

UNIVERSITY OF CAPE COAST

THE RELATIONSHIP OF CRITICAL THINKING SKILLS AND  
READING COMPREHENSION PERFORMANCE FOR STUDENTS OF  
HOLY CHILD COLLEGE OF EDUCATION, TAKORADI

MARY ARMAH-BRAKO

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BY

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Education, University of Cape Coast, in partial fulfilment of the requirements  
for award of Master of Education Degree in Teacher Education

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## DECLARATION

### Candidate's Declaration

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

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

Name: Mary Armah-Brako

### Supervisor's Declaration

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

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

Name: Dr. J. B. A. Afful

## **ABSTRACT**

The study was conducted in Holy Child College of Education in the Sekondi-Takoradi Metropolitan Assembly of the Western Region. The purpose of the study was to examine the relationship between reading comprehension and critical thinking skills of first and second-year students of Holy Child College of Education. Descriptive research design and correlation design were used to conduct the study. First and second-year students of Holy Child College of Education constitute the population for the study. Stratified sampling methods were used to select the students. Questionnaire and test were the instruments used to collect data for the study. Further, percentages, means, frequency distribution, Pearson product-moment correlation and independent t-test were used to analyse the data that was collected.

The study revealed a strong and positive correlation between Level 200 students' critical thinking and their performance in reading comprehension. Similarly, there was a strong and positive correlation between Level 100 students' critical thinking and reading comprehension performance. It was also found that the differences that were observed in the performance of Level 100 and Level 200 students in reading comprehension and critical thinking were not statistically significant, and both groups of students had poor reading comprehension skills that negatively affected their performance in reading comprehension.

The implications of this study will hopefully encourage a conscious effort on the part of English Language tutors of colleges of education to teach critical thinking skills and reading comprehension strategies.

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## **DEDICATION**

To Paa Brako, Papa Armah, Nana Nyame, Maame Amereku and Nana Yaa

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## **CHAPTER ONE**

### **INTRODUCTION**

The focus of this study is the relationship of critical thinking skills, which are indispensable as far as effective learning and acquisition of knowledge is concerned, and reading comprehension, which forms an integral part of the English Language curriculum at all levels of education. Chapter One explains the background to the study, the statement of the problem and the purpose and significance of the study. Research questions and hypotheses are also stated in this chapter. The chapter then gives the delimitation and the limitation of the study and ends with the organisation of the rest of the study.

#### **Background to the Study**

A good look at the Chief Examiners' Reports WASSCE (2007; 2008) and Colleges of Education in Ghana (2009; 2010) on subjects and courses examined clearly reveals the poor performance of students not only in English Language but also other content areas. Educators are constantly faced with the pressure of preparing students to meet standards set by examining bodies. The problem of poor performance in English seems to be a world-wide one and research to a large extent attributes the cause to the traditional methods of teaching and learning which make students passive learners. In recent years, 'critical thinking' has become a catchphrase in education circles. Many educators have become very interested in teaching 'thinking skills' in addition to teaching information and content; and many researchers feel that schools

should place emphasis on critical thinking, instead of memorization (Fisher, 2001).

Reading, like its related language skills (listening, speaking, and writing), forms part of a complex information-processing system (Obah, 2002). According to Obah, reading operates on two levels – symbols and concepts. On the former level, the reader recognizes words, groups them and interprets them. On the latter level of reading, the words which have been recognized by the reader call from the reader's storehouse of meanings and experiences certain shared ideas. The reader follows the writer's line of thought, recreating in the reader's mind the mental images and ideas transmitted by the writer (Obah, 2002). Etsey (2009) indicates that reading, seen as the ability to understand a text that one reads, is an indispensable skill. All students need this skill to function well in educational institutions and the world at large. It is, therefore, mandatory that children are equipped with the necessary tools to enable them to read and understand texts in the classroom but teachers tend to underestimate the reading comprehension process and ignore instructions in it. According to Durkin (1981), cited in Devine (1986), teachers, during reading lessons only test students' comprehension rather than teaching them how to extract meaning from a text.

There are many successful readers who are able to say or sound what is in their textbooks but are not able to tell in their own words what an author intends; neither are they able to use the text to stimulate their own thinking. Reading is not just relating the graphemes of the printed page to phonemes of the spoken language. It involves more than simply decoding (Adams, 1994; Pressley, & McCormick, 1995). Research has shown that while phonemic

awareness and phonics are necessary in learning to read they are not sufficient, especially when reading is seen as a way of extracting meaning from printed text. Much as good readers must have phonological knowledge, they need to have both syntactic and enough semantic knowledge to understand what they read, and relate it to their own lives (Devine, 1986).

Reading is making sense of the printed text. It requires that readers understand the printed language and use it to infer, generalize, predict and evaluate (Devine, 1986). During reading comprehension, different cognitive activities take place in the reader's mind. This makes reading comprehension an active process. A reader should make an active effort to understand what he or she reads. A passive reader may have problem understanding the text he or she reads (Graves, Juel, & Graves, 1998). To make comprehension possible, a reader needs to search, reflect, associate and link the ideas in the text he or she is reading to what he or she already knows. This is where critical thinking comes in. The reader is required to think critically about the text in order to make meaning out of it (Pressley & McCormick, 1995).

Comprehension, according to Obah (2002), is the skill of extracting meaning from print and is central to reading. To her, comprehension proceeds in at least three stages. Comprehension first takes place at the literal or factual level. At this level, the reader comprehends the words and sentences on the page. The second stage is the inferential level. Here, the reader comprehends relationships and ideas implied rather than explicitly stated. At this level the reader considers the associations that words convey the writer's tone as revealed by his or her choice of words, and his or her ideas. The third stage of comprehension is the conjectural level where the reader uses the writer's ideas

as a basis for projecting new ideas. Here, the reader continues from where the writer left off, exploring possibilities left open by the discussion, examining problems inherent in the argument and setting the ideas gained from the reading into some perspective with the already acquired frame of ideas (Obah, 2002).

Reading comprehension is the process of constructing meaning from text. The goal of all reading instruction is to ultimately help a reader comprehend text. Reading comprehension involves at least two people: the reader and the writer. The process of comprehending involves decoding the writer's words and then using background knowledge to construct an approximate understanding of the writer's message (Devine, 1986). Devine goes on to identify two major factors that indisputably influence the way a reader comprehends all kinds of text. These are the reader's general knowledge of the world and how the reader draws from this to help in the understanding of text and the more specific knowledge of words and their meanings that the reader needs to make sense of the printed pages. Reading comprehension is and must always be an indispensable part of the English curriculum at the different levels of education.

For successful reading comprehension, the reader must employ critical thinking. Schafersman (1991) sees critical thinking as the ability to think for one's self and make responsible decisions that affect one's life. He points out that critical thinking is a type of cognitive activity, in which people investigate problems, ask questions, and come up with new ideas and answers. According to him, most people are followers of authority: most do not question, are not curious, and do not challenge authority figures who claim special knowledge



or insight. Most people, therefore, do not think for themselves, but rely on others to think for them.

Schafersman (1991) again sees critical thinking skills as problem solving skills that result in the acquisition of accurate and reliable knowledge. Humans constantly process information and need cognitive skills to help make out what they process. Reading comprehension is thus directly related to critical thinking abilities (Friedman & Rowls, 1980).

Critical thinking skills are needed in all fields. Students dealing with reading comprehension text or passage must employ critical thinking skills to enable them to handle the range of questions – content, derivative and appreciative (Sackeyfio, 2000) – on the text that they read. Students must be able to look critically at political, economic, and commercial propaganda and advertising skilfully designed to persuade and promote not only products and people but ideas, trends, and ideologies (Devine, 1986). Students must be able to stimulate their minds with imaginative literature by looking critically at them, thereby comprehending what is read and gaining insight into the human condition.

### **Statement of the Problem**

In this era when there is the general belief that standards in English have fallen and keep falling in Ghana, educators are striving to come up with best practices to promote and raise English test scores at all levels. Educators are doing their best to boost reading comprehension scores. Students and, for that matter, people all over the world are often confronted with gigantic volumes of information that they need to read and digest. Good reading comprehension and critical thinking skills coupled with extensive background

knowledge or prior knowledge are indispensable tools that anybody needs to function properly in the academic world and the society.

Students lack the ability to infer, predict and hypothesize. They cannot link prior knowledge to the text at hand. They do lack extensive knowledge of the world in general and of the specific subject of the text they are dealing with. Many students also seem to lack linguistic competence and operate with minimal semantic knowledge of commonly used words. As a result of the dearth of extensive reading, vocabulary and critical thinking skills, students have difficulty in handling any text before them.

The study, therefore, aims at investigating the relationship of critical thinking skills and students' performance in Reading Comprehension.

### **Purpose of the Study**

There has been very little research done to investigate the critical thinking skills of pre-service teachers in Ghana. The purpose of this study is to examine the relationship of reading comprehension and critical thinking skills of first and second year students of Holy Child College of Education.

Specifically, the study hopes to find out:

1. The reading preferences of first and second year students of Holy Child College of Education.
2. The reading comprehension skills of first and second year students of Holy Child College of Education.
3. If students' critical thinking skills get better as they move to a higher academic level.
4. If students' performance in reading comprehension gets better as they move to a higher academic level.

5. The effect of critical thinking skills on students' performance in reading comprehension.
6. The performance of Levels 100 and 200 students in critical thinking

### **Research Questions**

The following are the questions that guide the present study:

1. What are the reading preferences of first and second year students of Holy Child College of Education?
2. What are the reading comprehension skills of first and second year students of Holy Child College of Education?
3. Do students' critical thinking skills get better as students move to a higher academic level?
4. Does students' performance in reading comprehension get better as students move to a higher academic level?
5. Is there a relationship between critical thinking skills and reading comprehension performance of first and second year students of Holy Child College of Education?
6. What is the performance of both Levels 100 and 200 students in critical thinking?

### **Research Hypotheses**

The researcher had certain hypotheses that needed to be affirmed or disproved by the research. The following hypotheses were formed:

1. H<sub>0</sub>: There is no significant relationship between critical thinking skills and reading comprehension scores.

H<sub>1</sub>: There is a significant relationship between critical thinking skills and reading comprehension scores.

2. H<sub>0</sub>: There is no significant difference in the levels of critical thinking of first and second year students of Holy Child College of Education.

H<sub>1</sub>: There is a significant difference in the levels of critical thinking of first and second year students of Holy Child College of Education.

3. H<sub>0</sub>: There is no significant difference between the performance of first and second year students of Holy Child College of Education in reading comprehension.

H<sub>1</sub>: There is a significant difference between the performance of first and second year students of Holy Child College of Education in reading comprehension.

### **Significance of the Study**

Many students struggle with reading comprehension and educators and researchers are constantly looking for effective methods to assist students with reading comprehension problems. Since higher-order thinking facilitates comprehension, it was hoped that the findings of the study would bring out the importance of critical thinking skills to students, not only in handling reading comprehension but in writing composition and in dealing with other subjects or courses.

The findings of the study would also bring to the notice of teachers of all subject areas the relevance of critical thinking skills to all subjects and encourage them to adopt methods of teaching that would help develop their students' critical thinking or the study would encourage teachers to create the

environment that stimulates critical inquiry so that students at all levels would acquire the ability of thinking critically about issues to enable them to take worthwhile decisions. Comprehension and critical thinking skills are vital in all subject areas. They are skills that must be mastered by students in order to achieve academic success.

Finally, the findings of the study hope to draw the attention of curriculum designers to the relevance of critical thinking to students of all levels, so that methods of developing critical thinking skills in pupils and students would be included in the content of the English Language curriculum of all levels.

### **Delimitation of the Study**

Though students in general seem to lack critical thinking skills in all areas of study and at all levels of education, for convenience, the study was limited to only Holy Child College of Education (a tertiary institution) and investigated the first and second year students' reading skills and preferences and their performance in critical thinking and reading comprehension.

It is important to emphasize that the approach to critical thinking in this study is in education context. The overall objective of this study is to find out the level of students' critical thinking and its relevance to their performance in reading comprehension. The critical thinking of students was evaluated in the context of students' ability to state the main idea, the author's purpose and the key question, tell the accuracy of the author's claim, recognize assumptions and biases and to draw conclusion.

Reading comprehension was selected for this study because it is an area where the application of critical thinking is vital. Furthermore, reading

comprehension forms an integral part of the Language Studies curriculum of colleges of education. In addition to that, students have been performing poorly in reading comprehension. It is believed that students are performing badly in this area because students lack the necessary critical thinking skills that enhance performance in reading comprehension.

### **Limitations of the Study**

Looking at the programmes being run by Colleges of Education and the time limitation, the researcher was constrained to carry out the research within one semester of sixteen weeks. Ideally, the comparison of critical thinking skills of students of two different levels should have been between first and third year students but that was impossible because of the one year out-programme which took the third year students out of campus for a whole academic year. The two years interval would have been long enough a time for the researcher to find out whether third year students had superior critical thinking skills. Due to time constraint, the researcher could only conduct the study at the end of the second semester. Another limitation that could affect the validity of the findings was students' responses to the questionnaire administered to them. Even though the questionnaire did not demand the names of the respondents, the probability of respondents not giving the actual picture of their grades and skills in reading comprehension and critical thinking was high.

### **Definition of Terms**

**Reading Comprehension** is the holistic process of constructing meaning from a written text through the interaction of the reader's background knowledge,

his or her interpretation of the language the writer used in constructing the text and the situation in which the text is read. (Maria, 1990)

**Critical Thinking** is active and skilful conceptualizing, applying, synthesizing, and or evaluating information gathered from observation, experience, reflection, reasoning or communication as a guide to belief and action. (Scriven & Paul, 1996)

**Critical Thinking Skill** is the ability to interpret, analyze, evaluate, infer, explain, and monitor one's cognitive activities (Facione, 1990).

### **Organisation of the Rest of the Study**

The study is divided into five chapters. Chapter One is introduction to the study and covers the background to the study, the statement of the problem, the purpose of the study, and research questions and hypotheses. The chapter also contains delimitation and limitations of the study.

Chapter Two deals with the review of related literature on reading and reading comprehension, factors that affect reading comprehension, critical thinking and its relevance to education, and critical thinking at college level. The chapter also looked at students' entry characteristics.

The research design, population, sample and sampling procedure, research instruments, data collection and analysis procedures are discussed in Chapter Three. Chapter Four presents the analysis and discussion of research findings while Chapter Five covers the summary, conclusions and recommendations.

## **CHAPTER TWO**

### **REVIEW OF RELATED LITERATURE**

As the focus in this study was to investigate students' critical thinking level and how it possibly affected their performance in reading comprehension, this chapter reviews the literature on reading and critical thinking theories and looks at related concepts of reading and critical thinking. In addition to that, the chapter takes a look at empirical studies on reading comprehension and critical thinking and also discusses some factors that inhibit reading comprehension and strategies to improve reading comprehension. It further discusses the incidence of critical thinking in colleges.

#### **Some Reading and Critical Thinking Theories**

In psychology and education, learning is commonly defined as a process that brings together cognitive, emotional, and environmental influences and experiences for acquiring, enhancing, or making changes in one's knowledge, skills, values, and world views (Illeris, 2004; Ormrod, 1995). This study will concentrate on the three main categories or philosophical frameworks under which learning theories fall. These are behaviourism, cognitivism, and constructivism.

The behaviourists' view of learning was propounded by Skinner, the father of Behaviourism. The Behaviourist theory is based on the belief that learning is a result of the environment acting on the learner (Freeman & Freeman, 2000). Behaviourism focuses only on the objectively observable



aspects of learning. The implication this theory has on language learning is that it shows how external influences of the school, the classroom environment, the atmosphere, the teacher and other native speakers can negatively or positively influence the learner.

The behaviourists view reading is a matter of decoding single letters, words or focusing on areas such as eye-voice span, speed of reading, and lip movement during silent reading (Hiebert & Raphael, 1996). Reading, to the behaviourists, is a passive process in which the information on a page of a text is somehow absorbed by the reader as his or her eyes scan the page. According to this notion of reading, readers are passive respondents in the reading process. Classroom instruction on reading, therefore, focuses more on word recognition rather than meaning hence the bottom-up approach which focuses more on the teaching of decoding processes and word level processing skills rather than on meaning construction. In many Ghanaian classrooms the bottom-up approach dominates (Etsey, 2009)

Unlike the Behaviourist theory which ignores issues that are related to the mind and limits itself to observable and measurable behaviours, the Cognitive theory looks beyond behaviour to explain brain-based learning. It focuses on different mental activities related to reading. Cognitive Psychology or Cognitivism brought about a change in the teaching of reading. This change started in the 1960s. The theory focuses on the study of the learners' thought processes and how they help in understanding the text that the readers read. Cognitive psychology, therefore, views the mind as central to learning and reading in particular.

The Cognitive Theory sees reading as an active process in which the reader gleans meaning from the text as a result of the cognitive work the reader puts into the process. To the cognitive psychologist, the background knowledge that readers bring to the printed page is the single most important component of the reading process (Graves, Juel & Graves, 1998; Devine, 1986) hence the schema theory which explains how all kinds of knowledge that we acquire either through experience or reading is packaged in organized structures in the brain termed as schemata (plural of schema). Schema is defined as an abstract knowledge structure that exists in memory as something that a person knows (Mayer 2004; Anderson & Pearson, 1984). McNeil (1992), also defines schemata as the reader's concepts, beliefs, expectations, processes — virtually everything from past experiences that are used in making sense of reading.

According to the cognitive psychologists, the words in the text do not have meaning; it is the background experiences that a reader brings to the text that enables him or her to gain personal meaning of the text (Durkin, 2004). The reader first predicts what the text or the story is about and then reads on to confirm or refute his or her prediction. During the reading process, the reader relies heavily on the mind and other higher level knowledge to construct meaning. Here, information from the reader's world knowledge or his or her understanding of the topic plays a major role in comprehension.

The third theory, cognitive constructivism, simply referred to as Constructivism, is a psychological and philosophical orientation that views learning as a process in which the learner actively constructs or builds new ideas or concepts. Regardless of the variety, constructivism promotes a

student's free exploration within a given framework or structure. The teacher acts as a facilitator who encourages students to discover principles for themselves and to construct knowledge by working to solve realistic problems. The constructivists differ slightly from the cognitive psychologists for they believe that learning is not just a cognitive process but also a social process in which the individual learner is influenced by his or her society, culture and interaction with the people in his environment (Hiebert & Raphael, 1996).

Cognitive constructivism emerged as part of cognitive psychology and draws its roots from Vygotsky's theories on cognitive development and social learning. Like cognitive psychology, cognitive constructivism's view on the reading comprehension process is different from that of behaviourist theory. Unlike the behaviourists, cognitive constructivists hold the notion that reading is an active constructive process of constructing or making meaning from print (Graves & Graves, 1994), and that the socio-cultural background of the reader influences his or her understanding of a text (Anderson & Pearson, 1984). The reader, therefore, thinks critically about a text in order to make sense of the text (Pressley & McCormick, 1995; Gibbons, 1993).

These three theories have different approaches to reading comprehension. The behaviourists assume that comprehension occurs when a reader is able to pronounce words correctly and answer questions comprehension has taken place (Hiebert & Raphael, 1996). The cognitive psychologists believe that the reader needs to engage in several cognitive activities in order to comprehend a text. They stress the importance of prior knowledge. The cognitive constructivists have added a social-cultural

dimension to reading comprehension. A reader's cultural background aids in comprehension and to them reading comprehension should be interactive.

### **Concepts of Critical Thinking**

Much of our thinking, left to itself, is biased, distorted, partial, uninformed or down-right prejudiced. Yet the quality of our life and that of what we produce, make, or build depends precisely on the quality of our thought. Shoddy thinking is costly, both in money and in quality of life. Excellence in thought, however, must be systematically cultivated" (Paul & Elder, 2008, p.2).

According to Paul and Elder (2008), critical thinking is, in short, self-directed, self-disciplined, self-monitored, and self-corrective thinking which presupposes assent to rigorous standards of excellence and mindful command of the use of these standard. To them critical thinking requires effective communication and problem solving abilities and a commitment to overcome native egocentrism and sociocentrism.

Thinking can be oriented or structured with different issues or purposes in view. Critical thinkers learn to discipline their thinking to take into account the nature of the issue or domain. This is most clearly seen when the difference between issues and thinking within different academic disciplines or subject areas is considered. Hence, thinking in mathematics is quite different from thinking in history since the two represent different domains of thought.

Critical thinking is needed in every domain of learning since it produces in the student the ability to identify and solve fundamental problems in their field of study. The performance of the student who possesses critical

thinking skills would demonstrate a mind in charge of its own ideas, assumptions and inferences. He or she would demonstrate the ability to analyze questions and issues clearly and precisely, formulate information accurately, distinguish the relevant from irrelevant, recognize key questionable assumptions and use key concepts effectively. The student would demonstrate excellent reasoning and problem-solving ability.

Reading, writing, speaking, and listening can all be done critically or uncritically. Critical thinking is crucial to close reading or critical reading. In order for students to read critically they need to think critically, as well.

### **Reading Defined**

Current research in reading suggests that reading is a process of constructing meaning through dynamic interaction of the reader, the text and the context of the reading situation that results in the acquisition of knowledge, experience or information (Anderson & Pearson, 1984). According to Pressley (2000), reading is often thought of as a hierarchy of skills, from processing individual letters and their associated sounds to word recognition to text-processing competencies and that comprehension requires fluid articulation of all these processes, beginning with the sounding out and recognition of individual words to the understanding of sentences in paragraphs as part of much longer texts.

Obah (2002) also agrees that reading is a complex process; it forms part of a complex information-processing system. She points out that during reading, information is passed from the writer to the reader who, without the props of facial movement, gestures or tone of voice must, isolate concepts that are represented by black and white symbols. Obah (2002) sees reading as

operating on two levels – symbols and concepts. On the first level, words are recognised, grouped and interpreted. On the second level, the words that are recognised by the reader help him or her to recall from his or her storehouse of meaning and experiences certain shared ideas. The reader follows the writer's line of thought, re-creating in his or her mind the mental images or ideas transmitted by the writer.

Clarke, Dickinson, and Westbrook (2004) point out that reading means more than just decoding print. To them, the act of reading means making sense of the print that the reader engages with and in order to do this the reader will have to bring his or her prior knowledge and understanding to bear on the text he or she encounters. Cortina and Elder (1998), from the several important points they make about reading, also agree that reading is more than simply decoding. They see reading as a form of thinking since it is the brain that does the reading. To them, during reading the eyes merely transmit images to the brain for it to interpret and improving one's reading means improving one's thinking. Smith (1994) also says that reading is thoughtful activity and cannot be separated from thinking. Cortina and Elder identify three overlapping stages of the reading process – preparing oneself to read, processing information and reacting to what one reads. From the above, it can be concluded that reading is not just the decoding of print but reading involves cognitive processes.

### **Reading Comprehension Explained**

When it comes to literacy, the radio, television and film play a powerful role; yet students must learn to be comprehending readers to survive and be successful in their education and the society at large. Students must be

able to make sense of newspapers, books and magazines in order to supplement the ideas and information they get from non-print sources (Devine, 1986). Graves, Juel and Graves (1998) point that meaning does not automatically come to the reader when a text is read; rather meaning is actively constructed by the reader based on prior knowledge and experience, linguistic knowledge and cognitive skills.

In other words, comprehension is seen as an active meaning constructing process during which the reader uses all available strategies and skills to construct meaning from a text. Research on comprehension affirms that the process of comprehension in itself is a highly complex act which involves complex processes (Burns, Roe & Smith, 2002; Leu & Kinzer, 1995). The reader uses a combination of knowledge, skills and cognitive processes to comprehend text.

Comprehension then plays a vital role in learning. To Fielding and Pearson(1994), comprehension is a complex process involving knowledge, experience, thinking, and reading. Comprehension depends heavily on knowledge – both about the world at large and the worlds of language and print. Comprehension inherently involves inferential and evaluative thinking, not just literal reproduction of the author’s words. In order to comprehend what one reads, the reader must draw heavily from his or her existing store of knowledge or schemata (Graves, Juel, & Graves, 1998).

Reading comprehension is described as an active process in which different mental activities take place in the reader’s mind unknown to the outsider. During reading comprehension, the reader actively draws information from his or her background knowledge and uses knowledge of text structures

and information in the text to determine the meaning of the text (Clarke, Dickinson, & Westbrook, 2004; Graves, Juel, & Graves, 1998). According to Block (1986), during reading comprehension, the reader searches, reflects, associates and connects ideas in the text with what he or she already knows. The above definitions of reading comprehension all indicate that prior knowledge plays an important role in comprehending text.

Clarke, Dickinson, and Westbrook (2004) and Devine (1986), like Obah (2002), identify three levels of comprehension. These are literal comprehension which refers to reading the lines of the print to determine what is said in the text; inferential comprehension which means reading between the lines of print, inferring what the writer might mean; and applied comprehension which refers to reading beyond the lines of print, and linking what is read to other knowledge, situations and issues.

The reading comprehension process, according to Devine (1986), to some extent, rests on these four assumptions: readers must possess linguistic competence to know the coding system of the writer; they must be motivated to figure out the code; readers must have texts that they can decode and have a modicum of prior knowledge about the information in the text to be read, as well as knowledge of the meaning of words used in the text.

According to Clarke, Dickinson, and Westbrook (2004), the ability to read fluently and with meaning is the basis for most learning and a prerequisite for academic success. They point out that in learning to read even very young children draw on three sources of knowledge in order to make meaning. These are context, textual and language sources. Context source refers to the knowledge of the world – readers draw on what they know about how the



world works to help them comprehend text. Textual source refers to knowledge of how texts work and are organised. Readers should be able recognise or differentiate between, for example, a story and a poem. Language source is made up of semantic, syntactic and grapho-phonetic knowledge. Readers draw from their semantic knowledge (understanding the meaning of words); syntactic knowledge (understanding how words link to each other in a sentence to create sense and coherence) and grapho-phonetic knowledge, referring to decoding at word level (that is relating phonemes to graphemes and understanding letter blends).

Cortina and Elder (1998) make several important points about reading. They see reading as interactive. Effective reading requires that one interacts with the material that one is reading and one way of interacting with an author's ideas is for one to mentally ask oneself questions as one reads and then seek answers to these questions. Another way to interact with a text is by relating one's own experience and knowledge to the author's ideas when reading. Reading interactively also means being aware of how the material is organised and monitoring one's comprehension of what is read and taking steps to correct the situation when one is not comprehending. Cortina and Elder also point out that comprehension problems often result from a reader's lack of background knowledge. When a reader does not possess enough information about a subject comprehension problems occur. This could be remedied by the reader reading more to increase background knowledge.

Reading research (e.g. Mayer, 2004; Gibbons, 1993; Phillips, 1984) also point out that reading comprehension is a highly complex process. It is challenging and demanding. They make it clear that successful comprehension

of a text depends on the use of many skills and strategies as well as a good linguistic knowledge, general experience and a good knowledge of the world.

### **Major Factors that Affect Performance in**

#### **Reading Comprehension**

The literature has revealed that the comprehension of text is significantly affected by a lot of factors. Different readers interpret an author's message in different ways. Comprehension is affected by the reader's knowledge of the topic, knowledge of language structures, knowledge of text structures and genres, knowledge of cognitive and metacognitive strategies, readers' reasoning abilities, their motivation, and their level of engagement (Lenz, 2010).

Comprehension of a text is markedly affected by the previously acquired knowledge that readers bring to the text they are reading (Cortina & Elder, 1998; Devine, 1986). Readers make sense of new information by relating it to what they already know. The quantity and quality of their prior knowledge shape their interpretation of text. Block (1986) reiterates this fact by stating that readers, during reading, search, reflect, associates and connect ideas in the text with what they know. This also affirms the fact that successful comprehension is more than just decoding. Knowledge of word meaning which forms part of prior knowledge is vital to comprehension. Readers must, therefore, have extensive vocabulary in order to deal with reading materials.

Apart from prior knowledge, there are other factors that affect reading comprehension. Research on reading points out that readers must have linguistic competence. This means readers must be able to decode at word level; they must possess appropriate syntactic knowledge to understand how

words link to each other in a sentence to create sense and coherence; and they must also have semantic knowledge of commonly used words (Clarke, Dickinson & Westbrook, 2004; Devine, 1986).

Reading comprehension is also affected by the quality of the reading material. Some writers are better writers than others, and some writers produce more complex reading material than others (Lenz, 2010). This affirms Devine's (1986) view that writers sometimes construct carelessly without providing readers with the necessary guidance or may not take readers' appropriate prior knowledge into consideration. He says sometimes writers write very well but deliberately structure the text in such a way as to require readers to employ several cognitive skills to enable them to make sense out of the text.

Another factor that affects comprehension in a significant way is reading rate. According to Cortina and Elder (1998), reading rate and comprehension are related. The more one knows about a topic and understands the material, the faster one can read it. On the other hand, if the reader knows very little about a topic he or she must reduce his or her reading rate and reading strategies must suit the purpose for reading. Since reading is done for different purposes, a reader's reason for reading any particular material should affect the way he or she approaches it. For example, a reader's approach to a novel should be different from his or her approach to a college textbook.

Good readers require dynamic cognitive processes for effective and successful comprehension of text (Mayer, 2004; Pressley & McCormick, 1995). When writers write in support of a controversial position or write to explain a phenomenon that are far removed from the readers experience or

background knowledge then readers are required to use cognitive skills to make inferences, note implications, test out hypotheses and seek evidence for writer's inferences and generalisations (Devine, 1986).

According to Lenz (2010) and Durkin (1978), cited in Etsey (2009), the type of instruction that students receive in reading comprehension also affect their ability to comprehend text. Etsey (2009) points out that during a typical reading lesson, more focus is rather placed on how well children read aloud and not necessarily how they understand the text they read. She said a typical reading comprehension instruction in most classrooms involves vocabulary drill and answering of comprehension questions that follow the passage. Strategies for improving reading comprehension must be taught directly by teachers. Simply providing opportunities or requiring students to read will not teach them the comprehension strategies they need to be proficient readers. These strategies need to be taught directly as students learn to read simple sentences and direct instruction needs to continue in different forms throughout a students' elementary and secondary school experience (Lenz, 2010).

### **Reading Comprehension Strategies that Improve Comprehension**

Pressley and Afflerbach (1995) summarize practically all the reading strategies needed for successful reading comprehension when they describe good readers. According to them, good readers are aware of why they are reading a text; they gain an overview of the text before reading, make predictions about the upcoming text and read selectively based on their overview. They are also able to associate ideas in texts with what they already know and these readers can note whether their predictions and expectations

about text content are being met. Good readers revise their prior knowledge when they encounter compelling new ideas that conflict with their prior knowledge.

Good readers can figure out the meanings of unfamiliar vocabulary based on context clues, underline and reread and make notes and paraphrase or summarize what they read in order to remember important points, interpret the text, evaluate its quality, review important points and draw conclusions. Good readers also think about how ideas encountered in the text might be used in the future. When readers effectively apply these strategies they are applying higher order thinking which is critical thinking.

(Devine, 1986) outlines approaches or strategies for improving students' comprehension. These approaches involve extending, enriching, refining and restructuring background knowledge. They also involve the development of cognitive skills and teaching students about ways texts are organised. When these approaches are taught by the teacher, it is hoped that students would transfer the outcomes of instruction into their out-of-class and other experiences as readers

Many effective strategies have been developed and validated by research findings. Lenz (2010) and Devine (1986) group these strategies under three traditional headings: before reading (pre-reading) strategies, during reading strategies, after reading (post reading) strategies. Pre-reading Strategies consist of those strategies that students learn to use to get ready to read a text. These strategies help students get a general idea of what the author might be trying to say and how the information might be useful. These strategies help to create a right state of mind for taking in and storing

information. Pre-reading strategies include previewing headings and sub-headings, surveying pictures, reading introductions and summaries, creating a pre-reading outline, creating questions that might need to be answered, and making predictions that need to be confirmed. Pre-reading activities prepare students in advance to get the most out of a text.

During Reading Strategies consist of those strategies that students learn to use while they are reading a text. These strategies help the students to focus on how to determine what the author is actually trying to say and to match the information with what they already know. These strategies should be influenced by the Pre-reading Strategies because students should be using or keeping in mind the previews, outlines, questions, predictions, etc. that were generated before reading and then using these forms of information to digest what they are reading. During Reading Strategies that help students to understand the text include questioning, predicting, visualizing, paraphrasing, elaborating, summarizing etc. At this stage the students compare what is read to what they already know. Students at this stage also vary their reading rate, monitor their comprehension and re-read portions of text they do not understand.

After-Reading Strategies consist of those strategies that students learn to use when they have completed reading a text selection. These strategies are used to help the students "look back" and think about the message of the text and determine the intended or possible meanings that might be important. These strategies are used to follow up and confirm what is learned from the use of before and during reading strategies. Here, students answers questions or confirm predictions. After-Reading Strategies also help the students to focus

on determining what the big, critical, or overall idea of the author's message is and how it might be used before moving on to performance tasks or other learning tasks.

Since comprehension is the act of constructing meaning with text and readers play active roles in filtering, organising, interpreting and generating relationships with the incoming information, readers need comprehension strategies to deal with this. Reading comprehension strategies allow readers to move from elementary reading to effective reading. Research on reading has revealed that reading comprehension strategies, when properly taught by teachers and skilfully utilised by students will significantly enhance comprehension.

### **On Defining Critical Thinking**

Scriven and Paul, (cited in Duron, Limbach & Waugh, 2006), point out that thinking is a natural process, but left to itself, it is often biased, distorted, partial, uninformed, and potentially prejudiced; excellence in thought must be cultivated. Critical thinking, very simply stated, is the ability to analyze and evaluate information. Critical thinkers raise vital questions and problems, formulate them clearly, gather and assess relevant information, use abstract ideas, think open-mindedly, and communicate effectively with others (Duron, Limbach & Waugh, 2006).

Barnet and Bedau (1999) also say that thinking by itself can be taken for any form of mental activity, from idle daydreaming during a lecture to careful analysis of making a choice between two important things. When the adjective “critical”, which takes its origin from the Greek word “krinein” meaning “to separate” or “choose”, is added to thinking, then reveries and snap

judgments are eliminated. This implies that critical thinking means searching for assumptions, noticing various facets, unravelling different strands, and evaluating what is most significant (Barnet & Bedau, 1999). In other words, in thinking critically about a topic, one tries to see it from all angles before drawing a conclusion.

Critical thinking requires imagination; that is, seeing things from perspectives other than one's own. To Barnet and Bedau (1999), thinking critically involves a two-fold activity: analysis which refers to separating the parts of the problem, trying to see how things fit together and evaluation which refers to judging the merits of one's assumptions and the weight of the evidence in their favour. If one engages in imaginative, analytic and evaluative thought, one will have second and third ideas; one may find oneself adopting a position that initially would have been unimaginable.

Critical thinking clarifies goals, examines assumptions, discerns hidden values, evaluates evidence, accomplishes actions, and assesses conclusions. Critical thinking occurs whenever one judges, decides, or solves a problem. Critical thinking takes place when one tries to figure out what to believe or what to do, and does so in a reasonable and reflective way. Reading, writing, speaking, and listening can all be done critically or uncritically.

Training learners to be thinkers is beneficial to the individual and the society. It improves student's academic performance and achievement. According to Facione (1998), there is significant correlation between critical thinking and reading comprehension. Teachers, by engaging in thinking with their learners, help improve their own thinking skills. Thinking prepares individuals for future life and makes learners lifelong learners. The ideal



thinker is inquisitive (in the positive sense), well-informed, trustful of reason, open minded, flexible, and fair minded and much more.

Critical thinking is a mode of thinking about any subject, content, or problem. It is an ability with which students can improve their thinking quality by skilfully managing their thinking structures and intellectual criteria around them (Paul & Elder, 2008). Scriven and Paul (2003) also define critical thinking as an intellectually disciplined process in which students actively and skilfully conceptualize, apply, synthesize, and evaluate information generated by observation, experience, reflection, reasoning, and communication. Vanderstoep and Pintrich (2003) define critical thinking as the ability to use acquired knowledge in flexible and meaningful ways, through understanding the problem or issue, evaluating evidence, considering perspectives and taking a position.

Smith (2002) and other literature on critical thinking identify certain guidelines for critical thinking. According to them, people who think critically are flexible and can tolerate ambiguity and uncertainty; they can identify inherent biases and assumptions in a text and can easily separate facts from opinions. People who think critically always maintain an air of scepticism and do not over-simplify issues. They maintain critical thinkers use logical inference processes and examine available evidence before drawing conclusion.

From the above literature, it is obvious that critical thinking requires objectivity, open-mindedness and higher order thinking skills to arrive at a conclusion. According to the American Philosophical Association's (APA's) Delphi Report (1990), critical thinking has six core elements: interpretation, analysis, evaluation, inference, explanation, and self-regulation. That is,

students should know how to comprehend and express meaning or significance. They should know how to identify implicit and explicit relationship and to give logical assessment. Besides, after interpretation, analysis, and evaluation, they should know how to monitor their cognitive process, draw reasonable and logical conclusions, and illustrate the results. Based on APA's definition (1990), ideal critical thinkers should be inquisitive, well-informed, logical, and open-minded. Besides, they should be honest in facing their biases and be careful in making judgments.

A critical thinking model was proposed by Anderson, Krathwohl and Bloom (2001) which includes knowledge, comprehension, inference, application, analysis, synthesis, and evaluation. In the knowledge phase, students should learn how to experience, observe, intuit, and research. In the comprehension phase, students should learn how to internalize, recall, and to connect with other information. In the inference phase, students should learn how to make conjectures on something they do not have adequate data about. In the application phase, students should learn how to put to use what they know. In the analysis phase, they should know how to detect needed procedures and possible consequences. Besides, students should learn how to recognize parts and even subparts and put these parts together. Finally, they should render judgment based on their knowledge and experience.

To sum up, persons with disposition to think critically should be persons who are inquisitive, truth-seeking, open-minded, analytic, cognitively mature, systematic, and self-confident (APA, 1990).

## **Critical Thinking Skills**

Experts on critical thinking identify the following as being at the core of critical thinking: interpretation, analysis, evaluation, inference, explanation, and self-regulation. The consensus statement of the National Panel of Experts explains interpretation as the ability to comprehend and express the meaning or significance of a wide variety of experiences, situation, data, events, judgements, conventions, beliefs, rules, procedures or criteria. The panel also identifies some sub-skills of interpretation as recognizing a problem and describing it without bias, distinguishing a main idea from subordinate ideas in a text; constructing tentative categorization or way of organizing something one is studying; paraphrasing someone's ideas in one's own words and identifying an author's purpose, theme, or point of view.

The experts see the skill of analysis as the ability to identify the intended and actual inferential relationships among statements, questions, concepts, descriptions, or other forms of representation intended to express belief, judgment, experiences, reasons, information, or opinions. Sub-skills include identifying the similarities and differences between two approaches to the solution of a given problem. Examining ideas, detecting arguments, and analyzing arguments are also sub-skills of analysis.

Evaluation is defined as the ability to assess the credibility of statements or other representations which are accounts or descriptions of a person's perception, experience, situation, judgment, belief, or opinion; and to assess the logical strength of the actual or intended inferential relationships among statements, descriptions, questions or other forms of representation.

To the experts, inference means the ability to identify and secure elements needed to draw reasonable conclusions. Explanation is defined as being able to present in a cogent and coherent way the results of one's reasoning. Self-regulation simply refers to one's ability to examine and correct one's own thoughts, which is the ability to self-consciously monitor one's cognitive activities (Facione, 1990).

### **Critical Thinking at College**

College is a time for students to expand their knowledge, and acquire a variety of skills that will ensure their academic success and general success in life. In college students are expected to develop critical thinking skills that can help them to become self-directed learners.

Due to the complex nature of critical thinking and the difficulty involved in assessing it, few empirical studies investigating critical thinking development in undergraduate students exist (Pithers & Soden, 2000). According to the literature, students do not necessarily develop critical thinking skills as part of their college experience. A study conducted by Pithers and Soden (1999) found no significant difference in the critical thinking of both graduate and non-graduate students. According to them, the lack of significance is likely to be due to a lack of clarity surrounding the construct of critical thinking and reliable method to assess. In addition to that, they asserted instruction in colleges focuses primarily on subject-matter content. Similar research findings revealed that majority of students still demonstrate characteristics that correspond to concrete thinking level rather than use formal reasoning (de Sanchez, 1995).

In the western world, research has been done on developing the thinking skills of learners but little attention is given to how pre-service teachers in developing countries, especially, Ghana, can be trained in thinking to enable them to transfer such skills to their prospective students (Owu-Ewie, 2008).

As schools move from information giving to information processing, there is the need for schools to increase their students' capacities for higher order thinking to improve their capability to acquire, analyze, and apply complex information and to solve problems effectively (Tucker, 1988). According to Beyer (1997), the most important goal of education is learning and learning is a result of thinking. Students' success in school is heavily dependent on their inclination as well as their ability to think skilfully. Promoting critical thinking skills in learners has, therefore, attracted the attention of educators but little consideration is given to how teachers should be trained to promote critical thinking in schools.

Educational planners, especially in African countries, including Ghana, have given little thought to how teacher training institutions should prepare pre-service teachers to enhance students' critical thinking skills (Akyeampong, 2003; Hill, 2000). Improving the quality of students' thinking in schools requires skilful teaching. Such a skill does not emerge without preparation. The challenge to colleges of education in Ghana, therefore, is to pursue training programmes that prepare pre-service teachers to develop their students' critical thinking skills while they teach. GES/TED/ODA (1993), cited in (Akyeampong, 2003), points out that learning in the colleges of education is heavily examination-oriented and students are largely passive

recipients of “content” and “theory”. The same study notes that pre-service teachers need to be prepared to teach their students to think critically but teacher preparation in Ghana is devoid of the application of activities or strategies that develop the thinking skills of student-teachers (GES/TED/ODA, 1993).

Teacher training institutions must teach cognitive skills to pre-service teachers before training them to teach thinking skills in the classroom (Ashton, 1988). Teacher institutions need to incorporate thinking skills into all aspects of teacher preparation and train future teachers to be models of effective thinking strategies (Walsh & Paul, 1988).

Akyeampong (2003), looking at teacher preparation in Ghana, found out that college teachers used lecture methods in content delivery without involving their students actively in the lesson. He also pointed out that the teaching of pedagogical knowledge was done mostly by lecture method which did not encourage reflective thinking. Ijaiya, Alabi and Fasasi (2011) also said that an analysis of past questions of undergraduate and post-graduate teacher education programmes of a faculty of Education revealed that too much emphasis is placed on the lower level cognitive skills like recall and understanding to the neglect of higher order thinking skills like analysis, synthesis and evaluation so students are not able to utilise their analytical thinking skills and apply the knowledge to any problem.

A case study conducted by Owu-Ewie (2008) on Enhancing the Thinking Skills of Pre-service Teachers of Komenda College of Education revealed that enhancing the thinking skills of learners is not a priority in pre-service teacher training. The study showed that several factors militate against

the development of critical thinking in this category of students. Some of these factors are teaching strategies employed by teacher trainers, classroom environment, large class sizes, staff development, administrative issues like students' recruitment and nature of school system.

The study also pointed out that, for pre-service teachers to be trained in the skill of thinking for themselves and extend this to their students, there should be a collaborative effort among all the stakeholders of teacher education. Mangieri and Collins (1998) also asserted that many teachers know little about thinking because it has not been part of their own education, and are unsure as to which content area owns thinking. Akyeampong (2003), in a study concerning curriculum in teacher training colleges in Ghana, found that external examinations have influenced college teachers' instructional practices and willingness to engage student-teachers in activities that will enrich teaching, learning, and thinking.

Researchers have reported that even though college students with lower verbal ability were able to identify individual words and facts, they were unable to combine the information in the text with the previously acquired information (Baker, 1985). According to Baker, the inability of college students to integrate ideas was accompanied by an inability to draw logical conclusions and check ideas to identify contradictions in what they were reading. This appears to be the situation of a lot of first-year students of colleges of education in Ghana. Brown and Day (1983) reported that junior college students and college students were not able to summarize text; neither were they able to select the topic sentence nor invent one if it was not

explicitly stated in the text. They could not write a summary of a paragraph if the topic sentence was not categorically stated.

During the reading comprehension process, the reader thinks critically about the text in order to make sense of the text (Gibbons, 1993). Arons (1979) found that college students lacked deductive and inductive reasoning. They lacked the ability to infer, to recognize assumptions and evaluate conclusions and these are critical thinking skills. Reading comprehension is thus directly related to critical thinking (Friedman & Rowls, 1980).

Critical thinking skills are needed in all fields. Students dealing with reading comprehension text or passage must employ critical thinking skills to enable them to handle the range of questions – content, derivative and appreciative – on the text that they read. Students must be able to look critically at political, economic, and commercial propaganda and advertising skilfully designed to persuade and promote not only products and people but ideas, trends, and ideologies (Devine 1986). Students must be able to stimulate their minds with imaginative literature by looking critically at them, thereby gaining insight into the human condition.

Farley and Elmore (1992) in their investigation of the relationship of reading comprehension to critical thinking skills, cognitive ability and vocabulary for a sample of underachieving college freshmen, reported that there was a noteworthy relationship between quantitative reasoning skill and reading comprehension.

On the relationship between critical thinking and greater success in one's education or work, Facione (2010) saw a positive relationship. A study of over 1100 college students showed that scores on a college level critical



thinking skills test significantly correlated with college GPA. It has also been shown that critical thinking skills could be learned and it was suggested that as one learned these skills, one's GPA might well improve. In further support of this hypothesis, Facione also pointed out that there was a significant correlation between critical thinking and reading comprehension. Improvement in one is paralleled by improvement in the other. He concluded that if one could read better and think better, one could do better in one's classes, learn more, and obtain better grades.

### **A Case for Critical Thinking in Colleges**

According to the APA Delphi Report (1990), "The Critical Thinking Movement" of the 1980s witnessed a growing consensus that critical thinking is the heart of education. By the end of the decade, the attempt to infuse the K-12 and post-secondary curricula with critical thinking had gained remarkable momentum. This was necessitated by the fact that throughout life man is faced with all kinds of information – spoken, printed and electronic that need to be comprehended.

Paul (2007) pointed out in his keynote address to the 27<sup>th</sup> Annual International Conference on Critical Thinking in Berkeley, California, that the accelerated change that is taking place in the world has come with new things, new ideas, new technologies and even new dangers but the old thinking is being used to deal with these new problems that have come with the change. He said those engaged in that old thinking do not know how to analyze thinking, assess thinking, and reconstruct thinking. To him, if students are not taught to think critically, they will not be able to know how to change their thinking in keeping with the changes that are taking place in the world.

To Mukherjee ( n.d.), there is the great need to educate children and students to think deeply and critically about relevant issues, so that they can grow into mature thinking adults with adequate problem-solving skills. According to him, a study of the thinking process of students reveals inconsistencies and lack of order. He said the focus of students tends to be on the acquisition of more new and isolated facts on any subject matter without understanding the basic concepts of the subject. The result of this is that they are unable to summarize what they have studied and assess the significance of the subject matter. If students are trained in critical thinking, they would apply logical inquiry to every observation and would be capable of drawing a relevant conclusion.

Developing critical thinking skills can definitely have a positive impact on students' life since it would help them to develop higher-order thinking abilities that would be necessary for academic and job success. More importantly, critical thinking skills will broaden the perspectives from which students view the world.

Teachers also stand to gain a lot with students' acquisition of critical thinking skills since this can impact positively on the classroom. Students will approach the material in a more thoughtful and effective manner and will ask more and better questions that would enhance the teaching and learning process. Students will also develop the skills necessary to evaluate the resources that they consult for research purposes (Mukherjee, n.d.).

According to Facione (2010), the experts on critical thinking agree that critical thinking is fundamental to, if not essential for, “a rational and democratic society.” To them, there will be no democracy if critical thinking

is abandoned by the people; the electorate would not consider the pros and cons of issues. People would be more easily exploited economically and politically. International commerce, he said, would suffer if people involved lacked critical thinking skills to analyse and interpret market trends, evaluate implications, explain and draw inferences from economic facts. Facione (2010. p. 21) opines “Critical thinking employed by an informed citizenry is a necessary condition for the success of democracy.”

According to Mukherjee (n.d.), the teaching of critical thinking brings about significant change in the entire thought process of students. They can face the challenges of life confidently and achieve their goals. Critical thinking is beneficial in building up a productive mind that thinks independently and acquires far-sightedness. Mukherjee points out that critical thinkers do not get carried away by impulses or behave irrationally. He said it has been realized that teaching critical thinking has a positive effect on the overall development of an individual’s personality.

### **Measuring Students’ Critical Thinking Skills**

The theory of critical thinking began primarily with the works of Bloom, Engelhard, Furst, Hill, and Krathwohl (1956), which identified six levels (knowledge, comprehension, application, analysis, synthesis and evaluation) within the cognitive domain, each of which related to a different level of cognitive ability.

Bloom's Knowledge level requires an answer that demonstrates simple recall of facts. Questions at this level could ask students to answer who and what and to describe, state, and list. Comprehension requires an answer that demonstrates an understanding of the information. Questions at this level

might ask students to summarize, explain, paraphrase, compare, and contrast. Application requires an answer that demonstrates an ability to use information, concepts and theories in new situations. Questions at this level may ask students to apply, construct, solve, discover, and show. Analysis requires an answer that demonstrates an ability to see patterns and classify information, concepts, and theories into component parts. Questions at this level could ask students to examine, classify, categorize, differentiate, and analyze. Synthesis requires an answer that demonstrates an ability to relate knowledge from several areas to create new or original work. Questions at this level might ask students to combine, construct, create, role-play, and suppose. Finally, evaluation requires an answer that demonstrates ability to judge evidence based on reasoned argument. Questions at this level may ask students to assess, criticize, recommend, predict, and evaluate (Bloom, Engelhard, Furst, Hill & Krathwohl, 1956).

Questioning techniques can be used to foster the thinking ability of students. Questions can be categorized in a number of different ways. One simple method is to use the general categories of convergent and divergent questions. Convergent questions seek one or more very specific correct answers, while divergent questions seek a wide variety of correct answers. Convergent questions apply to Bloom's lower levels of Knowledge, Comprehension, and Application. Divergent questions apply to Bloom's higher levels of Analysis, Synthesis, and Evaluation. These questions are generally open-ended; and foster student-centred discussion, thereby encouraging critical thinking.

Using Bloom's taxonomy to categorize the various levels of learning outcomes into higher and lower level thinking has generated some arguments. For some researchers, the lower level thinking comprises knowledge and understanding while the higher order thinking comprises application, analysis, synthesis, and evaluation. Other researchers are of the view that application belongs to both sides and serves as a link between lower level and higher-order thinking. It is the overlapping point.

Stronge, Tucker and Hindman (2004) in their book *Handbook for Qualities of Effective Teachers* with Bloom's taxonomy as their framework labelled knowledge as lower level, comprehension and application as intermediate cognitive level, and analysis, synthesis and evaluation as higher-order thinking. Bloom et. al. (1956), in their original categorization of their taxonomy of cognitive domain, indicated that lower level comprises knowledge, comprehension, and application and higher level as comprising analysis, synthesis, and evaluation. Hummel and Huitt (1994) acknowledged that most test items used at all levels of education greatly emphasize lower levels of Bloom's taxonomy: knowledge and comprehension, and not higher-order thinking.

The process of critical thinking is acknowledged to be crucial and therefore should be measured. McMillan (1987) pointed out that standardized tests are too general to capture the growth of certain critical thinking skills, and many researchers agree that qualitative methods should be employed in testing for critical thinking. Tsui (1998), in her review of research on critical thinking among college students, reported that no single measure of critical thinking is perfect. She suggested classroom observations and participant interview as

means of measuring students' critical thinking. Similarly, Costa (2001) also suggested interview as an effective way for students to share their reflections.

Asp (2001) asserted that as thinking cannot be directly observed; one possible way for this to be done is to make an inference about students' thinking based on behaviour in a particular situation – for example, students' response to a test question or the manner in which they address an open-ended performance task.

Some researchers attempted to investigate the thinking process by using students' writing to evaluate thinking. Baron (1987) reported that many students in the United States have difficulties in writing an acceptable persuasive essay. In their essays, they make generalizations without providing reasons and they do not illustrate their points. In Baron's view, this problem is the result of the teaching methods. He said teachers focus on classroom activities that require listing rather than elaborating. He suggested the use of essay writing to help students clarify and evaluate their thinking as essays provide them with opportunities to reflect on their own thought and language, this will, in turn help them to learn how to focus and organize their thoughts.

### **Relevance of the Literature Review to the Study**

The literature review dealt with reading theories as seen from the behaviourists, cognitive psychologists and the cognitive-constructivists' points of view. A review of the research literature on reading comprehension reveals that the cognitive constructivists have contributed immensely to the new understanding of the reading process and now reading comprehension is seen as an a meaning-making process during which the reader searches for meaning using his or her background knowledge including socio-cultural knowledge,

his or her knowledge of text structures, and information in the text to determine the meaning of a text.

The literature review also revealed a widespread acceptance that critical thinking should be an important dimension of Education (Facione, 2010; Paul, 2007; APA Delphi Report, 1990). Teachers and researchers recognize the importance of developing students' critical thinking (Akyeampong 2003; Hill, 2000), but not much attention has been given to research into the incidence of critical thinking in colleges of education in Ghana (Owu-Ewie, 2008). The literature also revealed that teaching methods employed in the colleges of education do not encourage critical thinking.

As reading forms an important part of academic literacy, a lot of research has been carried out on reading skills in general and students reading abilities. Research literature has also shown that a lot of studies have been conducted, at all levels, in reading comprehension and students' performance in this area in the Western world, not much attention has been paid to the performance of students in reading comprehension in the colleges of education in Ghana, even though students' performance in reading comprehension continues to be poor according to the Chief Examiners' report (2009, 2010) on English Language examinations (FDC 111, FDC 121). It became obvious from the literature that college students lack critical thinking skills and this does not auger well for them because critical thinking skills enhance academic success. Additionally, the literature review also revealed that there is a relationship between critical thinking and reading comprehension.

This study, therefore, makes an attempt to bridge the gap by investigating the relationship between critical thinking and students'

performance in reading comprehension for a sample of students of a college of education.

### **Summary**

The chapter reviewed literature on reading, reading comprehension and critical thinking in general. It also looked at critical thinking at college and the importance of critical thinking for college students. Finally, the chapter dealt with the relevance of the literature review to the present study which seeks to find out whether there is a relationship between students' critical thinking and their performance in reading comprehension.



## **CHAPTER THREE**

### **METHODOLOGY**

The study investigated the relationship of critical thinking skills and reading comprehension. The previous chapter looked at the literature review of the study. It was clear from the review that there is a relationship between critical thinking and reading comprehension. Even though much research had been carried out in these two fields, there is the need to research into the place of critical thinking in the English Language curriculum of the colleges of education in Ghana. This chapter broadly describes the methodology and the research design used in the study. It describes the research design, the setting, population, sample and sampling procedure, instrumentation, data collection and methods of data analysis.

#### **Research Design**

In order to explore the relationship between critical thinking skills and reading comprehension for first and second year students of Holy Child College of Education, the researcher employed descriptive and correlational research designs to conduct the study. According to Gay (1992), descriptive research involves collecting data in order to test hypotheses or answer research questions concerning current status of the subject of the study. It determines and reports the way things are. Descriptive research, thus, establishes associations between variables. In other words, it deals with interpreting the

relationship among variables and describing their relationship (Amedahe, 2002).

Correlational research design examines the extent to which differences in one characteristic or variable are related to differences in one or more other characteristics or variables (Leedy & Ormrod, 2005; Amedahe, 2002). In other words, correlational research attempts to investigate possible relationship among variables without trying to manipulate those variables. This type of research tries to determine whether there is and to what extent or degree a relationship exists between two or more quantifiable variables (Amedahe, 2002).

The study is quantitative and quantitative data appears to be easier to interpret since the data is more specific and explicit rather than implicit in nature (Sulaiman, 2004). Like both descriptive and correlational researches, quantitative research aims at determining the relationship between one thing (an independent variable) and another (a dependent variable or outcome variable) in a population.

The descriptive component of the research design involved collecting data on students' family and academic backgrounds and students' reading preferences. Data on students' knowledge about reading comprehension and their critical thinking skills were also collected for the purpose of describing the situation as it existed. The correlation component involved determining the relationships between students' critical thinking skills and their performance in reading comprehension.

## **The Setting**

The study took place at Holy Child College of Education, Takoradi in the Western Region of Ghana. The college is an all-female institution and it is one of the thirty-eight Colleges of Education in Ghana. The college is equipped to train female graduates from senior high schools in Ghana. Students who enter the college have two options to choose from. They can opt for a course in either Diploma in Basic Education (DBE) or Diploma in Early Childhood Education (DECE). Students are prepared for three years. Students who are recruited for teacher preparation have had nine years of basic education and three years of Senior High School education.

During the second year of their training, students who opt for DECE are exempted from reading Mathematics; they are also exempted from writing the English Language Examination at the end of the second semester of the second year. Upon graduation these students will teach in the kindergarten. Those who graduate with DBE will teach at the basic level from primary one up to junior high school level. The 'out' component of their training has duration of thirty-two weeks (two semesters). This programme is intended to support and monitor the students' (teacher-trainees') performance at college, and school-based study. The college has a total student population of five hundred and twenty and teacher population of thirty-three. There are six tutors in the Language Studies Department.

## **Population**

The population for this study was first and second year students of Holy Child College of Education. The population served the purpose of the researcher because they were offering English Language as part of their

programme and so they studied reading comprehension. Students at both levels were either studying for a diploma in Basic Education or a diploma in Early Childhood Education.

### **Sample and Sampling Procedure**

The researcher used stratified sampling procedures to select the respondents. Stratified sampling which involves dividing the population into a number of homogenous groups or strata was suitable for this study (Amedahe, 2002), since the study dealt with students of two different academic levels (first and second years). In order to select the sample groups, the researcher put the first and second year students into two separate strata. The lottery type of simple random sampling procedure was then used to sample the students who took part in the study. The Vice-Principal Academic was contacted for the names of the first and second year students. After that the names of the students in each year group were represented with numbers, the numbers were written on strips of papers, folded, mixed thoroughly and placed in a basket. Sampling was then carried out from each of the stratum without replacement. The sampling of the first-year students was done first before the second year students. The sample size was one hundred. This consisted of fifty first-year students and fifty second-year students.

### **Research Instruments**

Two research instruments (test and questionnaire) were used to collect data for the study. Two tests were conducted (Please, find the two tests in Appendices B & C). The test on reading comprehension consisted of one comprehension passage and eight questions based on the passage. Questions on reading comprehension required the students to recall and apply the

information from the passage. The critical thinking test on the other hand involved one passage and eight questions based on the passage. The questions required higher-order thinking on the part of the students. That is, the questions required them to analyse, synthesise and evaluate their responses.

The questionnaire consisted of two main sections. The first section concerned the demographic characteristics of the respondents. This covered their academic level, their English Language grades in the SSCE/WASSCE, and their socio-economic background. The items in section two of the questionnaire were about students' reading comprehension and critical thinking skills and their reading preferences. The questionnaire items were of closed-ended type and simple language was used when preparing the instrument to enable the respondents to understand each of the items so that appropriate responses could be provided. After the preparation of the instruments, experts from the University of Cape Coast read through the instruments to ensure that the instruments were valid.

### **Data Collection Procedure**

The research instruments were pre-tested at Our Lady of Apostle (OLA) College of Education in the Central Region. During the pre-test, twenty first and second year students were randomly selected for the study. They were made to answer two sets of questions, one on reading comprehension and the other on critical thinking. After that, the twenty students were given a questionnaire each and were allowed one hour to respond to them. The questionnaires were collected and edited before the analysis was done. Also the tests were marked and the scores were analysed. The reason for the pre-testing of the research instrument was to find out the lapses in the instruments

to ensure content validity. Reliability of the tests was carried out and the Cronbach's alpha reliability for the critical thinking and reading comprehension tests were 0.7 and 0.9 respectively and that of the questionnaire was 0.75.

The students of Holy Child College of Education who were selected for the study were kept in two of the classrooms, one for the first-year students and the other for the second-year students. The tests were administered at different times within a week. Each student was made to answer eight questions on reading comprehension and critical thinking. For each of the tests, the students were given forty-five minutes to answer the questions. After forty-five minutes, the scripts were collected for marking.

The questionnaires were administered to the respondents after the tests. Each of the students was allowed one hour to respond to the questionnaire. The researcher edited the questionnaires to make sure that they were properly responded to. The rate of return of the questionnaire was hundred per cent.

### **Data Analysis**

The Statistical Product and Service Solutions (version seventeen) was used to analyse the data. Statistics such as mean, percentage, standard deviation, independent t-test and Pearson Moment-Product Correlation were used to analyse the data. In particular, the Pearson Moment-Product Correlation was used to determine the relationship between students reading comprehension and their critical thinking. Also independent t-test was used to compare the first and second year students' performance in critical thinking and reading comprehension. Mean, percentages, frequency distribution and standard deviation were used to analyse the data on demographic

characteristics of the students and on the causes of reading difficulties of students in the Holy Child College of Education, Takoradi in the Western Region.

## CHAPTER FOUR

### RESULTS AND DISCUSSION

This chapter deals with the results of the data that collected during the study and the discussion of the findings. The first part of this section discusses the socio-demographic characteristics of the respondents. The second part answers the research questions that were set for the study.

#### Socio-Demographic Characteristics of Respondents

The socio-demographic characteristics of the respondents covered the academic qualifications of their parents, their parents' occupations and students' entry characteristics.

#### Academic Qualification of Parents

Table 1 and 2 present data on the percentage distribution of the academic backgrounds of the fathers and mothers of Levels 100 and 200 students. The first to be presented is the academic background of the fathers.

**Table 1: Percentage Distribution of Father's Academic Backgrounds**

Educational level	Level 200		Level 100	
	Frequency	Percentage	Frequency	Percentage
No formal education	4	8.0	4	8.0
Primary	4	8.0	5	10.0
Form four (middle sch.)	3	6.0	2	4.0
Secondary (SHS)	19	38.0	23	46.0
Tertiary	20	40.0	16	32.0
<b>Total</b>	<b>50</b>	<b>100.0</b>	<b>50</b>	<b>100.0</b>

Source: Field data, 2011



From Table 1, it can be seen that 40% of the fathers of the students in Level 200 had tertiary education and 38% had secondary education. Only 4% had no formal education. On the other hand, 32% of the fathers of Level 100 students had tertiary education, 46% had secondary education and like the fathers of Level 200 students only 4% had no formal education.

**Table 2: Percentage Distribution of Mothers' Educational Backgrounds**

Response	Level 200		Level 100	
	Frequency	Percentage	Frequency	Percentage
No formal education	8	16.0	10	20.0
Primary	10	20.0	11	22.0
Form four (middle sch.)	3	6.0	2	4.0
Secondary (SHS)	23	46.0	27	54.0
Tertiary	6	12.0	0	0
<b>Total</b>	<b>50</b>	<b>100.0</b>	<b>50</b>	<b>100%</b>

Source: Field data, 2011

As shown in Table 2, 46% of the mothers of Level 200 students were educated to the secondary school level. Only 12% of their mothers had tertiary education and as many as 16% had no formal education at all. Whereas 54% of the mothers of Level 100 students had secondary school education, none of the mothers of this level had tertiary education and 20% had no formal education.

The mothers of Level 200 students had higher academic qualification than those of Level 100 students, but the fathers of both Level 200 and Level 100 students had higher academic qualifications than the mothers of both levels. Most of the fathers had secondary and tertiary education. Since the students had fathers who had high academic qualification, it is expected that

their fathers' academic backgrounds should influence them to study very hard and excel in their studies.

### Occupations of Students' Parents

Data on occupations of the students' parents were sought. Table 3 shows the percentage distribution of the occupation of the students' fathers.

**Table 3: Percentage Distribution of Fathers' Occupation**

Occupation	Level 200		Level 100	
	Freq.	Percentage	Freq.	Percentage
Farming	9	18.0	9	18.0
Teaching	7	14.0	5	10.0
Artisan /tailoring/carpenter	7	14.0	4	8.0
Pensioner	4	8.0	4	8.0
Mechanic/Electrician/technician	3	6.0	4	8.0
Clerk	3	6.0	3	6.0
Businessman/Trading	3	6.0	6	12.0
Engineer/Technologist/Vet	3	6.0	1	2.0
Driving	2	4.0	4	8.0
Unemployed	2	4.0	0	0
Building Contractor	1	2.0	2	4.0
Civil servant	1	2.0	4	8.0
Miner	1	2.0	1	2.0
Accountant	1	2.0	1	2.0
Radio Broadcaster	1	2.0	0	0
Librarian	1	2.0	0	0
Deceased	1	2.0	0	0
Sailor	0	0	1	2.0
Fishing	0	0	1	2.0
<b>Total</b>	<b>50</b>	<b>100</b>	<b>50</b>	<b>100</b>

Source: Field data, 2011

Table 3 reveals a wide variety in the economic background of the fathers of students of both Level 100 and Level 200 and there are similarities in the percentage distribution of the various occupations. For both levels, 18% of the fathers were farmers; 14% of the fathers of Level 200 students were teachers while 10% of the fathers of the students of Level 100 were teachers. Artisans made up 14% of the fathers of Level 200 students and 12% per cent of Level 100 fathers were traders or business men.

**Table 4: Percentage Distribution of Mothers' Occupation**

Occupation	Level 200		Level 100	
	Frequency	Percentage	Frequency	Percentage
Trading	35	70.0	33	66.0
Teaching	5	10.0	1	2.0
Farming	2	4.0	8	16.0
Dress making	2	4.0	1	2.0
Hair dressing	2	4.0	1	2.0
Telephonist	1	2.0	0	0
Secretary	1	2.0	0	0
Cashier	1	2.0	0	0
Nursing	1	2.0	0	0
Housewife	0	0	1	2.0
Catering	0	0	1	2.0
Baking	0	0	4	8.0
<b>Total</b>	<b>50</b>	<b>100</b>	<b>50</b>	<b>100</b>

Source: Field data, 2011

The main occupation of the mothers of both Level 200 and Level 100 students was trading. They made up 70% and 66% of the total population of the mothers of the students of Level 200 and Level 100 respectively. While 16% of Level 100 mothers were farmers, only 4% of the Level 200 mothers

were farmers. Whereas 10% of mothers of level 200 students were teachers, only 2% of the mothers of level 100 students were teachers. It is clear from Tables 3 and 4 that fathers of both Levels 100 and 200 were mainly farmers, teachers and artisans whereas the mothers of both levels were mostly traders.

The results show that almost every student's parents are employed. It can therefore be assumed they would be able to provide their wards with basic education needs such as books and other learning materials.

### Students' English Language Entry Characteristics

**Table 5: Final SSCE/WASSCE Grade in English Language**

Grade	Level 200		Level 100	
	Frequency	Percentage	Frequency	Percentage
B	2	4.0	1	2.0
B2	1	2.0	0	0
B3	2	4.0	3	6.0
C	3	6.0	4	8.0
C4	6	12.0	8	16.0
C5	10	20.0	11	22.0
C6	12	24.0	14	28.0
D	3	6.0	2	4.0
D7	6	12.0	4	8.0
E	5	10.0	3	6.0
<b>Total</b>	<b>50</b>	<b>100.0</b>	<b>50</b>	<b>100.0</b>

Source: Field data, 2011

As can be seen from Table 5, it is clear that the majority of Level 100 and Level 200 students who entered college in 2009/10 and 2010/11 academic years entered with WASSCE grades C4, C5, C6, and D7 in English Language. Grades C4, C5, C6 are equivalent to Grade D in SSSCE. SSSCE Grade C is equivalent to B3 in WASSCE. Grade E in SSSCE is equivalent to D7 in

WASSCE. The interpretation of the grades implies that the entry grades in English Language of the majority of the students are not in the top pass category.

It is clear from Table 5 that less than 30% of both Level 100 and Level 200 students entered college with English Language grade in the top pass category. This finding confirms that of Akyeampong (2003), which also stated that less than 30% of the students who qualify to enter the colleges of education possess grades in the top pass category of A, B or C.

Furthermore, Table 6 presents the percentage distribution of the students' entry aggregates into college.

**Table 6: Percentage Distribution of the Aggregates Students Entered the College with**

Aggregate	Level 200		Level 100	
	Frequency	Percentage	Frequency	Percentage
17-19	11	22.0%	7	14.0%
20-22	21	42.0%	25	50.0%
23-24	18	36.0%	18	36.0%
<b>Total</b>	<b>50</b>	<b>100.0</b>	<b>50</b>	<b>100.0</b>

Source: Field data, 2011

Table 6 shows that equal number of students entered the college with aggregates between 23-24, in both Level 100 and Level 200, and this made up 36% of total respondents. Forty-two percent of Level 200 students entered college with aggregates between 20-22, while 50% of Level 100 students entered with the same aggregates; however, 22% of Level 200 students entered

college with aggregates 17-19 whereas 14% of Level 100 students entered with the same aggregates. Generally, it appears that the quality of passes of Level 200 is a shade better than Level 100. From the Tables, it is obvious that the teaching profession is not attracting the best students in terms of academic achievement. A weak subject knowledge background could also make it difficult to acquire a deep conceptual understanding of subject pedagogy (Acheampong, 2003).

It can be assumed that parents' occupation and students' entry grade in English Language can have possible relationship with students' reading preferences and their performance in critical thinking and reading comprehension.

### **Research Question One**

#### **What are the reading preferences of the first and second year students of Holy Child College of Education?**

This research question sought to find out the reading preferences of the first and second year students of Holy Child College of Education. The responses of the first and second year students have been presented in Tables 7 and 8.

**Table 7: Level 200 Students' Reading Preference**

Item	Always		Often		Sometimes		Not at all		Total	
	Freq.	%	Freq.	%	Freq.	%	Freq	%	Freq	%
How often do you read short stories?	7	14.0	20	40.0	22	44.0	1	2.0	50	100
How often do you read novels?	6	12.0	12	24.0	29	58.0	3	6.0	50	100
How often do you read newspapers?	11	22.0	12	24.0	22	44.0	5	10.0	50	100
How often do you read magazines?	5	10.0	9	18.0	27	54.0	9	18.0	50	100

Source: Field data, 2011

**Table 8: Level 100 Students' Reading Preference**

Item	Always		Often		Sometimes		Not at all		Total	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
How often do you read short stories?	14	28.0	16	32.0	16	32.0	4	8.0	50	100
How often do you read novels?	5	10.0	14	28.0	24	48.0	7	14.0	50	100
How often do you read newspapers?	6	12.0	4	8.0	30	60.0	10	20.0	50	100
How often do you read magazines?	4	8.0	14	28.0	23	46.0	9	18.0	50	100

Source: Field data, 2011

As can be seen from Table 7, 44.0% of the second-year students and 32.0% of the first-year students sometimes read short stories. Also 58.0% and 48.0% of the second and first-year students respectively sometimes read novels. Similarly, most of the first and second-year students sometimes read newspapers and magazines. It is obvious from the tables that both levels do not like reading much and do not do much reading even though they both prefer reading short stories and newspapers sometimes. This poor attitude towards reading can only result in poor background knowledge.

Graves, Juel, and Graves (1998) point out that readers, in order to comprehend, draw heavily from their background knowledge and rich background knowledge is acquired through extensive reading. Cortina and Elder (1998) also point out that lack of background knowledge often results in comprehension problems. To them, when a reader does not possess enough information about a subject, he or she encounters problems in comprehension. It is, therefore, not surprising that the performance of students of both Level 100 and Level 200 in reading comprehension is not outstanding.

### **Research Question Two**

#### **What are the reading comprehension skills of first and second-year students of Holy Child College of Education?**

To answer Research Question 2, students' responses from questionnaire administered to them were collated and the results are as found in Tables 9, 10, 11 and 12.



**Table 9: Level 200 Students' Reading Faults**

Item	Always		To a large extent		To some extent		Not at All		Total	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
I pronounce words on my lips	4	8.0	1	2.0	25	50.0	20	40.0	50	100
I use my finger or pointer to pick out the words.	0	0.0	2	4.0	11	22.0	37	74.0	50	100
I fix my eyes on a word at a time.	12	24.0	7	14.0	14	28.0	17	34.0	50	100
I read and go back immediately to read what I have just read.	7	14.0	3	6.0	23	46.0	17	34.0	50	100

Source: Field data, 2011

**Table 10: Level 100 Students' Reading Faults**

Item	Always		To a large extent		To some extent		Not at All		Total	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
I pronounce words on my lips	8	16.0	4	8.0	17	34.0	21	42.0	50	100
I use my finger or pointer to pick out the words.	5	10.0	0	0	11	22.0	34	68.0	50	100
I fix my eyes on a word at a time.	16	32.0	4	8.0	18	36.0	12	24.0	50	100
I read and go back immediately to read what I have just read.	11	22.0	8	16.0	21	42.0	10	20.0	50	100

Source: Field data, 2011

Comparing the reading abilities of Level 200 and Level 100 students, it was found that students of both levels, to some extent, have some reading faults. It was observed that 50% and 34% of both Level 200 and 100 students, to some extent, have problems with vocalisation, which means they pronounce words on their lips when reading silently. Again, for Level 200 students, it was found that 24% of them always fixed their eyes on a word at a time and 28%, to some extent, fixed their eyes on a word at a time when reading, while 32% of the first-year students always fixed their eyes on a word at a time and the remaining 36% of first-year students sometimes fix their eyes on a word at a time. Furthermore, 46% of the second-year students and 42% of the first year students, to some extent, read and go back immediately to read what they have just read.

From the results of the study, it was evident that the major problems associated with the students' reading were vocalisation, fixing their eyes on a word at a time (fixity gaze) and reading and going back to read what they have just read (regression). These reading faults greatly affect reading rates which in turn hinder comprehension. According to Cortina and Elder (1998), reading rate and comprehension are related. Reading rate affects comprehension in a significant way. Since students' poor performance in reading comprehension could be attributed to their reading faults, it was therefore obvious that the reading faults of both Levels 100 and 200 students had a predictable effect on their performance in reading comprehension and critical thinking.

**Table 11: Percentage Distribution of Level 200 Students' Reading Comprehension Skills**

Reading Skill	Always		To a large extent		To some extent		Not at all		Total	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
I first skim the text to get a gist of it.	20	40.0	12	24.0	13	26.0	5	10.0	50	100
I can scan text for specific information.	6	12.0	24	48.0	17	34.0	3	6.0	50	100
I vary my reading speed according to text.	21	42.0	13	26.0	15	30.0	1	2.0	50	100
I can connect new information to what I already know.	17	34.0	19	38.0	11	22.0	3	6.0	50	100
I predict what is going to happen next as I read.	27	54.0	12	24.0	10	20.0	1	2.0	50	100
I ask myself questions as I read a text.	20	40.0	16	32.0	12	24.0	2	4.0	50	100

Source: Field data, 2011

**Table 12: Percentage Distribution of Level 100 Students' Reading Comprehension Skills**

Response	Always		To a large extent		To some extent		Not at all		Total	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
I first skim the text to get a gist of it.	30	60.0	5	10.0	11	22.0	4	8.0	50	100
I can scan text for specific information.	24	48.0	9	18.0	15	30.0	2	4.0	50	100
I vary my reading speed according to text.	29	58.0	10	20.0	11	22.0	0	0	50	100
I can connect new information to what I already know.	24	48.0	10	20.0	15	30.0	1	2.0	50	100
I predict what is going to happen next as I read.	23	46.0	12	24.0	13	26.0	2	4.0	50	100
I ask myself questions as I read a text.	27	54.0	7	14.0	13	26.0	3	6.0	50	100

Source: Field data, 2011

With reference to reading skills, it can be deduced from Tables 11 and 12 that students in Level 100 have better reading skills than students of Level 200, which is contrary to expectation. Sixty per cent of Level 100 students always first skim a text to get the gist before doing the actual reading, while 40% do so in Level 200. Whereas 58% of Level 100 students always vary their reading speed according to the text, 42% do that in level 200. With reference to connecting new knowledge to background knowledge, it is clear from the tables that, Level 100 students are better at this skill than Level 200 students, the percentages being 48% and 34% respectively. This implies that a higher academic level does not automatically translate into better reading skills.

As Leu and Kinzer (1995) and Burns, Roe and Smith (2002) affirm, the process of comprehension is highly complex and involves a combination of knowledge, skills and cognitive processes. From Tables 12 and 13, it is clear that students of both levels need to improve their reading comprehension skills. Good comprehension skills obviously enhance performance in reading comprehension.

### **Research Question Three**

**Do students' Critical Thinking Skills get better as students move to a higher academic level?**

To find the answer to this question, the researcher used two instruments: questionnaire and a test on critical thinking. Students' responses on critical thinking skills from the questionnaire are found in Tables 13 and 14; and students' performance in the critical thinking test is also shown in Tables 15 and 16.

**Table 13: Percentage Distribution of Level 200 Students' Critical Thinking Skills Response**

Critical Thinking Skill/Disposition	Always		To a large extent		To some extent		Not at all		Total	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
I can tell the theme that runs through a text.	11	22.0	20	40.0	19	38.0	0	0.0	50	100
I consider myself as a fair-minded person.	13	26.0	16	32.0	19	38.0	2	4.0	50	100
I question what an author has written.	10	20.0	9	18.0	26	52.0	5	10.0	50	100
I look at a situation from different perspectives.	12	24.0	20	40.0	15	30.0	3	6.0	50	100
I can tell when an author is objective.	5	10.0	14	28.0	26	52.0	5	10.0	50	100
I respect other people's opinions.	19	38.0	19	38.0	9	18.0	3	6.0	50	100
I change my opinion if the other person's is obviously right.	15	30.0	13	26.0	18	36.0	4	8.0	50	100
I weigh evidence carefully before drawing conclusion.	29	58.0	13	26.0	7	14.0	1	2.0	50	100

Source: Field data, 2011

**Table 14: Percentage Distribution of Level 100 Students' Critical Thinking Response**

Critical Thinking Skill/Disposition	Always		To a large extent		To some extent		Not at all		Total	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
I can tell the theme that runs through a text.	19	38.0	13	26.0	15	30.0	3	6.0	50	100
I consider myself as a fair-minded person.	20	40.0	12	24.0	18	36.0	0	0	50	100
I question what an author has written.	20	40.0	11	22.0	17	34.0	2	4.0	50	100
I look at a situation from different perspectives.	18	36.0	12	24.0	19	38.0	1	2.0	50	100
I can tell when an author is objective.	15	30.0	10	20.0	20	40.0	5	10.0	50	100
I respect other people's opinions.	24	48.0	13	26.0	13	26.0	0	0	50	100
I change my opinion if the other person's is obviously right.	16	32.0	12	24.0	19	38.0	3	6.0	50	100
I weigh evidence carefully before drawing conclusion.	31	62.0	8	16.0	11	22.0	0	0	50	100

Source: Field data, 2011

Tables 13 and 14 revealed that students of Level 100 obviously had better critical thinking skills than students of Level 200. From Table 13, 19 students constituting 38% of the students of Level 100 could always tell the theme that ran through a text, while only 11 (22%) out of Level 200 students could. Forty per cent of Level 100 students as opposed to 26% of Level 200 students considered themselves fair-minded. Again, 40% of Level 100 students always questioned what an author had written whereas only 20% of Level 200 students could do that. On drawing conclusions, 62% of Level 100 students always weighed evidence carefully before drawing conclusion, while 58% of Level 200 students always did that.

The study has revealed that Level 100 students have slightly better reading comprehension skills than Level 200 students. It is, therefore not surprising that their critical thinking skills are also slightly better. It can be deduced from the results that the academic level does not correlate with level of critical thinking.

According to APA's (1990) definition of critical thinking, ideal critical thinkers should be inquisitive, well-informed, logical, and open-minded. Besides, they should be honest in facing their biases and be careful in making judgments. Tables 13 and 14 show Level 100 students as possessing better critical thinking skills than Level 200 students. These findings show that critical thinking skills do not necessarily get better as students move to a higher academic level. This result is confirmed by the critical thinking test (please find it in Appendix C) which required students to demonstrate application of their critical thinking skills to a reading material.



**Table 15: Critical Thinking Scores for both Levels 200 and 100 Students**

Critical Thinking Scores (out of 10)	Level 200		Critical Thinking Scores (out of 10)	Level 100	
	Freq.	Percentage		Freq.	Percentage
1	1	2%	1	2	4%
2	4	8%	2	7	14%
3	10	20%	3	15	30%
4	17	34%	4	14	28%
5	16	32%	5	9	18%
6	2	4%	6	3	6%
7	0	0	7	0	0
8	0	0	8	0	0
9	0	0	9	0	0
10	0	0	10	0	0
<b>Total</b>	<b>50</b>	<b>100%</b>	<b>Total</b>	<b>50</b>	<b>100%</b>

Source: Field data, 2011

Levene's test for equality of variance test was not significant ( $F = 1.839$ ,  $p\text{-value} = 0.178$ ) at an  $\alpha$ -level of 0.05. Therefore, equal variance is assumed in the independent sample test. The  $t$  value for the students' critical thinking performance was 1.631 and  $p\text{-value}$  was 0.106. This shows that there was no significant difference in the performance of the critical thinking test for both Level 200 and Level 100 students. To check the degree of the difference, Cohen's effect size was used and the result was  $d = 0.3$  which implies that the difference was small. Therefore, the null hypothesis which states that "there is no significant difference in the levels of critical thinking of first and second

year students of Holy Child College of Education” is confirmed. This finding agrees with Pithers and Soden (1999) that students do not necessarily develop critical thinking skills as part of their college experience. According to their study, there was no significant difference in the critical thinking of graduate and non-graduate students. According to Ijaiya, Alabi & Fasasi (2011), an analysis of past questions of undergraduate and post graduate teacher education programmes of a Faculty of Education revealed that questions set placed too much emphasis on the lower level cognitive skills like recall and understanding to the disadvantage of higher order skills like analysis, synthesis and evaluation. Students in colleges of education tend to have poor critical thinking skills and, therefore, do not perform well in all subject areas because of the teaching strategies employed in the colleges (Ijaiya, Alabi & Fasasi, 2011; Owu-Ewie, 2008).

#### **Research Question Four**

**Does students’ Reading Comprehension performance get better as students move to a higher academic level?**

To answer the research question, students’ performance in reading comprehension was assessed in the form of a passage with questions. The performance of both levels 100 and 200 students have been shown in Table 16.

**Table 16: Reading Comprehension Scores for both Levels 200 and 100**

Scores	Level 200		Level 100		
	Freq.	%	Scores (10)	Freq.	%
1	3	6.0	1	2	4.0
2	5	10.0	2	4	8.0
3	11	22.0	3	18	36.0
4	13	26.0	4	11	22.0
5	11	22.0	5	11	22.0
6	7	14.0	6	4	8.0
7	0	0	7	0	0
8	0	0	8	0	0
9	0	0	9	0	0
10	0	0	10	0	0
<b>Total</b>	<b>50</b>	<b>100.0</b>	<b>Total</b>	<b>50</b>	<b>100.0</b>

Source: Field data, 2011

The Levene's test for equality of variances was significant ( $F = 5.977$ ,  $p - \text{value} = 0.016$ ) at an  $\alpha$  - level of 0.05. Thus, the comprehension scores for Levels 200 and 100 students are assumed to have unequal variances. The t-test was also not significant ( $t = 0.136$ ,  $p\text{-value} = 0.892$ ,  $\alpha = 0.05$ ). This suggests that there was no significant difference in the performance of Level 200 students and Level 100 students. This means that students of both levels performed equally in reading comprehension. Therefore, the null hypothesis that states that "there is no significant difference between the performance of second and first-year students of Holy Child College of Education in reading

comprehension” is confirmed. The performance of the students of both levels in the reading comprehension test was not encouraging.

If there is no significant difference in the performance of both Level 100 and Level 200 students in reading comprehension then what it means is that reading comprehension performance of students does not necessarily get better as they move to a higher academic level.

### **Research Question Five**

#### **Is there a relationship between Critical Thinking skills and Reading Comprehension performance of first and second-year students?**

To investigate the relationship between critical thinking and reading comprehension performance of the first and second-year students, two separate tests were conducted. Tables 17 and 18 present the results of the performance of the students in the critical thinking and reading comprehension tests.

**Table 17: Level 200 Students’ Scores on Reading Comprehension and Critical Thinking**

Reading Comprehension			Critical Thinking		
Scores (10)	Freq.	(%)	Scores (10)	Freq.	%
1	3	6.0	1	1	2.0
2	5	10.0	2	4	8.0
3	11	22.0	3	10	20.0
4	13	26.0	4	17	34.0
5	11	22.0	5	16	32.0
6	7	14.0	6	2	4.0
7	0	0	7	0	0
8	0	0	8	0	0
9	0	0	9	0	0
10	0	0	10	0	0
<b>Total</b>	<b>50</b>	<b>100.0</b>	<b>Total</b>	<b>50</b>	<b>100.0</b>

Source: Field data, 2011

As shown in Table 17, 26% of Level 200 students scored 4 out of 10 marks in reading comprehension while 34% of the same group of students also scored 4 out of 10 marks in critical thinking. Another 22% of the students scored 3 and 5 marks out of 10 respectively, in reading comprehension. Thirty-two per cent of the students scored 5 out of 10 marks, while 34% scored 4 out 10 marks in the critical thinking test. Even though the students did not perform very well in both critical thinking and reading comprehension tests, it appeared from the results that the students performed a little better in critical thinking than in reading comprehension.

**Table 18: Level 100 Students' Scores in Reading Comprehension and Critical Thinking**

Reading Comprehension			Critical Thinking		
Scores (10)	Freq.	%	Score (10)	Freq.	%
1	2	4.0	1	2	4.0
2	4	8.0	2	7	14.0
3	18	36.0	3	15	30.0
4	11	22.0	4	14	28.0
5	11	22.0	5	9	18.0
6	4	8.0	6	3	6.0
7	0	0	7	0	0
8	0	0	8	0	0
9	0	0	9	0	0
10	0	0	10	0	0
<b>Total</b>	<b>50</b>	<b>100.0</b>	<b>Total</b>	<b>50</b>	<b>100.0</b>

Source: Field Data, 2011

Table 18 shows the performance of Level 100 students in reading comprehension and critical thinking. It was observed that 36% of the students scored 3 marks out of 10 in reading comprehension and 22% scored 4 and 5 out of 10 marks each in reading comprehension. For critical thinking, it was found that 30% of the students scored 3 out of 10 marks and 28% scored 4 out of 10 marks. Here again, even though the first-year students also did not perform well in both reading comprehension and critical thinking, it appeared that they performed a little better in reading comprehension than critical thinking.

Pearson Product-Moment correlation coefficient for the relationship between the Level 200 students' critical thinking and reading comprehension scores was 0.92. Also the Pearson Product-Moment correlation coefficient for the relationship between Level 100 students' critical thinking and reading comprehension scores was 0.83. The results show that the relationship between the students' critical thinking and reading comprehension scores was very strong and positive. This implies that when students' critical thinking skills improve, students will perform better in reading comprehension. Even though the Pearson Product-Moment correlation coefficient for the relationship between critical thinking and reading comprehension was strong and positive for both levels 200 and 100, it was obvious that the relationship was stronger for Level 200 than Level 100. This implies that for Level 200, an improvement in their critical thinking skills will possibly yield a better performance in reading comprehension than Level 100. From the result, the null hypothesis that states that "there is no relationship between critical thinking skills and reading comprehension performance" is rejected.

Devine (1986) points out that critical thinking skills are needed in all fields. Therefore, students dealing with reading comprehension text or passage should employ critical thinking skills to enable them to handle the range of questions on the text that they read. The result of the correlation in this study indicates a positive correlation between critical thinking and reading comprehension. Studies by Farley and Elmore (1992) and Facione (2010) on college students also indicated a positive relationship between critical thinking and reading comprehension. Reading comprehension is thus directly related to critical thinking abilities (Friedman & Rowls, 1980).

### **Research Question Six**

#### **What is the performance of Level 100 and Level 200 students in Critical Thinking?**

To answer this question, data on students' performance on the various test items of the critical thinking test were collated and analysed. Students' performances are shown in Tables 19 and 20 (see tables on pp. 78 and 79).

From Tables 19 and 20, it is obvious that both Level 200 and Level 100 students have weak critical thinking skills. With reference to stating the main idea in a text, only 10% of level 200 students and 12% of level 100 students could state the main idea in a text. None of the students of both levels could identify the author's attitude through the use of emotive language. When it comes to drawing conclusion from a text, only 30% could do so from each level. Independent t-test was used to compare the correct answers of both Level 100 and Level 200 in the critical thinking test. The P-value of 0.06 shows that there is no significant difference in the performance of the two levels. The wrong answers of both levels were also compared using

independent t-test; the P-value was 0.4. This implies the difference is not statistically significant. It can, therefore, be concluded that there was no significant difference in the performance of both levels as far the items of the critical thinking tests were concerned. This confirms the hypothesis that “there is no significant difference in the critical thinking levels of first and second year students of Holy Child College of Education.” Studies by Baker (1985) and Brown and Day (1983) confirm college students’ inability to integrate ideas to draw logical conclusions and check ideas to identify contradictions in what they read. They are not able to summarize text; neither are they able to select the topic sentence nor invent one if it is not explicitly stated in the text.



**Table 19: Level 200 Students' Percentage Distribution of the Scores on Items Tested in the Critical Thinking Test**

Question	Correct Answer		Partly Correct		Wrong Answer		Total	
	No.	%	No.	%	No.	%	No.	%
Stating the main idea in the text	5	10.0	9	18.0	36	72.0	50	100
Stating the author's purpose for writing the text	5	10.0	19	38.0	26	52.0	50	100
Identifying the key question in the text	44	88.0	0	0	6	12.0	50	100
Identifying key information in the text	8	16.0	16	32.0	26	52.0	50	100
Verifying the accuracy of the author's claim	4	8.0	37	74.0	9	18.0	50	100
Identifying the author's attitude through author's use of emotive language	0	0	0	0	50	100.0	50	100
Recognising assumptions in text	33	66.0	0	0	17	34.0	50	100
Drawing conclusion from text	15	30.0	14	28.0	21	42.0	50	100

Source: Field Data, 2011

**Table 20: Level 100 Students' Percentage Distribution of the Scores on Items Tested in the Critical Thinking Test**

Question	Correct Answer		Partly Correct		Wrong Answer		Total	
	No.	%	No.	%	No.	%	No.	%
Stating the main idea in the text	6	12.0	24	48.0	20	40.0	50	100
Stating the author's purpose for writing the text	3	6.0	22	44.0	25	50.0	50	100
Identifying the key question in the text	36	72.0	0	0	14	28.0	50	100
Identifying key information in the text	9	18.0	8	16.0	33	66.0	50	100
Verifying the accuracy of the author's claim	1	2.0	39	78.0	10	20.0	50	100
Identifying the author's attitude through author's use of emotive language	0	0	0	0	50	100	50	100
Recognising assumptions in text	28	56.0	0	0	22	44.0	50	100
Drawing conclusion from text	15	30.0	17	34.0	18	36.0	50	100

Source: Field Data, 2011

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

Chapter Five provides a summary and the findings drawn from the study. In addition, the chapter presents recommendations based on the key findings of the study and suggestions for further research.

#### **Summary**

##### **Overview of the Study**

The study was conducted in Holy Child College of Education in the Sekondi-Takoradi Metropolis of the Western Region. The purpose of the study was to examine the relationship between reading comprehension and critical thinking skills of first and second year students of Holy Child College of Education and to find out whether students' critical thinking and reading comprehension get better as they move to a higher academic level. In addition, the study sought to find out the reading preferences and the reading skills of the first and second year students of Holy Child College of Education, Takoradi. Descriptive research design and correlation design were used to conduct the study. The study population was first and second year students of Holy Child College of Education, Takoradi. Stratified and simple random sampling methods were used to select the students. Questionnaire and tests were the instruments used to collect the data for the study. Percentages, means, frequency distribution, Pearson Product-Moment correlation and independent t-test were used to analyze the data that was collected.

## **Key Findings**

The findings of the study are summarised in relation to the six main research questions posed at the beginning of the study and the data collected. Research Question 1 investigated the reading preferences of both levels 100 and 200 students. Students of both levels preferred reading short stories but it was also obvious that both levels did not do much reading. The result of this is dearth of background knowledge.

With Research Question 2, the study also revealed that students of levels 100 and 200 both have reading problems like vocalisation, regression and fixity gaze. Both levels also need to improve their comprehension skills. These problems may have contributed immensely to their not so impressive performance in the reading comprehension and the critical thinking tests.

Investigation on Research Question 3 showed that there was no significant difference in the critical thinking of both Level 100 and Level 200 students, therefore critical thinking does not necessarily get better at a higher academic level.

Data collected for Research Question 4 showed that there was no significant difference in the performance of both Level 100 and Level 200 students in reading comprehension. Therefore, it does not follow that students at a higher academic level will perform better in reading comprehension than those at the lower rung.

Research Question 5 tried to find out whether there was a relationship between students' critical thinking skills and their performance in reading comprehension. The differences that were observed in the students' performance in critical thinking and reading comprehension for both Level

100 and Level 200 were not statistically significant. The study further revealed a strong and positive relationship between Level 100 students' critical thinking and their performance in reading comprehension. Similarly, there was a strong and positive relationship between Level 200 students' critical thinking and their performance in reading comprehension. This implies an improvement in students' critical thinking will result in an improvement in students' performance in reading comprehension.

Data on Research Question 6 showed that both levels 100 and 200 students have weak critical thinking skills. There was no significant difference in the critical thinking of both Level 100 and Level 200 students.

### **Conclusions**

Students enter the college with weak background in English Language and this is very detrimental not only to their performance in reading comprehension but also to their performance in other subject areas. They do not develop critical thinking while in college and there is no indication that their critical thinking or performance in reading comprehension gets better as they move to a higher academic level. Consequently, there is relationship between their critical thinking skills and their performance in reading comprehension. There is, therefore, the need to include critical thinking as a component of the English Language curriculum.

### **Recommendations**

The following recommendations are made to improve students' reading and critical thinking skills in the Holy Child College of Education, Takoradi.

1. The principal and the academic staff should motivate the students to read novels, magazines, short stories and newspapers often by instituting incentive packages for the students.
2. The Guidance and Counselling Department of the college should step up their services to counsel the students on the importance of reading in education so that they would take reading seriously.
3. English Language tutors should often engage the students in reading and critical thinking activities to help them improve their reading and critical thinking skills.
4. Since a weak subject knowledge background could affect performance, the Teacher Education Division (TED) of the Ghana Education Service (GES) should raise the entry requirements of colleges of education to attract students who are above average into the teaching profession.
5. Since students in the colleges of education are being trained to teach, the Institute of Education, UCC, should incorporate the development of critical thinking skills in the curriculum of colleges of education.

### **Pedagogical Implications**

Findings of this study and others conducted by Owu-Ewie (2008) and Ijaiya, Alabi & Fasasi (2011) revealed that students at college level do not necessarily develop critical thinking and reading comprehension skills in college. This implies that critical thinking and reading comprehension skills must be taught in the colleges of education.

Teaching students to think critically will impact positively on students' performance. Apart from enhancing their performance in reading

comprehension, students will be provided with the opportunity to understand and take charge of their learning, approach text in a more thoughtful and effective manner, develop skills necessary to evaluate resources that they consult for research purposes and develop higher order thinking abilities necessary for academic success. Therefore, Language Studies curriculum for the colleges of education should make room for the development of critical thinking skills.

In addition to that, the literature also showed that the method of teaching reading comprehension impinges on students' performance in that aspect of English Language. The implication here is that tutors of English Language should employ the cognitive constructivism approach of teaching reading comprehension, since this approach of teaching allows students to do more thinking on their own by using their background knowledge and their reasoning power to extract meaning from a text on their own. Cognitive constructivism approach makes the teacher a facilitator who guides students to employ higher order thinking (critical thinking) to construct a valid interpretation of any text.

### **Policy Implications**

Current educational research reveals a widespread acceptance that critical thinking should be an important goal of education. The findings of the study revealed students of colleges of education lack critical thinking skills and since reading comprehension and critical thinking are inextricably related and are both relevant in all subject areas and every aspect of life, critical thinking should be made one of the foundation subjects of the colleges of

education. It will enhance students' academic performance, encourage critical enquiry and help students to make informed choices.

The conscious development of critical thinking skills in students should not be restricted to only colleges of education but should be integrated in the curriculum at all levels of education; starting from kindergarten to the university.

In the real world of education, teaching goes with evaluation or assessment. Assessment when properly done can serve as incentive for critical thinking. Therefore, the present mode of assessment prescribed for all levels of education in Ghana could be researched into. The mode of evaluation should be restructured to encourage creativity and at the same time challenge students to think outside the 'prescribed box'.

### **Suggestions for Future Research**

Given that the study focused on only one college of education in Southern Ghana (out of the thirty-eight colleges nationwide) to investigate the relationship of critical thinking and reading comprehension, this study could be expanded to cover other colleges of education. Investigations can be carried out to find out whether teaching methods used by tutors in the colleges of education foster critical thinking. Studies can be carried out on the effect of entry grade in English Language on students' academic performance in general in the colleges of education.



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## **APPENDICES**

## Appendix A

### Questionnaire

This questionnaire is to find out students' reading habits and attitude towards reading and also to find out students' disposition to critical thinking. This is not a test of ability; there is no right or wrong answer. Participants are assured that any information given is strictly for academic purpose and will be kept absolutely confidential. You are kindly requested to answer every question as truthfully and accurately as possible.

#### Academic Background

Where appropriate, circle the letter or provide an answer in the space provided.

1. What is your present educational level in the college?  
A. Level 100 B. Level 200 C. Level 300
2. Select the range in which the overall aggregate you entered the college with falls.  
A. 17-19 B. 20-22 C. 23-24 D. 25 and above
3. What was your final SSSCE/WASCE English Language grade?  
(a) A/A1 (b) B (c) B2 (d) B3 (e) C (f) C4 (g) C5 (h) C6 (i) D (j) D7 (k) E (l) F (m) any other (please specify)
4. How many times did you have to write the English Language paper?  
A. Once B. Two times C. Three times D. More than three times

#### Socio-Economic Background

5. What is your father's educational background?  
A. Primary B. Secondary C. Tertiary D. No education E. Any other (please specify) .....
6. What is your mother's educational background?  
A. Primary B. Secondary C. Tertiary D. No education E. Any other (please specify) .....
7. What is your father's occupation? .....
8. What is your mother's occupation? .....
9. Did your parents/guardians supply all your educational needs?  
A. Yes B. No C. Sometimes
10. If no, what was the reason?  
A. Financial constraint  
B. They simply did not care  
C. They felt it was the school fees that mattered

11. Did you receive extra tuition in English Language?  
 A. Yes      B. No      C. Sometimes
12. If yes, who paid for it?  
 A. Father   B. Mother   C. Any other (please specify).....
13. If no, why?  
 A. My parents/ guardians could not afford it.  
 B. Extra classes in English was not necessary  
 C. Any other (please specify) .....
14. Was the environment at home conducive to learning?  
 A. Yes      B. No      C. Somewhat

**Students' Reading Preference and General Attitude to Reading**

15. Apart from textbooks do you read any other literature (books)?    A.  
 yes    B. No
16. If yes, how often do you read any of the literature listed below?  
 Please tick which applies in the space provided.

Reading Text	Always	Often	Sometimes	Not at all
Short stories				
Novels				
Poetry				
Drama/Plays				
Newspapers				
Magazines				

17. On average, how many story books do you read in a month?  
 A. One    B. Two    Three    D. None  
 E. Any other (please specify) .....
18. How many story books do you read in a year?  
 A. One    B. Two    C. Three    D. None  
 E. Any other (please specify) .....
19. I prefer reading books written by  
 A. Ghanaian authors only    B. African authors only  
 C. I do not mind where the authors come from.
20. When the book looks voluminous  
 A. It puts me off.    B. I get attracted to it.    C. I do not mind whether a  
 book is voluminous or flat
21. Where do you get the books you read from?  
 A. The library  
 B. I buy them

- C. I borrow them from friends and/or relatives  
 D. Any other (please specify)  
 .....
22. How often do you visit the college library in a month?  
 A. Once B. Twice C. Three times  
 D. More than three times (please specify) .....
23. Which section of the library do you visit more often?  
 A. Fiction B. Non-fiction C. Reference D. Magazines & Newspapers  
 B. E. Any other (please specify).....
24. I read a book only when I have been told about the book by friends or others.  
 A. Yes B. No C. Sometimes.
25. I read for pleasure.  
 A. Most of the time B. Sometimes C. Never
26. I read topics that relate to my academic work.  
 A. Most of the time B. Sometimes C. Never
27. I do not read because  
 A. I find reading boring B. I think reading is a waste of time. C. I cannot find time to read

**Students’ Perception about Their Reading Ability and Reading Comprehension**

28. How do you see yourself as a reader?  
 A. Very efficient B. efficient C. satisfactory D. not efficient

*Please read through the information about reading in the first column of the table below and make a tick in the space provided for the option that applies to you.*

Students’ Perception and Reading ability	Always	To a large extent	To some extent	Not at all
29.I read to get more information.				
30. I read to while away the time.				
31.I read because I have to.				
32.I read for pleasure.				

When I am reading silently, *(Please make a tick in the space provided for the option that applies to you.)*

Students’ reading ability	Always	To a large extent	To some extent	Not at all

33.I pronounce words on my lips.				
34.I use my finger or pointer to pick out the words.				
35.I fix my eyes on a word at a time.				
36.I read and go back immediately to read what I have just read.				
37.I first skim the text to get a gist of it.				
38.I am able to scan a text for specific information.				
39.I apply the same reading speed to every text that I read.				
40.I vary my reading speed depending on the type of text that I am reading.				
41.I am able to connect the new information to what I already know.				
42.I ask myself questions that help me to understand the text.				
43.I try to predict what is going to happen next as I read.				
44.I find reading comprehension lessons enjoyable.				
45.I find reading comprehension passages difficult to understand.				
46.I can easily answer questions on reading comprehension passages.				
47.I do not enjoy reading comprehension because I do not understand most of the words in the passage.				
48. Reading comprehension should not be a compulsory aspect of the English curriculum of Colleges of Education.				

### Students' Critical Thinking Skills

*Please read through the information about critical thinking skills in the first column of the table below and make a tick in the space provided for the option that applies to you.*

Students' Critical Thinking Skills	Always	To a large extent	To some extent	Not at all
49. After reading a text, I am able to tell the theme that runs through it.				
50. I consider myself as a fair-minded person.				
51. I find myself questioning what an author has written.				
52. I look at a problem or a situation from different perspectives.				

53.I can easily tell from a text whether the author is biased or objective.				
54.I enjoy expressing my opinion.				
55.I respect other people's opinions even if they are different from mine.				
56.I change my opinion if the other person's is obviously right.				
57.I weigh evidence carefully before I draw conclusion.				

## Appendix B

Reading Comprehension Test

Time: 30 minutes

*Read the passage below, and then answer the questions which follow it.*

Now looking back she didn't dare admit, even to herself, that perhaps what she had felt for Oko in the first few years of their married life was gratitude more than anything else. Gratitude that in spite of herself, he had **persisted** in courting her and marrying her.

'Not many women are this lucky...' Esi could hear her grandmother's voice. 'And who told you that feeling grateful to a man is not enough reason to marry him? My lady, the world would die of surprise if every woman openly confessed the true reasons why she married a certain man. These days, young people don't seem to know why they marry.'

'What are some of the reasons, Nana?'

'Ah, so you want to know? Esi, we know that we all marry to have children ...'

'But Nana, that is such an old **worn-out** ideal! Children can be born to people who are not married.'

'Sure, sure, but to help them grow up well, children need homes with walls, a roof, fire, pots.'

'Oh, Nana. But one person can provide all these things these days for a growing child!'

'Maybe ...yes ... Yes, my lady. We also marry to increase the number of people we with whom we can share the joys and pains of this life.'

'Nana, how about love?'

'Love? ... Love? ... Love is not safe, my Lady Silk, love is dangerous. It is **deceitfully** sweet like wine from fresh palm tree at dawn. Love is fine for singing about and love songs are good to listen to, and when we have to count pennies for food for our stomachs and clothes for our backs, love is nothing. Ah, my lady, the last man any woman should think of marrying is the man she loves.'

(From *Changes* by Ama Ata Aidoo)

### Questions

1. Who is Oko?
2. What was it that Esi did not want to admit to herself?
3. According to Esi's grandmother, women marry for various reasons. State two of the reasons.
4. What is Esi's view about marriage?
5. Quote a sentence or phrase in the passage that shows Nana's view about love.
6. What does Nana think of the young people of these days?
7. What is Nana's attitude to love?



8. 'It is deceitfully sweet like the wine from the fresh palm tree at dawn.' What figure of speech is used here?
9. After reading the passage, what conclusion can you draw?
10. For each of the following words, give a word or phrase which means the same:
  - (i) persisted
  - (ii) deceitfully
  - (iii) worn-out

## Appendix C

### Critical Thinking Skills Test

Time: 45 minutes

*Read the following passage carefully and then answer the questions that follow it.*

Is love an art? Then it requires knowledge and effort. Or is love a pleasant sensation which to experience is a matter of chance, something one “falls into” if one is lucky? This little book is based on the former premises, while undoubtedly the majority of people today believe in the latter.

Not that people think that love is not important. They are starved for it; they watch endless numbers of films about happy and unhappy love stories, they listen to hundreds of trashy songs about love – yet hardly anyone thinks that there is anything that needs to be learned about love.

This peculiar attitude is based on several premises which either singly or combined tend to uphold it. Most people see the problem of love primarily as that of being loved rather than that of loving, of one’s capacity to love. Hence the problem to them is how to be loved, how to be lovable. In pursuit of this aim they follow several paths. One, which is especially used by men, is to be successful, to be powerful and rich as the social margin of one’s position permits. Another used by women, is to make oneself attractive by cultivating one’s body and dress etc. Other ways to make oneself attractive, used by both men and women, are to develop pleasant manners, interesting conversation, to be helpful, modest, inoffensive. Many of the ways to make oneself lovable are essentially a mixture between being popular and having sex appeal.

The active character of love becomes evident in the fact that it always implies certain basic elements common to all forms of love. These are care, responsibility, respect and knowledge ... Love is the active concern for the life and growth of that which we love ... Respect is the ability to see a person as he is, to be aware of his unique individuality. Respect means the concern that the other person should grow and unfold as he is. Respect, thus implies the absence of exploitation. I want the loved person to grow and unfold for his own sake and in his own ways, and not for the purpose of serving me. If I love the other person, I feel one with him or her, but with him as he is, not as I need him to be as an object for my use. It is clear that respect is possible only if I have achieved independence, if I can stand and walk without needing crutches, without having to dominate and exploit anyone else ... To love somebody is not just a strong feeling – it is a decision, it is a judgment, it is a promise.

(From *The Art of Loving* by Erich Fromm)

### Questions

1. In not more than three sentences, state the main idea in the text.
2. What do you think is the author’s purpose for writing the text?
3. Which of the following is not a key question that is addressed in the text?

- A. What is love?
  - B. What does love require of a person?
  - C. Does genuine love exist?
  - D. How do most people think of love?
4. Write down two examples of key information given in the text that describe the way most people think about love.
  5. Do you think the author is accurate in his claim that people have a superficial concept of love? Support your answer with evidence from the text.
  6. What does the use of the word “trashy” in the sentence “they listen to hundred of trashy songs about love,” tell you about the author’s attitude to the popular concept of love?
  7. In writing the text the writer makes some assumptions. Which of the following is not one of them?
    - A. Very few people understand love at deep level.
    - B. You can’t really love someone unless you understand him.
    - C. People generally understand what it takes to genuinely love someone.
    - D. People generally think of love as something done to them by another person that is, when someone serves their needs and desires.
  8. After reading the text, write down one conclusion you can draw from the text?

The Critical Thinking Test was taken from *The International Critical Thinking and Writing Test: How to Assess Close Reading and Substantive writing* by Dr. Richard Paul and Dr. Linda Elder (2006).