods of data analysis.

Chapter four covers data presentation, analysis and discussion of findings. Finally, chapter five summarizes the entire study, conclusion and provide recommendations on the study as well as suggestions for further research.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter concentrates on what other writers have written on any aspect of the study. The literature for the study was reviewed to cover the following areas:

1. Adaptive learning theory
2. Types of Adaptations
3. Strategies teachers adapt for learners who are deaf
4. Adapting curriculum for deaf learners
5. Adapting curriculum content for deaf learners
6. Strategies for performances evaluation of learners who are deaf
7. Effects of adaptation
8. Factors affecting the implementation of adaptations strategies
9. Related empirical study
10. Summary of literature review

2.1 Adaptive Learning Theory

The main theory underpinning the study is adaptive learning theory by Lee and Park (2008). The proponents of this social development theory opine that educators have long known that learning is improved when instruction is personalized and adapted to individual learning styles. Some argue that advocacy for adaptive instruction dates back to antiquity (Lee & Park, 2008). Modern views of adaptive learning theory, however, are rooted in the work of contemporary educational psychologists. Cronbach (1957) theorized that learning outcomes are based on the interaction between “attributes of person” and treatment variables. Cronbach advocated for differentiating

instruction (treatment) to a person's cognitive aptitude. His original hypothesis forms the foundation for adaptive learning; he subsequently extended his model to include cognition and personality (Cronbach, 1975). Educators should, he states, "find for each individual the treatment to which he can most easily adapt" (Cronbach, 1957, p.679). Bloom (1971) theorized that achievement gaps between students could best be addressed by differentiating instruction. To this end, Bloom devised the instructional strategy known as mastery learning, wherein content and skills to be learned are organized into individual units. These modules are presented to students in a period of initial instruction, after which a formative assessment is conducted. The assessment feedback identifies where remedial instruction is needed. Corrective activities are implemented and the assessment-feedback-corrective activities cycle continues until mastery is achieved.

Bloom (1984) demonstrated that mastery learning via one on-one instruction results in significant learning gains over conventional group instruction. Learning gains were attributed to the adjustments in instruction made by tutors as they assessed learner progress. Bloom believed that all students could achieve at a high level if provided with appropriate learning conditions that adapt instruction to learning rates and learner modalities. Current research explores the hypothesis that adapting instruction to an individual's learning style results in better learning outcomes (Pashler, McDaniel, Rohrer & Bjork, 2008). Consensus on a definition of learning style is elusive, as myriad distinct learning style models and inventories are extant. However, learning styles are commonly defined as "a set of cognitive, emotional, characteristic and physiological factors that serve as relatively stable indicators of how a learner perceives, interacts with, and responds to the learning environment" (Keefe, 1979, p.

1). Learning styles encompass preference for information type (concrete versus abstract), presentation style (visual, auditory, or kinaesthetic) and learning action (active versus reflective). The vast academic literature on learning styles is peppered with few robust experimental studies (Akbulut & Cardak, 2012; Pashler *et al.*, 2008), and the scarce research outcomes are mixed on the effectiveness of adapting instruction to learning style. Studies do consistently demonstrate that students are able to identify their own learning preferences (Pashler *et al.*, 2008) and that adapting learning conditions to these preferences increases student satisfaction (Akbulut & Cardak, 2012).

The general acceptance of learning styles is evidenced in recommended teaching strategies in nearly every discipline, and learning styles continue to inform the evolution of adaptive learning systems. Adaptive learning theory can be conceptualized within the informing science theory framework. In this light, an adaptive learning system can be seen as an expression of an informing system wherein the informer is the instructor, the client is the student, and the rule-based adaptive engine both informs and is informed by interaction with the client. Other parallels exist such as learning model to client complexity, domain model to informer context, and adaptation model to the channel.

2.2 Conceptual framework

A conceptual framework is an analytical tool with several variations and contexts. It can be applied in different categories of work where an overall picture is needed. It is used to make conceptual distinctions and organize ideas.

The conceptual framework is drawn from John Kington multiple stream policy framework model of 1984 which focuses on the problem, proposals (Solutions) and politics of the challenges of inclusive education. The conceptual framework is Logical Planning Framework Matrix, a powerful tool used to effectively summarize the key features of a project design.

With the research questions dwelling on Educational modification, Accessibility, Assessment and Attitude that are needed to accelerate the course of inclusive educational (IE) practice in the country, the framework matrix below adopted from John Kington gives a summary of what is done.

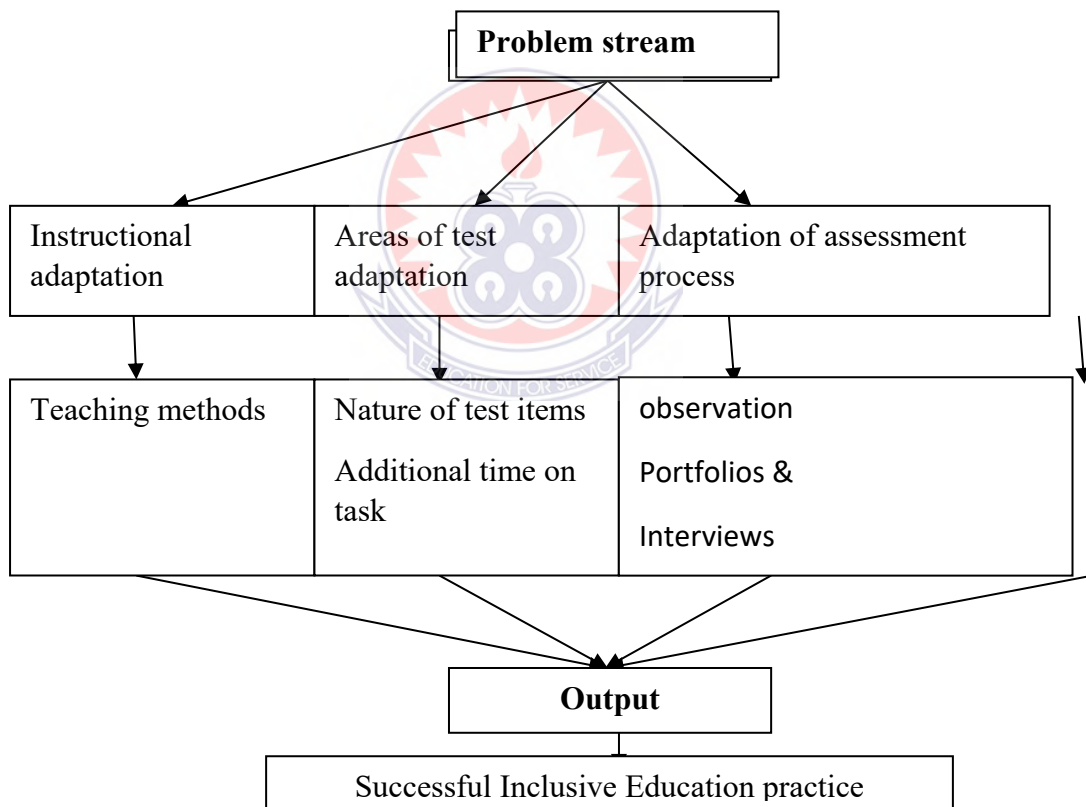


Fig 1: Researcher’s self-made framework

The conceptual framework presents the frame of reference for this study. The major concepts underlying this study are: Instructional adaptation, Areas of test adaptation and Adaptation of assessment process. The arrows show how different variables (sub-systems) integrate harmoniously the strategies teachers adapt for learners who are deaf leading to inclusive practices shown. The conceptual framework therefore attempts to show the relationship between the independent and dependent variables in the proposed study and illustrates the outcomes of the strategies teachers adapt for learners who are deaf. The instructional adaptation, Areas of test adaptation and Adaptation of assessment process at the section combined with use of recommended instructional adaptations and practices are presumed to be significant in regard to provision of successful inclusive practices. When these variables are well combined and co-ordinated, they constitute effective inclusivity.

From this adaptation strategies outcome, poor academic performance, unattended learning needs will be minimized and accepted type of education will be practiced in schools. In long term, all these outcomes are aimed at empowering the person with disabilities to become self-reliant and hence participate fully in academic activities and enhance academic result.

2.3 Types of Adaptations

There are many types of adaptations that can be implemented in the general education setting. Such adaptations include instructional, curriculum, assessment and environmental adaptations. A key element that influences the type of adaptations that general education teachers use is the method in which they evaluate students' knowledge base and prior experiential learning (Schumm & Vaughn, 1991). General education teachers tend to implement routine adaptations such as varying materials or

adjusting groups (Fuchs et al., 1995). In two effective schools in Pittsburgh, delivery, environment, and adjustments in content (Murphy, Sizemore, Brossard & Harrigan, 1983) found that teachers actively made adaptations in printed materials such as basal readers and their corresponding assessments. Adaptations made in the regular education setting often include four main categories: time, learning styles and instructional (Meyers, Oelson, McKean & Custer, 1995). Teachers in effective schools, where students consistently achieve, adapt instruction to meet students' individual needs (Spartz, 1977).

There are many different ways to make instructional adaptations. Yessledyke and Algozzine (1990) 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 (Delquadrie, Greenwood, Stretton & Hall, 1983). Another instructional adaptation is the use of advanced organizers. In a study of teachers, King-Sears and Cummons (1996) 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. Curricular adaptations are often varied according to the content and grade level expectations.

Booth and Ainscow (1998) 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, Stainback et al. (1996) 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. There are eight types of adaptations in the research by Scott et al. (1998). These adaptations are summarized as follows:

1. Modifying instruction. This includes classroom demonstrations, adjusting lesson pace, and multiple instructional modalities.
2. Modifying assignments. This includes providing models, shortening assignments, and lowering difficulty levels.
3. Teaching learning strategies. This includes teaching study skills, test taking skills, and learning strategies.
4. Altering instructional materials. This includes providing alternate materials, taping books, and reformatting worksheets.
5. Varying instructional grouping. This includes peer tutoring and cooperative groups.
6. Enhancing behaviour. This includes praise, behaviour contracts, and token economies.
7. Altering curriculum. This includes lowering difficulty of the content.
8. Facilitating progress monitoring. This includes reading tests orally, providing study guides, retaking tests, and modifying grading criteria.

1. Teachers in effective inclusive classrooms may use one or a combination of several of these adaptation types to meet the needs of diverse learners in the content areas. There are numerous types of adaptation teachers can use to increase student learning and participation in inclusive settings (Deschenes et al,1994) provide a model that includes nine types of adaptations. These types of adaptations are summarized b:

1. **Size:** Adapt the number of items that the student is expected to complete.
2. **Time:** Adapt the time allowed for learning, task completion or assessment.
3. **Level of Support:** Increase the amount of individualized assistance for the student.
4. **Input:** Adapt the method of instructional delivery.
5. **Difficulty:** Adapt the problem or skill levels, or the rules on how the student can do the work.
6. **Output:** Adapt how the student can respond to the instruction.
7. **Participation:** Adapt the level to which the student is involved in the task.
8. **Alternate goals:** Adapt the goals or objectives, while using the same materials.
9. **Substitute Curriculum:** Provide different instruction and materials to meet the student's individual goals.

Classroom teachers should choose adaptations that allow students to remain actively engaged and participating in the lesson and any corresponding activities as much as possible. General education teachers implement a wide variety of adaptations in an effort to meet student needs. However, teachers do not always find that all types of adaptations are as readily implemented as others. Adaptations that were rated most feasible in a study by Johnson and Pugach (1990) were those centred around using

positive methods and multi-sensory techniques which were readily integrated into daily classroom routines. Adaptations that were less favourably rated involved dealing with students individually. Yesseldyke, Thurlow, Wotruba, and Nania (1990) 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. Teachers use typical adaptations more frequently than substantial adaptations. Typical adaptations include altering the format of directions, assignments or testing procedures. Substantial adaptations include changing the difficulty level for students, such as: implementing altered objectives, assigning less complex work, and providing texts with lower readability levels (Munson, 1986).

2.3.1 Adaptation in inclusive classrooms

Adaptations are designed to support learners with disabilities so that they can profit from the curriculum and all other activities available to the general population of the school. In recent years, a number of stated intentions and written policies towards the achievement of inclusive education have been enacted across a range of contexts (Ainscow & Booth, 1998). The clear implication of the inclusive education movement is that mainstream schools seek to restructure so as to provide for an increasing diversity of educational needs and eliminate the problem of students who fail to fulfil their learning potential due to disabilities such as hearing impairment (Avramidis et al., 2000).

However, despite the widespread advocacy of inclusion in educational discourse and policy guidance, the question of how children's divergent needs are best met within

educational systems still remains a highly debatable and controversial issue (Dyson & Gallannaugh, 2007; Florian, 2005). To put the above controversy into perspective, a considerable number of authors (Ainscow, 2007; Dyson & Millward, 2000; Low, 2007) have argued that much of that debate pertains to the poor implementation of inclusive programmes, rather than the opposition towards the concept of inclusion per se. While, for example, it is generally agreed that teachers need to have an increasingly large repertoire of instructional strategies to meet students divergent needs, little descriptive information is available regarding the types of instructional adaptations that are necessary in implementing an inclusive school programmes (deBettencourt, 1999; Salend & Duhaney, 1999; Schumm *et al.*, 1995). There is limited information concerning the kinds and effectiveness of instructional adaptations in teachers' everyday practice within the mainstream classrooms, which aimed at responding to student's diversity (McLeskey & Waldron, 2002; McIntosh, Vaughn, Schumm, Haager & Lee, 1993).

The overall picture emerging from the vast majority of relevant studies suggests that regular education teachers do not usually differentiate instruction to meet student's diversity in regular classrooms. In addition, few instructional adaptations are provided for those with identified SENs and difficulties in learning (deBettencourt, 1999; McIntosh, et al., 1993; Schumm, *et al.*, 1995). Mainstream teachers seem to be concerned about finding ways for responding to students without disabilities increasing diversity in terms of academic background, level of mastery skills and interests. More importantly they mostly feel under-resourced and ill-equipped to master this task. The amount of difficulty they already face in the teaching process increases considerably, when students with disabilities are included in their mainstream classes (McLeskey & Waldron, 2002).

Baker and Zigmond (1990) found, for example, that the teachers in the mainstream primary schools taught in single, large groups and seldom differentiated instruction or made adaptations based on student's needs. Besides, on a survey addressing adaptive instruction (Ysseldyke *et al.*, 1990), regular education teachers did not specify classroom adaptations for students with disabilities of which children deaf learners is of no exception. Although students with disabilities such as those with learning disabilities and deaf learners appear to be accepted by their teachers, they could be characterized as passive learners who are rarely engaged in the learning process, either by themselves or due to the teachers' initiation (McIntosh, *et al.*, 1993).

These findings have been endorsed, somewhat, in a subsequent study by Vaughn and Schumm (1994), who suggested that instruction in mainstream classes was not differentiated to meet the needs of students with disabilities and that few instructional adaptations were provided. In such instances, teachers adaptations tended to be largely incidental, inconsistent, idiosyncratic and not part of the overall plan for an individual student in the classroom or at the school level (Schumm *et al.*, 1994). Consequently, even though if mainstreamed students are going to learn successfully in the general education classroom, then they would have to meet the expectations set by the teachers for all students in the classroom (Vaughn & Schumm, 1994). Within the context of inclusion, teacher acceptability of various adaptations is a critical issue in understanding why accommodations are made or not made for students facing difficulties (Subban & Sharma, 2006).

There are some issues that teachers in the classroom are confronted with which are important when it comes to the implementation of certain adaptations in the classroom. This problem is difficult and demanding process is involved which are

mainly due to: (a) the complexity underpinning teachers' decisions over instructional practices, (b) the multifaceted aspects of teaching, and (c) the impact that the unique contextual and educational characteristics of different national systems exert on teacher's decision-making processes (Kohler, Manhart & Lafferty, 2008). Despite the complexities surrounding the implementation of inclusive education; analysing teachers' acceptability of routine adaptations is a key variable for understanding their compromise in teaching diverse students in inclusive classrooms and for learning to the extent to which they are ready to adapt and differentiate instruction. Moreover, studying how teachers approach adaptations may contribute not only to identify teacher preference, but also the various barriers and impediments to implementing them (Cardona, 2009; Scott *et al.*, 1998).

“In order to meet the needs and abilities of individual students with mild disabilities or hearing impairment, efficient teaching programmes and practices must regularly make use of suitable adaptations or modifications” (Griffin, 2010). Adaptations permit the teacher to adjust teaching practices so that they accommodate the learning needs of individual students (McDonnell, Mathot-Buckner, Thorson & Fister, 2001). Chalmers (1991) opined that the need for adaptations/modifications to programmes and practices catering for students with mild disabilities and learning needs is well documented. The literature is reviewed in order to compile and categorise an extensive list of adaptations; discuss the acceptability of adaptations by regular classroom teachers; identify possible barriers to implementation; and gather information relating to other factors that may affect the use of adaptations/modifications for programmes and practices.

The Disability Standards for Education (2005) addresses the rights of students with disabilities including those who are deaf is inclusive to enrolment, participation, curriculum and support services within an educational context. Schools have an obligation to make reasonable adjustments where necessary to enable students with disabilities to participate in education on the same basis as their peers without disabilities. An adjustment is considered reasonable if it achieves this purpose while considering the student's learning needs while balancing the interests of all stakeholders. The curriculum, teaching materials and assessment procedures may need to be adapted or modified so that they are appropriate to the needs of the individual student. Programme delivery modes and learning activities need to consider the outcomes and learning abilities of the student. Every student must have access to all activities provided by the school including excursions and sporting events (Commonwealth of Australia, 2005). There is a wide range of adaptations that can be made to programme and practices to cater for students with disabilities or learning difficulties within the regular classroom. The literature provides many examples of adaptations that can be applied to teaching programme and practices. Some adaptations may involve adjusting group compositions, assignments, resources or more direct adult involvement (Jenkins, Antil, Wayne & Vadasy, 2003; Konza, 2005).

In adapting assignments, teachers may make a range of adjustments from modifying instructional materials to using alternative behaviours to complete tasks (McDonnell, et al., 2001). Teachers may consider various methods of student assessment, including the use of portfolios and non-letter grading as alternative authentic assessments (Dieker & Murawski, 2003). Teachers may adapt instructional settings within the regular classroom to cater for individual students. The adaptations involved may

include adjusting seating arrangements, the use of study carrels, organisation of learning centres and different groupings, and the development of a general classroom climate that fosters positive learning, adequate time-on-task, and effective interactions (Hoover, 1990).

Various authors discuss adaptations/modifications and attempt to classify them. Hoover (1990; p.408) identifies four elements of curriculum that must be adapted: content, instructional strategies, instructional settings and student's behaviours. Students' curricular needs may be addressed in the regular classroom through the vigilant identification of particular curriculum components needing adaptations/modifications. The adaptation of content often consists of two main practices: the simplification of reading material and the adjustment to the pace at which the content is mastered, practised and reviewed (Hoover, 1990). Ysseldyke (1999) identifies four elements of effective instruction: planning, managing, delivering and evaluating. Better outcomes for students are obtained through the methodical use of 'tried and tested' principles of effective instruction. Oponong (2003) indicated that, in inclusive education, it is the responsibility of the school to adjust and adapt its environment to suit all categories of students with special needs.

2.4 Strategies Teachers Adapt for Learners who are deaf in Inclusive Schools

Perner, (2002) indicated that, adapting instructional strategies is a method that allows educators to meet the needs of all learners according to their strengths, ability levels, and needs, without separating learners homogeneously (according to their ability levels). "Educators are able to create lesson plans based on educational objectives for the entire class, while modifying the delivery, product, or assessment for classroom learners. By providing instruction in this situation, learners recognise that they are all

learning the same material; however, it is presented in the way that meets their unique needs” (Gartin, Murdick, Imbeau & Perner, 2002, p.12). Adapting instructional strategies also involves the method of instruction, how learners are grouped, the nature of their participation in the lesson, and the interactions between educators and learners, and among the learners themselves (Westwood, 2011).

The task of the educator is to adapt instructional strategies for hearing impaired or deaf learners while they are still following a common curriculum with the rest of the class. For this reason, instructional strategies are regarded as the most feasible adaptations for educators to make. They certainly provide a very sound starting point for any educator moving from a formal, whole-class method of instruction to a more personalised approach (Westwood, 2011, p.211). In adapting instructional strategies teachers may employ a new or different strategy, adjust the use of existing strategies or eliminate the use of particular strategies (Hoover, 1990). There are numbers of instructional approaches that are accessible to the regular classroom teacher, including team teaching, multiple age or vertical groupings of students and same-age peer tutoring (Cowley, 1996).

According to Bender (1992) there are two types of instructional strategies: individualised and metacognitive. Individualised instruction includes peer tutoring, cooperative learning, group arrangements, precision teaching and effective instructional behaviours, while metacognitive instructional strategies involve memorisation techniques, self-monitoring and assertive principles. Studies have been conducted into the effects of specific adaptations/modifications. It has been suggested that adaptations and modifications such as peer tutoring and multi-element curriculum

indicate some increase in the level of participation by integrated students (McDonnell *et al.*, 2001).

Results from studies imply that students with learning difficulties profit from working in small, structured cooperative learning groups in their regular classrooms (Gillies & Ashman, 2000; Jenkins *et al.*, 2003). Cooperative learning groups provide practical ways of teaching students with a wide range of abilities (Cowley, 1996). Cooperative learning groups and peer tutoring methods supply direct sources of support to students with disabilities from their peers. These instructional strategies allow the teacher to work with all of their students, whilst providing a framework for promoting independence in students with disabilities (Dieker & Murawski, 2003).

Commonly cited benefits to cooperative learning strategies are increased self-esteem, being part of a group and the production of higher quality group projects (Jenkins *et al.*, 2003). There are inherent difficulties in devising a finite list of adaptations/modifications, which can be used by regular classroom teachers. Scott, Vitale and Masten (2008) conducted a review of the literature on adaptations to classroom programmes and practices and devised a representative illustration of the major categories of teacher adaptations appearing in the literature. Eight categories are devised into which all adaptations/modifications are able to be classified, sorted and viewed. Masten *et al.* (2008) maintain that these categories are:

- **Modifying Instruction:** Concrete classroom demonstrations, monitoring classroom understanding, adjusting the pace, giving immediate feedback, using multiple modalities;
- **Modifying Assignments:** Providing models, breaking tasks into small steps, shortening assignments, lowering difficulty levels;

- Teaching Learning Skills: Study skills, note-taking techniques, learning strategies, test-taking skills;
- Altering Instructional Materials: Using alternative materials, taping textbooks, using supplementary aids
- Altering Curriculum: Lowering difficulty of course content;
- Varying Instructional Groups: Using peer tutoring, using cooperative groups;
- Enhancing Behaviour: Providing praise, offering encouragement, using behavioural contracts, using token economies, having frequent parental contact;
- Facilitating Progress Monitoring: Reading tests orally, giving extended test-taking time, giving frequent short quizzes, providing study guides, retaking tests, obtaining direct daily measures of academic progress, modifying grading criteria. (Scott *et al.*, 2008, p.107)

There is an abundance of research literature on adaptations and modifications for various populations (e.g. teachers of students with mild, moderate and severe disabilities) and in various subject areas (e.g. mathematics, social skills, etc.). Research undertaken in a variety of countries can also provide a source of knowledge on which to base investigations in the local setting. This literature is carefully reviewed resulting in an extensive compilation of adaptations. In order to categorise the large number of possible adaptations and modifications from the literature in a comprehensive manner, the eight headings proposed by Scott, Vitale and Masten (2008) outlined above are followed to explore the regular classroom teachers' use of adaptations/modifications in the New South Wales setting.

Educational modifications are well-defined as alterations or adaptations in the teaching or resources used for learning that improves presentation and permits at least some involvement in some undertakings where all students can take part without necessitating any modifications (Udvari-Solner & Thousand, 1995). However, these modifications may be requiring in some specific areas. Enabling the curricular flexible and accessible are indication of creating schools that meet the needs of all, including children with special needs and their regular counterpart. An inclusive attitude dejects teaching that is built on a measure of averages (Cohen, 1994). Curriculum must reflect on the different abilities and capabilities of all students. It must be subject to adaptation to encounter diverse needs of all involved. Time frames for work completion, diversity of tasks, elasticity for teachers, time for additional support and prominence on vocational as well as academic goals must all be taken into consideration during planning, not forgetting flexible teaching-learning methodology which is very important as well (UNESCO, 2005).

Basically, admittance to the curriculum is much more complex than including a student in an inclusive classroom, and comprises issues such as how students with special educational needs interact with their peers, and how the classroom is organized (Gibbs, 2001). The curriculum is influential on fostering tolerance and promoting human privileges and is a controlling tool for surpassing cultural, religious and other differences. An inclusive curriculum takes gender, cultural identity and communication background into consideration. It breaches gender stereotypes not only in textbooks but in teachers' attitudes and expectations. The way teachers teach is of critical importance in any reform designed to improve quality (Winzer, 1989). A child-centered curriculum is branded by a move away from rote learning towards

hands-on, experience-based, active and accommodating learning. The National Curriculum Framework (2005) postulated that curriculum designs must reflect the commitment to Universal Elementary Education (UEE) not only in representing cultural diversity, but also taking into account that, children from different social and economic circumstances with differences in physical, psychological and intellectual characteristics are able to learn and achieve success in school. However, it is not enough that a curriculum offered in a school is fully accessible to each and every child (Davis, 2004). Though, the motive of learning may be similar for all children, it is vital that these motives are well-adjusted and brought in harmony with individual needs of the child. The children may move towards these goals in different ways, at different paces and with different emphases. It then suggests that even though the objectives of the national curriculum are the same for all, the teaching methods and strategies will need differentiating to meet the diverse needs of all individual children in the setting (Davis, 2004).

Griffin (2010) defines differentiation as, 'the adaptation of lesson content, teaching methodology, learning outcomes, resources and assessment. In this account the word differentiation is used to involve the variety of strategies that teachers employ to ensure that all learners learn, and achieve the aims and goals of the curriculum. In a nutshell, differentiation include adjustments to classroom organisation and management, lesson content (including the delivery of additional content), learning results, resources (including additional staff support), pedagogy, and assessment approaches. Differentiation involves teachers responding differently to the individual students within their classes. When teachers change their teaching in order to improve the learning experience for individual students, they are differentiating instruction.

2.5 Adapting Curriculum for Deaf Learners

Inclusive setting has only one curriculum for all the learners with diverse needs. There are no separate curricular. Mcgee (1994) stated that the curriculum is taken to embrace the educational experiences that are planned to take place in the classroom as well as putting the planning into place in the classroom. This understanding has cemented the way for developing the National Curriculum Framework, (NCERT, 2005) that recaps the need for including and holding all children in school through a programme that endorses the value of each child and allows all children to experience self-esteem and the confidence to learn. Henceforth, schools therefore are responsible for providing flexible curriculum that is reachable to all students (Davis, 2004).

The curriculum must be best suitable and create assisting opportunities for all learners to experience success in learning and attain the best of their potential (Florian, 2011). To accommodate differences, teachers must be ready to adapt instructional approaches to suit the individual needs and diverse learning styles of all learners in the classroom to progress at their own level. Different method of teaching and assessment need to be developed by the teacher for the benefit of all the different group in the classroom.

Inclusive curriculum addresses the child's cognitive, emotional and creative development and deficiency in a person's ability to function. Inclusion built on the four pillars of education for the 21st century thus, learning to know, to do, to be and to live together starts in the classroom (Sharan, 1992). These pillars give a vivid picture of how disadvantage it will be if a suitable curriculum is not adapted to suit pupils with different needs and abilities in the same classroom.

Power and Leigh (2003) stated that currently, more than four out of every five deaf learners are educated in regular mainstream schools, either in regular classrooms or special classes within regular schools. Hence, the influence of and need to conform to general curriculum standards is increasing”. In most western countries, standards provide the basis for curriculum design for all learners. Nevertheless, there is ample evidence that deaf learners have specific needs as learners that require some adaptation of both objectives and the learning experiences designed to achieve standardised outcomes (Marschark *et al.*, 2002, p.193). For deaf learners, effective curriculum design involves determining additional or alternative educational objectives and experiences required to achieve the same overall outcomes as for other learners. Determining the requirement for, and nature of, such specialised objectives and learning experiences involves considering the specific characteristics of deaf children as learners” (Power & Leigh, 2003, p.42).

2.6 Adapting Curriculum Content for Deaf Learners

Inclusive setting has only one curriculum for all the learners with diverse needs. There are no separate curricular. McGee (1994) stated that, the curriculum is taken to embrace the educational experiences that are planned to take place in the classroom as well as putting the planning into place in the classroom. This understanding has cemented the way for developing the National Curriculum Framework, (NCERT, 2005) that recaps the need for including and holding all children in school through a programme that endorses the value of each child and allows all children to experience self-esteem and the confidence to learn. Henceforth, schools therefore are responsible for providing flexible curriculum that is reachable to all students (Davis, 2004).

The curriculum must be best suitable and create assisting opportunities for all learners to experience success in learning and attain the best of their potential (Florian, 2011). To accommodate differences, teachers must be ready to adapt instructional approaches to suit the individual needs and diverse learning styles of all learners in the classroom to progress at their own level. Different method of teaching and assessment need to be developed by the teacher for the benefit of all the different group in the classroom. Hayford (2013) shares the view that, rather than changing what is expected of a student, best practice must focus on using different methods to teach the same materials, knowledge and skills. Inclusive curriculum addresses the child's cognitive, emotional and creative development and deficiency in a person's ability to function. Inclusion built on the four pillars of education for the 21st century thus, learning to know, to do, to be and to live together starts in the classroom (Sharan, 1992). These pillars give a vivid picture of how disadvantage it will be if a suitable curriculum is not adapted to suit pupils with different needs and abilities in the same classroom.

The curriculum needs to be differentiated in order to provide a variety of learning experiences to meet deaf learners' different learning needs. In this way, all learners in the class can be included, and can participate and learn. The primary way an educator can include deaf learners in the class lessons is by adapting the curriculum content; how the educator presents information to the learners; how the learners practise and use the newly taught information; and how the learners show that they have learned the information. Deaf learners can benefit from inclusion if adaptations to curriculum content, which can take many different forms, are made. Modifying curriculum content usually implies that:

1. Deaf learners are required to cover less material in the lesson.
2. The tasks or activities they attempt are usually easier to accomplish.
3. The objectives set for the lesson might involve mastery of fewer concepts and the application of easier skills.
4. 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.
5. Differentiated content for homework assignments could be used as a way of meeting the needs of deaf learners.
6. Educators should rephrase questions and sentences rather than merely repeating them.
7. Educators should use concise statements or simplified vocabulary.
8. The present tense could be used to simplify the sentences.
9. New vocabulary is introduced at the beginning of a new theme. Special attention needs to be paid to abstract concepts (e.g., summarise, measure).
10. Educators should allow deaf learners to make models, role-play, develop skits, and create art projects to demonstrate understanding of the information. They may be given extra time to complete these tasks (Westwood, 2011, p.207; Department of Education, 2010, p.59; Bornman & Rose, 2010, 178; Friend 2008, p.332).

Bornman and Rose (2010:37) emphasise that curriculum content should be adapted to facilitate participation and learning, but educators should guard against limiting or “watering down” the outcome. Often deaf learners are described as passive, a state frequently referred to as “learned helplessness”. This is the result of low expectations

and a compulsion of parents, educators and helpers to do everything for the learner. This may be well meaning, but the result can be disastrous.

Bornman and Rose (2010) further stated that the challenge is to look at the curriculum through the “eyes of the learner” rather than to look at the learner through the “eyes of curriculum”. It is about seeing the bridges that were already in place and planning how and where to build new ones. Differentiated teaching is a powerful way to dismantle barriers. Adaptations to the curriculum content can be applied to different learning areas. In this study, the Grade 8 curriculum will be used to present practical examples of curriculum adaptations to specific learning areas, such as Social Science, English (Home Language) and Mathematics. These are main learning areas which are closely linked to other disciplines. For example, mathematics can be linked to science as practical work and problem-solving across all the sciences requires the capacity to organise and represent data in a range of forms such as plotting, interpreting and extrapolating graphs, estimating and solving ratio problems, performing unit conversions, and so on. In turn, language and literacy skills in English reinforce economic and management sciences (EMS). When studying EMS learners need to describe objects and events, interpret descriptions, read and give instructions, explain ideas to others, write reports and procedural accounts, participate in group discussions and provide expositions (ACARA, 2012, p.2).

The skills taught in English for communication with others, comprehension and researching texts and creating new texts can reinforce learning in Life Orientation (LO) and Social Science (History and Geography). Language skills and literature, with its emphasis on studying texts from a range of historical and cultural contexts, can help learners understand the perspectives and contributions of people from around

the world and from both the past and present. In history, learners use their English skills to undertake research, read texts with critical discernment and create texts that present the results of historical understanding clearly and logically. When knowledge, skills and comprehension from three main areas (English, Science and Mathematics) are meaningfully applied to other learning areas, learning becomes more relevant and understanding deepens (ACARA, 2012:2).

2.7 Adapting Instructional Materials

The process of adapting instructional strategies provides for additional, or simply different materials in a variety of modalities that the learners might use during the course of instruction (Bashinski, 2002). Most material adaptations fall into one of four groups:

1. Adjusting the readability level of written materials;
 2. Enhancing critical features of the content within the materials themselves;
 3. Designing materials with features that appeal to sensory modalities other than visual or auditory modalities;
 4. Selecting alternate instructional materials for their durability or safety features
- (Bashinski 2002; Luetke-Stahlman, 1998, 388-391).

Adapting instructional materials involves making changes to the equipment and/or supplies to which learners have access during the course of instruction. This involves a change in the formats through which information is represented to the learner or the learner's engagement with the curriculum during the course of instruction (Bashinski, 2002, p.1).

Adapting instructional materials includes strategies such as adapting and modifying existing print material, for example by re-writing it in a simpler form, or by creating new supplementary materials at a simpler level around the same theme or topic. Naturally, this is a demanding and time-consuming process for educators, although it is frequently recommended as best practice in professional literature on differentiation (Westwood, 2011, p.10).

There are differences of opinion as to how far educators should go in making the task of reading easier for learners with barriers to learning and development. Some writers argue that at all times educators should use only texts that represent authentic literature and 'real' language from a wide range of different genres, even though the vocabulary, style and language patterns may be quite challenging for learners with disabilities (Day & Bamford, 2002,). The suggestions are provided, however, for those educators who do see some merit in simplifying materials for the early stage of reading and comprehending (Westwood, 2011).

2.8 Strategies For Performance Evaluation of Learners who are deaf in an Inclusive School

The final category of curricular adaptations refers to alterations in the way in which educators receive information from learners in the classroom. These involve a change in the learner's instructional output (Bashinski, 2002).

Within a differentiated curriculum, assessment of learners and their learning is integral to the teaching and learning process. As with differentiated instruction, differentiated assessment is based on the thinking that the needs of learners cannot all be met in the same way (Department of Education, 2011c:23). Differentiated

assessment will enable learners of various abilities and with varied experience to best demonstrate what they know. As the educator gets to know the learner, and as learner differences emerge, assessment needs to become more differentiated. The goal is to meet learners where they are and to help them progress to the next step in their learning. Thus, it is a cyclical process: assessment and instruction support and inform each other (Department of Education, 2007, p.46). Offering learners, the opportunity to respond to instruction in a non-traditional manner, in some way(s) other than through typical oral recitation or written expression, is also encompassed in the curriculum adaptations category. Alternative learner responses might include: collage, sculpture, pantomime, dramatic portrayal, musical composition, motoric demonstration, photographic presentation, or graphics display (Bashinski, 2002, p.1). Educators might find that there are certain learners for whom a different or alternate form of assessment is called for. The National Protocol for Recording and Reporting (Grades R–12) (Department of Education, 2011c, p.28) allows for three key types of alternate assessment that can be used to assess learners experiencing barriers to learning:

- **Alternate assessments based on alternate attainment of knowledge (content, concepts and skills)** for learners with a significant cognitive disability. These assessments are based on the grade-level content covered by the general assessment, but at reduced depth, breadth, and complexity. These assessments describe achievement based on what is determined as a high expectation for these learners. Target learners can include learners with intellectual disabilities, some of whom are currently enrolled in special schools or schools of skill.

- **Alternate assessment based on modified attainment of knowledge (content, concepts and skills)** for learners with disabilities who are working on grade-level content that is covered in the general assessment. However, because of their disability, they may require more time to master the content. These assessments measure a learner's mastery of grade-level content with reduced load or at a more functional level. Target learners can include learners with moderate intellectual disability, learners who are deaf, some learners on skill programmes and so on.

- **Alternate assessments based on grade-level attainment of knowledge (content, concepts and skills)** for learners with disabilities or learning difficulties that need testing formats or procedures that provide them with equal opportunities to demonstrate their attainment of content which is at the same grade-level as the general assessment. Target learners can include learners who are blind, have communication difficulties, physical disabilities, learners who are dyslexic or with hearing loss and who need additional time, alternate formats, readers, amanuensis, electronic equipment and so on, as outlined in the policy document, National Policy on the Conduct, Administration and Management of the National Senior Certificate: A qualification at Level 4 on the National Qualifications Framework (NQF). The Department of Education (2011c:29) maintains that every learner will therefore have access to the standard of assessment that is suited to his or her needs. No learner will be disadvantaged by the system in as far as that there will be a lowering of expectations or that he/she is not assessed at all. All learners will also have the opportunity to receive a school leaving certificate. Learners who experience significant barriers to learning must also have the possibility of straddling grades

which allows them to take certain subjects at grade level and others at a different level.

A portfolio is a collection of representatives, on-going, and changing samples of student work and may include products from more than one academic area that demonstrates a student's highest level of performance (Paulson, Paulson, & Meyer, 1991). The student is actively involved with the teacher in determining the contents of the portfolio, in assessing performance, and in determining needs and goals. Developing and maintaining a portfolio is an exercise in developing an organized collection of work but, more importantly, it is a process in learning. Each product included in the portfolio represents learning experiences and goals determined by the student, sometimes in collaboration with the teacher and/or peers. Modification of test items may be needed to accommodate the learner's sensory needs and reading level. Inappropriate items (e.g., items that reference iPods or cell phone use) should be deleted or modified to include use of adaptive technology (e.g. videophones or text messaging) and these modifications must be addressed within the body of the report, including their impact on test result interpretation.

IDEA (2004) mandates accountability at several levels including the demonstration of student progress. While achievement tests (e.g. SAT-HI, IBS) have been used for decades in the field of education with learners who are deaf or hard of hearing, there is a need and mandate to monitor student's academic growth at frequent and regular intervals. Documentation of student progress may include formal and informal assessments including those described previously e.g. systematic observations, formal and informal assessments. The only evidenced- based measures currently available include Curriculum Based Measurement (CBM) and Mastery Monitoring (MM).

Informal assessment of spontaneous expressive spoken, signed, or written language can be used to determine a student's use of semantic relationships, and pragmatic use of language (Mercer & Mercer, 2001). Spontaneous spoken or written language samples may be used to identify the student's proficiency in the use of standard English grammar, semantics, and pragmatic use of language. As with all language assessments, information gathered through language samples should be used in combination with other assessment data to develop the goals and objectives for language practice and to determine student progress (Rose *et al.*, 2004, p. 201).

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Documenting progress will depend largely on the types of information included in the portfolio. The teacher and student may choose to use a progress monitoring procedure (e.g. CBM, rubrics, criterion referenced checklists) to document the student's progress toward achieving IEP language goals and benchmarks of progress. Most importantly, documented progress should be evidence-based, that is, objective, reliable and valid. Outside reviewers may also be included in the evaluation process and may include the

student's parents, selected IEP team members, or a mentor selected by the student (Rose et al., 2004).

Informal assessments are the most frequent method of evaluating students' abilities and academic growth (McAnally, 2007, p. 240). King and Quigley (1985) discussed two categories of informal assessments, unobtrusive measures and dynamic assessment integrated with instruction. The categories include:

- Informal protocols
- Informal reading inventories (IRIs)
- Miscue reading inventories (MRIs)
- Checklists
- Retelling
- Anecdotal or running records (King & Quigley, 1985).

When using anecdotal records and observations for assessment, the teacher must have a systematic method and habitual practice of recording observations as well as a clear understanding of what is being observed and the goal of the observation. Observation records may include such information as:

- Types of reading material the student selects spontaneously
- Amount of time spent in independent reading
- Word recognition strategies used by the student
- Vocabulary relationships between English words and ASL vocabulary (McAnally et al., 2007). Anecdotal records and observations of reading skill are maintained throughout the school year and assist in determining the direction of instruction.

According to Dietel, Herman and Knuth (1991) define assessment as “any method used to better understand the current knowledge that a student possesses”. Assistive Technology (AT) has been around for hundreds of years and is used to describe both the products and the services for people with special needs. Casely Hayford and Lynch (2003b) considered the most commonly quoted definition to be derived from American Legislation. Assistive Technology Act (1998) and the IDEA (Amended, 1997) defined an Assistive Technology (AT) device as any item, piece of equipment, or product system (whether acquired off the shelf, modified, or customized) that is used to increase, maintain or improve the functional capability of an individual with disability. AT devices may be categorized as no technology, low technology, or high technology (Casely-Hayford & Lynch, 2003b). While Assistive Technology can help overcome some of the functional barriers created by disability, it can also create new barriers if not matched carefully with individual needs. In an inclusive education context, the effective integration of AT devices to enable learning would require an assessment process with two objectives: (1) to assess the needs of the learner and (2) to access resources in order to meet those needs (Winter, Fletcher-Cambell, Connolly & Lynch, 2006).

The Act on “No Child Left Behind” and “Individuals with Disabilities Education” Act of 2004 presented a paradigm shift in instructing and assessing students with significant cognitive disabilities. According to a study, these Acts have moved special education from “a culture of compliance to a culture of accountability for results” (Manasevit & Maginnis, 2005, p. 51). However, technical and logistical challenges have confronted states with far greater resources than those created by assessments designed for general education students. Issues of bias, validity, and reliability as well

as approaches to training and monitoring are complicated by the heterogeneity and varying degrees of disability in the targeted population (Manasevit & Maginnis, 2005).

2.9 Effects of Adaptation

Despite the legal mandate to provide access to the general education curriculum, using adaptations if needed, it is unclear how frequently adaptations are truly used in schools. For example, special educators working in inclusive settings were found to believe that adaptations were being implemented more frequently than general education teachers (Kurth, Gross, Lovinger & Catalano, 2012). This same study found that teachers reported using modified work for students with significant disabilities between 61% and 80% of the time. Observation of actual implementation to verify this, however, was not completed. Yet, Wehmeyer, Lattin, Lapp-Rincker and Agran (2003) reported that adapted materials were available for middle school students with intellectual disabilities during less than 3% of their observations. Others have noted that adaptations are more widely available for students with significant support needs than students with milder disabilities (Dymond & Russell, 2004).

In addition to the reported variability in implementation of adaptations, it is unclear what factors teachers consider when deciding whether and when to provide adaptations to students in lesson-by-lesson or day-by-day cases. Despite uncertainty related to their implementation, adaptations have been associated with a range of positive class-room characteristics, including higher student engagement, fewer student competing behaviours, and less teacher time dedicated to classroom management (Lee, Wehmeyer, Soukup & Palmer, 2010).

Furthermore, curricular adaptations have been found to improve student on-task behaviour and work production (Kern, Delaney, Clarke, Dunlap, & Childs, 2001). In addition, many educators support the idea of adaptations (Idol, 2006). However, descriptions of characteristics of effective adaptations are limited. A method for developing adaptations that facilitates common language between general and special educators, which includes considering the student's learning goals and IEP accommodations, individualizing teaching methods, and individualizing personal supports, has been articulated based on master-teacher input; however, this process has not been field tested (Janney & Snell, 2006).

Finally, students receiving special education services often demonstrate academic underachievement (Massetti *et al.*, 2008), and inclusive education has been associated with improved academic outcomes for students with disabilities (Dessemontet, Bless, & Morin, 2012; Kurth & Mastergeorge, 2010). Yet for inclusion to be successful, the use of adaptations is necessary to meet individual student needs (Cross, Traub, HutterPishgahi & Shelton, 2004). Therefore, understanding how adaptations are created and their effectiveness in promoting student achievement is needed.

2.10 Factors that Affect the Implementation of Adaptation Strategies

When considering the types of adaptations employed by regular classroom teachers it is beneficial to contemplate the obstacles that may impact on their implementation. There are a number of justifications that have been stated by regular teachers for not implementing adaptations/modifications for students with particular needs integrated in their classrooms. Inadequate time, limited materials, and doubt about ways to make provisions for students with disabilities were the most prevalent pressures mentioned

by classroom teachers (Hay & Winn, 2005; Passe & Beattie, 1994; Shaddock, Neill, van Limbeek & Hoffman-Raap, 2007; van Hover & Yeager, 2003).

Implementing appropriate practices for students with special needs requires a great amount of preparation and planning time which teacher's lack (Dieker & Murawski, 2003; Forlin & Bamford, 2005; Hay & Winn, 2005; King, 2003). Teachers consider that the extent to which time is consumed by adapting curricula for students with disabilities is not feasible and will diminish the learning opportunities for the students' non-disabled peers (Conway, 1996). Teachers in a number of studies reported that the lack of adequate funds or resourcing (Mastropieri, 2001; Schumm & Vaughn, 1992; Scruggs & Mastropieri, 1996) was a major impediment to their acceptance of inclusive classroom practices.

Funding directly affects the provision of appropriate technology, specialised equipment, education assistance (aide) time, modification of school buildings or grounds, availability of teaching materials, access to and placement in specially funded programmes, for example, Reading Recovery. The Department of Education and Training (2004) reports that a variety of resources are necessary to make adaptations in order to provide students with equity of educational opportunities, choices and challenges. In a collection of investigations, teachers indicated that an obstacle to their implementation of adaptations/modifications is their own lack of confidence in their teaching skills and abilities (King, 2003; Mamlin, 1999; Singh, 2002; Stephenson & Carter, 2005; Whinnery, *et al.*, 1991). Not possessing the necessary skills was the reason regular classroom teachers gave for not adapting instruction (Semmel, *et al.*, 1991; Sutherland, 2000). Teachers still consider that they

do not have the time, expertise or skills to deal with integrated students (Forlin & Bamford, 2005; Sutherland, 2000).

Other barriers for regular classroom teachers in their implementation of inclusive practices for students with disabilities were identified. The lack of teacher training and limited school supports is significant elements related by teachers as important barriers impeding their ability to provide for the needs of students with disabilities. Both the lack of pre-training (Forlin, 2001; Mamlin, 1999; Scruggs & Mastropieri, 1996) and the lack of access to relevant in-service courses (Chalmers et al., 1998; Forlin, 2001; Singh, 2002) were considered to influence teachers' implementation of integration practices. The lack of suitable assistance from both school administrators and executives, and the lack of parental support were viewed as having an effect on teachers' abilities to cater for students with disabilities (Chalmers, et al., 1998; Engelbrecht, Oswald, Swart & Eloff, 2003).

Another notable obstacle cited in the literature was the restriction offered by large class sizes (Schumm & Vaughn, 1992; Stephenson & Carter, 2005). Ocloo *et al.* (2002) posit that in the rural and semi-urban environment, everybody that offers him/herself for enrolment or the school is not denied access; this however, created a situation where children with various degrees of special needs are found in regular schools. Meeting the needs of all students within large groups (deBettencourt, 1999), teaching multiple classes and grades, and dealing with a wide range of students' abilities (Conway, 1996) are some of the constraints reported by regular classroom teachers. Adaptations/ modifications are considered difficult to implement whilst trying to maintain classroom order and may compromise the content and pacing of instruction for average and high-achieving students (Schumm & Vaughn, 1995).

Individualised instruction brings unnecessary attention to students with learning difficulties, while they do not automatically prepare the students for 'real life experience', where few adjustments are made for them (Schumm & Vaughn, 1995). Research suggests that an increase in time spent consulting with special education teachers may increase the implementation of instructional strategies by regular classroom teachers (deBettencourt, 1999).

Therefore, inadequate access to support services such as specialist teachers (McNally, Cole & Waugh, 2001; Myles & Simpson, 1989; Ward & Center, 1999) and therapy professionals (Stephenson & Carter, 2005) may result in a decline of adaptations/modifications implemented by regular classroom teachers. The literature was reviewed, in order to provide a complete list of possible barriers to the implementation of adaptations/modifications to teachers' programmes and practices. The literature does not supply a ready reference of the barriers to adapting/modifying programmes and practices for students with mild disabilities and learning difficulties. Therefore, research relating to barriers to implementation of integration and inclusion was reviewed. The majority of the suggested barriers were derived from statements made by teachers in various studies. These teachers comment on possible barriers to implementation of 'best practice' with students with high support needs. The literature was searched for possible barriers to integrating students with disabilities into regular classroom environments and a comprehensive list was derived. The barriers have been categorised according to various issues, e.g. teachers, students, services/programmes, support systems, resources and time. The information obtained from this literature may be used as a foundation for collecting data concerning the integration of students with mild disabilities or learning difficulties.

2.11 Related Empirical Studies

Stevens, Everington and Kocsis (2002) in their study entitled ‘What are the teachers doing to accommodate for special needs students in the classroom?’ surveyed forty two elementary teachers from a district implementing inclusive practice to establish a) if the frequency of curricular modifications made differ by type of student disability, b) if there is a difference in the frequency of curricular modifications made for special and typical students, and c) if a relationship existed between modifications made for special needs students and for typical students. The tool used for the study was Questionnaire; the data was analyzed using t-test, ANOVA, Pearson product moment correlation. Results indicated that teachers who are making modifications for special needs students are also making modifications for typical students. The type of disability does not differ the frequency of teachers' curricular modifications; significantly more frequent modifications for special needs students is made; and that significant relationship exists between the frequency of modifications made for special and for typical students.

Effectiveness of innovative teaching strategies for promoting inclusive education (2006) under the mentioned project the teachers from nine different states of Rajasthan, Maharashtra, Uttar Pradesh, Uttarakhand, Himachal Pradesh, Orissa, Mizoram, Goa and Delhi were trained on using innovative teaching strategies in the classroom and in the context of special education. These teachers and teacher-educators were supposed to practice these strategies in the classrooms at their place of work for two academic years. Data was collected from 36 districts of nine states. Around 1500 children participated in the project. The project aimed at studying the impact of innovative teaching strategies such as cooperative teaching, child to child

approach and peer tutoring to promote inclusive education. The major objectives of the project were (i) to acquaint the general teachers and teacher-educators with the new approach to special needs education; (ii) to prepare them to address the individual needs of children in the classroom; (iii) to develop a list of successful teaching strategies to promote inclusive education; and (iv) to bring out a handbook for effective teaching-learning strategies to meet individual needs of the children in the classroom. The data had been analysed and the final report is being prepared.

Rao and Govinda (2006) in their qualitative study entitled, 'Utilizing existing resources for inclusive education of children with disabilities in India' suggested that positioning of human resources suitably to meet the educational needs of children with 96 disabilities, adapting of curriculum, evaluation and feedback were imperative for optimum use of existing resources. It highlighted the role of national institutes for enhancing inclusion. It also insinuated that educating children with mental retardation had to be done keeping in mind their limited intellectual ability levels. The study suggested that those children with severe and profound levels of retardation would benefit from inclusion if they were provided special classes in regular schools, with nondisabled children interacting with them under supervision for purposes of teaching and training them. Each regular class can have some time allotted every week for this purpose. This would enable the teacher to provide individual attention to each child with disability under her supervision through nondisabled students of the school.

2.12 Summary of the Literature

This chapter reviewed the related literature on the research topic, the theoretical framework. The chapter was discussed under the following subthemes: (1) adaptations in inclusive classrooms; (2) adapting instructional strategies;

(3) adapting instructional materials, (4) adapting assessment practices adapting the curriculum for Deaf learners; and (5) Strategies teachers adapt when evaluating the performances of learners who are deaf in an inclusive school; also factors that affect the implementation of adaptations strategies was also looked at.

Even though the literature on the strategies teachers adapt for learners who are deaf at the inclusive school has revealed the adaptation strategies teachers use for pupils who are deaf in inclusive schools, and other issues identified above, to pupils who are deaf, educators and schools, those findings cannot be emphatically related to the situation in Ghana because almost all of the studies were done outside Ghana.

Furthermore, none of the few studies done in Ghana has tried to look into investigating the strategies teachers adapt for learners who are deaf at the University Practice South Inclusive Basic schools in Winneba in the Central Region of Ghana. Therefore, there is a need for further research investigating the strategies teachers adapt for learners who are deaf at the University Practice South Inclusive Basic schools in Winneba in the Central Region of Ghana.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter describes procedures and the methods used in conducting the study. It includes the research approach, the research design, the population, sample and sampling technique, instrumentation, procedure for data collection and data analysis. Also, ethical considerations have been discussed in this chapter.

3.1 Research Approach

The researcher employed a qualitative research methodology for this study. The researcher adopted the qualitative research approach to gain insight into the strategies teachers adapt for learners who are deaf at the University Practice South Inclusive Basic Schools in Winneba in the Central Region of Ghana with reference to the nature of the target phenomenon (i.e., strategies teachers adapt for learners who are deaf), the researcher followed the advice of Strauss and Corbin (1998) who explained that “qualitative methods can be used to obtain the intricate details about phenomena such as feelings, thought processes, and emotions that are difficult to extract or learn about through more conventional methods” (p. 11).

Qualitative research is a social or behavioural science research that explores the processes that underlie human behaviour using such explanatory techniques as interviews, case studies and other relatively personal techniques and since the study is on social interaction, the researcher adopted this approach which is suitable for the study (Salkind, 2009). In qualitative research, the findings are always based on human experiences and stories which cannot be measured, counted or controlled (Cohen *et*

al., 2007). Again, Crisp (2000) contended that in qualitative approach, the researcher relies on views of respondents, ask broad or general questions and also collect data consisting largely of words from respondents and analyze them. It also refers to collection, analysis and interpretation of comprehensive narrative and visual data in order to gain insights into a particular phenomenon of interest (Springer, 2010).

Also, qualitative approaches have the advantages of flexibility, in-depth analysis, and the potential to observe a variety of aspects of a social situation (Patton, 2000). A qualitative researcher conducting a face-to-face interview can quickly adjust the interview schedule if the interviewee's responses suggest the need for additional probes or lines of inquiry in future interviews. Moreover, by developing and using questions on the spot, a qualitative researcher can gain a more in-depth understanding of the respondent's beliefs, attitudes, or situation. During an interview or observation, a researcher is able to note changes in bodily expression, mood, voice intonation, and environmental factors that might influence the interviewee's responses. Such observational data can be of value when a respondent's body language runs counter to the verbal response given to an interview question.

The goal is to understand, in depth, the viewpoint of a research participant. Qualitative data provides a rich, detailed picture to be built up about why people act in certain ways, and their feelings about these actions. Besides, qualitative research uses detailed descriptions from the perspective of the research participants themselves as a means of examining specific issues and problems under study.

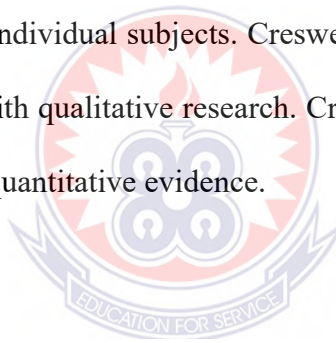
3.2 Research Design

The design for the study was a case study. Frankel and Wallen (2003) contend that in case study, the researcher is primarily interested in understanding a specific individual(s) or prevailing situation. The researcher describes in detail the particulars of the case in order to shed some light on what is prevailing. The researcher adopted a case study in order to gain insight into the strategies teachers adapt for learners who are deaf at the University Practice South Inclusive Basic Schools. The case study as a research method investigate contemporary real-life phenomenon through detailed contextual analysis of a limited number of events or conditions. Creswell (2007, p.23) defines the case study research method “as an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used.” Case study method enables a researcher to closely examine the data within a specific context. Creswell further opines that in most cases, a case study method selects a small geographical area or a very limited number of individuals as the subjects of study (Creswell, 2007).

Case study research allows the exploration and understanding of complex issues. It can be considered a robust research method particularly when a holistic, in-depth investigation is required. Recognised as a tool in many social science studies, the role of case study method in research becomes more relevant when the issues being studied relate to education (Frankel & Wallen, 2003). One of the reasons for the recognition of case study as a research method is that researchers were becoming more concerned about the limitations of quantitative methods in providing holistic and in-depth explanations of the social and behavioural problems. Through case study

methods, a researcher is able to go beyond the quantitative statistical results and understand the behavioural conditions through the actor's perspective. The case study design was employed so as to enable the researcher to obtain in depth knowledge about the strategies teachers adapt for learners who are deaf at the University Practice South Inclusive Basic Schools in Winneba in the Central Region of Ghana.

Besides, variations in terms of intrinsic, instrumental and collective approaches to case studies allow for both quantitative and qualitative analyses of the data. Some longitudinal studies of individual subjects, for instance, rely on qualitative data from journal writings which give descriptive accounts of behaviour. On the other hand, there are also a number of case studies which seek evidence from both numerical and categorical responses of individual subjects. Creswell (2007) cautions researchers not to confuse case studies with qualitative research. Creswell also notes that case studies can be based entirely on quantitative evidence.



3.3 Population

The population for the study was 62 individuals. This consisted of 27 teachers who taught students who are deaf and 35 deaf students in the University Practice South Inclusive Basic Schools in Winneba in the Central Region of Ghana.

Trochim (2006) opines that a population is set or collection of all elements possessing one or more attributes of interest. Population refers to any collection of specified groups of human beings or non-human entities (Babbie, 2004). In this research, the study population refers to the entirety of students who are deaf and the teachers who teach in the University Practice South Inclusive Basic schools in Winneba in the Central Region of Ghana.

3.4 Sample and Sampling Techniques

The sample for the study was nine (9) teachers and one (1) head teacher. In all, a sample of 10 participants were used for this study. These teachers were chosen across kindergarten one to the Junior High level. The participants were chosen because they have taught students who are deaf for at least three years at the University Practice South Inclusive Basic schools in Winneba, Ghana which was of great interest to the researcher.

Sampling is an important aspect of data collection (Rao, 2008). It is that part of statistical practice concerned with the selection of an unbiased or random subset of individual observations within a population of individuals intended to yield some knowledge about the population of concern, especially for the purposes of making predictions based on statistical inference (Leedy & Ormrod, 2005). A sample is a subset of a larger population whose selection is based on the knowledge of the elements of a population and the research purpose (Babbie, 2004).

Purposive sampling technique was used to select the nine (9) teachers who teach students who are deaf involved in the sample for the study. Also, the head teacher was selected through purposive sampling techniques because she has been in the school for six years and possess unique characteristics which is of great interest to the researcher. Purposive sampling represents a group of different non-probability sampling technique. Also known as judgmental, selective or subjective sampling, purposive sampling relies on the judgement of the researcher when it comes to selecting the units (e.g., people, cases/organisations, events, pieces of data) that are to be studied. Usually, the sample being investigated is quite small, especially when compared with probability sampling techniques (Trochim, 2006).

The researcher used expert sampling technique of purposive sampling technique. Multi-stage sampling was employed. The first stage used a sample frame to select a random sample. The sample frame was the teachers' data which was constituted into various strata. The strata included students and teachers.

The main goal of purposive sampling is to focus on particular characteristics of a population that are of interest, which will best enable you to answer your research questions. The sample being studied is not representative of the population, but for researchers pursuing qualitative or mixed methods research designs, this is not considered to be a weakness. Rather, it is a choice, the purpose of which varies depending on the type of purposive sampling technique that is used. For example, in homogeneous sampling, units are selected based on their having similar characteristics because such characteristics are of particular interest to the researcher. By contrast, critical case sampling is frequently used in exploratory, qualitative research in order to assess whether the phenomenon of interest even exists.

3.5 Data Collection Instrument

The instruments that were used to obtain the data for the study were interview guides and observation guide. The purposes of the researcher using these methods were to probe deeply and analyse intensively the life cycle of the selected case. It was possible for the researcher to enter into the respondents' personal world in order to gain a deeper and clearer understanding of their experiences, feelings and perspective through interview and observation guide. Besides, these two methods were employed in order to achieve triangulation and crosschecking of data.

3.5.1 Observation

Observation was used by the researcher to get the necessary data for the study.

Observations provide an additional source of data for verifying the information obtained through interview data collection method. Observation draws on the direct evidence the witness has (Cohen, Manion, & Morison, 2000). In the course of making observation it can either be participant based, where by the researcher becomes part and parcel of the community he or she wants to study, or non-participant observation, where by the observer can be in the community targeted by only observing what is happening.

Specifically, the researcher used participant-based observation to gather information during instructional and evaluation time. Sampled teachers were observed three times in each day for two weeks. During observation the researcher wrote down the strategies teachers adapt for learners who are deaf at the University Practice South Inclusive Basic Schools in Winneba in the Central Region of Ghana.

3.5.2 Interviews

A semi-structured interview guide was collected from the teachers. The items were developed based on the key themes raised in the research equations. Data were collected via one-on-one interviews; one-on-one interviews occurred under a tree in the school premises on a sunny afternoon after school, the time was chosen because the school had closed as a result, most teachers were free and majority of the students has left the school premises thereby paving way for a quiet and conducive environment for the interview. The ranged length of the interview was from 30 to 40 minutes. The sampled groups involved in the study were interviewed to elicit responses for the study. Each interviewee was given opportunity to respond to the

questions raised for the study. The interview took place during break time. During interview, proceedings were recorded by a colleague teacher through the use of video recording and note taking by the researcher. Each interviewee was given equal opportunity to respond to the same questions. The interview questions, which focused on investigating the strategies teachers adapt for learners who are deaf at the University Practice South Inclusive Basic school in Winneba, Ghana (are provided in the Appendix B.) under each of the interview guide there were questions under each of the themes with probes and prompts to help obtain vital information from the interviewees who were teachers.

Interview is “a specialized form of communication between people for a specific purpose associated with some agreed subject matter” (Anderson, 1990, p.222). As the purpose of the research interview is to obtain research-relevant information from the interviewee, it is centred on the evidence to be generated for achieving the research objectives of describing, predicting or explaining the phenomenon (Cohen & Manion, 2007). As compared to other techniques of data collection e.g. questionnaire, observation, etc., interview may serve as a rich source for exploring people’s inner feelings and attitudes.

3.6 Procedures for Data Collection

A letter from the Department of Special Education was sent to the head of the schools where the study was conducted to seek permission to conduct the research in the setting. The sampled involved in the study were informed by the head teacher about the study and solicit for their cooperation and assistance before the interview. This is consistent with what Creswell (2005) says that it is important to respect the site where a research takes place. This respect, according to Creswell (2005) is shown by gaining

permission before entering the site. The researcher explained the purpose of the interview and assured the participants of the necessary confidentiality on the information to be gathered. The data gathered were kept confidential and the anonymity of the participants was ensured. These were ensured by removing the contributor's name and other forms of identification.

One-on-one interview and participant-based observation were conducted to elicit responses from the sampled. Interview guide was developed based on the themes of the research questions posed for the study. Each interview session lasted for about 40 minutes.

3.6.1 Pre testing the instruments

A pre-test study enables the researcher to carry out a preliminary analysis to see whether the wording and format of questions will present any difficulties when the main data are analysed. The purpose of pre-test exercise is to get the 'bugs out' of the instrument so that respondents in the main study will experience no difficulties in answering the questions during interview. The interview guide was pretested with 15 respondents from the Agona Swedru Salvation Army School for the Deaf. Those teachers were chosen for the pre-test exercise because they possess similar characteristics just as the sampled teachers. The pre-test instrument was given to 15 selected teachers to gather their views and responses. The responses from the participants were considered before the actual conducting of the interview and observation. The pre-test was to ensure that the researcher gathers the relevant data for the research work. Through pre- test study, the time used for interview was seen to be inadequate and it was reviewed. Also, the construction of the sentences was reviewed,

3.6.2 Observation

Observation was used by the researcher to get the necessary data for the study. In the course of making observation it can either be participant based, where by the researcher becomes part and parcel of the community he or she wants to study, or non-participant observation, where by the observer can be in the community targeted by only observing what is happening. Specifically, the researcher used participant observation to gather information during class learning and evaluation time. Sampled teachers were observed three times in each day for two weeks.

3.6.3 Interview

The sampled group was interviewed to elicit response for the study. Each interviewee was given opportunity to respond to the questions raised for the study. The interview took place during free time of the interviewees. During interview, proceedings were recorded by the use of video recording and note taking. Each group was given equal opportunity to respond to the same questions. Each interview section lasted for about 40 minutes.

3.7 Trustworthiness of the Instrument

Trustworthiness or rigour refers to the degree of confidence in data, interpretation, and methods used to ensure the quality of a study (Pilot & Beck, 2014). Credibility of the study, or the confidence in the truth of the study and therefore the findings, is the most important criterion (Polit & Beck, 2014). According to Shenton (2004), trustworthiness in a qualitative study aims to support the argument that the study's findings are worthy of receiving attention. In order to establish trustworthiness, credibility, dependability, transferability and confirmability were established.

3.7.1 Credibility

Credibility is the first aspect, or criterion, that must be established. It is seen as the most important aspect or criterion in establishing trustworthiness. This is because credibility essentially asks the researcher to clearly link the research study's findings with reality in order to demonstrate the truth of the research study's findings. Credibility also has the most techniques available to establish it, compared to the other three aspects of trustworthiness (Morse, Barrett, Mayan, Olson & Spiers, 2002). Here we focus on the two most important techniques (triangulation and member checking), since these will be the ones you find most often in qualitative research. Credibility focuses on establishing a match between the constructed realities of the participants and those represented by the researcher (Patton, 2002). To ensure credibility in this study, the interviews that were conducted were audio-taped and this ensured that the researcher could re-visit the interview with ease to ensure that the reality that the researcher had recorded was not a fabrication. The researcher ensured that there was accurate information by cross-checking using the transcriptions with the participants regarding what had been experienced during the interview.

3.7.2 Dependability

The traditional quantitative view of reliability is based on the assumption of replicability or repeatability. Essentially it is concerned with whether we would obtain the same results if we could observe the same thing twice. But we can't actually measure the same thing twice by definition if we are measuring twice, we are measuring two different things. In order to estimate reliability, quantitative researchers construct various hypothetical notions to try to get around this fact. Dependability deals with the consistency of research results obtained over time.

Dependability, according to Shenton (2004) can be established by using different methods of data collection and different times of collecting the data on the same research problem. In this study, dependability was established by having prolonged and concentrated engagement with the participants about the study, three to four weeks in this case.

3.7.3 Confirmability

Confirmability refers to the degree to which the results could be confirmed or corroborated by others. Maxwell (2012) opines that the researcher can actively search for and describe any *negative instances* that contradict prior observations. According to Patton (2002), confirmability can be established if the results can be linked to the data itself. It speaks to data management and the analysis of the data itself. In this study, confirmability was established by keeping the collected data that was used for interpretation safely, so that any interested researcher could access the data for inspection. In addition, an audit trail was done by independent critical readers whom the researcher had asked to evaluate the methods used for the gathering of the data.

3.7.4 Transferability

Transferability refers to the applicability of the findings to another setting (Shenton, 2004). As this is a qualitative study and no substantive generalisations could be made, the researcher gave thick description with enough detail of the findings so that readers could decide on their own whether the results of the study would be transferable to their own research contexts or not.

3.8 Method of Data Analysis

Thematic approach was used to analyse the data collected. That is data for the study was analysed based on various themes drawn from the research questions raised. The researcher formulated coding categories into manageable units of sentences or phrases, according to the research questions. All the data collected from different participants through the interviews and observations were coded to identify themes and patterns. Verbatim expressions of the respondents were also used where necessary. The transcription and translation of the data were carried out immediately after the data collection.

3.9 Ethical Consideration

Research ethics educate and monitor scientists conducting research to ensure a high ethical standard. Ethics are very paramount in research because, it guards against possible harmful effects of the research. Resnik (2010) contends that, respondents need to give informed consent to participate. This means that they must be fully informed about the research. Therefore, respondents were informed about the significance of the study and their consent was sought. Participants were informed that their participation is voluntary, and they were permitted to refuse to respond to questions or withdraw from the study at any stage if they wished.

Also, access to the study area and participants was sought by the researcher personally. In this case, the researcher visited the selected school to seek permission from the head teacher with a letter of instruction from the District Education Directorate. Again, the participants were assured that the information provided will not be shared with any other person and will only be used for the purpose of the research. The responses on the interview guide were also kept under lock and key and

were accessible only to the researcher. To ensure privacy among participants, they could decide the time and place they wanted the interviews to be held.



CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.0 Introduction

This chapter presents the results, findings and discussion of findings of the study which aimed at investigating the strategies teachers adapt for learners who are deaf at University Practice South Inclusive Basic Schools in Winneba in the Central Region of Ghana. In this chapter, the researcher presents the data gathered qualitatively. Data was gathered for the purpose of answering these research questions: (1) What are the instructional strategies teachers adapt to teach learners who are deaf at University Practise Inclusive Basic School in Winneba, Ghana? (2) What are the specific areas of the curriculum do teachers adapt for learners who are deaf at University Practise Inclusive Basic School in Winneba, Ghana? (3) What are the strategies teachers adapt when evaluating the performances of learners who are deaf at University Practise Inclusive Basic School in Winneba, Ghana? (3) What are the factors that affect teachers' adaptation strategies for learners who are deaf at University Practise Inclusive Basic School in Winneba, Ghana?

In answering these research questions, six major themes emerged based on the contextual analysis of the data. These themes include: Instructional strategies teachers employ, effect of the instructional strategies teachers employ, areas of curriculum adaptation for learners who are deaf, strategies teachers adapt when evaluating the performances, effects of the evaluation strategies and challenges to adaptation strategies these themes are described with supporting quotes from the interviews.

4.1 Strategies Teachers Adapt to Teach Learners who are deaf

Among the objectives of the study was to explore the instructional strategies teachers employ and effects of the instructional strategies teachers employ

4.1.1 The instructional strategies teachers employ

Instructional strategies emerged as a sub-theme under the instructional strategies teachers adapt to teach learners who are deaf in inclusive school.

The following are views from the teachers:

In my class, because I have learners who are deaf together with other students. I employ the services of the sign language interpreter in the school to interpret to the learners who are deaf so that both students with and those without hearing impairment can grasp the concept under discussions. I do give a lot of time on task so that all the students will benefit from the teaching and learning situation. Besides, adjusting the pace I move, I also try as much as possible to give the adequate time on task during class work to enable all manner of students both those with and those without disabilities to finish their work. (Teacher 1)

A teacher has this to say:

Oh, as for me I adjust group composition and the seating arrangements are the strategies I usually employ. Since there are learners who are deaf in my class. I ensure that seating arrangement is done in a way that they will also benefit from teaching and learning process. I ensure that they are put in groups with some students who understand them and co – operate with them so as to enable them to receive the kind of support they need. (Teacher 2)

Another teacher intimated that:

I try as much as possible to adjust the instructional materials I used to teach my pupils so that they will all benefit from my teaching. I usually employ peer tutoring during teaching to enable all the students in the classroom to benefit from the concept I present to them. (Teacher 3)

Another teacher indicated that:

I make sure I use a lot of gestures to enable my deaf learners gain deeper understanding of concepts, I also use group work and peer teaching. (Teacher 4)

The views of teachers were supported by their headteacher.

The teachers give extra time on task so that all the students can benefit from the teaching and learning situation. The teachers do well to adjust the pace the move during teaching in order to make it possible for those who are deaf to get adequate time on task during class work to enable all of students to finish their work. The also try to ensure better group composition and the seating arrangements to ensure that the students benefit from the teaching and learning process. Again because of the conditions of the students I see to it that teachers use peer tutoring approach when teaching (Headteacher)

From the views expressed it, is obvious that teachers who taught in the University practice South inclusive Basic School in Winneba employed diverse instructional strategies such as the use of multi-sensory approach during teaching. It was also noted during observation by the researcher that the teachers gave additional time on task. Lastly, the teachers adjusted the pace of delivery during teaching. This finding is in line with Siegel (2000) who opine that teaching approaches that adopt additional (visual) reinforcement strategies to supplement verbal instruction (Chiat, Law & Marshall, 1997 for children with SLCN; Siegel 2000 for children with ASD). Again, research has led to a more 'sensory' based approach being used in order to develop opportunities for exploration of and interaction with multi-sensory environments (Aitken & Buultjens, 1992; Ware, 1996; 2003). In addition to the above, some adaptations may involve adjusting group compositions, assignments, resources or more direct adult involvement (Jenkins, Antil, Wayne & Vadasy, 2003; Konza, 2005). More so, the adaptations/modifications involved may include adjusting seating arrangements, the use of study carrels, organisation of learning centres and different groupings, and the development of a general classroom climate that fosters positive learning, adequate time-on-task, and effective interactions (Hoover, 1990).

Also, Jenkins, et al. (2003) stated that results from their studies imply that students with learning difficulties profit from working in small, structured cooperative learning groups in their regular classrooms (Gillies & Ashman, 2000; Jenkins, et al, 2003). Besides, cooperative learning groups provide practical ways of teaching students with a wide range of abilities (Cowley, 1996). Cooperative learning groups and peer tutoring methods supply direct sources of support to students with disabilities from their peers. These instructional strategies allow the teacher to work with all of their students, whilst providing a framework for promoting independence in students with disabilities (Dieker & Murawski, 2003).

Furthermore, reading tests orally, giving extended test-taking time, giving frequent short quizzes, providing study guides, retaking tests, obtaining direct daily measures of an academic progress, modifying grading criteria are means of enhancing performance progress (Scott, et al, 2008: p.107). Better still, the use of ‘objects of reference’, and other formal and informal communication enabling systems are encouraging a more open, inclusive (child- and whole-school) centred approach to this group of individuals with more complex needs (Aitken, Buultjens, Clark, Eyre & Pease, 2000). Research has led to a more ‘sensory’ based approach being used in order to develop opportunities for exploration of and interaction with multi-sensory environments (Aitken & Buultjens, 1992; Ware, 1996; 2003), or for intensive interaction (see Nind, 1996; Hewett & Nind, 1998). The use of ‘objects of reference’, and other formal and informal communication enabling systems are encouraging a more open, inclusive (child- and whole-school) centred approach to this group of individuals with more complex needs (Aitken, Buultjens, Clark, Eyre & Pease, 2000). Brooks (2002), Fletcher-Campbell (2000), Reason (2003), and Schmidt et al.

(2002) posit that there is evidence about the need for explicit, comprehensive and integrated teaching of different aspects of reading – phonological, syntactic and semantic – and that reading should be linked to spelling and writing. ‘Ordinary teaching’ is unlikely to be adequate for allowing struggling readers to catch up with their peers and many children will need repetitive and cumulative learning opportunities, together with metacognitive development, well-informed teachers and professional collaboration and support (Brooks, 2002; Fletcher-Campbell, 2000; Reason, 2003 & Schmidt *et al.*, 2002). Last but not least, there are numbers of instructional approaches that are accessible to the regular classroom teacher, including team teaching, multiple age or vertical groupings of students and same-age peer tutoring (Cowley, 1996).

4.1.2 Effect of instructional adaptation on learners who are deaf

Another sub theme that emerged from the responses of the teachers is effect of the instructional strategies teachers employ. It was also the case that the instructional strategies teachers employ have some positive effect on their learning.

The following are the views from the teachers:

When I offer additional time on task it enables children who are deaf to complete task and this go a long way to make them feel belongingness. (Teacher 1)

A teacher also has this to say:

Oh, adapting instructional activities is very useful for children especially those who are deaf because it enhances deeper understanding of the concept under discussion. (Teacher 2)

Another teacher intimated that:

When I adapt my instructional activities, it helps learners to retain whatever I teach them which leads to easy recall of information they have learned. (Teacher 3)

A teacher also said that:

Adapting instructional activities promotes better understanding of task at hand not only for deaf learners but for the whole class which eventually improves upon class outputs. (Teacher 4)

The views of teachers were supported by their head teacher:

When teachers adapt their instructional activities, it helps learners to understand and retain whatever they teach them which and are able to recall during assessment. Oh, when teachers offer additional time on task it enables children who are deaf to complete task given to them and this help them to feel welcome in their school. (Head teacher)

From the interview it became obvious that teachers when teach in the University practice South inclusive School, Winneba employ diverse adapt their lessons through the use of multi-sensory approach. It helps children who are deaf in several ways such aiding in the deeper understanding and retention of the concept taught. Besides, it also makes them feel belongingness in the classroom and the school as a whole.

This finding is in line with Kurth, Gross, Lovinger and Catalano (2012) who asserted that despite the legal mandate to provide access to the general education curriculum, using adaptations if needed, it is unclear how frequently adaptations are truly used in schools. For example, special educators working in inclusive settings were found to believe that adaptations were being implemented more frequently than general education teachers. Also, Wehmeyer, Lattin, Lapp-Rincker and Agran (2003) reported that adapted materials were available for middle school students with disabilities and less than 3% of their observations indicate good academic performance. Others have noted that adaptations are more widely available for students with significant support needs than students with milder disabilities (Dymond & Russell, 2004). Despite uncertainty related to their implementation, adaptations have been associated with a range of positive class-room characteristics, including higher student engagement,

fewer student competing behaviours, and less teacher time dedicated to classroom management (Lee, Wehmeyer, Soukup & Palmer, 2010). Furthermore, curricular adaptations have been found to improve student on-task behaviour and work production (Kern, Delaney, Clarke, Dunlap, & Childs, 2001). In addition, many educators support the idea of adaptations (Idol, 2006). However, descriptions of characteristics of effective adaptations are limited.

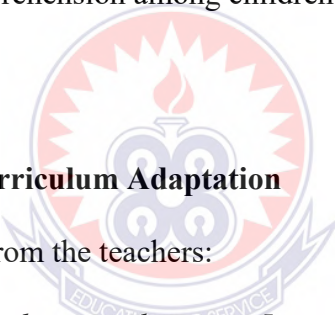
Again, a method for developing adaptations that facilitates common language between general and special educators, which includes considering the student's learning goals and IEP accommodations, individualizing teaching methods, and individualizing personal supports, has been articulated based on master-teacher input; however, this process has not been field tested (Janney & Snell, 2006). More so, students receiving special education services often demonstrate academic underachievement (Massetti *et al.*, 2008), and inclusive education has been associated with improved academic outcomes for students with disabilities (Dessemontet, Bless, & Morin, 2012; Kurth & Mastergeorge, 2010). Yet for inclusion to be successful, the use of adaptations is necessary to meet individual student needs (Cross, Traub, HutterPishgahi & Shelton, 2004). Therefore, understanding how adaptations are created and their effectiveness in promoting student achievement is needed. Finally, the proponents of social development theory opine that educators have long known that learning is improved when instruction is personalized and adapted to individual learning styles. In fact, some argue that advocacy for adaptive instruction dates back to antiquity (Lee & Park, 2008).

4.2 Specific Areas of the Curriculum Teachers Adapt for Learners who are deaf

Specific areas of the curriculum teachers adapt for learners who are deaf in inclusive school is very vital in the accommodation of children who are deaf in inclusive school because specific areas of curriculum adaptation help to meet their academic needs, it makes learning flexible without changing the class and curriculum standard, makes learners feel love and belongingness to the class and the school as a whole. Themes found within the data regarding the research question were: specific areas of the curriculum adaptation, and effects of the curriculum adaptation. Specific areas of curriculum adaptation involving modifying specific learning areas to suite their unique learning needs and styles. Curriculum adaptation also helps students grasp the concept. It enhances comprehension among children who are deaf during teaching and learning process.

4.3 Specific Areas of Curriculum Adaptation

The following are views from the teachers:



During reading and comprehension, I try my best to make reading passage easily to enable all learners irrespective of their disabilities to read and comprehend the passage. Besides I also try to use alternate materials to help make teaching and learning accessible and enhance comprehension. (Teacher 1)

A teacher also has this to say:

Since the pupils I teach are not the same, some of them are special pupil I develop different methods of teaching to help pupils to understand the teaching and learning process. I try as much as possible to employ multisensory approach during teaching and learning to help all children to understand. (Teacher 2)

Another teacher stated that:

Because I have diverse learners in my class, I always try to provide study guide to the learners. When study guides are provided to the learners, it helps them to do advance preparation there by making the

teaching and learning interactive and enhances easily understanding.
(Teacher 3)

A teacher also mentioned that:

There is no special curriculum design for the deaf. However, I try my best to break down topics to suit their learning needs while still maintaining the task required by the general curriculum. (Teacher 4)

The views of teachers were supported by their headteachers

The teachers are doing their best and all the they can to ensure that children who are deaf benefit from the teaching and learning process. Teachers adapt their teachings to the level of the children who are deaf so that it will enhance their understanding of the lesson. They try to use different techniques such as the use of peer tutoring and multi-sensory approach during their teaching to help them to grasp the concept under discussion. They also do well to provide with study guide to them to follow to help them do their private studies. (Head teacher)

Based on the assertion made by the respondents on specific areas of the curriculum adaptation employ by teachers at the University Practice South Inclusive Basic School, Winneba, it is obvious that teachers use alternate materials in their teaching. They also endeavour to make reading passage very easy to aid effective reading skills. It was observed that the teachers use alternate materials to help make teaching and learning accessible to enhance comprehension. It was clear that teachers use multi-sensory approach in teaching. This finding is in conformity with Hoover (1990) who stipulated that the adaptation of content often consists of two main practices: the simplification of reading material and the adjustment to the pace at which the content is mastered, practised and reviewed.

Notably, there is evidence about the need for explicit, comprehensive and integrated teaching of different aspects of reading – phonological, syntactic and semantic – and that reading should be linked to spelling and writing (Brooks, 2002; Fletcher-Campbell, 2000; Reason, 2003; Schmidt et al., 2002). The authors further opine that

ordinary, teaching is unlikely to be adequate for allowing struggling readers to catch up with their peers and many children will need repetitive and cumulative learning opportunities, together with metacognitive development, well-informed teachers and professional collaboration and support (Brooks, 2002; Fletcher-Campbell, 2000; Reason, 2003; Schmidt *et al.*, 2002).

Lastly, Bloom (1984) demonstrated that mastery learning via one on-one instruction results in significant learning gains over conventional group instruction. Learning gains were attributed to the adjustments in instruction made by tutors as they assessed learner progress.

4.4 Strategies For Performance Evaluation of Learners who are deaf

Among the objectives of the study was to explore the strategies teachers adapt when evaluating the performances of learners who are deaf in an inclusive school.

Strategies teachers adapt when evaluating the performances

Evaluating the performance of learners is very importance to all the stakeholder who are interested in the education of children especially those who are deaf. This is because evaluation helps to find out the level of pupils' achievement thereby assisting in decision making.

In the view of teacher:

If I want to assess them, I do my best to use portfolios and non-letter grading to ascertain their performance. Oh yes, I observe them performing activities and I use the design check list to tape the needed information which I will later use to assess them.

(Teacher 1)

One teacher also remarked:

During test of all kinds, I make sure that additional time on task is given to the pupils who are deaf. When the extra time is given to them during assessment it enables them to answer the questions as the teacher is expecting from them. (Teacher 2)

Another teacher stated that

Oh yes, I assess the pupils who are deaf to help me make a varied decision about them. In trying to assess I develop different methods of assessment such as document analysis, drawing and colouring which help me to get necessary information from them. (Teacher 3)

Another teacher remarked that:

I assess my learners daily after each lesson through class exercise and home work. I also give them mid-term test and finally the end of term exams. This enable me to have a holistic idea about their general performance (Teacher 4)

The views of teachers were supported by their head teacher:

The teachers do well to plan their assessment process in a way to cater for the needs of all children. They use portfolios and check list as well as non – letter grading during assessment procedures. They also ensure that extra time is given to the children who are deaf during assessment to enable them finish the task. Besides, teachers use different methods of assessment such as document analysis, drawing and colouring to ascertain their level of performance of the pupils. (Head teacher)

Based on the assertion made by the respondents on the kind of strategies teachers adapt when evaluating the performances, it is obvious that teachers who teach at the University South Practice Inclusive Basic School are mindful of children who are deaf during assessment time and process. They therefore employ diverse strategies in order to adapt the assessment to the level of those who are deaf when evaluating their performances. The teachers employ various kinds of strategies such as portfolios and

checklist as well as non-letter grading during assessment procedures. They also ensure that extra time is given to the children who are deaf during assessment to enable them finish the task. Besides, teachers use different methods of assessment such as document analysis, drawing and colouring to ascertain their level of performance of the pupils.

From the analysis, it is clear that the teachers understand the difficulties of the pupils who are deaf during evaluation and try their best to adapt the evaluation process to enable them execute it. This finding is in conformity with Jenkins, Antil, Wayne and Vadasy (2003) and Konza (2005) who argue that some adaptations may involve adjusting group compositions, assignments, resources or more direct adult involvement.

Besides, in adapting assignments, teachers may make a range of adjustments from modifying instructional materials to using alternative behaviours to complete tasks (McDonnell, et al, 2001). Again, teachers may consider various methods of student assessment, including the use of portfolios and non-letter grading as alternative authentic assessments (Dieker & Murawski, 2003). Teachers may adapt instructional settings within the regular classroom to cater for individual students. Also, in adapting assignments, teachers may make a range of adjustments from modifying instructional materials to using alternative behaviours to complete tasks (McDonnell, et al, 2001). Teachers may also consider various methods of student assessment, including the use of portfolios and non-letter grading as alternative authentic assessments (Dieker & Murawski, 2003). Teachers may adapt instructional settings within the regular classroom to cater for individual students.

Furthermore, Griffin (2010) posited that different method of teaching and assessment need to be developed by the teacher for the benefit of all the different group in the classroom. In adapting assignments, teachers may make a range of adjustments from modifying instructional materials to using alternative behaviours to complete tasks (McDonnell, et al, 2001). Teachers may also consider various methods of student assessment, including the use of portfolios and non-letter grading as alternative authentic assessments (Dieker & Murawski, 2003).

In addition, teachers may adapt instructional settings within the regular classroom to cater for individual students. The adaptations/modifications involved may include adjusting seating arrangements, the use of study carrels, organisation of learning centres and different groupings, and the development of a general classroom climate that fosters positive learning, adequate time-on-task, and effective interactions (Hoover, 1990).

4.5 Effects of Strategies Teachers Adapt during Evaluation

Effects of the strategies teachers adapt during evaluation was another sub theme which emerges from the theme on the strategies teachers adapt when evaluating the performances of learners who are deaf in an inclusive school.

Some of the teachers commented that:

If I adapt assessment procedure it leads to progress academic performances of learners who are deaf in this inclusive school because of that I always try to adapt my assessment procedures. (Teacher 1)

In the view of one teacher:

When I adapt assessment procedure it enables the student to actively involved in the assessment process. This gives the child opportunity to be with the teacher in determining the contents of the portfolio, in assessing performance, and in determining needs and goals. (Teacher 2)

Another teacher stated that:

When I adapt assessment procedure it ensures the progress in academic performances of learners who are deaf in an inclusive school because additional time is given to children so as to enable them to enable them to finish task giving them. In view of that I always try to adapt my assessment procedures for children who are deaf. (Teacher 3)

The teachers' responses were supported by the head teacher

Effects of the strategies teachers adapt during evaluation are numerous. It enhances academic performances of pupils who are deaf and it guarantee their active participation in the assessment process. (Head teacher)

The comments show that when evaluation process is adapted it has great impact on pupils who are deaf. The finding is in line with Paulson, Paulson and Meyer (1991) who opined that when non-letter test such as portfolio is used during evaluation process it demonstrates a student's highest level of performance (Paulson, Paulson, & Meyer, 1991). The student is actively involved with the teacher in determining the contents of the portfolio, in assessing performance, and in determining needs and goals. Developing and maintaining a portfolio is an exercise in developing an organized collection of work but, more importantly, it is a process in learning.

Lastly, IDEA (2004) noted that adaptation of test items may be needed to accommodate the learner's active participation in the test and mandates accountability at several levels including the demonstration of student progress. While achievement tests (e.g. SAT-HI, IBS) have been used for decades in the field of education with

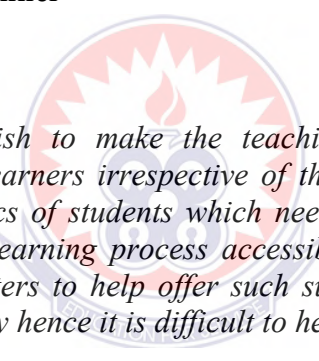
learners who are deaf or hard of hearing, there is a need and mandate to monitor student's academic growth at frequent and regular intervals.

4.6 Factors Affecting Strategies Teachers Adapt for Learners who are deaf

One of the objectives of the study was to explore the factors that affect strategies teachers adapt for learners who are deaf in an inclusive school. In teachers' attempt to make learning flexible for learners who are deaf to enable them meet the standard and requirement of the class and the curriculum, they are faced with some challenges. Themes found within the data regarding the research question were: inadequate trained personnel, large class and time factor.

Inadequate trained personnel

In the view of one teacher:



Even though I wish to make the teaching and learning process accessible to all learners irrespective of their disabilities because of some characteristics of students which needs specialist to help make the teaching and learning process accessible to them, However, the personnel interpreters to help offer such supportive services to them are scarce in supply hence it is difficult to help them (Teacher 1)

Another teacher said that:

Lack of resources personnel to offer supportive service to children who are deaf. Since most of us are not specialized in in sign language, it affects the smooth delivery of the service. Couple lack of confidence in teaching the children who are deaf. I don't have the skills of teaching them. I also don't have any training on how to adapt the teaching and learning to the children who are deaf. We hardly get in service training on the use of adaptation as a result of that it affects our confidence level of applying adaptation. (Teacher 2)

A teacher also stated that:

Lack of qualified personnel and inadequate in-service training affect making teaching and learning accessible to learners especially those with special educational needs. Large class size is another problem educators are struggling with in trying to provide education for all pupils (Teacher 3)

The teachers' responses were supported by the head teacher

The qualified personnel to provide resource services such as interpreting remedial teaching and note taking for the children who are deaf are scarce in the school and this is affecting provision of support services to the children who are deaf. (Head teacher)

It can be deduced from the teachers' comments that, in their quest to make adaptation strategies, they are beseeched with the problem of inadequate qualified personnel. From the analysis, it is clear that the teachers face some difficulties during evaluation. This finding agrees with Hay and Winn (2005) Shaddock, Neill, van Limbeek and Hoffman-Raap (2007) who posited that when considering the types of adaptations or modifications employed by regular classroom teachers it is beneficial to contemplate the obstacles that may impact on their implementation. The authors further stated that there are a number of justifications that have been stated by regular teachers for not implementing adaptations and modifications for students with particular needs integrated in their classrooms. Inadequate time, limited materials, and doubt about ways to make provisions for students with disabilities were the most prevalent pressures mentioned by classroom teachers.

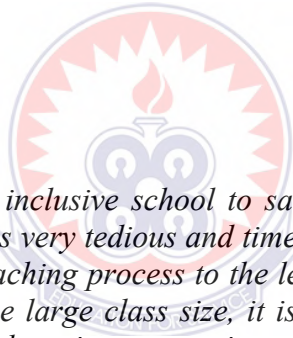
Besides, inadequate access to support services such as specialist teachers (Stephenson & Carter, 2005) and therapy professionals may result in a decline of adaptations/modifications implemented by regular classroom teachers. Again, teachers in a number of studies reported that the lack of adequate funds or resourcing (Mastropieri, 2001). In addition, the clear implication of the inclusive education movement is that mainstream schools seek to restructure so as to provide for an increasing diversity of educational needs and eliminate the problem of students who fail to fulfil their learning potential (Avramidis *et al.*, 2000).

Both the lack of pre-training (Forlin, 2001; Mamlin, 1999; Scruggs & Mastropieri, 1996) and the lack of access to relevant in-service courses were considered to influence teachers' implementation of integration practices. The lack of suitable assistance from both school administrators and executives, and the lack of parental support were viewed as having an effect on teachers' abilities to cater for students with disabilities (Engelbrecht, Oswald, Swart & Eloff, 2003). Lastly not possessing the necessary skills was the reason regular classroom teachers gave for not adapting instruction (Sutherland, 2000).

4.7 Large Class Size

Large class size was another challenge inhibiting teacher's adaptation strategies in the inclusive school.

A teacher intimated that:



In fact, teaching in inclusive school to satisfy all children especially those who are deaf is very tedious and time consuming. It takes time in acclimatizing the teaching process to the level of the children who are deaf. Looking at the large class size, it is really a problem trying to adapt teaching and learning processing to suit the children who are deaf. The larger number of pupils with only one teacher handling them affect making teaching and learning accessible to all of them especially those with special needs education. (Interview data respondent 1)

Another teacher intimated that:

Large class and its attendance consequences of poor class management affect modification and adaptation. Also lack of skills by most regular teachers hinder effective adaptation and modification process. (Interview data respondent 2)

A teacher also stated that:

The class size is simply large which has led to poor class control and affecting modification and adaptation. Also lack of skills and expertise by most regular teachers hinder effective adaptation and modification process. (Interview data respondent 2)

The head teacher confirmed what the teachers said

The enrolment in class is very large and it affects teachers' quest to adapt the lessons to children who are deaf. Our school is the only model school serving about four districts in the Central Region. In addition, lack of skills by most regular teachers hinder effective adaptation and modification process. (Head teacher)

From the responses it is obvious that in an attempt by teachers to adapt teaching and learning strategies to make learners successful in their academics, they are beseeched with the problem of large class size. The revelation is in line with Stephenson and Carter (2005) who opine that notable obstacle was the restriction offered by large class sizes. Meeting the needs of all students within large groups (deBettencourt, 1999), teaching multiple classes and grades, and dealing with a wide range of students' abilities (Conway, 1996) are some of the constraints reported by regular classroom teachers. Besides, adaptations are considered difficult to implement whilst trying to maintain classroom order and may compromise the content and pacing of instruction for average and high-achieving students (Schumm & Vaughn, 1995).

Another notable obstacle cited in the literature was the restriction offered by large class sizes (Schumm & Vaughn, 1992; Stephenson & Carter, 2005). Lastly, research suggests that an increase in time spent consulting with special education teachers may increase the implementation of instructional strategies by regular classroom teachers (deBettencourt, 1999).

4.8 Time Factor

Time factor was another challenge inhibiting modifying and adapting the instruction and assessment process in inclusive school.

A teacher intimated that:

In fact, teaching in inclusive school to satisfy all children especially those who are deaf is very tedious and time consuming. It takes time acclimatizing the teaching process to the level of the children who are deaf. Looking at the large class size, it is really a problem trying to adapt teaching and learning processing to suit the children who are deaf. (Teacher 1)

A teacher also stated that:

In fact, teaching children who are deaf in inclusive school it is very cumbersome because it takes a lot of time to help them understand a concept under discussion. Therefore, to satisfy all children especially those who are deaf is very tedious and time consuming. It takes time acclimatizing the teaching process to the level of the children who are deaf. Looking at the large class size, it is really a problem trying to adapt teaching and learning processing to suit the children who are deaf. (Teacher 2)

A teacher also said that:

A lot of time is used in teaching a concept to children who are deaf. It takes time adapting the teaching process to the level of the children who are deaf. It is really time-consuming teaching children especially those who are deaf in inclusive school. It is really tedious adapting teaching and learning to suit the children who are deaf. (Teacher 3)

The head teacher confirmed what the teachers said

Teaching in inclusive school to satisfy all children especially those who are deaf is laborious and time consuming. It takes time for teachers to adapt their lessons to the level of the children who are deaf. Considering the large class size, it is really a problematic for teachers to try to adapt teaching and learning processing to suit the children who are deaf. (Head teacher)

From the statements from the interviewees, it is obvious that teachers are beseeched with the problem of limited time factor as far as teaching with learners who are deaf in inclusive classroom is concern. The finding is in agreement with Forlin and

Bamford (2005); Hay and Winn (2005) who indicated that implementing appropriate practices for students with special needs require a great amount of preparation and planning time which teacher lack. Teachers consider that the extent to which time is consumed by adapting curricula for students with disabilities is not feasible and will diminish the learning opportunities for the students' non-disabled peers (Conway, 1996).

Besides, both the lack of pre-training (Forlin, 2001; Mamlin, 1999; Scruggs & Mastropieri, 1996) and the lack of access to relevant in-service courses (Chalmers *et al*, 1998; Forlin, 2001; Singh, 2002) were considered to influence teachers' implementation of integration practices. The lack of suitable assistance from both school administrators and executives, and the lack of parental support were viewed as having an effect on teachers' abilities to cater for students with disabilities (Chalmers, *et al*, 1998; Engelbrecht, Oswald, Swart & Eloff, 2003). Also, research suggests that an increase in time spent consulting with special education teachers may increase the implementation of instructional strategies by regular classroom teachers (deBettencourt, 1999). Lastly, teachers still consider that they do not have the time, expertise or skills to deal with adaptation to integrated students (Forlin & Bamford, 2005; Sutherland, 2000).

Inadequate time, limited materials, and doubt about ways to make provisions for students with disabilities were the most prevalent pressures mentioned by classroom teachers (Hay & Winn, 2005; Passe & Beattie, 1994; Shaddock, Neill, van Limbeek & Hoffman-Raap, 2007; van Hover & Yeager, 2003).

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter presents the summary, conclusions, recommendations and suggestions for further studies based on the findings from the study.

5.1 Summary

The study investigated the strategies teachers adapt for learners who are deaf at the University Practice South Inclusive Basic Schools in Winneba in the Central Region of Ghana.

Based on this, the study specifically sought to find out:

1. The instructional strategies teachers adapt to teach learners who are deaf in an inclusive school.
2. The specific areas of the curriculum teachers adapt for learners who are deaf in an inclusive school.
3. The strategies teachers adapt when evaluating the performances of learners who are deaf in an inclusive school.
4. The factors that affects strategies teachers adapt for learners who are deaf in an inclusive school.

The study was a qualitative research that employed case study as a design. The population of interest was teachers who teach children who are deaf and their head teacher at the University Practice South Inclusive Basic schools in Winneba. Data was collected using semi-structured interview and observation from a sample of ten (10) respondents, comprising nine (9) teachers who teach children who are deaf and the

head teacher who were purposively sampled. The data was analyzed thematically and the following findings were observed:

1. On the instructional strategies teachers adapt in teaching learners who are deaf in an inclusive school, the study revealed that teachers used strategies such as multi-sensory approach during teaching. It was also found that the teachers allow additional time on task. Lastly, the teachers adjust the pace of delivery during teaching. Besides, on effects of instructional adaptation on learners who are deaf the result of the study revealed that it helps learners who are deaf to gain deeper understanding and retention of the concept taught. Besides, it also made them feel belongingness in the classroom and the school as a whole.
2. The result of study revealed the specific areas of the curriculum adaptation teachers made when teaching learners who are deaf in inclusive school which include the use of alternate materials in their teaching. They also endeavour to make reading passage very easy to aid effective reading and comprehension. The study also revealed that the teachers use multi-sensory approach in teaching.
3. Strategies teachers adapt when evaluating the performances of the pupils; the study revealed that teachers employed various kinds of strategies such as portfolios and checklist as well as non-letter grading during assessment procedures. They also ensure that extra time is given to the learners who are deaf during assessment to enable them finish the task at hand. The teachers also used different methods of assessment such as document analysis, drawing and colouring to ascertain their level of performance of the learners.
4. On the factors that affects strategies teachers adapt for learners who are deaf in an inclusive school, the result of the study revealed that the problem of

inadequate qualified personnel affects the adaptation process. Besides, the adaptation process is also beseeched with the problem of large class size as well as limited time factor.

5.2 Conclusions

The study concluded that when instructions are adapted to cater for the learning needs and the learning styles of learners who are deaf, it enables them to cope up with the achievement targets of the class and the general curriculum. Teachers were always using the same instructional strategy's for almost all the lessons and subjects because they were limited to few adaptation strategies due to inadequate in-service training.

Teachers mostly adhered to the activities and the content of the general curriculum and the teacher's manual without considering the specific and unique learning needs and learning style of the learners who are deaf in the class because they are sometimes duty-bound to fulfil the requirements of the general curriculum, it was also observed that few resource materials were available for teaching and learning.

Teachers use assessments as a competition among students and they focus largely on written work, this sometimes exposes the academic weakness of the learners who are deaf in the class.

The researcher wishes to conclude that teachers and other stakeholders of the school should try and sustain the existing adaptation strategies if not to improve upon it. Again, teachers should strive to explore and use other adaptation strategies that will be beneficial to all learners in the class. Furthermore, teachers should also endeavour to adapt the extracurricular activities in the school such as sports and culture so that learners who are deaf can improve upon their social interactions. Again, school

authorities should organize regular in-service training, refresher courses and sensitization programmes to aid teachers gain better insight of adaptation to improve upon the academic performances of learners who are deaf in the school.

5.3 Recommendations

The following recommendations were made in the light of the findings of the study:

1. Teachers teaching in inclusive schools should continuously use strategies such as multi-sensory approach, allow additional time on task and adjust the pace of delivery during teaching so as to help children who are deaf to gain deeper understanding and retention of the concept taught.
2. Teachers should endeavour to adapt specific areas of the curriculum such as the use of alternate materials in their teaching, making reading passage very easy to aid effective reading skills and the use of multi-sensory approach in teaching in order so as to enhance adaptation of teaching process for children who are deaf.
3. Teachers should continue to adapt strategies such as the use of portfolios and checklist as well as non-letter grading during assessment procedures and they should also ensure extra time is given to the children who are deaf during assessment to enable them finish their task when evaluating the performances of the pupils who are deaf.
4. The head teachers should endeavour to encourage teachers to make adaptation strategies a reality and profitable for pupils who are deaf in inclusive schools.

5.4 Suggestions for Further Research

The current research was based on the strategies teachers adapt for learners who are deaf at the University Practice South Inclusive School in Winneba, Ghana.

It is suggested that future studies should be conducted in the following areas discussed:

- i. The environmental adaptation teachers make for learners who are deaf at University Practice South Inclusive Basic Schools in Winneba, Ghana.
- ii. The competence of regular teachers in adapting the curriculum for learners who are deaf in selected schools in Ghana.
- iii. The perception of teachers on adaptation of extra-curricular activities for learners who are deaf at the University Practice South Inclusive Basic School in Winneba, Ghana.



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APPENDICES

APPENDIX A

Introductory Letter



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

P. O. Box 25, Winneba, Ghana
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sped@uow.edu.gh

6th July, 2020

TO WHOM IT MAY CONCERN

Dear Sir,

LETTER OF INTRODUCTION: MS. YVONNE DEBRAH

I write to introduce to you, **Ms. Yvonne Debrah** an M.Phil student of the Department of Special Education with index number 8180150025.

She is currently working on her dissertation on the topic: "**Strategies Teachers adapt for learners with Hearing Impairment at the University Practice South Inclusive Basic School in Winneba in the Central Region of Ghana**". She needs to administer questionnaire and do observation from your school.

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

Thank you for the consideration and assistance.

Yours faithfully,

DEPARTMENT OF SPECIAL EDUCATION
UNIVERSITY OF EDUCATION
P. O. BOX 25
WINNEBA

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



APPENDIX B

Semi-Structured Interview Guide

Semi structured interview guide scheduled for teacher who teach learners who are deaf

1. What are the instructional strategies teachers adapt to teach learners who are deaf in an inclusive school?

In your view how do teachers adapt instructional strategies to teach learners who are deaf in an inclusive school?

Prompt: What other instructional strategies do teachers adapt?

Can you tell me more?

Any other ways teachers adapt their instructions?

2. What specific areas of the curriculum do teachers adapt for learners who are deaf in an inclusive school?

What are the specific areas of the curriculum do you adapt for learners with hearing impairment in school?

What other areas of the curriculum can you think about?

Prompt: Any other effect you can think of?

Can you tell me more?

3. What strategies do teachers adapt for performance evaluation of learners who are deaf in an inclusive school?

In your view what techniques do teachers adopt when evaluating the performances of learners who are deaf in an inclusive school?

b. What other strategies can you think of?

Prompt: any other strategies?

Can you tell me more?

Any other strategies you can think of?

4. What factors affect teachers' adaptation strategies in teaching learners who are deaf in an inclusive school?

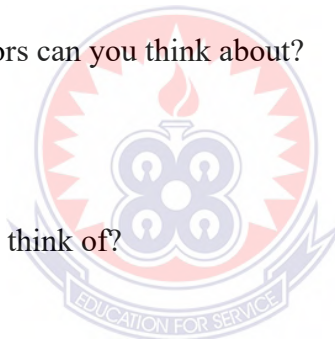
What are some of the factors that affects strategies you adapt for learners who are deaf?

What other factors influence you in your attempt to adapt lesson to children who are deaf in your school?

Prompt: What other factors can you think about?

Can you tell me more?

Any other factors you can think of?



APPENDIX C

Observation Guide (Field Note)

Observation in the classroom during instructions

- Teachers modify their instruction during teaching in the classroom
- Teachers adjust their pace of lesson delivery during teaching
- Teachers modify their writing during teaching
- Teachers modify their teaching and learning materials during interaction
- Teachers modify the sitting arrangement for learners during instruction

Observation in the classroom during evaluation

- Teachers modify their test items during evaluation
- Teachers give extra time to pupils who are deaf during evaluation
- Teachers use non letters such as role play during evaluation
- Teachers modify the sitting position of pupils who are deaf during evaluation

