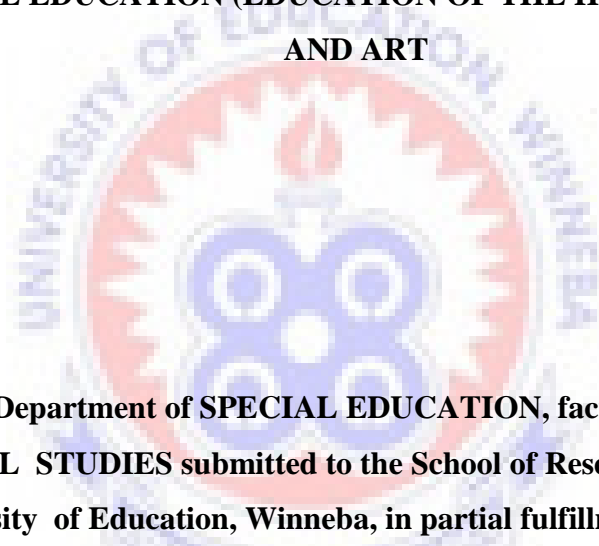


**ANALYSING READING COMPREHENSION SKILLS AMONG BASIC SIX
PUPILS WITH HEARING IMPAIRMENT AT STATE SCHOOL FOR THE
DEAF, ADJEL-KOJO, ACCRA**

By

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**B.ED SPECIAL EDUCATION (EDUCATION OF THE HEARING IMPAIRED)
AND ART**



**A Thesis in the Department of SPECIAL EDUCATION, faculty of
EDUCATIONAL STUDIES submitted to the School of Research and Graduate
Studies, University of Education, Winneba, in partial fulfillment of the requirement
for the award of Degree of MASTER OF PHILOSOPHY, SPECIAL EDUCATION
of the UNIVERSITY OF EDUCATION, WINNEBA**

AUGUST, 2010

DECLARATION

STUDENT'S DECLARATION

I, Joshua Prince Abror, hereby declare that, except for reference to other people's work which have been duly cited, this dissertation is the result of my own work and it has neither in whole nor part been presented elsewhere.

Signature: **Date:**.....

SUPERVISOR'S DECLARATION

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

Principal Supervisor: Professor Grace Yawo Gadagbui

Signature: **Date:**

The purpose of this study was to understand the factors that militate against the Reading Comprehension Skills of Basic six (BS6) pupils of the State School for the Deaf at Adjei Kojo, Accra. A sample of 40, which included 19 teachers and 21 pupils who were selected using the simple random sampling and the purposive sampling techniques respectively, participated in the study. Questionnaires were used to collect data from the teachers, while actual intervention strategies in the form of organizing reading lessons were carried out with the pupils. Data was analysed using descriptive statistics. Frequency of scores and percentages were also calculated. The findings emphasized that, overdependence on class text books, lack of adequate sight vocabulary, pupils' inability to use sign language effectively and ineffective teaching approaches contributed to low level of reading comprehension among the pupils. However, the findings revealed that, the Language Experience Approach was found to be a very useful strategy in helping the pupils to overcome their reading comprehension difficulties.

To God be the glory. Great things He hath done! This work is dedicated to the Almighty God, for His faithfulness, protection, blessings and sustenance throughout the years of study in the University. Also to my dear wife, Berthar Adjei , my daughters Sussan and Ivy for their prayer and support. Also, to my mother Comfort Agudu who contributed greatly to my education.



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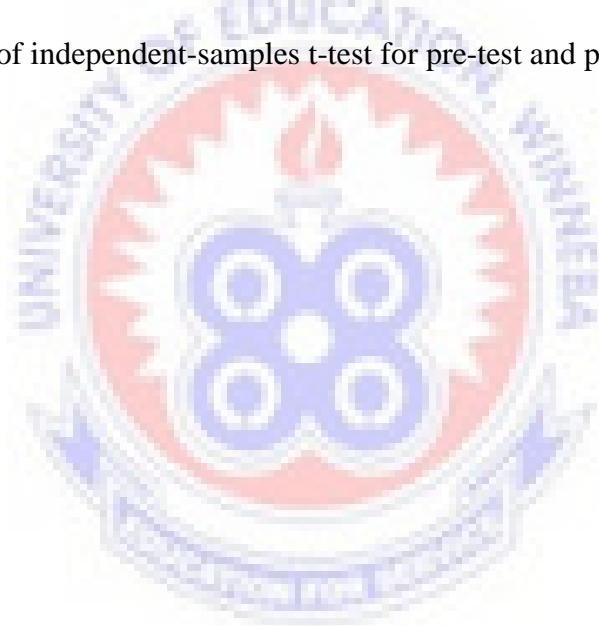
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CHAPTER ONE

INTRODUCTION

1.0 Background to the study

In educating the child to read, the expertise of teachers of reading process is as important as students' background knowledge and proficiency in reading. Reading proficiency, according to Tabi-Arhin (2004) refers to the ability of the reader to adopt variety of strategies to make meaning out of reading materials. Boison (2008) also explains reading proficiency as the stage at which children acquire fluency in reading, read with confidence and are able to use many strategies to read a variety of text for various purposes. Reading proficiency involves the readers ability to comprehend what they read, using their background knowledge and skills to make reading more functional. Thus, Tabi-Arhin (2004) explains that readers who are proficient readers exhibit literal skills, interpretive skills and critical reading skills. Literal skills are developed when readers are able to answer factual questions whose answers are directly stated in the passage. Interpretive skills, as the name implies, involves ability to answer inferential questions that is questions whose answers are not directly stated in text. Critical skills involve the ability of the reader to identify relevant and irrelevant information or understand the author's line of thinking. Put together, one can say reading proficiency entails the need for the reader to decipher that is to discover information and understand the written, printed or drawn materials using the skills and knowledge. In other words, to discover the meaning of something/materials read.

In Ghana and in other countries too, one of the expectations of society about a person who graduates from the formal school system is the ability to read irrespective of the person's condition (that is being disabled or non-disabled).

In view of this, reading has become so much important in the school system that, during the early years of children, both parents and teachers become keen in ensuring that, pupils' reading and writing skills are developed at the expected age and level. A deviation from this expectation poses serious challenge to the education of the child. It must be noted that, in attempt to help all pupils to read, children learn at different paces and some fall noticeably behind their peers. This is because; reading in itself is a complex activity and can be looked at differently. Reading can be seen as a visual-auditory task that involves obtaining meaning from symbols such as letters and words which are sometimes accompanied with pictures. Due to its complexity, many authorities such as Brabner (1969), Carmine, Silbert and Kamaenui (1990) all cited in Mercer and Mercer (1989) have raised various reasons for children's difficulties in acquiring the skill of reading. These views are general and apply in one way or the other to all children, including the hearing impaired. Pupils' difficulties in keeping space on pages, poor language and short memory, congenital, genetic and environmental problems among others are few attributes of the problems especially to the hearing impaired. Teaching reading successfully on the above basis demands a lot of strategies. This is explained with the fact that, reading is a holistic act, despite the fact that, it is sometimes characterized by specific skills such as discriminating letters, identifying words and understanding specific vocabulary. However, performing the sub-skills one at a time

does not constitute reading. Reading thus takes place only as an integrated performance. Like any other performance, excellence comes with participating in the activity over a long period of time.

Another fact to bear in mind too is that, in the classroom, although many children face reading difficulties, it is not easy identifying them early enough by teachers for intervention as many teachers adopt the choral, 'read after me' approach in teaching reading. These difficulties become more compounded when the child is identified as having hearing impairment. With such condition, reading becomes more difficult for both the teacher teaching and the learner learning to read. Here, the effort to help the child read becomes the sole responsibility of the teacher as the home cannot support the child because of communication difficulties encountered in the home. One thing worth noting about reading is that, understanding of the text is very crucial. The prior knowledge of students is intimately connected with their ability to derive meaning from text. This means that, understanding a message that is made up of words should require some degree of familiarity with those words. Durkin (1966) explains that, students with well-developed vocabulary tend to be good in reading with understanding and that, those with limited knowledge tend to be poorer in comprehension.

This may be true for children with hearing impairment since the limitation imposed on them by hearing deficit delay or even sometimes cut them off from developing oral vocabulary which is necessary for developing reading skills.

1.1 Statement of the problem

Many people, including teachers consider the teaching of reading to the hearing impaired as a task that cannot be accomplished. This is because they consider the hearing impaired as naturally incapable of acquiring the skill of reading proficiency due to their handicapping condition. This assumption leads to the neglect of making conscious effort in teaching reading to the hearing impaired, right from the early stage of their education. Consequently, children with hearing impairment encounter reading problems or challenges and generally perform poorly in all school subjects that involve reading and comprehension.

This highlights the close relationship between reading ability and academic achievement as evidenced in large percentage of pupils failing in the 2009 Basic Education Certificate Examination conducted in Ghana where a little over 50% of the pupils were able to gain admission for further studies in second cycle institutions (WAEC, 2009: Chief Examiners Report).

A child's inability to develop language, acquire enough vocabulary so as to express his/her thought, either through oral/spoken or sign language, read by combining sounds of letters to make words and subsequently form sentences are indicators of reading problems. As a result of the nature of the problem the rate of teaching and learning is compromised. Teaching and learning strategies that will be appropriate to remedy the situation are neglected.

In addition, lack of teaching and learning materials such as good reading text books, picture books that are related to the cultural background of the child to enhance children's interest irrespective of their reading abilities are the characteristics of our schools, especially schools for the hearing impaired. This can equally be said of the State School for the Deaf at Adjei-Kojo near Accra, in the Greater Accra Region of Ghana. It also appears that their teachers do not have the expertise in the use of sign language. For instance a visit to the school revealed that pupils were hesitant in pronouncing or signing some words while others skip over some words. Another reading difficulty identified was that some pupils could not identify names of some letters and therefore found it difficult to sign those words. This became evident when six pupils could not finger-spell words written on the chalkboard. Again in an exercise conducted after a reading lesson, 4 pupils out of a class of 21 were able to answer 3 out of 5 questions asked correctly as evaluation exercise.

It is therefore the intention of the researcher to analyze the existing problem of reading proficiency to find out the causes and challenges associated with the teaching of reading to the hearing impaired in the school and help address the issue.

1.2 Aim of the Study:

The study is aimed at helping Special Education teachers with special reference to the teachers of the hearing impaired at State School for the Deaf, Adjei Kodjo, Accra to be able to teach reading effectively for higher academic achievement. This stems from the

fact that, without the ability to read and understand, the hearing impaired like all other learners, cannot do well in school as academic excellence is usually based on reading for interpretation

1.3 Purpose of the study

The study seeks to:

- find the reading comprehension level of Basic six pupils.
- analyze the problems in relation to teaching reading to the pupils
- assess the availability of materials for teaching reading in the school and
- use practical demonstrations to compare the learning outcomes for appropriate recommendations.

1.4 Research Questions

The study sought to answer the following research questions:

1. What is the reading comprehension level of basic six pupils?
2. What methods and teaching materials do teachers use in teaching reading comprehension skills to basic six pupils?
3. What are the problems that the class teachers face in teaching the pupils?
4. What are the learning outcomes of the intervention in teaching reading with the basic six pupils of the State School for the Deaf, Adjei Kodjo?

1.5 Hypothesis

H₀ It is expected that pupils' level of understanding (reading comprehension) will not change significantly due to numerous problems they encounter in reading as a result of their hearing problems.

H₁ It is expected that, after a series of interventions the pupils will show a significant improvement in their ability to read and answer questions irrespective of their defective vocabulary and syntax problems.

1.6 Significance of the study

It is the belief of the researcher that the results of the research will help teachers significantly in identifying other strategies that can be adopted in addition to what they have already been using to improve reading comprehension in the school.

Besides, it will have the potential of redirecting the focus of curriculum planners to review teaching materials for teaching reading to the hearing impaired. This is very important because, with the use of the sign language as a means of learning and communication in schools for the Deaf, there is the need for their reading materials to be supported with more diagrams and pictures to offer them clues for better understanding.

The study will further be used to inform and lobby for more books so that each pupil gets a book to himself/herself to facilitate reading. Thus, interest will be generated to get other stakeholders of education such as Non-Governmental Organizations actively involved in the education of the Hearing impaired.

1.7 Delimitation

Despite the fact that, there are many special schools for the Deaf in the country, the study is delimited to the State School for the Deaf at Adjei-Kojo, Accra and focused on the Basic Six (BS 6) pupils of the school. In the first place, the school is basically a day institution and therefore, the study is to find out how this system influences pupils' proficiency in reading. It is delimited to the Basic six class because the researcher is of the hope that the pupils have spent substantive number of years in the primary school and therefore are in a transition period. More so, it is expected that pupils in Basic six should have an in-depth understanding of what they read. Again, the methodology adopted was delimited to the Language Experience Approach (LEA) for the intervention using the Basic five pupils reader, "New Gateway to English for Primary Schools".

1.8 Limitation

In carrying out this study, the researcher encountered some challenges. These include the unwillingness of some respondents to give accurate responses, absenteeism of some respondents during the intervention programme and inadequate teaching/learning materials in the school. Despite the problems, majority of the pupils were constantly present for the study to be completed.

In other instances, some teachers did not show interest in responding to the questionnaire sent to the school. This might be due to their fear of exposing their weaknesses in teaching reading.

However, after extensively explaining to them the purpose of the study, their attitudes changed and they fully co-operated, which led to the success of the study.

In addition, collecting the answered questionnaire back also posed problems. Some teachers were not met and the researcher had to visit the school on several occasions creating a lot of inconveniences for the researcher.

Despite the above limitations, majority of the pupils were constantly present for the study to be completed.



CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

In this unit, literature is reviewed under the following sub-headings.

- Theoretical framework
- Definition and concept of hearing impairment
- Definition of reading/reading proficiency
- Types of reading
- Language cue system/miscue analysis
- Reading problems and Deaf Children
- Teaching strategies in reading (LEA)

2.1 Theoretical framework

There are many theories which apply to different fields such as education, work and development. Beck (1996) defines theory as an organized system of knowledge that describes, explains and predicts behaviour. Broman (1982) observes that, in education, a theory is an idea, plan or scheme developed to explain how children learn, how they should be taught and/or what they should be taught. Different learning theories are used in the education of children. These include nativist or maturationists, instructionists, social and constructivist learning theories. Although the above theories have been enumerated to exemplify the various learning theories, two of them have been described

below: Instructionists and constructivists learning theories. However, this study will be guided by the constructivists learning theory.

2.1.1 Instructionists theory of learning

In educational context, instructionism is a term used to describe teacher-centered, outcome-driven, highly structured and non-interactive instructional practices. (DynaGloss, 1998). This theory is based on an acquisition metaphor, that is, learning is a matter of acquiring information and a transmission model. Here, the teacher instructs by transmitting facts to passively receptive students as Shabo (1997) asserts.

The primary source of information for students is the teacher who organizes and presents curriculum with maximum efficacy.

Instructionism includes such practices as lecturing, telling, showing and explaining. It is characterized by whole-group instruction, student inactivity, rewarding silence in the classroom and is based on textbook learning and rote memorization (Lefrancois, 1999).

It must be stated that, since the teacher is the primary mechanism of student learning, teacher behavior is the target of attention in evaluating learner outcome. From this perspective, failure to learn is most aptly described as failure to teach.

Another characteristic of instructionism is that, much focus is placed on detailed lesson notes preparation, teacher organization and management as well as on teacher communication and effectiveness. Thus, Instructionism is summarized as a systematic set of procedures for focusing teacher effort on :

- determining student learning requirements.

- enhancing the efficacy of the learning environment.
- monitoring student curricular progress so that instruction can be improved and corresponding learning outcomes maximized (Schweinhart and Weikart, 1997).

The main educational implication of instructionism is the emphasis on remedial teaching towards improving student learning outcomes. Advocates of remedial reading maintain that, specific skills are pre-requisite to school learning (Hallahan, Kauffman & Haslam, 1999). The goal here is to identify and efficiently teach deficiencies. For example the teacher encourages the teaching of the letters of the alphabet and their sounds as essential pre-requisite literacy skill. In contrast to this, the constructionists share a different view as found in 2.1.2 in the proceeding section.

2.1.2 Constructivists learning theory

In the opinion of Fosnot (1996), constructivism represents a paradigm shift from education based on behaviourism to education based on cognitive theory. Constructivists assume that, learners construct their own knowledge on the basis of interaction with their environment. This theory is defined in terms of the individual's organizing, structuring and restructuring of experience. They believe that, young children have some understanding of what the world is like. This understanding helps them interpret the information they receive, while new information may also modify their understanding in an active process that continues throughout each individual's life. This theory has

influenced reading and language education especially in programmes of emergent literacy.

Linguagem and Ensimo (2004) as constructivists, explain that, people produce information and process it as mechanical activity without the awareness of the complex cognitive processes and mechanisms underlying it. For instance, they explain that in order to make the world around us more meaningful, we have to build a 'mental home' for every new input captured. The same occurs with reading and that is, in order to achieve comprehension, readers have to reconstruct and recognize a text mentally, linking new information to that already stored in memory, forming new coherent mental pictures. However, processing can be constrained by different factors such as reader's individual cognitive characteristics as well as by some text properties.

Thus, through good restructuring and organization, finding relation between words, sentences and paragraphs, for example can facilitate processing and comprehension. The faster the linking between text elements and memory representations, the less probability for a breakdown in the process and thus in comprehension (Gersten, Fuchs, Williams & Baker, 2001).

Attempting to describe how cognitive processes may work in the construction of comprehension, Gersten et al (2001) developed what he called the Structure Building Framework. According to this theory, to comprehend text, readers have to first lay foundations for new input (words, sentences) . To him, this stage may be slower because it represents the initial stage in the construction and organization of mental structures

requiring more time for integration. After the foundation has been established, the incoming information is mapped onto pre-existing memory nodes, forming new structures. In this case, the more overlap between the new input and the previous stored knowledge, the stronger the connections, thus, making it easier for the retrieval of concepts. However, if the incoming input does not fit or cohere with any stored nodes, there is shift in the mechanism, which starts the mapping process again. To the proponents of the theory, play and the arts have an important function in children's construction of knowledge and ability to read. There have been many researches to support the relationship between reading comprehension fluency. One of such studies was carried out by Osterholm (2004). Researching on the topic "Reading comprehension perspective on problem solving", it became evident that, the relationship between reading comprehension and problem solving is complex. Firstly, the reading process can affect the problem solving process. Secondly, it came out that, the ability of the reader to understand a reading material and solve a problem depends on prior experience of the reader.

Studies have also shown that, the performance in solving reading problems can be negatively affected by a higher complexity of the language used in the problem text (Abedi & Lord, 2001; Jordan & Hanich, 2000). From the discussion, it can be stated that, problems that need to be solved through reading can arise in different ways but attention needs to be paid to problems with specific question in a particular subject area . This is because, the ability of the reader to comprehend depends on the mental representation

created by the text. These involve three processes; that is, reading the problem, understanding the problem and solving the problem.

According to McKenna and Robinson (1990), readers read to acquire what is termed content literacy skills. They refer to content literacy as the ability to read, understand and learn from texts from a specific subject area. They also distinguished between three components of content literacy; that is general literacy skills, content specific literacy skills and prior knowledge of content. Both the general and the content specific literacy skills can be assumed to refer to some more general type of knowledge that does not depend on the detailed content of a specific text. This type of knowledge is primarily used to create a text base in the mental representation. Thus, Webster (1986) asserts that, the hearing impaired experience reading comprehension difficulties, since they lack the skill of both content and knowledge literacy skills.

Empirically, studies based on analysis of reading performance data from 475 grade 5 students in Peru (Jorge, 2010) shows that, reading fluency in comprehension are correlated: fluent readers are more likely to understand what they read than non-fluent readers. This is because, the strength of the fluency.

Comprehension relationship depends on the level of the fluency, the difficulty level of the question and the social characteristics of the school.

2.2 Definition and concept of hearing impairment

Hearing Impairment, according to the conference of Executives of American Schools for the Deaf, is a generic term indicating a hearing disability which may range in severity

from mild to profound. It includes the deaf and hard of hearing. A deaf person is one whose hearing disability precludes successful processing of linguistic information through audition with or without a hearing aid. A hard of hearing on the other hand refers to a person who generally with the use of a hearing aid has a residual hearing insufficient to enable success for processing linguistic information through audition.

These situations can be categorized according to the time of on-set-that is pre-lingual and post-lingual. Pre-lingual deafness occurs early in the life at an age prior to the development of speech or language. Post-lingual deafness occur at an age following the development of speech and language.

According to Kirk, Klebhan and Lerner, (1993) the term hearing impairment has different meanings for different authors. For some, a hearing impairment describes a slight to moderate hearing loss. Moores (1987), use hearing impairment to describe any hearing loss, mild to severe. Quigley (1990), use the term hearing impairment as a generic term to refer to all types, causes and degree of hearing loss. However it must be noted that, the severity of hearing impairment is determined by the individual's reception of sound according to the degree of intensity as measured by decibels (dB).

For instance, according to audiologists, a loss of 26 dB is considered a hard of hearing, and a loss of more than 71 dB is considered severe and profound while a loss proceeding 90 dB is considered deaf, a term which is wrongly used to refer to all category of hearing impairment (Moores, 1987).

Individuals with hearing impairment require special educational service because of some type or degree of hearing loss. Reynolds and Birch (1977) state that, fundamental lack or absence of the most element concept of language that is core of the educational problem. According to Gadagbui (2002), the concept of hearing impairment in human beings has five main senses. Those that help enormously in learning situations in the classroom settings are the sense of sight/seeing and hearing/audition. She explains that, most things we learn to do come through what we see and what we hear. Hearing is a very important sense so far as human life is concerned. Many biologists and psychologists believe that, apart from sight, hearing in the life of human beings have manifested in various immeasurable dimensions.

As early as a child is born, his auditory sense begins to function through the activity of the receptor cells, the cochlea and the auditory nerves, including the hearing centres in the brain. The child begins to hear sounds, enjoys auditory stimulation and takes delight in listening to sounds of various degrees. The child develops awareness of the world of sounds. This leads on finally to her language development and the use of oral symbols to rules and conventions of the linguistic code of the mother society. It is imperative therefore that, if a child's auditory sense cannot function properly due to impairment, that child cannot develop oral language.

Thus, a person who has defective sense or cannot hear at all may be delayed in learning skills needed for safe life. Gadagbui (2002) continue to say that, individual's intellectual ability is also delayed to an appreciable extent in the presence of hearing impairment.

This is because the presence of hearing impairment in any individual usually places some limitation on the social, educational and cultural performance of that individual. Despite this limitation, many hearing impaired adults live richly meaningful and socially productive and fulfilling lives now. Those who do so can be increased through better education. Most hearing impaired children can be taught to read silently, to write, to spell, to master mathematics and to achieve in other school subjects as well as other children of their age.

From the above point of view of education, pupils with hearing impairment have three kinds of learning problems that are unique to them and that call for special teaching. These are language, communication and substitution.

Language: The hearing impaired has the problem with language in acquiring enough understanding about language to be able to use it in thinking and in gaining proficiency in communicating it with others.

Communication: They have problems with communication which involves learning to carry on efficient and effective communication with other persons with hearing handicaps and with the general run of hearing persons.

Substitution: Learning to use vision and other senses to compensate for not being able to hear environmental sounds. Despite these difficulties, most hearing impaired children can be taught the three kinds of learning problems they have. This is because modern teaching know-how is making that possible for hearing handicapped children while they even attend regular school classes.

2.3 Definition of reading:

Reading can be defined in several ways. Among these definitions, different aspects of reading are listed such as speaking out all words given on a page or interacting with the text to construct meaning. Goodman, Watson and Burke (1987) define reading as the process of problem solving and meaning construction. Here readers construct meaning while they are thinking about what the author tries to tell. During this construction, they use their language, their thoughts and their background knowledge.

According to the World Book Encyclopedia (1994), reading is the act of getting meaning from printed or written materials. Reading is basic to learning and one of the most important skills in everyday life since it provides the key to all kinds of information. It enables us to learn how to build or fix things, enjoy stories, to discover what people believe, do and develop ideas and beliefs on their own.

In its simplest term, reading means recognizing letters and groups of letters as symbols that stand for particular sounds. The sounds in turn form words that express ideas in written or printed form.

The Collins Dictionary of the English Language (1993) on its part defines reading as the act of comprehending the meaning of something written or printed characters. This means that reading is the act of understanding of what is written not only pronunciation of the words. Relating the above definitions to the hearing impaired child in the classroom, reading involves the use of sign language to interpret what is in text. Thus Gadaghui (2001) describes reading as the art and science of getting meaning from printed

or written words. She further explains that, reading is an art because it deals with the orderly arrangement of the alphabets for meaning.

However, Taylor (1991) says that, reading ought not to be seen as merely a perceptual and decoding activity. It is the process of extracting meaning from printed or written symbols which involves a complex kind of working of the mind identified with thinking. Hairs (1962) also added that, reading involves sense perception of symbols with meaning and reading to it, with appropriate thought feelings and motor reaction.

From all the above definitions and explanations given to reading by various authorities, reading can be seen as an activity which needs to be developed both consciously and unconsciously. However with the language deficit of the hearing impaired, more conscious effort is needed than unconscious learning to read.

2.4 Reading Proficiency

Reading proficiency can be explained as the stage of development where the reader is able to apply variety of strategies to make meaning from written or printed text. Mercer and Mercer (1989) maintain that, a child who has developed reading proficiency attains fluent reading and is able to read grade level material in the range of 100 to 140 words a minute with two or few errors. It is not only the ability to read fluently but also, it entails the ability to answer comprehension questions, answers which are found directly from read material and also making inference by interpreting what is read.

In reading education, the expertise of teachers of the reading process is as important as students background knowledge and proficiency in reading. Readers comprehend what they read using their background knowledge and reading skills. They need to decipher, discover information and understand the written materials using these skills and knowledge. It is therefore necessary for teachers to evaluate the text that are deciphered and comprehended by the readers so that they can develop students' skills in reading comprehension (Umit Girgin, 2006). Children develop proficiency in reading by becoming involved with print in situations that are genuinely useful to them, by reading and writing things that are important to them. This implies that, reading programs must include opportunities for students to read and to write about their reading. Goodman, Watson, and Burke (1987) explain that, during reading where children attempt to make meaning out of printed or written material, they use their language, their thought and other background knowledge. In order to develop the crucial elements of reading comprehension, that is decoding and understanding, reading strategies should be taught in a specific sequence and these strategies should later be combined so that the comprehension process is realized.

Research has revealed that hearing impaired children's knowledge of language is not the same as their hearing counterparts. Thus students who have serious hearing problems at the pre-acquisition stage of language are confronted with problems while they are learning to read (Girgin, 1999; Quigley & Paul 1985).

2.5 Types of Reading

Everybody has reading ability. That is people who have been reading for a long time can understand their reader faster than someone who is learning to read. A good reader applies different techniques depending on the type of material and purpose of reading.

Reading can be categorized into recreational reading, study-type and survey reading.

Recreational type: The recreational reading can provide hour after hour of enjoyment. When reading a story purely for pleasure, people read in a relaxed manner and in uneven speed. They may skim through the story until they come to a scene, a description or even a phrase that is especially pleasing and satisfying. The portion may be read slowly and then re-read to be enjoyed, appreciated or considered.

Study-type Reading: This type of reading usually requires the reader to pay close attention to the text. Here the reader looks for significant ideas and details . He then tries to study to understand how those ideas and details relate to one another and how they fit in to the general topic. Reading speed tends to be slower than other types of reading. It is very useful for students in doing academic work or studying to make notes for examinations.

Survey reading: This involves covering a large amount of text to get a general idea of its content. In such cases, the reader may first skim the material to understand the main point, and then look for a word or phrase. If the purpose is to find a particular fact or example, he may begin by skimming the text. The reader may then read portions of the text that are beneficial very carefully for the desired information.

2.6 Language cue system / miscue analysis

In evaluating reading ability of learners, the language cue system could be adopted. The language cue system is explained as a process of readers trying to understand the sentence construction process through asking questions while reading (Goodman, 1995). It involves analyzing the sentence structure taking into consideration the syntax, semantics, pragmatics and graphophonics which have been explained in the proceeding paragraphs.

Readers' syntax helps them to guess which words can be suitable for a particular sentence. For example when readers think there is a noun after the word they do not know, they guess the unknown word can be a verb. However, as Goodman states, this operation is not done consciously. Readers, as natural and proficient speakers, make improvisations without saying about these operations using their knowledge on grammatical rules. Semantics help readers select words by checking other words within the statement/sentence structure and relating them to the subject in a narrative.

Pragmatics narrows down the choices made by the reader in accordance with the content of the text along the social implications of characters in the text. The graphophonics system is used to check the first letter and subsequent ones to see how the words have been combined for pronunciation purpose. Thus the language cue system involves using everything the reader knows from the beginning of a narrative, check the letters and sentence construction for understanding purpose. With proficient readers all decisions are made simultaneously within a short span of time. Davenport (2002) explains that,

readers use the strategies of confirmation, inference and guessing along with the language cue system of the language, which comes out by itself and appears all of a sudden with constant practice.

Goodman et al. (1987) pointed out that, evaluators can best do this when they observe children interacting with text and assess what they do to find out miscues.

By miscue, they mean word read differently from the original during oral reading, including words that are not in the text, skipping words and replacing the words in the text with other words. Goodman explains that, miscue done during oral reading are done during silent reading as well. However it must be emphasized that, no matter how proficient a reader may be, all readers can make mistakes.

There are two basic principles in miscue analysis. First, all readers make mistakes and differences in reading are not always wrong. Secondly, miscues give information about reader's prior knowledge, past experiences, undertakings to construct meaning from the text and active reading strategies they use.

It also gives important information about readers' thinking and use of the language's cue system. The system helps readers to understand how reading is realized and control the meaning construction process through asking questions while reading.

This system involves: syntax – a system regarding the structure of language and involves the grammatical rules along with the information about sequencing words in order to construct meaningful sentences.

Semantics - The meaning system of language and provides information about meaning of words, phrases and sentences along with the ways these meaning can change in different situations.

Pragmatics - Involves the language which is accepted and expected in specific situations

Graphophonics - A system which involves information about relationship between the letters, sounds of those letters and the form of the letter sequence in words. (Goodman et al 1987)

From the above it can be said that it is necessary and crucial that readers focus on the meaning of the text. In order to realize this, all cue systems should be processed in harmony and provide readers with information in a balanced way.

2.7 Reading Problems of Deaf Children

Most reading problems can be observed when a child attempts to read out loud (sign). The first evidence, according to one Dr. Reid Lyon, is a laboured approach to decoding or, 'sounding out' unknown words or unfamiliar words (Hoover & Fabian, 2000). Reading then becomes hesitant and characterized by frequent starts and stops and inability to recall what has just been read. According to Hatcher and Robins (1981), cited in Amoako-Gyimah (1998), essential skills for learning to read seem to be those related to understanding of English syntax. According to them, good readers use syntax in order to conform and check the meaning of sentences, been able to read and re-read ahead when the sense has been lost.

This is because syntax provides the organizing structure of language which relates sound to meaning. Because the deaf child has less exposure and experience in meaningful interaction with language, he/she is more likely at developing rules of syntax. Webster and Word (1989) as cited in Amoako-Gyimah (1998) however state that, Deaf children do not develop syntax along the same line of hearing children. They explain that deaf childrens' lack of syntax is not only due to their lack of language input, but also due to the fact that they develop language from different set of taught experience.

Ling (1976) as cited in Black (1971) suggest that, the speech of deaf children differ from 'normal' children in all regards. He relates this malfunctioning to phonation, respiration, rhythm and route. Webster (1986) also maintains that, deaf children often interpret clauses as though they follow a subject, verb, object pattern. This means that some deaf children may misinterpret more complex structures.

Snowing (1987) on his part says that, the prominent view to date is that, problems associated with reading difficulties involves phonological difficulties originating within spoken process. A child with reading difficulties or language problems may experience some or all of the following difficulties: word-naming, word pronunciation, jumbling words, poor letter recognition, poor use of syntax, sequencing (visual difficulties and auditory sequencing) and others.

Mercer and Mercer (1989) in their view assert that, because reading problems stem from many factors or causes and reading problems is so complex, many difficulties exist. To them reading problems can be classified into :

- faulty word identification and recognition

- inappropriate directional habits.
- deficiencies in basic comprehension abilities
- deficiencies in basic reading skills
- deficiencies in ability to adapt to reading needs of content fields.
- deficiencies in rate of comprehension and
- poor oral reading.

Any of these problems may be associated with reading difficulties of deaf children. As Bearch (1993) explains may have bearing on identification period and acquisition of reading skills. To him, the best predictor of reading achievement at ages seven and eleven was the number of letters or words a child can identify and their skill of writing their names and copying words at the nursery stage. He believes that, there is reason for believing that, it is likely that knowledge of letters does bear a relationship to later reading achievement and the reason is the ability to recognize letters is an important aid in the development of word recognition for reading.

Johnson (2001) states that, deaf children do not spend enough time in school reading. Moreover the nature of the interaction between ‘deaf students’ and their teachers is different from that between hearing students and their teachers more especially where the teachers have difficulties in expressing themselves to the hearing impaired.

2.8 Teaching strategies in reading (LEA)

In the real sense of teaching the hearing impaired, argument over the use of oral

education as against manual education in the early 1960s emerged. However, Conrad (1979) recorded limited attainments in speech and lip-reading, reading and writing and capacity for thinking. Having revealed the hearing impaired's difficulties in acquiring oral reception, internalization and expression of language, Conrad advocated for the use of sign language as a means for teaching the deaf.

He asserts that:

Sign language can provide an easily learned mother-tongue which may serve not only a communicative function but much more important, it may preserve and develop the crucial neural organization for language upon which second language learning must be based (Conrad, 1979 p. 284).

While accepting these facts Lionel and Edwards (1987) advocated for combined communication through the use of sign language, finger spelling with lip-reading as a means of enhancing reception and understanding of English language. Thus, researches support the use of oral and manual media in teaching the deaf. This led to the development of total communication (Jonassen, Davidson, Collins, Campbell & Haag, 1995). With this, issues on method, skills, equipment for teaching reading and appropriateness of instructional materials are necessary. For example the hearing impaired needs hearing aids and reading materials which are appropriate to age and vocabulary level, interesting and culturally based. Multi-sensory (motor kinetic placement) approach and augment with listening-speaking, reading method must be used to cause meaningful reading.

Gadagbui (1998) enumerated the following as approaches to teaching reading to the communicatively hearing impaired children. Reading should be integrated with other

subjects and other activities such as playing, story telling, drama and excursions as children love stories told by adults. This goes with visual aids which could be in the form of television made manually from wood and attractive pictures for insertion and being rolled during story telling. If children are reading ready and are able to identify the symbols, then the teacher can use a flip over or chalkboard to write target words or sentences highlighting the story as being told.

Pointing to these words and repeating them constantly help in meaningful association of words and short phrases being treated. As a way of emphasis, pupils can :

- Be encouraged to discuss the story through teacher-child interaction, peer-peer, group discussion and drama to enhance memory and comprehension.
- Be encouraged to tell their experience at home, on their way to school, in a language that is comprehensive to all in the classroom. In addition, teachers should start with experience that the children have in common such as a visit to the market, post office or shopping centre and making sure that the children understand the target words which are put on the chalkboard for identification, meaning, naming, spelling and other related activities. Again, children need to be cued in if there should be a change in topic so that they understand that a new topic is to be initiated.

In recent times some reading approaches in use in the teaching of the hearing impaired to read, as evident in Luetke Stahlman and Luckner (1991), include the use of the Phonic Method, Language Experience Approach (LEA) and Reciprocal Teaching.

The Phonics approach is a method in which the learner relates letter to sounds for word recognition. For example /K/ sound for words such as 'cat', key, kite etc.

Heilman (1967) outlined the major phonics approach as

- Auditory discrimination of speech sounds in words
- Written letters are used to represent the speech sounds
- Sound consonant in initial and final positions in words
- Consonants which are blended
- Vowels sound-short, long, digraph
- Syllabication and accent, and
- Silent consonants such as honest, hour etc.

Strickland (1969) explains the LEA as a method which begins with the learner's language which is utilized as a material for reading. Mercer and Mercer, (1989) advocate that, LEA is ideal for teaching beginners and as a remedial approach to readers with reading difficulties. In the LEA some of the activities include:

- Teacher guides children in writing experiences.
- Teacher helps children to share information through group discussion.
- Ideas are written on chalkboard
- Pupils are supported to read their own sentences
- Skills of capitalization, punctuation, spelling and grammar are emphasized as post reading activities. Reciprocal teaching consists of modelling the desired

reading behaviour for students with the view of leading them through various reading tasks.

2.9 Reading Comprehension Skills

During remediation as the study involves, reading comprehension skills are taught in the context of meaningful material. Guthrie, Schafer and Huang, (2001) suggest that, as students read, the remedial teacher directs the reader to establish connections between what is known and what is encountered in the text. Here, oral discussions provide definitions and activate background knowledge. Students are taught to paraphrase, verify understanding of read text and re-read portions where ideas are found. The teacher questions the reader in terms of what is important and encourages inference, elaboration, synthesis of information read and predicting outcomes. It must be emphasized that effective reading comprehension, according to (Golberg, 1992), begins with extensive teacher explanation and modelling of strategies, followed by teacher and pupils application of ideas learnt.

To enhance the effectiveness of reading comprehension, enhancements such as illustrations, concept maps, diagrams, displays semantic feature analysis, and mnemonic ie a word, sentence, poem that helps you to remember something (e.g. pictures which are developed by both the teacher and pupils are very essential.)

2.10 Summary

The chapter dealt with existing literature on the topic under discussion, thus analyzing reading proficiency among Basic Six Hearing Impairment at the State School for the Deaf, Adjei-Kojo near Accra in the Greater Accra Region of Ghana.

The study is guided by the constructivists learning theory, which emphasizes a shift from instructionists view of learning to learner centered. This is from teacher-centered approach to learner centered, (Fosnot, 1996). The constructivists assume that, learners construct their own knowledge on the basis of interacting with their environment and therefore base their learning on what they experience in life. It is based on the fact that, learning becomes effective not only through conditioning or reinforcement but on understanding of what they do. The study explored problems usually encountered by the Hearing impaired and methods that could be used to improve the reading ability of the pupils. The methods include the Language Experience Approach and Reciprocal teaching which are not generally used by teachers of schools for the deaf. This is because teachers rely on their experience of teaching in general rather than applying specific methods that will be more beneficial to the Hearing Impaired. It is upon this basis that, the research is based on the constructivists learning theory that encourages learners to develop their cognition by actively getting involved in the learning situations.

CHAPTER THREE

METHODOLOGY

3.0 Introduction:

This chapter presents the methodology used in the study. It is presented under sub-headings:

- Research Approach
- Research design.
- Population.
- Sample and sampling technique.
- Instrumentation.
- Procedure for data collection, and
- Data analysis.

3.1 Research Approach

In this study, quantitative and qualitative approaches were adopted. According to McMillan and Schumacher (1997), a quantitative approach is the use of numbers to represent data collected for a study or investigation. Qualitative on the other hand, refers to research investigations of the quality of relationships, activities, situations or materials and data is collected mainly in the form of words or pictures and seldom involve numbers (Fraenkel & Wallen 2002). With the quantitative and qualitative approaches, questionnaires, interview and observations for data collection in the form of figures and words were considered appropriate (McMillan and Schumacher, 1997).

3.2 Research Design

The researcher used the quasi-experimental Pre-test, Post-test design. The quasi experimental pre-test, post- test design, according to Ary, Jacobs and Razavieh, (2002) is an approach that is used when the researcher cannot exercise full control over the scheduling of experimental condition nor the ability to randomize the selection of participants. The researcher decided to use this approach because under the school setting, it was not possible to select part of the class leaving the others. Ary *et al.* (2002), quoting Campbell and Stanley (1998) explain that, the quasi experimental studies are "well worth employing where more efficient probes are unavailable," yet the design permits the researcher to reach reasonable conclusions even though full control is not possible.

3.3 Population

All the 266 pupils at the state school for the Deaf at Adjei Kojo, Accra constituted the population of the study. Furthermore, a total of 30 teachers teaching from Primary to JHS in the school were also included in the population. Gorard (2001) suggest that, population is the group, (usually of individuals) to whom a researcher wishes to use the results to generalize and from which sample is collected.

3.4 Sample and Sampling techniques

For efficiency, accuracy and convenience, the researcher limited the research to only one class in the school. Basic six (BS6) class was sampled out of the fourteen classes in the

school for the study. In all a total sample of 40 participants, made up of 19 teachers and 21 pupils were involved in the study. In selecting the basic 6 class of 21 pupils, random sampling procedures were used. This class was selected because it was a transitional class to the Junior High School and there is the need to assess their reading preparedness and proficiency which is very necessary to perform well in the Basic Education Certificate Examination (BECE).

In case of the teachers, the simple random sampling technique was used. The simple random sampling is a procedure adopted whereby every member of the group had fair chance of being selected. This was used to avoid bias in the selecting of teachers for responses. In the selection, numerals (thus, 1, 2, 3, 4.....30) were written on pieces of paper, folded and dropped in a box for the teachers to pick. Teachers who picked 1 to 19 were then selected.

3.5 Instrumentation and materials

The main instrument used for data collection was questionnaire and classroom observation. These were used because the researcher was convinced that the use of the questionnaire and observation would facilitate collection of adequate information needed for the study. The main teaching materials used during the intervention was the Reading text book for basic 6 class, “New Gateway to English for Primary Schools Pupils Book 6” unit 3, pp 11-12.(Refer to appendix D&E for it)

3.6 Validity and reliability of instrument

The primary concern of every researcher is how to access the right information to make his / her work excellent and above reproach. In view of this, the researcher conducted a pre-test of the questionnaire designed and also used supplementary readers to ascertain the reliability and validity of the instruments used. The questionnaire was discussed with the supervisor together with colleagues. This helped to remove all ambiguities and made the questions clearer.

3.7 Access

Permission was sought from the headmaster of the State School for the Deaf before conducting the research. This was done through an introductory letter from the Special Education Department of the University of Education, Winneba (UEW). The headmaster subsequently informed the teachers of the study. The researcher met the participants and assured them of the confidentiality and respect of their views.

3.8 Data Collection Procedure

3.8.1 Questionnaire

A combination of open-ended and close-ended type of questionnaire was formulated to collect data from the respondents. The instrument was administered personally to the respondents, while the practical reading lesson for the pupils was administered by the researcher. Three days interval was given for the completion of the questionnaire, after which they were collected. The questionnaire items for the teachers were in four sections.

Section A consisted of the bio-data of the teachers, while Sections B, C and D comprised of either open-ended or closed-ended items.

3.8.2 Observation:

The researcher used non-participant observation was conducted to observe both teacher and pupil's behaviour in reading lessons and pupils attitude towards reading. The observation included pupils reading comprehension for a baseline with which subsequent data was compared. With this, the class text book, "The New Gateway to English for Primary Schools (Bk.6)" was used by the classteacher on Thursday 20th January, 2010.

3.8.3 Pre-test:

In pre-testing the pupils, five simple sentences written on sentence cards were presented to pupils to read through signing. This was to collect data on the pupils reading ability and also to serve as basis for selection of interventional strategies as well as baseline data with which subsequent data was compared. Here, individual pupils were called to pick and read the sentence on each card, e.g.

1. Nii comes from Accra.
2. He is ten years old.
3. They like playing football.
4. I help my mother at home.

(Source: Gateway to English for Primary Schools, pupils' bk.6 pg.11) Sentences read correctly or incorrectly were recorded for the purpose of analysis (see Appendix E: Section B).

At another visit on 26th January, 2010, the participant observation was adopted. With this, the researcher taught a lesson to enable him confirm what he observed in the previous lesson organized by the class teacher.

Lesson taught: Reading comprehension

(Ref. Gateway to English. Pupils Bk. 6, pg.12, Paragraph 1)

Topic: Malaria (look and sign)

Objective: Pupils should be able to answer 3 questions on passage read.

Activity 1: Oral discussion on sicknesses that attack people.

2: Treatment of vocabulary using diagrams and sign language (Vocab: Runner, Fast, Doctor, Nurse, Sick)

Activity 3: Reading of passage by teacher to the class (model reading using sign language)

4: Individual pupils called to read (using sign language)

5: Comprehension exercise for pupils to answer (see Appendix D).

Pupils marks were recorded by the researcher for further analysis.

3.8.4 Intervention: The researcher organized a similar reading lesson on 2nd February, 18th February and 9th March 2010.

2nd February, 2010. Topic treated: “The Malaria Parasite”

18th February, 2010. Topic treated: “How to Avoid Getting Malaria”

9th March, 2010. Topic treated: “How to Avoid Getting Malaria (contd.)

The lessons were selected from Bk.6 (Gateway to English) Unit 3 pp 12-13

These were supported by using conversational posters on a picture of mosquito, showing the parts (proboscis, head, leg, wings)

On March 22nd, 2010 the researcher organized another lesson, this time using the Language Experience Approach (LEA) with the aid of conversational poster on Health.

The LEA is an Approach where pupils were guided through questions to come out creating their own reading materials. The teacher asks pupils questions and their responses are written on the chalkboard after which the pupils are helped to read their own story generated. For example:

Teacher: What insect is found in the poster?

Pupil: The picture shows a mosquito.

Teacher: What do you know about a mosquito?

Pupil: The mosquito gives a disease called malaria.

Teacher: How does the mosquito give us malaria?

Pupil: The female mosquito sucks up our blood and gives us the malaria parasite.

Teacher : What does a person feel when he/she has malaria?

Pupil : He feels ill when he gets malaria.

Before the reading, vocabulary such as mosquito, malaria, sick, parasite, ill were

treated and explained with the aid of diagrams, illustrations and demonstrations.

3.8.5 Post-test:

The story generated from the LEA lesson was presented to the pupils to read. Later, questions were set for pupils to read and find answers to them.

Examples: 1. Which insect carries the malaria parasite?

2. Which part of the body does it use to suck up blood?

3. Why does the male anopheles mosquito not cause malaria?

4. How does a person feel when he/she has malaria?

5. Mention one thing we can do to avoid malaria? (see Appendix E).

The exercise was marked and scores were recorded for analysis purpose.

Problems encountered: The main problems encountered was related to inadequate text books for the class and teachers' incompetence in the use of sign language. The class had an enrolment of 21 but the text books available were eight (8). However, the researcher adopted group sitting arrangement and this helped him to overcome the problem of inadequacy of text books.

3.9 Data Analysis

The data collected were analyzed using descriptive statistics. According to McMillan and Schumacher (1997) descriptive statistics transforms a set of numbers or observations into indices that describe or characterize a data. They are used to summarize, organize and reduce large numbers of observation. Teachers' responses were grouped and

analysed using simple frequencies and percentages. The pre-test and post-test scores were also calculated in terms of frequencies and percentages.

In finding the t-test value, the Statistical Package for Social Science (SPSS) was used in analyzing the data. This, according to Avoke (2005), involves the development of a scoring key for the various responses to the questionnaire items, assigning numerical values and scoring accordingly (usually 1-4 or 1-5).

The responses made were then represented with the coded numerical values and data was processed using the SPSS version 16.0. Additionally, an observational instrument was used to observe teaching and learning in reading lesson. The results of the observation were also coded using numerical values for the analysis. The data gathered was discussed under each of the research questions they were meant to address. According to Creswell (2005), analysis consists of, "taking the data apart" to determine individual responses and then, "putting it together" to summarize it. At the end of it, conclusions were drawn and recommendations were made as measures to improve the reading ability of the pupils.

CHAPTER FOUR

PRESENTATION OF FINDINGS AND ANALYSIS OF DATA

4.0 Introduction

This section of the research consists of the analysis of data collection by the researcher. Simple percentages and descriptive statistics in the form of tables were used in analyzing the data.

4.1 Presentation and analysis of data

Below are tables developed to show the distribution of categories of subjects which constituted the sample of the study and also the qualifications of the respondents.

Table 1: Distribution of respondents

GENDER				
GROUP	MALE	FEMALE	TOTAL	PERCENTAGE (%)
Teachers	10	9	19	47.5
Pupils	11	10	21	52.5
Total	21	19	40	100

The table shows that 19 (47.5%) of the respondents were teachers and 21 (52.5%) were pupils.

Table 2: Qualification of Respondents

Qualification	No. of Respondents	Percentage (%)
MA/M.Sc/M.Ed/M.Phil	1	6
B.Ed (SPED)	10	53
Diploma	3	16
Teacher's Certificate 'A'	2	9
Other Certificates	3	16
Total	19	100

The table 2 above on qualification of respondents indicates that there is one (1) teacher who holds a Masters' degree, 10 (53%) respondents holds bachelor's degree in Special Education, 3 (16%) with Diploma Certificates, 2(9%) respondents holding Professional Teachers' Certificates 'A', and 3 (16%) others with various certificates. This shows that there are more qualified personnel teaching in the school than unqualified personnel.

Research Question 1: What is the reading comprehension level of Basic 6 pupils?

Table 3: Showing reading level (comprehension) of pupils

Item	Responses	No. of Responses	Percentage (%)
1. Do pupils find it difficult in identifying words for signing?	Yes	16	84.0
	No	3	16.0
2. Are pupils able to read fluently without Support ?	Yes	0	0.0
	No	19	100.0
3. Can pupils read with understanding?	Yes	4	21.0
	No	15	79.0
4. Are pupils able to answer questions on passage read ?	Yes	3	16.0
	No	16	84.0
5. Are pupils able to read but cannot answer questions on passage read ?	Yes	2	11.0
	No	17	89.0

To answer the questions ‘What is the comprehension level of BS 6 pupils at the State School for the Deaf at Adjei Kodjo (Accra)?’ The researcher conducted a pre-test on reading comprehension using the class textbooks. In table 3 above, 16 (84.0%) teach respondents asserted that the pupils find it difficult in identifying words for proper signing when reading while 3 (16.0%) said ‘No’.

This implied that the pupils had difficulty in word recognition/identification when reading through the use of sign language. Also on the item whether pupils were able to read fluently using sign language without support, all respondents answered ‘No’. The

researcher believed that though some of the pupils were able to read, they sometimes needed support from the class teacher.

On the third item which sought to find whether pupils could read with understanding, 4 (21.0%) teachers responded in the affirmative “Yes” while 15 (79.0%) were in the negative, “No”. The reason given was that the pupils could not associate the meaning with words of the appropriate sign language because they were unable to answer questions spelt out in the text book. In the view of the researcher, this might not promote good academic performance since all other subject areas depend on reading in one way or the other.

To ascertain whether pupils could read to answer questions on passage read, 3 (16.0%) of the respondents responded “Yes” while 16 (84.0%) answered “NO”. This means that majority of the pupils in the class could not understand what they read hence their inability to answer questions. The revelation made here is supported by Webster (1986) who states that the hearing impaired child’s problems begin as soon as an attempt is made to understand more complex text. This calls for teachers making more input to help their pupils read for better understanding. Again responses, as shown on table 3 above indicated that 2 (11.0%) respondents were of the view that pupils were able to read but could not answer questions. On the other hand 17 (89.0%) answered that the pupils could not read at all hence their inability to answer questions. The researcher thought that if the teachers used good strategies to support children to read, pupils would do better in answering questions on passages read.

The lack of good strategies in reading, could account for why the children find it difficult to read with understanding.

In line with this, Vygotsky's theory of cognitive development offers an alternative to Piaget's constructivism which is about the role of culture playing a prime determinant of cognitive development. He also asserts that learning leads to cognitive development and also stressed the social formation of the mind indicating that individual development could not be understood without reference to social and cultural content within which such development is embedded. He added that mind evolution is continuous. Vygotsky focused on the mechanism of the development, excluding distinguishable developmental stages. His theoretical assumption rejected the idea that a single abstract equilibration can explain cognitive development (Retrieved July 24, 2010 from [www. Slideshare. Net](http://www.Slideshare.net)). As a result of the culture of not reading because many homes have illiterate parents, pupils are unable to enjoy parental support when it comes to getting help to read passages which seem to be difficult and BS6 pupils of Adjei Kodjo are not exempted.

Research Questions 2: What method and teaching materials do teachers use in teaching reading comprehension to Basic 6 pupils?

Table 4: Showing what makes pupils not to attain reading comprehension skills

Items	Responses	No. of Responses	Percentage (%)
1. Which methods do you use in teaching reading to your pupils?	Look and say (sign)	5	26.0
	Demonstration	5	26.0
	Picture reading	3	16.0
	Shared reading	6	32.0
2. Which method do you think helps your pupils to read better for understanding ?	Look and say (sign)	6	32.0
	Demonstration	5	26.0
	Picture reading	6	32.0
	Shared reading	2	10.0
3. Which teaching and Learning material do you use when teaching reading?	Pictures	5	26.0
	Real objects	3	16.0
	Flash Cards	5	26.0
	Others (illustrations)	6	32.0
4. Are there adequate materials for the use by all pupils ?	Adequate	1	5.0
	Inadequate	18	95.0

In attempt to understand what contributed to pupil's inability to attain reading comprehension, methods teachers use in teaching the pupils was assessed. Again, the availability of teaching-learning materials were also assessed to find out whether they may also contribute to the understanding level of the pupils

Table 4 above shows that 5 (26.0%) teachers used the 'Look and say (sign) method

5 (26.0%) respondents indicated demonstration as being used ; 3 (16.0%) stated picture reading and 6 (32.0%) respondents indicated shared reading, that is teacher and pupils reading together. On the method teachers thought would help pupils to read and understand better, look and say (sign) had 6 (32.0%) respondents, 5 (26.0%) used demonstration, 6 (32.0%) respondents used pictures and shared reading 2 (10.0).

However, in the view of the researcher, teachers could blend variety of methods to help pupils to read and understand better since the multisensory approach seem to be the best for teaching all children not only the hearing impaired.

Lerner (1989) explains the multisensory approach to learning as an approach that utilizes visual, auditory, kinaesthetic and tactile modalities to master a word and even learn its spelling. In this wise for the hearing impaired this approach emphasizes on the visual, kinaesthetic and tactile due to the lost of audition. It involves the use of a lot of teaching learning materials by the pupils to aid understanding.

On the item about teaching-learning materials to aid comprehension, 5 (26.0%) respondents stated that they used pictures ; 3 (16.0%) respondents indicated the use of real objects, 5 (26.0%) used flash cards while others such as illustrations on the chalkboard and diagrams were by 6 teachers representing 32.0%.

Questioning about the adequacy of teaching-learning materials as shown on table 3, 18 (95.0%) stated that the school did not have enough teaching-learning materials to support the teaching and learning to read, while only 1 (5.0%) saw the materials being adequate.

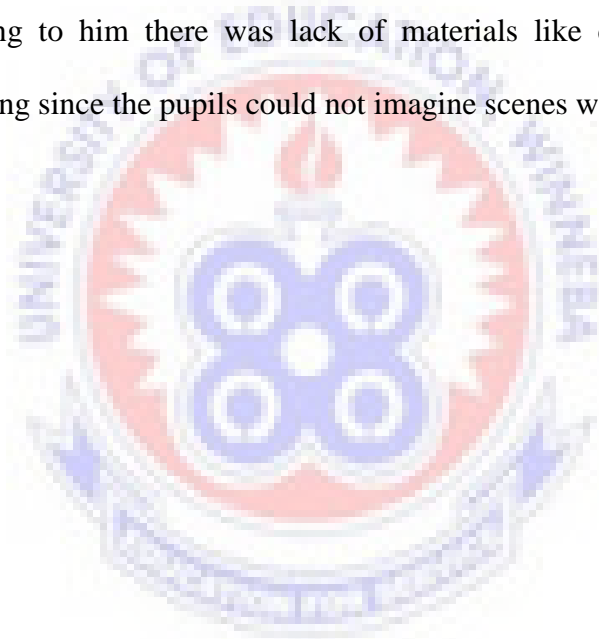
In any case the school needs to make frantic efforts to acquire more teaching-learning materials such as conversational posters depicting different familiar scenes from the local

environment. This will help to utilize the limited vocabulary to help improve their reading skills. One thing that came out clearly was the confirmation of problems facing the hearing impaired in reading comprehension which cannot be overlooked. The problems that contribute to poor reading among the hearing impaired in our schools is the absence of Ghanaian Sign Language. This is supported by Oppong (1998) who talked on the need for Ghanaian Sign Language in our schools for the Deaf during a lecture on Developing Ghanaian Sign Language. According to him, most of our reading materials (texts) feature English Characters and values which might not have their equivalence in the Ghanaian Context.

Such vocabulary would be difficult for the child to sign or understand when he/she comes into contact with it. The researcher therefore, suggests the use of reading materials that are culturally related to the pupils' background. This will enable them to be familiar with experiences depicted in passages they read.

Again the use of appropriate, relevant and useful teaching and learning materials as well as the use of good teaching methods will enhance the pupils' reading skills. Another problem mentioned that did not encourage reading comprehension were unfamiliar word, which relates to poor word recognition and use of appropriate sign language. This implied the use of wrong word to substitute words in passage and omission of unfamiliar words in course of reading. The research which showed an improvement in pupils' reading after the intervention suggest that teachers did not prepare adequately before teaching reading lessons, hence the over reliance on only known or traditional approaches

such as sign after me to teaching reading (Mankoe, 2001). In the researchers view, teachers should be monitored to do adequate preparations before coming to class to teach. The researcher also found out that teachers know a lot of methods that aid the teaching of reading to the hearing impaired but as to if they are effectively using them is another question to be asked. The researcher in a casual way asked the class teacher if he had learnt of the Language Experience Approach which deals with pupils creating their own reading text or passage for reading. His answer was 'yes', however, he was not using it because according to him there was lack of materials like conversational posters to support its teaching since the pupils could not imagine scenes without such pictures.



Research Question 3: What are the problems that class teachers face in teaching the pupils in BS 6?

Attempt was made to find out the main problems teachers faced in teaching in relation to teaching pupils to read and also how such problems could be solved. This is shown on table 5 below.

Table 5: Responses on problems from teachers teaching pupils in BS 6 at Adjei Kodjo, Accra to read

Items	Responses	No. of Responses	Percentage (%)
1. Do pupils face problems when reading?	Yes	19	100.0
	No	-	-
2. List two (2) of the problems they face.	Wrong-word identification	10	53.0
	Problem with sign language	4	21.0
	Forgetfulness	5	26.0
3. What do you think are the causes of such problems you mentioned?	Inappropriate teaching method	9	47.0
	Lack of vocabulary	7	37.0
	Poor attention by pupils	3	16.0
4. How do you solve these problems? (suggest)	In-service training for teachers on teaching language to the deaf	11	58.0
	Use of adequate TLMs	8	42.0

Table 5 indicates causal factors on reading problems pupils face and how teachers solve them. These form part of the responses received from the teachers. Ten (53.0%) of teachers mentioned wrong word identification as a major reading problem to the pupils as 4 (21.0%) teachers attributed the problem to lack of understanding of sign language especially to words that are not familiar to the pupils. Also 5 (26.0%) of the respondents said their problem was forgetfulness. On the causes of the problem, 9 (47.0%) of the respondents mentioned inappropriate teaching methods that they used as teachers have adopted in teaching reading which seemed to be a main cause of the reading problem. They attributed the problem to lack of in-service training to help teach reading to the pupils.

Again, 7 (37.0%) said the problem is caused due to lack of vocabulary, that is pupils have not developed sight words, while 3 (16.0%) attributed the cause to lack of attention from pupils while reading lessons went on. This may confirm the inappropriate methodology adopted by the teachers since an interesting lesson may attract the attention of the learners (Mankoe 2001). In the researchers' bid to solicit solutions to the problem, 11 (58.0%) mentioned in-service training for teachers on modern techniques/approaches to teaching reading and language to the hearing impaired and pupils in general as the main step to overcome the problem. Eight (42.0%) of the teachers called for the use of adequate and appropriate teaching-learning materials while teaching. In the view of the researcher all the measures in terms of in-service training and use of TLMS would be appropriate. This is because teachers attending in-service training put them abreast with time in matters of teaching methodology as well as selection, development and usage of

teaching-learning materials to a particular group of learners to suit their level and conditions. (Ackumey et al. 2001). Pupils on their part, the research revealed, faced a lot of challenges such as forgetfulness, inability to sign conventionally and therefore cannot understand materials read. This contributed to their inability to answer questions on passages read (Abodi & Lord, 2001).

In the researcher's view, teaching reading among the hearing impaired should be given a new look and attention to make it more relevant and stimulating to pupils. In-service training needs to be organized regularly so as to keep teachers abreast with time in the teaching of reading to the hearing impaired.

Research Question 4: What are the learning outcomes of the intervention in teaching reading to BS6 pupils at State School for the Deaf – Adjei Kodjo ?

To find the learning outcomes of the intervention in teaching reading to the BS 6 pupils of the state school for the Deaf at Adjei Kojo (Accra) a post-test was conducted using reading comprehension exercise which is Learning Experience Approach (LEA) as an intervention approach. A comparison has been made with the performance on the pre-test to collect data. The results have been presented in the table below.

Table 6. Pre-test and Post-test results of reading comprehension exercise

Pre-test			Post-test		
Mark obtained out of five	No. of pupils (freq)	Percentage (%)	Mark obtained out of five	No. of pupils (freq)	Percentage (%)
5	0	0.0	5	4	19.0
4	1	5.0	4	6	29.0
3	3	14.0	3	5	24.0
2	5	24.0	2	2	9.0
1	7	33.0	1	3	14.0
0	5	24.0	0	1	5.0
Total	21	100.0	Total	21	100.0

From table 6 above, the results at the pre-intervention stage show that 5 (24%) of the pupils were not able to answer any of the questions on the passage, they scored zero (0) while nobody was able to score five out of five. Only 1 (5%) pupil was able to answer four questions correctly at the pre-test.

On the other hand after a series of intervention lessons on reading activities, the performance improved. Only 1 (5%) of the pupils scored zero (0) while 6 (29%) and 4 (19%) pupils were able to score 4 and 5 out of five respectively in the post-test. This shows an improvement in the performance of pupils as far as reading comprehension is concerned. It could be realized from the table that despite the intervention not many of the pupils could answer all questions correctly.

This is an indication of individual differences in the level of learning and understanding.

Attah-Boison (2007) explains that pupils learn at different rate and therefore their performance is bound to differ. While some are fast learners others are slow learners. It is then true to say that the reading performance of the pupils would improve as more lessons are carried out.

Significantly at both the lower and upper levels there were a negative performance at the pre-test while the post-test showed a positive level of understanding in pupils ability to answer comprehension questions.

4.1.1 Hypothesis Testing

The hypothesis was expected to show that, there will be significant differences in pupils reading comprehension between the pre and post test. In the same way due to the pupils' hearing problems and lack of vocabulary a contrasting hypothesis stated that there will be no significant differences in the level of understanding. Analyses for these hypotheses are presented in the table below.

Table 7: Results of independent-samples t-test for pre-test and post-test scores

Test	Number of respondents	Mean	SD	t-value	p-value
Pre-test	21	5.00	4.382	1.346	0.007
Post-test	21	11.00	10.000		

An independent sample t-test was conducted to compare the pre-test and post-test scores on reading comprehension skills. There was significant difference in the scores for the

pre-test ($M = 5.00$, $SD = 4.382$) and post-test ($M = 11.00$, $SD = 10.000$; $t(40) = -1.346$, $p = 0.007$). A t-test according to Ary, Jacobs and Razavieh (2002), is a statistical procedure for testing hypothesis concerning the differences between two means.

With the use of this method by the teacher in teaching reading comprehension, the performance at the post-test where the mean was 11.00 as compared to the pre-test mean of 5. This shows a mean difference of 6.00, an indication that comprehension at the post-test was better than the pre-test. Hence it shows that, there is a significant difference between the pre-test performance and the post-test performance of the children with hearing impairment. The result indicates that the pupils' performance improved using the Language Experienced Approach as an interventional measure showing that the post-test scores showed significant difference. Therefore the null hypothesis has been rejected and the alternate hypothesis accepted.

Conrad (1979) explain that the developmental reading profile of hearing impaired children indicate a profitable focus in the teaching of reading for understanding which depends much on providing them with strategies that are useful for constructing meaning from whole passage. According to Conrad (1979), such strategies should include helping them to make predictions, identifying passage structures and using prior knowledge and experience to make inferences. The use of these strategies by the hearing impaired in their reading could assist them to close the gap between their knowledge of written vocabulary and syntax and the linguistic complexity of the text.

In this regard it is beneficial to the pupils when teachers use strategies and materials that are relevant to the hearing impaired in helping them to develop reading skills for comprehension.

Discussion of Findings

From the study, it was clear that there were more qualified teachers who are capable of teaching pupils to acquire reading comprehension skills that will enable the pupils read for better understanding. This they have not been able to achieve due to diverse factors.

In the first place due to the handicapping conditions of the pupils, they encounter a lot of deficit in language development. They are not able to pick language or vocabulary on their own unless they are consciously taught. In view of this when teachers fail to intentionally and consistently take them through language activities they lose much opportunity and this present vocabulary development which is very essential in enhancing one's reading ability.

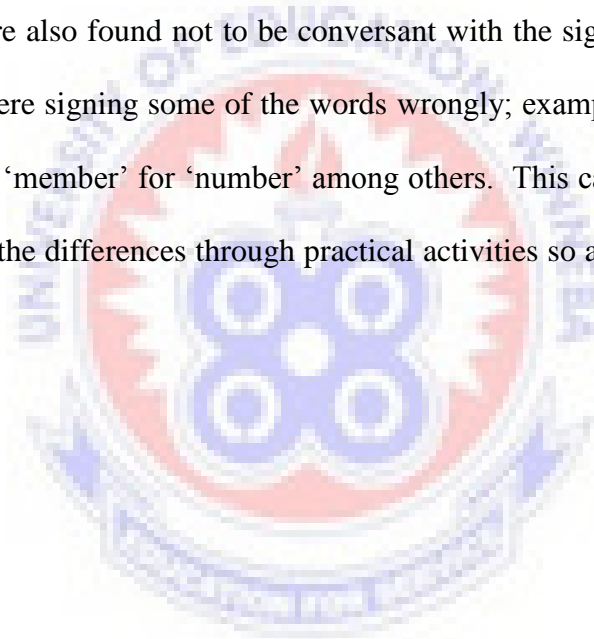
For pupils to read and understand better, mere practical activities need to be involved. This is because to the hearing impaired, abstract explanations and more teaching them to sign a word is just like pouring water on a rock. It does not aid comprehension. Teachers of the deaf should therefore do away with the traditional method of teaching reading from text books alone and encourage pupils develop their reading text from experience, using the Language Experience Approach.

The research also found that reading is only taught as an aspect of English Language on the time table. This does not give much time and opportunity for reading activities that aid comprehension.

Moreover there was inadequate teaching and learning materials in the school. Teachers rely on few materials available and sometimes real materials they come across for their reading lessons.

From the finding it also came to light that in-service training were rarely organized for teachers. This will not help in any way since approaches learnt at the pre-service training or at any course of training keep changing. There is no stereotype approach to be used in teaching a particular group of people at all times.

The students were also found not to be conversant with the sign language. It was found that the pupils were signing some of the words wrongly; examples are ‘meat’ for ‘meet’, ‘new’ for ‘now’, ‘member’ for ‘number’ among others. This calls for conscious effort to help them know the differences through practical activities so as to acquire the semantics of language.



CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Summary

The study analysed the reading comprehension skills among pupils in Basic six at the State School for the Deaf at Adjei Kojo in Accra . The main problem researched into was the pupils' inability to answer comprehension questions on passage read. The study was set out under five main chapters namely, Introduction, Literature review, Methodology, Data analysis, and Summary / conclusion and recommendations. The introduction gives the background to the study, statement of the problem, the hypothesis, research questions, as well as the objectives and the significance of the study.

The literature review attempted to look at other work different authors did in relation to the topic. These covered the theories involved in teaching reading comprehension, concept of reading vis-à-vis hearing impairment and the problems individuals with hearing impairment encounter when reading. It also talked about some strategies that could be used in teaching reading to the hearing impaired for better understanding.

The study involved a total population of 266 but a sample of 40 respondents were used for convenience. They include both teachers and pupils who were related to the academic work in the school. Questionnaires and observations were used in gathering data for the analysis.

The fourth chapter deals with the analysis of data and testing of the hypothesis set out for the study. Based on the findings, conclusions and recommendations were made in the last chapter that is chapter five. In addition, suggestions for further studies on the topic were

made to enable interested researchers help to find other means of helping learners with hearing impairment develop reading comprehension skills.

5.1 Conclusion

The study was aimed at analyzing reading comprehension skills among Basic Six Hearing Impaired pupils at state school for the Deaf at Adjei Kojo near Accra. Through the research those factors that contribute to pupils' inability to read and understand were identified. These include.

- (1) Pupils inability to acquire sight vocabulary unconsciously
- (2) The use of inappropriate methodology in teaching reading
- (3) Inadequate teaching-learning materials for teaching reading in the school.
- (4) Lack of in-service training for personnel concerned in helping the hearing impaired to acquire reading comprehension skills.
- (5) Lack of knowledge and in competency in the use of sign language to understand certain abstract concept.

The researcher can therefore, state conveniently that the objectives set for the study have been achieved.

5.2 Recommendations

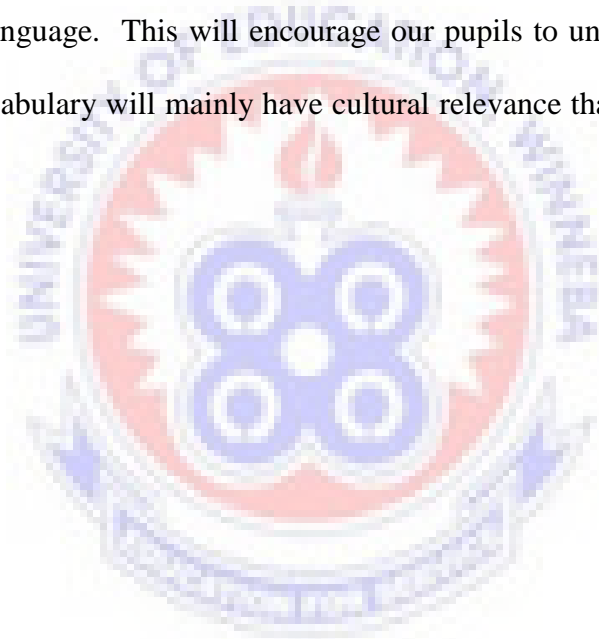
Based on the findings and conclusions drawn, I wish to make the following recommendations as measures to be taken to help the pupils of the State School for the Deaf at Adjei Kojo, Accra to improve upon their reading comprehension skills.

1. Since children with hearing impairment do not bring to their reading lessons considerable linguistic knowledge like that of their hearing counterparts, teachers need to make conscious effort to teach, using interactive approaches. This will help them to acquire vocabulary which may be necessary as sight words when they are introduced to reading.
2. The use of class text books needs to be supplemented with other teaching-learning materials such as posters and alphabet cards which are necessary for helping pupils to develop better understanding of materials read than more presentation of facts, need to be encouraged.
3. The Language Experience Approach (LEA) is a strategy that needs to be adopted by teachers in teaching pupils to read for comprehension. As Ampomah et al. (2008) assert, it is an approach which is suitable to help low achievers in overcoming their difficulties. This is because, it could be used to treat all aspect of reading.
4. Regular in-service training need to be organized for teachers to up-date their knowledge and skills in teaching reading to pupils, especially the hearing impaired.

5. The difficulties that children with hearing impairment experience with word recognition and syntax could be overcome if the learning of sign language is intensified especially among their teachers. This will help them to hold in memory, sequence of words in order to derive syntactic information.

5.3 Suggestion for further studies

The researcher also suggests that a critical look needs to be taken in the development of Ghanaian sign language. This will encourage our pupils to understand better what they read because vocabulary will mainly have cultural relevance than relying on foreign sign language.



REFERENCES

- Abedi, J. & Lord, C., (2001). The language matter in mathematics tests. Applied measurement in education. 14(3) 219.
- Ackumme, M. A., Attah-Boison, G., Hama, J., Kankam, G., Ohene-Darko, C., Owusu-Mensah, F., & QUIST, F. (2001). Education and culture. Winneba: University of Education, Winneba.
- Amoako-Gyimah, S.K. (1998). Educating children with hearing impairment. Winneba: Department of Special Education, UEW.
- Ampomah, K.K., Yankah, M. M., Ofosu-Dankyi, A., Amoah, B. E., Sam-Bosman, E., Rosekrans, K., Ansah, W. Y. & Ewusi-Yamoah, I. (2008). Language and literacy teaching and learning strategies for the classroom. Mod.II Accra: USAID / EQUALL.
- Ary, D., Jacobs, L.C and Razavieh, A. (2002). Introduction to research in education (6th ed.). wadsworth: Thomson learning Inc.
- Attah-Boison, G. (2007). General methods of teaching. Winneba: IEDE, UEW.
- Avoke, M. (2005). Special educational needs in Ghana: Policy, practice and research. Winneba: Department of Special Education, UEW.
- Berk, I. (1996) Infants, children and adolescents.(2nd ed.). Boston: Allyn and Bacon.
- Black, P. J. (1971). Assessment and classroom learning. Assessment in Education. Vol. 5(1). London: Carfax.
- Boison, C.N. (2008). Preparing children to become good readers. A guide for parents, teachers and pre-school professionals. Winneba: E.F. Printing Press.

- Broman, B.L. (1982). The early years in childhood education: Preschool Through Primary Grades. Boston: Houghton Mifflin.
- Collins English Dictionary (1993). Bloomsberg Publishing Company.
- Conrad, R. (1979). The deaf school child. London: Harper and Row.
- Creswell, J.W. (2005). Educational research. Berkely: Carlisle Communications Limited.
- Davenport, M. R. (2002). Miscues not mistakes. Reading assessment in the classroom. Portsmouth: Heinemann.
- Durkin,D. (1966). Children who read early. New York : Teachers College Press.
- DynaGloss, (1998). Instructionism. [Retrieved July 12, 2010] from <http://seed.cs.colorado.edu/dynagloss.makeglosspage.fegiSURLinc=l&Term=Instructionism>.
- Fosnot, C. (1996).Constructivism: theory, perspectives and practice. New York : Teachers' College Press.
- Gadagbui, G.Y. (1998). Education in Ghana and special needs children. Accra: The City Publishers.
- Gadagbui, G.Y. (2002). Dysfunctional family: Implications for educational intervention. A paper delivered at the 3rd Dean's Lectures. University of Education, Winneba.
- Gersten, R., Fuchs, L. S., Williams, J. P., & Baker, S. (2001). Teaching reading comprehension strategies to students with hearing disabilities. A review of education research, 71(2), 279-321.
- Girgin, U. (1999). Eskisehir ili ilkokullari4ve5 (Retrieved: 12th July, 2010)
- Goldberg, C. (1992). Instructional conversation. Promoting comprehension through

- discussion. The reading teacher,46, 316-326.
- Goodman, Y.M. ,Watson, D.J. and Burke, C.L. (1987). Reading miscue inventory. Asternative procedures. New York: Richard C. Owen Publishers Inc.
- Goodman, Y. M. (1995). Miscue analysis for classroom teachers. Some history and some procedures. Primary voices K-6 pp 2-9.
- Gorard, S. (2001). Quantitative methods in educational research. London: Continuum.
- Guthrie, J.T., Schafer, W.D.& Huang, C.W.(2001). Benefits of opportunity to read and balanced instruction on the NAEP. The Journal of Educational Research, 94 (3), pp. 145-162.
- Hallahan, D.P., Kauffman, J. M., & Haslam, R. H. A., (1999). Exceptional children. Introduction to Special Education. London: Allyn and Bacon.
- Hoover, M. R., & Fabian, E. M. (2000). A successful program for struggling readers. Reading Teacher, 53(6), 474-476.
- Johnson, F. (2001). The utility of phonics generalizations: Let's take another look at Clymer's conclusions. The Reading Teacher, 55, 132-143.
- Jonassen, D. H., Davidson, M., Collins, M., Campbell, J., & Haag, B. B. (1995). Constructivism and computer-mediated communication in distance education. American Journal of Distance Education, 9(2), 7-26.
- Jordan, N. C. & Hanich, L. B. (2005). Mathematics thinking in second grade children with different learning disabilities. Journal of Learning Disabilities. 33(6), 567-568.
- Jorge, B. (2010). A reading comprehension perspective on problem solving. Peru:

Pontifical Catholic University.

Kirk, S.A., Klebhan, J. M., & Lerner, J. W. (1993). Educating exceptional children.

Boston: Houghton Mifflin.

Linguagem & Ensino, (2004). Reading theories and some implications for the processing of linear texts and hypertexts. Paris: UEM.

Lefrancois, G.R. (1999). Psychology of teaching (10th ed.). Belmont, C.A: Wadsworth.

Luetke-Stahlman, B and Luckner, J. (1991). Effectively educating students with hearing impairments. New York : Longman.

Mankoe, J. O. (2001). Methods and materials for teaching. Winneba: IEDE.

Mckenna, M. C. & Robinson, R. D. (1990). Content literacy: A definition and implication. Journal of Reading. 34, 184-185.

McMillan, J.H. and Schumacher, S. (1997). Research in education. A conceptual introduction. New York: Longman.

Mercer, C.D. and Mercer, A.R. (1989). Teaching students with learning problems. New York: McMillan Publishing Company.

Moore, D.F. (1987). Educating the deaf. London: Methuen.

Opong, A.M. (1998). A comparison of Ghanaian sign language (GSL) and American sign language (ASL), Master Thesis. Bloomsburg: P.A. Bloomsburg University.

Osterholm, M. (2004). Characterizing reading comprehension of mathematics texts. Linkoping: Linkoping University.

Quigley, P.S. (1990). Effects of early hearing impairment on language development. New Jersey: Prentice Hall.

- Quigley, P.S. & Paul, P. V. (1985). Reading and deafness. London: Taylor Francis.
- Schweinhart, L.J. & Weikart, D.P. (1997). Lasting differences. The high / scope pre-school curriculum comparism study through age 23. High / scope Educational Research Foundation, Monograph 12.
- Shabo, A. (1997). Integrating constructionism and instructionism in educational hypermedia programs. Journal of Educational Computing Research. 17 (3), pp 231-277.
- Snowing, M. (1987). Dyslexia : A cognitive developmental perspective. Blackwell: Oxford.
- Stickland, D.S. (1969). Teaching phonics today. A Primer for Educators. Newark, D.E: International Reading Association.
- Tabi-Ahin, P. (2004). Practical english methodology for D.B.E. students. Brekum: Brekum Training College.
- Taylor, D. (1991). Beginning to read and spin doctor of science : The political campaign to change America's mind about how children learn to read. Urbana, IL: National Council of Teachers of English.
- Umit, G. (2006). Ensuring effective teaching and learning. New York : Teachers College Press.
- Webster, A. (1986). Deafness, development and literacy. London: Methuen Co. Ltd.
- Webster, A and Word, J.D. (1989). Reading retardation or linguistic deficit? I : Interpreting Reading Test Performances of the hearing impaired adolescents: Journal of research in reading: 4 (2), p 136.

West African Examination Council – (2009). Chief Examiner’s Report, Basic Education Certificate Examination (BECE). Accra : WAEC.



APPENDIX A

QUESTIONNAIRE FOR TEACHERS

SECTION A : BIO-DATA

Please tick where appropriate

1. Gender : Male Female
2. Professional Qualification : Cert A Teachers Diploma Bed(spced)
Bed (Other areas) Other Certificates
3. No of years taught : 1 – 2 2 - 4 5 and above

SECTION B

LEVEL OF READING COMPREHENSION OF PUPILS

Item	Yes	No
1. Do pupils find it difficult in identifying words for signing?	<input type="checkbox"/>	<input type="checkbox"/>
2. Are pupils able to read fluently without Support ?	<input type="checkbox"/>	<input type="checkbox"/>
3. Can pupils read with understanding?	<input type="checkbox"/>	<input type="checkbox"/>
4. Are pupils able to answer questions on passage read ?	<input type="checkbox"/>	<input type="checkbox"/>
5. Are pupils able to read but cannot answer questions on passage read ?	<input type="checkbox"/>	<input type="checkbox"/>

SECTION C

METHODS/TEACHING MATERIALS FOR TEACHING READING COMPREHENSION

1. Which methods do you use in teaching reading to your pupils?

.....
.....

2. Which method do you think helps your pupils to read better for understanding?

.....
.....

3. Which teaching and learning material do you use when teaching reading?

.....
.....

4. Are there adequate materials for the use by all pupils?

.....
.....

SECTION D

PROBLEMS IN TEACHING READING

1. Do pupils face problems when reading? Yes/No

2. List two (2) of the problems they face.

.....
.....
.....

3. What do you think are the causes of such problems you mentioned?

.....
.....
.....

4. How do you solve these problems? (Suggest).

.....
.....
.....

APPENDIX B

PUPILS' READING OBSERVATIONAL GUIDE

Criteria	Number of pupils observed	Number of times observed
Cannot identify letters of alphabet		
Difficulty in distinguishing between identical letters		
Cannot read 2,/ 3 letter words		
Cannot read one sentence Correctly		
Cannot answer question on the Paragraph meaningfully		
Read words in isolation		
Cannot attack pronouncing words on their own		
Difficult in identifying words on their own		
Find it difficult in identifying words.		
Read words that are not in passage		
Read but cannot answer questions on passage read		
Not fluent in reading		
Can identify words in isolation		
Can read with understanding		
Is fluent in reading		
Able to attack new words on their own		
Is able to answer questions on passage read		
Does not miscue		

APPENDIX C

EXERCISE FOR PUPILS ASSESSMENT- PRE-TEST

A. Instruction:

Pick a sentence from the sentence card and read the sentence on it.

1. Nii comes from Accra.
2. He is ten years old.
3. They like playing football.
4. I help my mother at home.

B. Reading Comprehension exercise.

Read the passage and answer the questions that follow:

Comfort comes from Accra. She is twelve years old.

She is tall and has long legs. She is a very fast runner and wins all her races in school.

Comfort also plays netball for the school team.

She hopes to become a Doctor in future.

Questions:

1. Where does Comfort come from?
2. How old is she?
3. What makes Comfort win all her races?
4. What does Comfort hopes to become in future?

APPENDIX D

ASSESSMENT EXERCISE FOR POST-INTERVENTION (POST-TEST)

Instruction: Read the passage and answer the questions that follow

Passage:

Malaria is carried by an insect called mosquito.

The female anopheles causes malaria.

The male anopheles mosquito does not carry malaria because it only drinks from plants.

The female anopheles sucks blood from people with its proboscis.

We can prevent malaria by sleeping in mosquito-nets.

We also need to keep our homes and surroundings clean to prevent breeding of Mosquitoes.

Questions:

1. Which insect carries the malaria parasite?
2. Which part of the body does the mosquito use to suck blood?
3. Why does the male anopheles not cause malaria?
4. How does a person feel when he / she has malaria?
5. Mention one thing we can do to avoid malaria