Addis Ababa University

An Exploration of Critical Thinking Skills in the Teaching and Testing of Reading Comprehension at Addis Ababa Science and Technology University

By **Sintayehu G/mariam**

Department of Foreign Languages and Literature

Advisor: Alamirew G/Mariam (PhD)

Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy in English Language Teaching

June, 2023

Addis Ababa

An Exploration of Critical Thinking Skills in the Teaching and Testing of Reading Comprehension at Addis Ababa Science and Technology University

By **Sintayehu G/mariam**

Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy in English Language Teaching

June, 2023

Addis Ababa

Approved by Board of Examiners

Dr. Alamirew G/mariam	_____	_____
Advisor	Signature	Date
Dr.Melaku Wakuma _____	_____	
Internal Examiner	Signature	Date
Dr. Mebratu Mulatu	_____	_____
External Examiner	Signature	Date

College Of Humanities, Language Studies,

Journalism and Communication

Department of Foreign Language and Literature

Graduates Program

This is to certify that the thesis prepared by Sintayehu G/Mariam Gergera, entitled *An Exploration of Critical Thinking Skills in the Teaching and Testing of Reading Comprehension at Addis Ababa Science and Technology University* and submitted in fulfillment of the requirements for the Degree of Doctor of Philosophy in ELT complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

Abstract

This study aimed at exploring critical thinking skills in the teaching and testing of reading comprehension at Addis Ababa Science and Technology University. To achieve the intended goal, mixed methods research design was employed. The study participants were randomly selected 320 first year students and 6 English language teachers in Addis Ababa Science and Technology University. Questionnaire, Interview, Document Analysis and observation were the data gathering tools employed to collect data to achieve the objectives of the study. Questionnaire was used to collect data from student participants of the study. The qualitative data was collected using interviews held with the 6 English language teachers participated in the study, classroom observations of teachers teaching reading comprehension and document review of reading comprehension exercises in teaching material and reading comprehension tests used by the teachers. While a thematic content analysis was used to analyze the qualitative data, percentages were used to analyze the quantitative data. The study found out that English language teachers rarely or never make students employ a variety of critical thinking strategies that engage students in processing information at higher cognitive levels, such as analyzing, evaluating, and creating. There was little opportunity for students to approach the reading texts critically and gain a thorough understanding of them.The majority of the questions in reading comprehension exercises and in reading comprehension tests are lower-order questions which are questions of remembering and understanding designed to elicit lower thinking skills from students. The study also found out that teachers have a better understanding of critical thinking. They have also strong belief that integrating critical thinking in the practice of teaching and testing reading comprehension should be among the responsibilities of English language teachers in order to enhance learners' critical thinking skills. However, the teachers' classroom practices of teaching reading comprehension and its testing did not correspond to their identified knowledge and beliefs about critical thinking. Based on the findings, it has been recommended that English language teachers should have a planned approach for strengthening learners' critical thinking skills during teaching and testing reading comprehension. English language teachers should adapt questions in reading comprehension exercises of the material currently in use. Furthermore, the reading comprehension exercises in the module Communicative English Language Skills I should *be revised to include a sufficient number of higher-order questions so that students can practice thinking at a higher level and gain a thorough understanding of the texts they read. Finally, producers of English language materials used at higher education institutions should incorporate critical thinking skills in reading comprehension exercises during the preparation of the materials.*

Acknowledgements

Many people have supported me in countless ways in making this work a reality. Hence, I would like to take this opportunity to express my sincere gratitude to all.

I am deeply indebted to my advisor, Dr. Alamirew G/Mariam, for his dedication, support and guidance throughout this project.

I owe especial debt of gratitude to Dr. Mitiku Garedaw, Mrs. Amerote Siefu, Dr. Befikadu Lemma and Dr. Zerihun Endale for continuous feedbacks and encouragements starting from the inception of the project.

I am obligated to thank English language teachers at Addis Ababa Science and Technology University and student participants for their precious time and willingness to participate in the study.

Furthermore, I am very grateful to my friends like Fitsum Yilma, Alemayehu Dessu and Getu Girma for their moral support and eagerness to see me accomplishing this task.

Finally, I would like to express my gratitude to my beloved wife Kibe Tulu for her care, love and filling the gap at my home and treating my children while I was away from home and engaged in my study. I am also thankful to my daughter Asianti, and my sons, Ofijan and Singten, who showed their tolerance while I left them although they would always wish to be with me.

Table of Contents

List of Tables

List of Figures

Page

CHAPTER ONE
INTRODUCTION

1.1.Background of the Study

It has been more than six decades since developing learners' higher-order thinking skills, such as critical thinking, was greatly emphasized as the major goal of education (Williams, 2005; Tosuncuoglu, 2018; Lai, 2011; Masduqi, 2011). In contemporary education, which promotes meaningful learning and teaching, developing learners' thinking abilities has been prioritized in order to prepare learners for present and future challenges by equipping them with thinking skills.

Williams (2005) and Thomas and Thorne (2009) state that thinking is an innate capacity of human beings; however, thinking on its own can be influenced, distorted, and biased. These academics also support the idea that a person's ability to think clearly determines the quality of their life as well as all they produce, construct, and create. As a result, mastery of critical thinking must be gradually acquired. This is the point at which education is crucial. Lombard and Grosser (2008) and Styron (2014) among others, affirm that critical thinking and education are closely related and that it is crucial that education should provide students with the chance to develop critical thinking skills, abilities, and capabilities as well as the values associated with quality thinking that they can use in their daily lives.

Critical thinking is not a new concept; it originated during the Greek philosophical era, when it was considered a crucial characteristic of prominent thinkers of the day (Adege, 2016; Lombard and Grosser, 2008; Collins and Mangieri, 1992). From the time of Socrates to the present, there has been concern about its integration into education to create knowledgeable citizens and a skilled workforce with the capacity for critical thought and sound reasoning (Hughes, 2014; Wang and Zheng, 2016; Sanavi and Tarighat, 2014).

Following the works of Dewey (1956), Bloom (1956) and Frier (1970), dealing with learners' higher cognitive skills, such as critical thinking, has been highly promoted and practiced in the western education system. These scholars advocate creating a conducive environment for learners to actively participate in the teaching and learning process and construct knowledge by engaging in inquiry, reflection, peer, and self-assessment. It is the approach that has revolutionized the traditional ones, in which learners' passive accumulation of bodies of knowledge is the major outcome of education (Hughes, 2014; Meiramova and Seifullin, 2017; Wilson, 2016; Ennis, 1992).

There is no time in the history of education than this 21st century that has highly forced the major outcome of education to be developing learners' critical thinking abilities. This is mainly due to the complex and challenging nature of life, the widespread spread of information, and the advanced technology characterizing and dominating this century (Elfatihi, 2017; Hughes, 2014). For both a successful professional and personal life, one's critical thinking ability has become one of the determinant factors, as the current economy across the globe is becoming a knowledge economy with mass production and use of technology, in which human cognitive development has earned much emphasis as compared to other physical resources.

In modern language education too, fostering learners' intellectual skills has become one of the goals of a language program (Liaw, 2007; Shirkhani and Fahim, 2011; Nelson and Crow, 2014). Teaching beyond the grammatical structure of a language has been promoted to fulfill the goal. Thus, this approach to language teaching has transformed the learning outcome of a language program from structure-oriented to meaningful learning of a language aimed at developing learners' higher-order cognitive skills

There is a consensus that a successful language program is one in which its language curriculum gives necessary attention to the integration of critical thinking in the teaching materials and instruction and assessment techniques employed by the teachers (Hughes, 2014; Elekaei et al., 2016). Scholars give a philosophical reason for the integration of critical thinking in language teaching, stating that the inherent relation between language and thinking makes the teaching of language involve dealing with thinking skills; thus, thinking skills can be developed through language and within language instruction. As a result, successful language teaching has major dual benefits: developing learners' language competency and enhancing their critical thinking competency.

Consequently, critical thinking has become the current issue of English Language Teaching (ELT) to fulfill the demands of the globalized era nowadays. Developing the critical thinking skills of learners of English as a foreign language or as a second language has become one of the major aims of English language teachers (Hughes, 2014; Nelson and Crow, 2014). This has resulted in assessing the effectiveness of English language teachers not only from the perspective of developing the four language skills but also meeting the need for learners to be equipped with sufficient knowledge and skills in critical thinking in order to be competent enough in the 21st century.

Brown (2004) and Cox (2019) firmly believe that English classes offer potential advantages to the development of life skills such as critical thinking skills. The current language teaching methods, techniques, and approaches used in the classroom also require learners to use critical thinking skills to perform different language tasks as they evolve around information processing, problem solving, decision-making, and evaluation (Al Sereidi, 2019; Bedir, 2013; Williams, 1996). Unlike traditional methods like the grammar translation method and direct method, which focus on mastering language rules, and the audio-lingual method, which is based on repeating and memorizing dialogues, modern methods, approaches, and techniques, like communicative language teaching, encourage active learning, which aims at enhancing not only learners' communicative competency but also their intellectual skills (Elekaei et al., 2016; Sofo, 2004). These scholars explain that the kinds of activities that are used in communicative language teaching permit learners to practice critical thinking skills through mental awareness, developing observation skills, valuing differences, practicing empathy, accepting new ideas, and controlling emotions and cognition.

Multiple pieces of literature and empirical research evidence show the possibility of successfully and effectively integrating critical thinking in English as a foreign language classroom (Crook, 2006; Scanlan, 2006). Critical thinking is commonly integrated with the four language skills: reading, listening, writing, and speaking. Recent studies on the integration of critical thinking with language skills have indicated a significant increase in reading skills when critical thinking skills are inclusively integrated into the teaching and assessment process.

There is a well-established relationship between critical thinking and reading. For example, Norris and Phillips (1987) point out that reading is more than just saying what is on the page; it is thinking by itself. Moreover, Beck (1989) asserts ‘‘there is no reading without reasoning’’ (p. 677). Reading is not optimally comprehended without incorporating critical thinking into its process of understanding. Understanding the text type by merely reading and answering comprehension questions is not sufficient to stimulate EFL learners' critical thinking. Incorporating reasoning skills into reading comprehension helps EFL learners develop the habit of thinking critically. For instance, instead of asking questions about the main idea and supporting sentences, EFL teachers need to incorporate elements of reasoning while teaching and assessing reading comprehension.

The effectiveness of English language teachers' teaching and assessing reading comprehension is viewed not only as developing learners reading skills but also as fostering students critical thinking skills (Boroditsky, 2009; Brown, 2004; Keshta and Seif, 2013; Pourghasemian and Hosseini, 2017; Wilson, 2016). In line with this and the aforementioned ideas, it sounds important to examine the teaching and testing of reading comprehension at various educational levels in our context from the perspective of fostering learners' critical thinking skills. Such endeavors help to discover the extent to which the teaching and testing of reading comprehension are effectively practiced and show the state of integrating critical thinking in the teaching and testing of reading comprehension.

1.2.Statement of the Problem

It is apparent that education is the cornerstone of a country's progress and prosperity. The quality of education delivered to the population of one's country is critical to helping a country attain its intended goals. This is generally governed by the sets of educational goals established in a country's educational policy (Anderson, 2001; Mayer, 2002).

Ethiopia's Education and Training Policy was established in 1994. Cultivating active citizens equipped with cognitive skills that enable them to be effective and efficient in problem solving and decision-making was among the major goals of the policy. It aimed at preparing a well-rounded workforce capable of contributing to the country's development progress (EFDR, 1994). Aimed at achieving the goals, the policy emphasized the necessity of designing and implementing learner-centered school curricula that would encourage learners' active participation and meaningful teaching and learning processes at all levels of the country's educational system.

However, the results of curriculum appraisals conducted in different periods after the implementation of the policy revealed that the education system of the country failed to achieve the desired goals. This was largely owing to the persistence of the traditional approach to teaching and learning, which emphasized rote learning and memorization with little room for students' active participation and intellectual skill development.

The need to develop learners' higher cognitive skills like critical thinking skills, innovative skills, decision-making skills, problem-solving skills, and leadership skills in the country's education system was stressed in different educational policy documents. For instance, in the Curriculum Framework for Ethiopian Education (KG-Grade 12) of 2009, which aimed to revise school subjects using the principles of the Theory of Constructivism and a learner-centered approach, it

was stated that "all young people will be educated in a way that provides high-level learning skills, and particularly high-level skills, in order to promote critical thinking and problem solving" (MoE, 2009, p. 5).

However, as explicitly stated in the current Ethiopian Education Development Roadmap (2018–30), the education system the country went through for nearly three decades failed to prepare the desired critical thinkers and critical actors. This was primarily due to the emphasis given to what to think rather than how to think in the teaching and learning processes. The assessment practice also focused on what to think rather than how to think. In different education levels, the pressure and over-reliance on grades worsened the situation as students turned into rote learners who just accepted what they were taught and saw their teachers or lecturers as authoritative figures who should not be questioned.

As a result education system of the country in general and schools in particular are criticized for not teaching students how to think. Students do not do well in answering the questions that demand more than the mere reproduction of knowledge. My own experience as a university teacher tells me that critical thinking is not the strongest side of students who enter university. They perform the worst when they are faced with tasks demanding critical review, integration of various types of knowledge, or solving a problem in a new context. Students entering college/university should already have mastered all basic critical thinking skills; that is, they should have learned these skills during their primary and secondary education and thus be able to bring with them into the college/university.

The current Ethiopian Education Development Roadmap (2018–30) has suggested that improving the quality of students' thinking should be among the explicit priorities of the educational reform efforts. The roadmap has emphasized the importance of placing high priority on meaningful learning and de-emphasizing rote learning and memorization at various educational levels across the country. Specifically, it is stated that the teaching and learning process in higher education should gear towards developing learners' higher-order thinking skills in order to produce graduates with innovative skills, problem-solving skills, and decision-making skills. This is consistent with a global issue in higher education, which is equipping graduates with critical thinking skills so they can function both domestically and internationally. Therefore, the goal of well-taught university courses should be to foster critical thinking in its students.

As it can be recalled, the roadmap-driven reform has resulted in the development of new educational curricula for general education and higher education in the country. Following the new curriculum, new courses such as Logic and Critical Thinking, Communicative English Language Skills I and II, Geography, History, and others are introduced in higher education. It sounds important to examine each of the course materials as well as how they are delivered in the classroom. Do the course materials, activities, teaching approaches, and assessment practices implemented for the courses promote thinking and strive to develop learners' critical thinking skills? This is a crucial question and needs to be empirically explored. Thus, this study aims to explore the extent to which critical thinking is promoted in the teaching and testing of reading comprehension.

As far as the knowledge of the current researcher is concerned, there is a dearth of local study in the area of teaching English language and critical thinking in general and teaching and testing reading comprehension and critical thinking in particular. The researcher has come through only one local study in which the benefits of explicit instruction in critical thinking are described employing an experimental design. It has been found that instruction in critical thinking develops learners' critical thinking skills and dispositions and also helps them improve their academic writing abilities.

The current researcher believes that the little emphasis given to the issue of English language teaching and critical thinking in our local study can be considered one major sign of failing to adequately explore solutions for the ineffective teaching and learning of English in our country, which has resulted in producing students with less English language proficiency and competency. This reason and others mentioned above have prompted the researcher to conduct this particular study.

1.3.Objectives of the Study and Research Questions

1.3.1. General Objective

The study was primarily aimed at exploring critical thinking skills in the practice of teaching and testing reading comprehension in the delivery of *Communicative English Language Skills I* at Addis Ababa Science and Technology University. Furthermore, the study dealt with the following specific objectives and research questions:

1.3.2. Specific Objectives

The study set out to:

1. Examine the extent to which English language teachers make learners employ critical thinking strategies in the practice of teaching reading comprehension.
2. Analyze the levels of thinking skills that question items in reading comprehension exercises and in reading comprehension tests aim to elicit from the students.
3. Identify the knowledge of English language teachers about critical thinking.
4. Identify the beliefs of English language teachers about incorporating critical thinking skills into the teaching and testing of reading comprehension.

1.3.3. Research Questions

The study specifically sought answers to the following questions:

1. To what extent do English language teachers make students employ critical thinking strategies in the practice of teaching reading comprehension?
2. What levels of thinking skills do the question items in reading comprehension exercises and in reading comprehension tests aim to elicit from the students?
3. What is the knowledge of English language teachers about critical thinking?
4. What are the beliefs of English language teachers of incorporating critical thinking skills into teaching and testing of reading comprehension?

1.4.Significance of the Study

The study on exploring critical thinking skills in teaching and testing reading comprehension in Addis Ababa Science and Technology University holds several significances. First, it would show the extent to which the teaching and testing of reading comprehension at the mentioned institution contributes to the enhancement of students critical thinking skills. Thus, it would inform the teachers to revisit their approach to the teaching and testing reading comprehension.

Second, it would provide both theoretical and empirical backgrounds on the integration of critical thinking in the teaching and testing of reading comprehension. As a result, it would serve as a good source of information for English language curriculum developers, English language syllabus designers, teacher educators, English textbook writers, and English language teachers. In other words, there would be something that the findings of the study could inform policymakers, material developers, teacher educators, and classroom practitioners.

Finally, it would serve as a springboard for researcher(s) with the intention to carry out studies on a similar issue.

1.5.Scope of the Study

Exploring critical thinking skills in the practice of teaching and testing of reading comprehension was the main objective of this study. The study targeted the practice of teaching and testing of reading comprehension in the delivery *Communicative English Language Skills I* at Addis Ababa Science and Technology University. English language teachers and first year students taking *Communicative English Language Skills I (FLEn 1011)* at the universitywere the participants of the study.

In order to achieve the grand objective, the study focused on classroom teaching practices, reading comprehension exercises in the material , reading comprehension tests used by the teachers, and teachers' knowledge of critical thinking and beliefs its integration into the practice of teaching and testing of reading comprehension.

1.6.Limitation of the Study

Mainly due to finical constraint, this study targeted only one higher education institution in the country. It considered only English language teachers and first year students at Addis Ababa Science and Technology University. Thus, the findings of the study cannot be generalized to similar institutions in the country as the study participants might not sufficiently represent the entire Ethiopian higher education. So, the empirical results reported here should be considered in light of the above-mentioned limitation.

CHAPTER TWO
REVIEW OF RELATED LITERATURE

In this section of the study, theoretical features of reading, reading comprehension and critical thinking are presented. The study's theoretical framework has explored several topics associated the mentioned constructs. Finally, the conceptual framework that underpins this investigation is briefly explained in this part.

2.1.Reading: Its Nature and Significance

Reading can be viewed from a variety of angles, including sociocultural, psychological, affective, philosophical, educational, and cognitive. However, most researchers' efforts to describe the nature of reading abilities and their development have focused on the cognitive aspects of reading—the mental processes that readers actually use when engaging in various types of real-life reading. Reading is defined broadly as "a combination of text input, appropriate cognitive processes, and previously known information" (Grabe, 2009, p. 74).

In attempting to define the reading process in greater detail, researchers have increasingly agreed on a view of reading as involving a set of common underlying processes and knowledge bases. In reading literature, two groups of processes are distinguished: those for decoding words and those for comprehending a text, or lower-level and higher-level processes, respectively (Grabe, 2009; Grabe & Stoller, 2002; Hudson, 2007). These two types of processes are equally important if reading is to occur, and understanding these component processes is thus regarded as necessary in order to identify appropriate implications for instruction.

According to Grabe and Stoller (2002), lower-level processes represent more automatic linguistic processes and are typically viewed as more skill-oriented. Rapid and automatic word recognition (or lexical access), rapid syntactic parsing (using grammatical information), and semantic proposition formation are all part of these processes (building collaborative learning-level meaning from word meanings and grammatical information) (Nuttall, 1996; Pesa and Somers, 2007).

In contrast to the automatic lower-level processes, higher-level processes generally represent comprehension processes and are typically viewed as involving specific component abilities controlled by a reader and carried out under some degree of attention (Beck and Mckeown, 2001;

Grabe, 2009). These collaborative learning component abilities include a reader's ability to establish reading purposes, monitor comprehension, use reading strategies, make various types of inferences, draw on background knowledge (also known as prior knowledge or schemata), recognize and process discourse structure and discourse signaling in texts, and critically evaluate the information being read (Beck and Mckeown, 2001; Grabe, 2009; Grabe & Stoller, 2002).

Reading is a fundamental language skill that every learner requires. It is an important skill for students studying English because it allows them to practice their language skills and expand their vocabulary (Hudson, 2007). Reading allows students to grasp words, utterances, and paragraphs; evaluate written concepts; and apply ideas to real-life situations (Marier, 2000; Nuttal, 2005). They also improve their knowledge and English skills by reading books or textbooks related to their needs. Students must therefore absorb and interpret what they read. They won't get the point if they don't understand what they're reading.In reality, students who lack adequate reading skills, particularly in interpreting a text, will struggle to learn a language (Ibid). As a result, in order to obtain information and knowledge from the text, students must understand and comprehend it.

Reading, as stated above, is not only a skill for the collaborative learning classroom, but it is also an important aspect of society. Reading is important for the development of nations, the improvement of societies, and the cultivation of individuals' minds because it is a means of obtaining information and knowledge, satisfying desires, gaining experience, and progressing in various subjects. According to De Coster et al. (2011):

> *literacy skills acquired through schooling provide a foundation for pupils' early and sustained success in school, and their later in Collaborative Learning situation and participation in social, cultural and professional life. Indeed, the development of good reading skills usually leads to higher educational attainment. Conversely, failing to learn to read fluently and with good comprehension may result in difficulties in both learning and developing new skills* (p. 1).

Reading is an extension of one's thinking and perceiving abilities (Nuttal, 2005; Richardson et al., 1991). Readers interact with print using their knowledge of the world as well as linguistic structures and patterns, and they generate meaning using all of these collaborative learning tools and frameworks of knowledge and values, as these authors explain. Reading is not a passive act of

obtaining meaning; meaning is embedded in the print, and the correct meaning will arrive in the readers' minds if correctly decoded. Reading entails an active interpretation process. As a result, the reader does not expect to interpret a text in the same way.

Al-Mutawa and Kailani (1996) saw reading as a way for foreign or second language learners to see other cultures and gain more specific knowledge. Reading, according to Kim and Krashen (1997), is a powerful tool for developing second language competence. According to Kaddoumi (1995), reading knowledge of a foreign language is frequently important for academic studies, professional success, and personal development.

Reading can be viewed as a process of communication between a reader and a text that results in automaticity or reading fluency (Block and Israel, 2005; Robinson and Good, 1987). In this process, the reader gradually collaborates with the text while eliciting the text's significance and where different types of information are used: linguistic or systemic knowledge obtained through bottom-up processing and schematic knowledge obtained through top-down processing.

In general, reading is a highly strategic process in which readers constantly construct meaning by activating prior knowledge, monitoring and analyzing, making guesses, drawing inferences, making inquiries, and engaging in collaborative learning (Anderson, 2006; Gardner, 1986; Richardson et al., 1991). Strategies are used in tandem to overcome problems, consider the message in the text, and assess comprehension. Reading comprehension develops the ability to comprehend written information. This procedure typically necessitates an understanding of textbook materials.

2.2.Reading Comprehension: Meaning and Purpose

Reading comprehension is one of the pillars of the reading act. It has been defined in various ways over the years as the gradual shift in ideas about it. Anderson (2006) describes this idea by stating that the concept of reading comprehension has evolved from what was once considered a receptive process to what is now an interactive process.

According to Nuttal (2005), reading comprehension is a type of reading in which readers must understand semantic details and pay collaborative learning attention to the text in addition to linguistic knowledge. The goal of reading is to understand not only what the text means but also how the meaning is produced. Reading comprehension, according to Block et al. (2008, p. 44),

"represents the readers' ability to integrate effectively and meaningfully apply acquired knowledge with the information provided in the text." This skill requires the integration of thinking and acquired knowledge.

According to Celce-Murica (1991), reading comprehension is a combination of text information and the reader's prior knowledge and expectations. Reading comprehension is defined by the National Reading Panel Report (2000, p. 45) as "intentional thinking during which meaning is constructed through interactions between text and readers." It is an active process of extracting and constructing meaning from a variety of texts by employing a number of effective strategies.

According to Sanders (2001, p. 24), reading comprehension skills distinguish the "passive" unskilled reader from the "active" reader. Skilled readers, as Sanders (2001) describes them, do more than just read; they interact with the text. Skilled readers, for example, can predict, infer, and analyze what happens in a story or text by using collaborative learning tools presented in the text to generate questions about the text's main idea, message, or plot and monitor comprehension of the sequence, context, or characters.

According to Rosenshine (1980: 62), common reading comprehension skills include recognizing the sequence, recognizing words in context, identifying main ideas, decoding details, drawing inferences, recognizing cause and effect, and comparing and contrasting. This reading comprehension composition can be compared to the products or outputs obtained from reading activities such as reading along the lines, reading between the lines, and reading beyond the lines. Recognizing sequence and words in context, decoding details, and sometimes identifying main ideas are examples of collaborative learning activities of reading along the lines; drawing inferences and recognizing cause and effect are examples of reading between the lines; and contrasting and comparing, as well as giving an evaluation or personal judgments, are examples of reading beyond the lines.

Reading comprehension is also a strategic interactive activity that combines reading with thinking and reasoning; reading and exploring a piece of text in a meaningful way necessitates higher-order thinking skills (Richard, 2002). This author expands on this idea by stating that the more complex the language and structure of the text, the more the reader must think. Good readers make sense of what they read by considering how it relates to what they already know. As a result, students must have a substantial body of prior knowledge in order to make sense of a wide range of complex

reading material. This means that students must acquire general and subject-specific content knowledge if they are to become better readers.

According to Robinson and Good (1987, p. 13), "no definition of reading comprehension can possibly encompass all viewpoints and features because each person's definition reflects what reading comprehension means to that person." Most writers define reading comprehension as obtaining meaning encoded by the writer from the text. It is an interactive skill in which the reader interacts with the text and draws meaning from his experience and prior knowledge. It is also the process of making sense of what a person reads.

2.3.Reading Comprehension and Critical Thinking Skills (CTS)

In today's world, one of the most important survival skills is the ability to think. Learners who lack such skills do not participate effectively in an open society or in their education (Toulmin, 1979; Sacco, 1987). Similarly, the ability to read and comprehend is an important life skill that can influence future opportunities and personal success (Beck and Mckeown, 2001; Grabe, 2009; Grabe & Stoller, 2002).This skill includes not only word calling (remembering), but also thinking and, more importantly, whether the reader derives meaning from the printed word.

Reading comprehension is the process of making sense of what one reads; good readers use higher-order thinking strategies to consider and control their reading before, during, and after reading a selection (Richard, 2002; Sanders, 2001). Students who do not use higher order thinking skills typically perform poorly in reading (Ibid.).

Higher-order thinking skills/Critical thinking skills and reading comprehension are linked; higher-order thinking strategies can help with reading comprehension, and reading comprehension can help with higher-order thinking skill development (Beck and Mckeown, 2001; Richard, 2002; Sanders, 2001). According to research, good readers actively engage with the text and are aware of the processes they use to comprehend what they read. Teachers can help students improve their comprehension by using higher-order thinking strategies. The researcher demonstrated strategies for improving reading comprehension by predicting, making connections, visualizing, inferring, questioning, and summarizing (Block & Israel, 2005).

Reading is a strategic process in the sense that many of the skills processes used in reading require the reader to exert effort to anticipate text information, select key information, organize and

mentally summarize information, monitor comprehension, repair comprehension breakdowns, and match comprehension output to the reader's goal (Grabe, 2009 ; Richard, 2002; Sanders, 2001). Reading, according to this statement, is a much more complex process. It entails all higher mental processes. It entails remembering, reasoning, assessing, imagining, applying, and problem solving.

Higher-order thinking and higher-level reading comprehension necessitate complex thinking beyond simple fact recall (Block et al., 2008; Richard, 2002; Sanders, 2001). This means that when students pick up a book, magazine, or look at text on a screen, they must use their thinking skills in order to fully comprehend and understand the text. They must be able to read not only the words themselves, but also between and beyond the words. This entails connecting the text's words and information to what they already know, anticipating what will happen next, and determining which text elements are most important. They must use all of their thinking skills to remember, understand, apply, analyze, and evaluate the text, as well as move beyond the text to create some new or original meaning (Peterson and Taylor, 2012). When a piece of text is read, a complex interaction occurs between what the reader already knows and what the text presents. What a reader learns from a text is determined by what the reader already knows, what the reader anticipates the text to say, and how actively the reader thinks about the text before, during, and after reading it.

From the illustration given above, it is possible to deduce that reading comprehension needs mental activities covering predicting the meaning of the text, determining the purpose of the text, activating prior knowledge, connecting prior experiences to the text, identifying word and sentence meaning in order to decode the text, summarizing the text in order to create new meanings, visualizing the characters, settings, situation in the text, using strategies to improve understanding of the text, reflecting on the meaning of the text, and applying understanding of the text as needed.

Reading and higher-order thinking skills cannot be separated; they are inextricably linked (Munawati and Nursamsu, 2019; Peterson and Taylor, 2012). According to these scholars, when reading, students must do more than just comprehend the meaning of the words that are written down. Furthermore, they must participate in a complex, actively thinking mental activity that requires the students to experience, predict, verify, and acknowledge information based on their prior knowledge and experience. Students must recall and apply what they have learned in order to complete the reading task. This is known as transferring in the context of higher-order thinking

skills (Alder, 2001; Sereidi, 2019). This process allows students to perform some critical thinking about the reading text they must deal with in order to make sense of it. As a result, they will be able to apply problem solving skill when they find difficulties in achieving the objectives of a reading task.

Reading, as previously stated, requires higher-order thinking skills because it is more than just decoding specific words. Reading requires deriving meaning as well as analyzing and synthesizing the reading material, all of which are components of higher-order thinking skills (Cox, 2019; Munawati and Nursamsu, 2019; Peterson and Taylor, 2012). As a result, students' higher-order thinking skills (HOTS) as well as their reading skills must be developed. As a result, an English teacher must engage their students in learning activities that promote higher-order thinking skills. One method is to employ higher-order thinking strategies based on skills (Cox, 2019).

2.4.Reading Strategies to develop Students' Critical Thinking Skills/Higher-order Thinking Skills in Reading Instruction

A teaching strategy is a plan designed for a specific purpose or purposes; it can also be referred to as a lesson plan. A teaching strategy is a collection of teaching activities that must be completed by both the teacher and the student in order for the purpose of teaching to be accomplished effectively and efficiently. A teaching strategy is also defined as a generalized lesson plan that includes structure, instructional objectives, and an outline of planned tactics to implement the strategies in collaborative learning (Issac, 2010).

Narayana (2015) defines strategy as procedures used in learning, thinking, and so on that serve as a means of achieving a goal. In the context of education, strategy is a method of acquiring necessary skills such as listening, speaking, reading, and so on. Adopting a strategy entails establishing a plan of action and associating it with a specific global approach to organizational learning and learning conditions through the use of specific methods and means. Teaching strategies suggest how to approach a teaching situation.

Teachers can employ a variety of strategies in reading instruction. The following are strategies for teaching reading, according to Vacca and Vacca (1999): a) Scaffolding is a process in which a student is assisted by a teacher or another person with greater ability to solve a specific problem that is beyond his or her developmental capacity. b) Think-aloud: Think-aloud is a learning

strategy that assists students with their learning activities. It aims to recall more significant information from the teacher's texts. c) Reciprocal teaching is a teaching strategy in which students and teachers share the role of teacher by allowing both to lead a discussion about a given reading. d) SQ3R is a systematic reading strategy to help teachers organize the reading process into manageable units. It consists of five steps, they are: Surveying, questioning, reading, reciting, and reviewing, e) QARs is a reading strategy through understanding and analysis of questions.

Accosta and Ferri (2010) and Cox (2019) specify several strategies for reading that promote higher-order thinking skills. They refer these strategies as higher-order thinking strategies. The following are the strategies listed by these scholars: Making predictions, activating students' prior knowledge, completing a graphic organizer, questioning, connect concepts, inferring, graphic organizer, teach problem-solving strategies, encourage creative thinking, use mind movies, teach students to elaborate on their answers, and teach QARS are some of the strategies (Question Answer Relations).

A) Prediction

Prediction as a method of increasing comprehension "...assists the reader in determining the purpose of their reading" (McKown & Barnett, 2007, p. 17). According to Pesa and Somers (2007, p. 31), prediction can "activate prior knowledge, set a purpose for reading, and engage the reader from the start." Prediction can be aided by introducing the reading's title, images associated with its content, and key words (McKown & Barnett, 2007). Prediction, according to Pesa and Somers (2007), can help students monitor their comprehension and maintain their interest while reading. According to Block and Israel (as cited in McKown and Barnett, 2007, p. 18), "good readers use their experiences and knowledge to make predictions and formulate ideas as they read." Students can also compare their predictions to information from the actual text(McKown & Barnett, 2007).Teele (2004, as cited in McKown & Barnett, 2007) emphasizes the importance of students revising their predictions when necessary, and links this to improved reading comprehension. Teachers who read aloud in collaborative learning can use questions to guide students' predictions. According to Oczkus (2003, as cited in McKown and Barnett, 2007, p. 17), "this strategy also allows for more student interaction, which increases student interest and improves their understanding of the text." Following reading, this strategy can "assist students in interpreting, analyzing, and deepening their understanding" (Pesa & Somers, 2007, p. 32). Without prediction, students’ comprehension can be difficult to develop.

B) Activating Background Knowledge

Helping English learners make "connections between their own knowledge and experiences and the new information being taught" is what activating background knowledge for learning entails (Rumelhart, 1994, as cited in Echevarria et al., 2008, p. 23). These connections can be made with materials that are motivating and relevant to students (Echevarria et al., 2008). According to Cummins (2009), activating and building prior knowledge aids EFL (English as a Foreign Language) students in learning content. The teacher used this strategy to connect the students' prior knowledge to the material being taught. Helping English learners make connections between their own knowledge and experiences and the new information being taught is what activating background knowledge for learning entails (Munawati & Nursamsu, 2019).

C) Using Graphic Organizer

A graphic organizer is also one of the strategies that can be used to help students develop higher-order thinking skills. Higher thinking skills for reading comprehension have been linked to the use of graphic organizers (Gil-Garcia & Villegas, 2003). Graphic organizers "help prepare students for reading" in a pre-reading activity (French & Landretti, 1995, as cited in Ben-David, 2002). According to Gil-Garcia and Villegas (2003), this strategy can help students link and organize their prior knowledge to new knowledge, think divergently, and recall, transfer, and apply what they have learned.

Similarly, Cassidy and Hossler (1992, as cited in Bowman et al., p. 8) confirm that students can better organize and recall information after reading. Ben-David (2002) extends these benefits to assist students in recalling and displaying information as well as demonstrating content relationships. According to Alvermann and Boothby (1986, as cited in Ben-David, 2002, p. 13), "the effects on comprehension are increased when students partially construct graphic organizers as a during-reading or post-reading activity." Additionally, students can demonstrate personal understanding and response on graphic organizers (Buehl, 2001; reported in Echevarria et al., 2008).

Because the primary goal of education is to teach students to think for themselves rather than to fill their heads with facts (Hutchins, cited in Bellanca & Fogarty, 1993), the use of higher-order thinking skills and graphic organizers makes more sense than ever in today's classroom.

According to Braselton and Decker (1994), graphic organizers are visual representations of various types of data , and its strength lies in its ability to visually relate elements. Students must slow down and think through a problem. Students observe the visual organization of the problem-solving process and must express their understanding of it. This, in turn, aids students in developing a problem-solving schema. According to Burke (1994) and Gillespie (1993), Webs, Venn diagrams, concept maps, charts, and variations on these that make ideas visible are some of the most commonly used and effective graphic organizers.

Completing a graphic organizer helps students prepare to read and understand the text better when they are reading it (Gillespie, 1993). It assists students in organizing their thoughts and ideas about the topic, developing their thinking and imagination, and learning more (Ben-David, 2002). This strategy can also help students remember and use information in writing by associating their predictions with prior knowledge. A graphic organizer is useful for providing students with a nice way to organize their thoughts. Furthermore, drawing diagrams or mind maps can help students improve their ability to connect concepts and see their relationships, and both will develop the habit of connecting concepts. Thus, teaching students to use graphic organizer will give much beneficial for the teacher.

D) Questioning

Questioning as a strategy can help students prepare for and understand while reading by developing different levels of thinking skills (Marzano, Pickering, & Pollock, 2001). The Directed Reading-Thinking Activities Approach (DRTA) described by Haggard (1985), as cited in Hendricks et al. (1996), can help with questioning by having the teacher read a text with students, stop at intervals, and ask questions. In order to gain a better understanding of what they are reading, students discuss their answers in a whole-class learning activity. Raphael's (1984) Question-Answer Relationship (QAR) technique, as cited in Hendricks et al. (1996), has been linked to improved students' reading comprehension after reading.

Kelty (1999) distinguishes four types of questions based on how their answers relate to the material. The answers to 'right there' or literal questions are stated directly in the reading and help students focus on knowledge by finding and recalling information. 'Think and search' or comprehension questions have answers in the text as well, but they require inference because students must search for information in various parts of the reading and describe, compare,

organize, and explain ideas. 'Author and you' and 'on your own' questions necessitate students responding and searching within themselves for answers. The former is concerned with students' prior knowledge and inferences from the text, whereas the latter is concerned with students' life experiences. Students apply their knowledge to these questions.

E) Teaching Question-Answer-Relationships/ QARs

Teaching question-answer relationships, or QARs, is critical in reading lessons because it enables students to label the type of question that is being asked and then use that information to help them formulate an answer (Kelty, 1999). Students must determine whether the answer can be found in a text or on the Internet, or if they must rely on prior knowledge. This strategy has been found to be effective for higher-order thinking because students become more aware of the relationship between the information in a text and their prior knowledge, which aids them in determining which strategy to employ when seeking an answer (Ibid.).

F) Making Students Generate Questions

Making student-generate questions as a strategy improves learners' higher-order thinking skills. Student-generated questioning has been studied as an instructional technique to improve students' reading comprehension levels since the 1980s (Cohen et al., 2016). In reading lessons, the procedure for student-generated questioning includes (1) reading a given material, (2) generating questions by students, (3) gathering and distributing the instructor's questions, (4) solving the students' questions, and (5) reviewing the questions by the instructor and the students. After reading a passage, students must identify the important information and generate questions about the points that they believe are important (Van Blerkom et al., 2006). Students must carefully consider the passage and decide (1) what it is that they need to learn in order to create a question, (2) the question’s correct answer, and (3) plausible (but incorrect) distractors when creating a multiple-choice question (Davey and McBride , 1986).

When students actively construct connections between their prior knowledge and the written passages, they improve their understanding and reading comprehension (Wittrock, 1981). "Active text processing" refers to this type of "meaning making" that involves constructing relationships between the text and prior knowledge(Davey and McBride, 1986). When generating questions, students' attention and cognitive efforts are directed toward making meaning by locating any

important information in the text and connecting it to prior knowledge (active text processing), resulting in increased comprehension.

Student-generated questioning may initiate the students' active text process because, when generating questions, students need to think about the relations among different aspects of the text, and use their attention selectively on different text sections (Taboada and Guthrie, 2006; Meibodi et al., 2013).According to this viewpoint, student-generated questioning promotes active text processing, allowing students to focus on the important information in the text. Students appear to be engaged in analyzing the content, making connections with prior knowledge, evaluating it, and constructing personal knowledge through the student-generated questioning activity (King, 1989; Yu, 2009; Bates et al., 2014).

G) Making connections/Concept Connection

Making connections (or concept connections) is a metacognitive teaching strategy that assists students in becoming successful and independent readers by improving their comprehension(Hartman, 2001). Students can use strategic reading to monitor their own thinking and make connections between texts and their own experiences (Hedgcock and Ferris, 2009). Students who make connections while reading are better able to comprehend the text. It is critical for students to connect with the text by drawing on prior knowledge, schema, and experiences (Correia & Bleicher, 2008). As Morrison & Wlodarczyk (2009) statethe three types of connections are text-to-self that refers to connections made between the text and reader's personal experience. Second is text-to-text that refers to connections made between a text being read and to a text that was previously read. The third is text-to-world that refers to connections made between a text being read and something that occurs in the world.

The schema theory explains how prior experiences, knowledge, emotions, and understandings influence what and how people learn (Harvey & Goudvis, 2007). The schema is the background knowledge and experience that readers bring to the text. Good readers use prior knowledge and experience to help them understand what they are reading and are thus able to make connections. Struggling readers frequently move through a text without pausing to consider whether the text makes sense based on their own background knowledge or whether their knowledge can be used to help them understand confusing or challenging materials (Hudson, 2007). Accessing prior

knowledge and experiences is a good starting point when teaching strategies. It is because every student has experiences, knowledge, opinions, and emotions that they can draw upon.

According to Keene and Zimmerman (1997), students comprehend better when they make different types of connections: Text-to-self connections are highly personal connections formed by a reader between a piece of reading material and their own experiences or lives. "This story reminds me of a vacation we took to my grandfather's farm," for example, is an example of a text-to-self connection. Readers are sometimes reminded of other things they have read while reading—other books by the same author, stories from a similar genre, or perhaps on the same topic. Text-to-text connections are the most common type. During reading, readers gain insight by considering how the information they are reading relates to other familiar texts. A text-to-text connection would be, "This character has the same problem that I read about in a story last year.

As Keene & Zimmerman (1997) describes, the larger connections that a reader brings to a reading situation are referred to as text-to-world connections. People have ideas about how the world works that are vastly different from their own personal experiences. Everyone gains knowledge from television, movies, magazines, and newspapers. When teaching science, social studies, and literature lessons, teachers frequently try to improve text-to-world connections. A text-to-world connection would be when a reader says, "I saw a program on television that discussed the topics discussed in this article."

Good readers, according to Nobles and Ortega-Dela (2020), make connections as they read. They can connect the book to their personal experiences (text-to-self), information from other texts (text-to-text), or what they already know about the world (text-to-world). Making connections is the process of connecting what students read to what they already know. This strategy assists students in comprehending text by activating prior knowledge and making sense of what they read. She suggested that students ask themselves questions as they read to help them make connections with the text. The use of teacher modeling, the think-aloud process, and student practice of reading comprehension strategies such as predicting, making connections, visualizing, inferring, questioning, and summarizing had a positive impact on student comprehension (Hartman, 2001; McKown & Barnett, 2007).

H) Inferring /Inference strategy

The inferring or inference strategy is one of the reading strategies in which readers attempt to comprehend and comprehend the reading text by drawing their own personal meaning from it. Readers or students make connections based on their prior knowledge, their understanding of pronouns and antecedents, and their understanding of the relationship between explicitly stated information and implied information (Zweirs, 2005).

Making inferences is frequently referred to as "guessing logically" or "reading between the lines." Inference is similar to the chemical process of forming a chemical compound, in which two elements combine to form a new substance (Zweirs, 2005). Readers make inferences when they can combine their own experiences with the information they learn from what they read. As a result, they invent new meaning or make connection what that aren't explicitly stated in the reading.

Readers' comprehension of a subject is limited if they only use their own background knowledge to create meaning (Zweirs, 2005). Using only text, on the other hand, invalidates their personal point of view; no connection is made, and only literal comprehension may result. When readers infer they are personally engaged with the text, more aware of the author's intent, and processing deeper meaning.

From the explanation given above, it is possible to conclude that in reading inference means that the reader uses knowledge and facts from the text as the basis or premises for their own logical conclusion. A text typically contains a large number of inferences, many of which are quite different in character depending on which premises are used or active. In general, the teacher has an implicit opinion about how the students will understand the text, i.e., what inferences will be drawn, what is important about the reading itself, and what the text's goal is.

I) Reciprocal Questioning (Re-Quest)

Reciprocal Questioning (Re-Quest) is a strategy that is similar to reciprocal teaching. It is a reading strategy in which the teacher and students have the opportunity to ask each other questions after reading a selection (Ersianawati and Suprianti, 2018). As these scholars explain, this strategy teaches students how to ask more effective questions while also modeling questioning techniques

and proper text questioning. After reading specific passages, students and teachers alternate asking and answering questions as part of the strategy. In the ReQuest strategy, an individual student and teacher read sections of a selection silently before taking turns asking and answering questions about that selection. The teacher's role is to model good questioning behavior, provide feedback to students on their questions, and determine whether students have established reasonable goals for independently completing the passage.

The Re-Quest strategy is intended to encourage students to formulate and develop their own questions, find purpose in learning, develop an inquiring attitude, and develop independent comprehension techniques, according to Manzo (1969), as cited in Crawford et al. (2005). It can help with reading comprehension on two different levels. Students thoroughly examine the reading selection in order to answer their teacher's questions. In turn, the teacher reinforces learning by answering questions and, if necessary, assisting students in refining their work into more focused questions. Students from kindergarten to college can use ReQuest, and the reading text should be appropriate for their grade level. It can be used on a one-to-one basis as well as in groups of up to eight people. This strategy aids students' comprehension.It can be used to actively and meaningfully engage students with a variety of texts ((Ersianawati and Suprianti, 2018).

"Reciprocal Questioning Procedure is a useful activity partners can use when they are reading through a text that is difficult for them," writes Manzo (1969) in Crawford et al. (2005: 69). It means that reciprocal questioning procedures can be useful for students who are struggling to understand the text in reading comprehension collaborative learning activities. As a result, the students changed the information and asked each other about the difficulties they perceived in the text. This strategy aided students in understanding the meaning of the text. According to Hamilton in Ersianawati (2018), the reciprocal questioning strategy actively engages students in reading the text through questions.

The reciprocal questioning technique, according to Hales (2009) in Ersianawati and Suprianti (2018), assists students in learning to create effective questions. Students learn to ask their own questions about the text so that they can understand it independently. In short, the reciprocal questioning technique involves both the teacher and the students in the creation and response of questions, allowing students to actively participate in the text through questions. This technique can also assist students in developing effective questions about the text they are reading.

According to Foster and Rotoloni in Fahas (2021:38), reciprocal questioning gives students a model and sharpens their cognitive process for communicating what they have learned. Furthermore, according to Brown (2000), reciprocal teaching is based on Vygotsky's ZPD (Zone of Proximal Development) theory, which focuses on collaborative learning and interaction in increasing students' knowledge and skills.

J) Writing/Keeping Journals

Writing/Keeping Journals, which can be used for a variety of purposes, are another useful tool for improving comprehension. According to Hancock (1992) (cited in Hancock, 1993), "a response journal not only allows for the expression of personal thoughts, but it elevates reading to an active process of personal meaning-making" (p. 466). Students can practice different types of writing in a less structured setting while keeping their audience in mind. Journal entries can assist students in making connections between what they know and what they learn as they read. Wells (1992-1993) discovered that when students wrote about a novel they had read and knew one of their peers would read what they had written, the students wrote better.

According to Brian (cited in Hamann, 1991), students responded more thoughtfully to comprehension questions when they wrote about personal experiences relevant to the topic as a pre-reading activity. It also aided the student's character analysis. Journals allow students to communicate with themselves, their peers, and the teacher. Students are better able to relate to the text they are reading as they reflect on their own lives. According to Fulwiler (as cited in Fusco and Fountain, 1992), "People learn more when they write about something. In a nutshell, that is the idea behind requiring students to keep journals." (p. 247)

Cooperative grouping is another technique that, when combined with reflective journals, allows students to assess their own abilities and determine how they can improve (Johnson & Johnson, 1992). These organizations provide numerous advantages to students of all levels and abilities. According to Maria and Hathaway in 1993, cooperative groups not only raise awareness but also make people more open to change. When new students are part of a small group and must engage in collaborative learning in the conversation, they adjust to their surroundings more quickly. Cooperative grouping, according to Larson and Dansereau (1986), can provide more time for individual instruction and diagnosis by the teacher because the teacher is freed from normal teaching activities during that time. Students working in cooperative groups can maximize their

own learning as well as other students' learning (Bellanca& Fogarty, 1992). The need to respect and appreciate fellow students has never been greater than it is today.

K) Collaborative Learning (CL)

Collaborative learning (CL) is a learning strategy in which two or more people work together to learn something. Individuals within a learning group interact, negotiate to solve problems while learning, use cognitive and metacognitive skills during interactions, and take responsibility for their learning (Chatterjee & Correia, 2020; Hautala & Schmidt, 2019). As a result, interactions are essential for collaborative learning (CL). In collaborative learning (CL), there are two types of interactions: cognitive interactions, in which learners actively participate in the processes of thinking, reasoning, analyzing, and elaborating with one another about the learned material, and social interactions. The other type of interaction is socio-emotional, in which learners will understand each other, complete their competencies, be empathetic, and feel the essence of their collaborations with one another (Hei & Admiraal, 2015).

Chatterjee and Correia (2020) explain that collaborative learning improves learners' interactive competences in a variety of dimensions, including affection, cognition, social, and metacognition. Because active interactions can be made in a variety of ways, the broad concept of collaborative learning makes it unlimited in certain learning rules. Collaborative learning encompasses a wide range of learning activities such as asking each other questions, discussing, explaining to each other, debating, and actively participating in knowledge construction processes.

Many previous studies have shown that collaborative learning helps learners develop and succeed in school. Collaborative learning improves learners' cognitive learning processes (Chee & Ibrahim, 2018), social and emotional functions (Tolmie et al., 2010), and psychological development (Marzano and Pollock, 2001). Collaborative learning strengthens learners by increasing their attention to learning, developing positive attitudes toward learning, motivating them to learn, encouraging them to learn continuously, increasing their learning results, and promoting them to achieve good academic achievements (Hei et al., 2015). Collaborative learning is also predictive of learners' literary development (Kirschner, 2004), encouraging learners to be open to differences and promoting learners' equity (Loes & Trolian, 2018). A number of studies have found evidence that collaborative learning helps learners improve their critical thinking skills (Kusumawati, Hobri, & Hadi, 2019).

L) Employing Summary

Using a Summary Writing in reading class provides students with the opportunity to improve their higher-order thinking skills (Lee, 2000; Nelson & Calfee, 1998). According to Romano (1995), writing is essential for developing thinking skills, social skills, and instilling in students a sense of their place in society. Writing allows students to practice their thinking skills and organize information.

According to Rodriguez (2006, pp. 5-6), "Good writers also read well. Good reading is essential for becoming a good writer ". Graham and Herbert (2011) came to the conclusion that reading is important for students' success both in and out of school. Writing is one potential method for improving students' reading skills.

A group of researchers discovered that both reading and writing engage learners in actively constructing meaning (Risemberg, 1996; Shen, 2007). Scheme theory, which proposed that readers must activate their schema before reading a text, can also be applied to the writing process. Noyce and Christie (1989) discovered that a writer employs the same schema as a reader. To write about a topic, writers must also draw on prior knowledge (schemata). To that end, reading and writing both incorporate prior knowledge into learners' learning. Aside from prior knowledge, some of the same meta-cognitive factors are at work in both the reading and writing processes (Ibid.).

Graham and Herbert (2011) concluded in a meta-analysis study that writing about material read improves students' comprehension of it; that teaching students how to write improves their reading comprehension, reading fluency, and word reading; and that increasing the amount of writing students do improves their reading comprehension.

The summarization process necessitates the reader determining what is important while reading and paraphrasing the information in their own words (Alder 2001). The summarization process has been shown to improve students' ability to summarize text and improve text comprehension through teacher modeling and student practice. With the summarization strategy, students can be taught to identify the main ideas, connect the main ideas, eliminate redundant and unnecessary information, and remember what they read. As a result, EFL reading instruction should include more writing tasks to improve EFL learners' ability to summarize and comprehend what they have read.

2.5.Types of Reading Comprehension Tasks/Exercises

Reading tasks are classified into two types: controlled and constructed response tasks (Hedgcock & Ferris, 2009). Controlled response tasks involve responding to specific behaviors or linguistics. Controlled response questions are divided into three sections: The first type of question is textually explicit, in which the question is paraphrased from a single sentence in the text; the second type of question is scripturally implicit, in which the text only provides partial information needed to respond, requiring students to consult their scripts. Controlled response formats for reading tasks, on the other hand, include multiple choice, gap-filling, matching, scanning, and editing (Hedgcock & Ferris, 2009).

First, **Multiple choice (MC)** is probably very familiar to students. It is also used in educational testing. Students are asked to read passages and answer questions using multiple choices. The questions will most likely have several options, most likely four. Multiple choice reading tasks in collaborative learning address students' comprehension through a combination of ten prompts: main ideas, word forms, vocabulary, inferred information, grammatical structure, scanning for specific information, exchanging unstated facts, and supporting evidence (Hedgcock & Ferris, 2009). This type of reading task is common in TOEFL and IELTS exams. Teachers who want to create multiple-choice reading tasks can use these two validated tests as models.

Secondly, **cloze and gap-filling** reading task involves filling in the blanks in incomplete passages. Therefore, students need to find the most suitable words to finish this type of reading task. Test makers for this type of exercise delete selected elements of the passage to assess students. However, this type of task encounters controversy as it is only a limited part of constructed reading. Nevertheless, this type of reading task might be useful in an ESP or EAP context where students need to develop mastery of specific vocabulary. On the other hand, there is a variation of collaborative learning and gap-filling. It is called the C-test. What differentiates the latter from the former is that the C-test asks students to fill in longer words in more frequent blanks. Therefore, students are required to restore every word (Hedgcock & Ferris, 2009).

Thirdly, **Matching** is combination of multiple choice and cloze and gap-filling task. Matching tasks require students to fill gaps using only the options provided. As a result, students do not need to search for words, but rather select the most appropriate one. However, if teachers' goal is to determine readers' comprehension, the task's validity must be questioned. Students may simply

guess the answers rather than try their hardest. Alderson (2000), cited in Hedgcock and Ferris (2009), proposed a more modern, discourse-oriented matching exercise. In this variation of the matching exercise, students must match complete sentences to the gaps.

Fourthly, **Scanning** tasks involve students on finding certain information in presented passage. This exercise's texts range from essays to news articles, menus, short stories, and so on. The goal of this exercise is to locate information, such as dates, names, locations, settings of narrative text, chief divisions of a book chapter, findings of research artifacts, quantitative data results, restaurant menu prices, and information needed on the application form (Hedgcock and Ferris, 2009)

Fifth, **Editing**exercise requires students to edit selectively presented text drawn from authentic sources. This exercise involves students identifying textual errors and correcting them. According to Brown (2004), as cited in Hedgcock and Ferris (2009), assessing students with editing tasks has several advantages: the editing process itself is authentic; this task promotes grammatical awareness; and it draws specifications from the text.

Furthermore, as the scholars cited above describe, in constructed responses to reading tasks, students must actually produce something, as opposed to controlled responses, in which students do not have complete control of the task. Students must provide longer responses in this type of task. As a result, it may necessitate critical thinking. However, while students are said to be more engaged in this type of task, it also has several drawbacks, such as increasing students' subjectivity. This type of exercise comes in a variety of formats, including information transfer, short-answer comprehension and recall exercise, free recall test, note-taking and outlining, summary, and extended response (Hedgcock & Ferris, 2009).

First, **Information transfer** exercise involves interpreting visual media presented in the text. Students must capture information; thus, try to extract information from it. These visual media can sometimes be used to supplement or replace text. Responses to this type of learning exercise can range from simple inputs like names and numbers to more complex responses like sentences or paragraphs. Furthermore, responses can convert verbal input into nonverbal input and vice versa.

Secondly, **short-answer comprehension and recall exercise** is very familiar for students since they often need to read text then to answer following questions. These questions, on the other hand, will necessitate students writing one or two sentences. Although short-answer

comprehension exercises appear to be similar to multiple choice questions in that both require a short answer, they are not. As a result, rather than having options to choose from, students must generate their own responses. Finally, this type of exercise assesses their reading comprehension and strategies.

Third, **Free recall test** requires students to read text than to report everything that they can remember from it. In contrast to short-answer tests, free recall tests provide a longer response, resulting in a more accurate measurement. This type of exercise improves their recall abilities and memory skills.

Fourth, **Note-taking and outlining** informal procedure to assess students' comprehension of extensive texts. Note-taking activates students' productive literacy practice, and thus it reflects important information in the content. Teachers will learn how effective their students' reading strategies are through this type of exercise.

Fifth, **Summary and extended response**. In summary exercise, students must read text then compose summary of the text. The summary should include the main ideas or key information from the presented text. This type of exercise also elicits students' perspectives on reading material, as well as their comments on it. This type of exercise requires a written text response. As a result, it not only improves students' reading and critical thinking skills, but it also improves their writing skills.

Furthermore, Hedgcock and Ferris (2009, 2009) urged teachers to use constructed response tasks to assess reading in order to maximize reading-writing connection tasks. Nonetheless, a few issues arise in terms of how teachers can assess the main idea of a text. As a result, it is suggested that teachers use a scoring rubric to make appropriate measurements (Hedgcock & Ferris, 2009, p. 358).

2.6.Types of Reading Comprehension and Forms of Question in Reading exercise/Test

2.6.1. Types of comprehension

Pearson and Johnson (1972) and Nuttall (1996) have come with the following six types of comprehension:

A) Literal comprehension

Literal comprehension is an understanding of the text's basic meaning, such as facts, vocabulary, dates, times, and locations. Literal comprehension questions can be addressed directly and explicitly in the text.

B) Reorganization

Reorganization is the next type of comprehension. Reorganization is based on a literal understanding of the text; students must combine information from different parts of the text to gain a better understanding. For example, we might learn at the start of a text that a woman named Maria Kim was born in 1945, and then at the end that she died in 1990. To answer this question, *what age was Maria Kim when she died*? The student must combine two pieces of information from different parts of the text. Questions addressing this type of comprehension are important because they teach students to examine the text as a whole, assisting them in moving from a sentence-by-sentence examination of the text to a more global view.

C) Inference

Inferences require more than a literal understanding. Students may struggle at first to answer inference questions because the answers are based on material in the text that is not explicitly stated. Students use inference to combine their literal understanding of the text with their own knowledge and intuitions.

D) Prediction

Prediction is the fourth type of comprehension in which students use their understanding of the passage as well as their own knowledge of the topic and related matters in a systematic manner to determine what might happen next or after a story ends.

There are two varieties of prediction, while-reading and post- (after) reading. While-reading prediction questions differ from post-reading prediction questions in that students can immediately learn the accuracy of their predictions by continuing to read the passage. For example, students could read the first two paragraphs of a passage and then be asked a question about what might happen next. They can determine the answer by reading the reminder of the text.

Post-reading prediction questions, on the other hand, typically have no correct answers because students are unable to continue reading to confirm their predictions. Predictions, on the other hand,

must be supported by textual evidence. Post-reading prediction questions are generally not permitted in scholarly articles, such as this one.To illustrate, consider a romance in which the woman and man are married as the novel comes to a close. A post-reading prediction question might be: *Do you think they will staymarried? Why or why not?*A yes or no answer could be justified depending on the variety of the text and the reader's personal experiences. A pre-reading activity is having students make predictions before reading the text. We do not consider this type of prediction to be comprehension. Rather, it is an activity that allows students to assess their knowledge of the text's topic.

E) Evaluation

The fifth type of comprehension, *evaluation*, requires the learner to give a global or comprehensive judgment about some aspect of the text. For example, a comprehension question that requires the reader to give an evaluation of text he/she reads: *How will the information in thistext be useful to you?*

To answer this type of question, students must have a literal understanding of the text as well as knowledge of the topic and related issues. Some students may be hesitant to be critical or disagree with the printed word due to cultural factors. In such cases, the teacher may wish to model possible responses to evaluation questions, taking care to include both positive and negative aspects.

F) Personal Response

Personal response, the sixth type of comprehension, requires readers to express their feelings about the text and the subject. The answers are not found in the text; they are provided solely by the readers. While no personal response is incorrect, it must be based on the text's content and reflect a literal understanding of the material. An example of a comprehension question that requires a personal response is: *What do you like or dislike about the text you are reading?*

2.6.2. Forms of Questions

Pearson and Johnson (1972) and Nuttall (1996) present and discuss five types of comprehension questions that can be used to help students understand texts.

A) Yes/no questions

Yes-or-no questions are those that can only be answered with yes or no. This is a common type of comprehension question, but it has the disadvantage of giving the student a 50% chance of

correctly guessing the answer. It is therefore recommended that when using yes/no questions, other types of questions be used to ensure that the student has understood the text.

All six types of comprehension can be prompted by yes/no questions. When yes-or-no questions are combined with personal responses or evaluations, other types of questions appear to naturally follow. As an example, Did you enjoy the book you were reading? Why?

B) Alternative questions

Alternative questions are two or more *yes/no* questions connected with or: for example, *does this to teach reading comprehension or to test reading comprehension?* Similar to *yes/no* questions, alternative questions are subject to guessing, so theteacher may want to follow up with other forms discussed in this section.Alternative questions have worked best for us with literal, reorganization, inference, and prediction types of comprehension. Such questions do not lend themselves as well to evaluation and personal response.

C) True or false

Questions may also take the form of *true* or *false*. Students have a 50% chance of guessing the correct answer just like with yes/no questions. Teachers may simply accept the correct answer without questioning why it is correct or why the distracters (wrong choices) are incorrect.

True or false questions, like yes/no questions, can be used to prompt all six types of comprehension. Follow-up tasks are sometimes required when using personal responses or evaluations.

D) Wh- questions

Wh-questions are questions that begin with where, what, when, who, how, and why. They are fantastic at assisting students with literal comprehension of the text, reorganizing information in the text, and making evaluations, personal responses, and predictions. They are also used as follow-up questions to other types of questions, such as yes/no and alternative.

Wh-questions with how or why, in particular, are frequently used to help students go beyond a literal understanding of the text. Because beginning and intermediate readers are often hesitant to do so, using how-and-why questions can be extremely beneficial in assisting students in becoming interactive readers.

E) Multiple-choice

Multiple-choice questions are based on other forms of questions. They can be, for example, a *wh*-question with a choice.Generally, but not always, this form of question has only one correct answer when dealing with literal comprehension.

Because it provides students with some possible answers, the multiple-choice format may make wh-questions easier to answer than no-choice wh-questions. Students may be able to check the text to see if any of the options are specifically discussed before making a decision. Multiple-choice questions are most effective when used in conjunction with literal comprehension. They can also be used to make predictions and evaluate data. However, when used for this type of comprehension, follow-up activities that allow students to explain their choices are required.

2.7.Cognitive levels of Questions in Reading Comprehension Exercise/Test: Higher-order Thinking Questions Vs Lower-order Thinking Questions

Questioning is an important aspect of the teaching and learning process. Questioning is a type of dialogue that has been shown to benefit both teachers and students (Remark & Ewing, 2015). Well-designed questions can be used by teachers to engage students in lessons, develop their thinking skills, and assess their understanding (Larson and Lovelace 2013). These, in turn, assist students in finding meaning in what they learn and making connections to prior knowledge.

Each text assigned by the teacher is accompanied by both oral and written questions, which teachers tend to derive from textbooks while also supplementing them with questions specifically tailored to the lesson objectives and their own particular needs (Remark & Ewing, 2015). Prior research indicates that teachers can improve students' achievement, retention, and engagement by simply asking thoughtfully constructed questions (Tofade, Elsner, & Haines, 2013).

Larson and Lovelace (2013), for example, emphasize the importance of questions in pedagogy as a technique for encouraging critical thinking, stimulating students' interest, and checking their understanding. In this regard, Seth (2013) adds that teachers can meaningfully improve students' cognitive levels by asking thought-provoking questions. Similarly, Shafeei et al. (2017) confirm that the complexity of a question can have a large impact on students' learning. Indeed, as foundational research in support of using questions as learning tools grows, it paints a more compelling picture of the critical role that teacher-developed questions play.

Reading comprehension texts are useful resources for teaching students to practice cognitive skills that are essential components of the learning process (Seth, 2013). Teachers and curriculum developers must ensure that questions are used to help students interact with the text (Larson & Lovelace, 2013). Furthermore, teachers must be aware of the level of questions used in reading comprehension exercises or tests. Knowing levels of questions are based on the fact that certain types of questions will likely elicit more complex responses from students. Using higher-order thinking skills questions in the passage is one way to deepen students' understanding. Higher-order thinking skills questions will encourage students to think at a higher level when constructing responses (Dagostino et al., 2015; Seth, 2013).

Theory about lower and higher order thinking skills question is debuted by Bloom's taxonomy (1956) which is revised by Anderson and Krathwohl (2011). The theory can be used by teachers as guideline in creating questions for assessment. Anderson and Krathwohl (2011) identify the structures of cognitive taxonomies into six points; remember, understand, apply, analyze, evaluate, and create. Questions that bring out ideas in remembering, understanding, and applying domain are mostly considered as lower levels of questions, meanwhile questions in analyzing, evaluating, and creating are considered as higher order thinking skills question.

Remembering which is the act of recognizing and recalling information is considered the lowest order of cognitive processing and yet recall-type questions are the most frequently posed by educators (Anderson and Krathwohl ,2011; Dagostino etal 2015). There are two types of remembering questions: recognizing and recalling information. Recognizing information entails consistently locating knowledge in students' long-term memory (Anderson and Krathwohl, 2011). For example, teachers may devise questions or activities that require students to recognize significant dates in a country's history. Remembering then refers to recalling information. It is the retrieval of relevant knowledge from long-term memory, such as when English teachers ask students to recall important dates in history.

Comprehension level shows that the students understand what they have read (Anderson and Krathwohl, 2011). It happens when they retell, infer, interpret, explain, predict, or outline information. Questions that ask the learner to interpret, illustrate, summarize, infer, compare, and explain the material are aimed at eliciting a student's understanding of the material (Remark & Ewing, 2015).

Application questions require the learner to execute a procedure or process, mental or physical, to an unfamiliar situation or circumstance (Remark & Ewing, 2015). The process of applying knowledge in a new situation is known as application. When students demonstrate, implement, carry out, or describe a similar situation, this occurs. Teachers, for example, may design questions that require students to respond appropriately in a given situation.

Analysis is the process of breaking information into small parts identifying motives or causes (Anderson and Krathwohl ,2011; Dagostino etal 2015). It occurs when students organize information and determine the relationship between prior and newly acquired knowledge. The learner may be asked to organize elements within a structure, distinguish relevant from irrelevant information, or deconstruct underlying values and biases in analysis questions (Remark & Ewing, 2015). It is also important to distinguish relevant from irrelevant or important from unimportant parts of the presented materials when analyzing questions. For example, teachers may ask students to determine the author of an essay's point of view in terms of their political viewpoint.

Evaluation question requires the learner to critique a work or product, determine the appropriateness of a process or product for a given problem, or examine the inconsistencies in a theory (Anderson and Krathwohl ,2011; Dagostino etal 2015). The purpose of evaluation is to generate reasons to support a decision. It occurs when students judge, select, recommend, justify, or critique the text, such as when the teacher asks students to determine the best way to solve a particular problem.

Creating is the highest level. Creating is considered as the most difficult task in terms of cognitive processing. Questions in this domain may require students to generate alternative hypotheses based on observed phenomena, devise a new procedure to complete a task, or conceptualize a new product. It happens when students design, build, plan, and execute new ideas (Anderson and Krathwohl, 2011; Dagostino et al., 2015). At the creation level, a teacher may assign students to plan a research paper on a specific linguistic topic or to generate hypotheses to explain an observed phenomenon.

Studies on the use of Higher-Order Thinking questions in teaching reading comprehension (Fahim & Sa'eepour, 2011; Fakeye & Ayede, 2013; Nourdad et al., 2018; Remark & Ewing, 2015; Teemant, Hausman, & Kigamwa, 2016) show that they not only help train students to express their

ideas, but they can also significantly improve students' learning processes, engagement, and achievements.

Since higher levels of questions bring out students' critical thinking, teachers are encouraged to ask questions in these domains (Remark & Ewing, 2015. However, this does not rule out the possibility of asking lower-level questions. Teachers may be able to use questions from all cognitive domains if the test items contain a good mix of cognitive domains (Ibid.).

2.8. Definition of Critical Thinking

The term "critical thinking" is defined in different ways by different writers on the issue. This topic has as many definitions as the scholars, researchers, and educators who write about it. These people who try to define critical thinking are primarily influenced by the schools of thought or academic disciplines that they support. Philosophy, psychology, and education are the three schools of thought that underpin critical thinking definitions. As a result, looking at how critical thinking is defined in each of the schools described is far more essential than offering a single definition of the term, because critical thinking encompasses many different notions. The three approaches to defining critical thinking are briefly discussed here.

2.8.1. Philosophical Approach

The philosophical approach to critical thinking definition, rather than describing the concept, focuses on enumerating the attributes and characteristics of a hypothetical critical thinker. Socrates, Plato, Aristotle, and, more recently, Matthew Lipman and Richard Paul all take this approach to the concept of critical thinking (Adege, 2016; Halvorsen, 2005). This approach to defining critical thinking is unconcerned with the behaviors or acts that a critical thinker can exhibit.

This approach regards critical thinkers as an ideal type, focusing on what people can do under ideal conditions. Adege (2016), as a result, cites Richard Paul (1992), who investigates critical thinking in the context of "mental perfections." Furthermore, the ideal critical thinker is described as being inquisitive, open-minded, flexible, and fair-minded, with a desire to be well-informed, understanding diverse viewpoints, and willing to suspend judgment and explore alternative perspectives (Facione, 1990).

Those who work with philosophical tradition also emphasize the qualities or standards of thought produced by critical thinkers; critical thinkers are those who have good thinking and produce quality thought that meets specific criteria or standards of adequacy and accuracy. The limitation of this method of defining critical thinking is that it does not correspond to reality (Sternberg, 1986 cited in Lai, 2011). This approach may have less to contribute to discussions about how people actually think as it emphasizes the ideal critical thinker and qualities and characteristics they have.

The following are some of the definitions to critical thinking by individuals advocating the philosophical approach to critical thinking (cited in Lai, 2011, p.6):

- "the propensity and skill to engage in an activity with reflective skepticism" (McPeck, 1981, p. 8);
- "reflective and reasonable thinking that is focused on deciding what to believe or do" (Ennis, 1985, p. 45);
- "skillful, responsible thinking that facilitates good judgment because it 1) relies upon criteria, 2) is self-correcting, and 3) is sensitive to context" (Lipman, 1988, p. 39);
- "purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or conceptual considerations upon which that judgment is based" (Facione, 1990, p. 3);
- "disciplined, self-directed thinking that exemplifies the perfections of thinking appropriate to a particular mode or domain of thought" (Paul, 1992, p. 9);
- "thinking that is goal-directed and purposive, "thinking aimed at forming a judgment," where the thinking itself meets standards of adequacy and accuracy" (Bailin et al., 1999b, p. 287); and
- "judging in a reflective way what to do or what to believe" (Facione, 2000, p. 61).

2.8.2. The Cognitive Psychological Approach

This definition of critical thinking emphasizes the skills that critical thinking requires; it is primarily concerned with the skills that a critical thinker requires, or it focuses on the behaviors or acts that a critical thinker performs. This approach differs from the philosophical viewpoint in two ways. First, cognitive psychologists, particularly those steeped in the behaviorist tradition and the

experimental research paradigm, tend to focus on how people think in everyday situations rather than how they might or might not think in ideal circumstances (Sternberg, 1986, cited in Saeger, 2014). Second, rather than referring to characteristics of the ideal critical thinker or enumerating criteria or standards of "good" thought, cognitive psychologists tend to describe critical thinking in terms of the types of actions or behaviors critical thinkers exhibit.

The attempts of cognitive psychologists to define critical thinking through listing the number of skills or procedures performed by critical thinkers have caused philosophers to criticize the cognitive psychological approach as being reductionist—reducing a complex orchestration of knowledge and skills into a collection of disconnected steps or procedures (Sternberg, 1986, cited in Saeger, 2014).For example, Boroditsky (2009) argues, quoting Bailin (2002), that viewing critical thinking as a set of distinct stages or skills is a basic misunderstanding, and that this misunderstanding derives from the behaviorist's urge to define notions in ways that are directly observable. Because the underlying process of thought is unobservable, cognitive psychologists have tended to focus on the outputs of such thought—behaviors or overt skills (e.g., analysis, interpretation, formulating good questions), according to this viewpoint. Other philosophers have also cautioned against confusing the activity of critical thinking with its component skills (Facione, 1990, cited in Brown, 2004), arguing that critical thinking is more than simply the sum of its parts.

The following definitions of critical thinking are based on the cognitive-psychological approach (cited in Lai, 2011, p. 7).

- “the mental processes, strategies, and representations people use to solve problems, make decisions, and learn new concepts” (Sternberg, 1986, p. 3);
- “the use of those cognitive skills or strategies that increase the probability of a desirable outcome” (Halpern, 1998, p. 450); and
- “seeing both sides of an issue, being open to new evidence that disconfirms your ideas, reasoning dispassionately, demanding that claims be backed by evidence, deducing and inferring conclusions from available facts, solving problems, and so forth” (Willingham, 2007, p. 8).

2.8.3. The Educational Approach

Finally, those working in the field of education have also participated in definitions and discussions about critical thinking. Benjamin Bloom and his associates are included in this

category. Bloom's Taxonomy is composed of six different levels of cognitive skills in education, and the six levels of cognitive abilities form a hierarchy. The levels are knowledge, comprehension, application, analysis, synthesis and evaluation. The three highest levels (analysis, synthesis, and evaluation) are frequently said to represent critical thinking. They are also often recognized as higher-order thinking skills, and frequently mentioned when the teaching of critical thinking skills are discussed.

Higher-order thinking skills include analysis, synthesis, and evaluation. During the analysis stage, students must be able to divide or break information into different sections and apply them to various scenarios. The ability to combine elements or portions of a whole to create a new whole is required for the next stage, synthesis. The highest level of Bloom's taxonomy is evaluation. Students are required to be able to evaluate ideas, beliefs, and values using a set of criteria at this stage (Dong, 2015; Elekaei, 2016).

In contrast to both philosophical and psychological traditions, the educational approach has the advantage of being based on years of classroom experience and observations of student learning (Sternberg, 1986, cited in Lai, 2011). However, others have criticized the educational technique for being too ambiguous (Sternberg, 1986, cited in Lai, 2011). Nonetheless, this taxonomy for information processing skills is one of the most widely cited sources for educational practitioners when it comes to teaching and assessing higher-order thinking skills. Similarly, it is this thinking model or taxonomy that has been employed in this particular study.

2.9.The Delphi Research Project as search for Common Definition for Critical Thinking

From the foregoing, it is possible to conclude that there is no single comprehensive definition of critical thinking. Each approach to defining critical thinking yielded definitions of critical thinking that differed from those of many of the approaches' participants. One of the reasons for the formation of the Delphi Research Project was the lack of a clear definition of critical thinking (Adege, 2016).

The Delphi Research Project was established and run by the American Philosophical Association to seek consensus on a definition of critical thinking and its core cognitive skills for the purposes of educational instruction and assessment. It was a two-year project in which 46 multidisciplinary experts from various disciplines took part. The Delphi Report is the name given to the report that resulted from this investigation in the critical thinking literature. The Delphi Report reached an

agreement on critical thinking's definition, the ideal critical thinker, and the role of critical thinking in education.

Accordingly, the consensus statement regarding critical thinking is:

> *We understand critical thinking to be purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based. (*Facione, 1990a, p. 3 cited in Adege , 2016)

The ideal critical thinker is:

> *habitually inquisitive, well-informed, trustful of reason, open-minded, flexible, fair-minded in evaluation, honest in facing personal biases, prudent in making judgments, willing to reconsider, clear about issues, orderly in complex matters, diligent in seeking relevant information, reasonable in the selection of criteria, focused in inquiry, and persistent in seeking results which are as precise as the subject and the circumstances of inquiry permit.* (Facione, 1990a, p. 3 cited in Adege, 2016)

The relationship then to education is that:

> *CT [critical thinking] is a liberating force in education and a powerful resource in one's personal and civic life. While not synonymous with good thinking, CT [critical thinking] is a pervasive and self-rectifying human phenomenon...thus, educating good critical thinkers' means working toward this ideal. It combines developing CT [critical thinking] skills with nurturing those dispositions which consistently yield useful insights and which are the basis of a rational and democratic society.* (Facion, 1990a, p. 3 cited in Adege, 2016)

The concept of critical thinking, as well as the skills and dispositions of critical thinking described in the Delphi report, have served as the foundation for educational instruction and assessment. Furthermore, the findings have increased the demand for critical thinking or higher-order thinking as an educational outcome (Facion, 1990 cited in Adege, 2016). Because, as previously stated, education aims to cultivate critical thinking or higher-order thinking in students in order to better prepare citizens for future challenges by providing them with the tools to solve problems and make informed decisions in both personal and professional life

2.10. Definition of Critical Thinking adopted for this Study

One of the critical thinking definitions considered in this study could be the Delphi Report's definition. This definition is preferred because it clearly identifies the critical thinking skills. These are skills that can be taught and assessed to students. Furthermore, Bloom (1956) defines critical thinking as thinking that is involved in the cognitive domain's analysis, synthesis, and evaluation/creating. Learners should receive training/practice to enable them to analyze, synthesize, and evaluate/create information processing skills. The language classroom, according to various critical thinking literatures, is an appropriate venue for developing learners' critical thinking abilities. This is primarily due to the fact that the language classroom is a setting in which students are constantly exposed to various activities that require them to analyze, synthesize, and evaluate various forms of information (Boroditsky, 2009; Brown, 2004; Cox, 2019).

Another reason why the Delphi report definition was chosen for this study is that it was created by a group of experts from various fields. There were 46 multidisciplinary specialists on the Delphi Research Project. These contributors, hopefully, were able to contribute to the formulation of the term by looking at their respective fields. The Delphi report's consensus on a definition of critical thinking is not restricted to a specific field of study as long as it is based on input from experts from a variety of academic backgrounds.

The Critical Thinking Community, which is working on the concept of critical thinking, is similar to the Delphi Research Project, which aimed to reach consensus on various aspects of critical thinking. This group is also investigating various aspects of the concept of critical thinking. This group's definition of critical thinking (as cited in Styron, 2014, p. 26) is as follows:

> *Critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action.*

It is similar to the Delphi report definition in that it includes critical thinking skills, but it specifies the sources of the information to be processed. Furthermore, the ability of the critical thinker to generate or gather information, as well as what to do with that information, is explicitly stated. In this study, the Critical Thinking Community's definition of critical thinking is used in addition to the Delphi Research Project's concept of critical thinking.

2.11. Why Critical Thinking/Higher-order Thinking?

As humans, it is obvious that we think in various situations throughout our lives. We think for a variety of reasons, and our decisions, which are primarily based on our thinking abilities, shape our lives. It is natural to think about what we will do and how we will do it before acting. Humans, on the other hand, do not all have the same level of reasoning or cognition (Wilson, 2016; Wang and Zheng, 2016; Sofo, 2004). Some people have faulty thinking because they lack cognitive abilities. Others, on the other hand, think critically, strive to improve, and want to be successful in their lives

We need critical thinking skills and mental habits (dispositions) to solve problems and make decisions that affect ourselves, our families, our country, and our society in general (Adege, 2016; Schafersman, 1991). A critical thinker may consider many viewpoints on a particular topic and possible courses of action before making a decision, as a decision made without a thorough understanding of the subject can have negative consequences. Similarly, problem solving/issue resolution necessitates critical thinking (OU, 2008; Nguyen, 2008).

To solve a problem, it is necessary to consider all aspects of the situation, investigate the sources of the problem, and forecast viable solutions as well as the consequences of any decisions made. Life in the twenty-first century is becoming increasingly challenging and demanding in all aspects of one's existence due to technological advancements and the widespread dissemination of information (OU, 2008; Gelder, 2005; Collins & Mangieri, 1992). While technology makes people's lives easier, it also places a strain on their cognitive abilities (Nosratinia and Zaker, 2013; Lombard and Grosser, 2008). To avoid misuse, using technology properly and ethically for societal, personal, and political reasons necessitates careful consideration. When deciding why, how, and when to use the technologies at our disposal, thinking and critical thinking are required.

In the twenty-first century, information is also everywhere/ubiquitous; anyone living anywhere in the world can access it using contemporary technologies. However, there are critical considerations to be made regarding the received data; the data must be carefully handled and used exclusively for the purposes intended (Collins & Mangieri, 1992; Beyer, 1985). The source of information and its trustworthiness, the information's truth value, the reason for which it is needed, how the received information is used, and the effects the information will have, among other things, should all be investigated (Collins & Mangieri, 1992; Chaffee, 1985).As a result, effective information processing necessitates the use of cognitive abilities such as critical thinking. In

general, as the knowledge economy takes hold in the twenty-first century, the demand for critical thinking is skyrocketing. Employees with critical thinking abilities are in high demand in the workplace, and critical thinking has emerged as one of the most crucial employability skills for finding the perfect person for a certain job opening (Fisher, 2001; Dong, 2016; Elfatihi, 2017).

Critical thinking or higher-order thing can be developed in education, and it is also required for learning (Freire, 1970; Gokhale, 1995; Siegel, 1988). It is also important for learning in order to have deep understanding of the contents taught and to apply the taught principles, concepts and theories in the real world (Ibid). So, learning for meaningful purpose needs meaningful teaching in which learners are encouraged to utilize their cognitive abilities than accumulating facts that to be memorized (Masduqi, 2011; Mayer,2002). As different scholars assert facts are everywhere mainly in this 21st century which is characterized high prevalence of technological innovation. A person with a single click on internet can come with ample facts on different issue. So, the purpose of education should not be equipping learners with what to think (content); it should equip learners with the abilities how to think and preparing the citizens for future to face challenges and solve the problems encountered.

It is argued that critical thinking can occur whenever one judges, decides, or solves a problem; in general, whenever one must figure out what to believe or what to do, and do so in a reasonable and reflective way. Reading, writing, speaking, and listening can all be done critically or uncritically. Critical thinking is crucial to becoming a close reader and a substantive writer. Expressed most generally, critical thinking is a way of taking up the problems of life (Adege, 2016).

Thinking is man's highest mental activity, according to Raghunathan (2001), as cited in Adege (2016). All human achievements and progress stem from human thought. Culture, art, literature, science, and technology have all evolved as a result of our thinking. According to Raghunathan, thought and action are inextricably linked—they are two sides of the same coin. Every deliberate action begins with conscious thought. Before a man can do something, he must first visualize it in his mind's eye—he must conceive of it, consider it. All inventions, whether artistic, literal, or scientific, begin in the creator's imagination before coming to life in the physical world. As a result, thinking serves as a tool for adapting to our physical and social environments.

Critical thinking skills are also required for active participation in society; they serve as the foundation of a rational, reasonable, and democratic society (Dong, 2015; Dong, 2006). When

analyzing various situations in society and determining their benefits and drawbacks, thinking is extremely important. Through the process of thinking, problems are identified and solutions sought. In this case, critical thinking is used to address society's difficulties, injustices, and malpractices in order to provide a comfortable living environment for its members.

There are numerous advantages to improving one's thinking capacity. Through improving one's thinking skills, one can achieve success, shine in social situations, achieve emotional, social, and economic maturity, and so on. By developing critical thinking skills, it is possible to adapt to life in the twenty-first century, which is full of problems due to various factors that make the time extremely complex (Adege, 2016).

Learning core subject matter is insufficient for students to succeed in an ever-changing environment; instead, core skills taught within a 21st century skill set are the key to student success (Meiramova and Seifullin, 2017; Lourdes and Gaibisso, 2013; Liaw, 2007). Critical thinking is the mode of thinking in which the thinker improves the quality of his or her thinking by skillfully analyzing, assessing, and reconstructing it (Lourdes and Gaibisso, 201 3; Hove, 2011).

The ability to demonstrate critical thinking has become so important in today's society that it is a core competency in earning undergraduate degrees; employers of recent college graduates support this assertion, ranking strategic thinking as a key factor in job success (Elfatihi, 2017; Ghanizadeh and Mirzaee, 2012; Külekçi, & Kumlu, 2015).

2.12. Critical Thinking/Higher-order Thinking in Education

Following the educational revolution that challenged the traditional method of teaching and learning, there has been a trend in education to encourage students to use higher-order thinking skills. Different educators have argued in favor of critical thinking education, claiming that learners must be self-sufficient and autonomous, and that the goal of education should be to produce active citizens with critical thinking skills (Williams, 2005; Tosuncuoglu, 2018; Lai, 2011; Masduqi, 2011).

Higher-order thinking is a concept that has received a lot of attention in the world of education, and it is at the heart of a lot of educational initiatives aimed at improving learners' cognitive abilities and education systems' curricula (Qing, 2013; Fisher, 2001; Beyer, 1985; Ghanizadeh et al., 2012).

Educators and psychologists have long been fascinated by the cognitive domain of humans and the intellectual skills that can be performed while thinking. Bloom was the first to try to define the nature of cognitive skills (Rezaei et al., 2011; Siegel, 1988). Bloom categorized cognitive skills into six levels of thinking, which he called Bloom's taxonomy (Lourdes and Gaibisso, 2013; Hove, 2011). These levels of thinking are: knowledge, comprehension, application, analysis, synthesis and evaluation**.** These thinking levels vary in their complexity. The lowest cognitive level is recalling information, and the second lower level is understanding the meaning of facts. The ability to apply acquired knowledge is known as application, which is the third lower level of thinking. Following the application phase, knowledge is analyzed into parts in order to understand the relationship between these parts, and this analysis skill is considered as a higher level of thinking**.** Synthesis is another higher cognitive level which demonstrates the creation of new meaning. Evaluation is the highest cognitive level that is manifested in judgments and is based on defined criteria. These higher levels of thinking have been referred to as Higher-order Thinking Skills (HOTS) in the literature (Rezaei, eta'l, 2011; Siegel, 1988; Qing, 2013; Fisher, 2001). Educationalists and researchers highlighted the need for incorporating critical thinking across schools and all subjects for effective learning.

Frier's critical thinking pedagogy, developed in the 1970s, emphasizes the need to address learners' higher cognitive skills in the teaching and learning process. His pedagogy reflects a counter-revolution to traditional education, which he dubbed "banking education." The pedagogy strives to raise students' consciousness/awareness so that they can empower themselves and participate in improving the world through discussion (Adege, 2016; Alnofaie, 2013).

Critical thinking has become the focus of attention since the 1960s; educators have been aware of students' inability to engage in higher-order or critical thinking, and it has become a booming field in the educational system (Rezaei, eta'l, 2011; Siegel, 1988; Rezaei, eta'l, 2011; Siegel). Educators have agreed on critical thinking's central role because learners must be engaged in the learning process in order to avoid becoming reflexive addressees and receptive of knowledge, which is transferred from the class's sole authority to meet course objectives, which is the overriding preference in educational settings. The established information obstructs learners' ability to critically distinguish and examine information.Routineized, teacher-directed, score-oriented practices are widely regarded as failing to produce critical thinkers, resulting in score-dominated courses (Nelson and Crow, 2014; Nguyen, 2005).

Since 1980, there has been a great shift in educational settings regarding the explicit teaching of critical thinking in the classroom; the great shift from knowledge-based instruction to a novel approach in which the main focus is to foster learners' thinking ability occurred as a result of educators noticing students had grown into inactive learners who can only absorb a pre-planned amount of knowledge that is transferred. On balance, the educator must take pupils from the most basic forms of cognitive abilities, such as knowledge, comprehension, and application, to analysis, synthesis, and evaluation, and to the most complicated kinds of cognitive skills, such as logical reasoning and decision making (Mandui and Blakovi, 2015; Hosseini et al., 2012).

Finally, as a result of the great revolution in the educational system, higher-order thinking has gained centrality in the realm of education, and this gives rise to the fact that critical thinking or higher-order thinking has to be conceptualized as the goal of education. Most educators and scholars believe that educational institutions are responsible for teaching students to go beyond simple and mental activities. When seen in light of the fact that the main aim of an educational system is to promote students to become cautious and potent thinkers, the serious and final goal of an educational system becomes to develop competencies that empower students to participate fully as better citizens.

2.13. Critical Thinking and Language Education

In numerous situations, the relevance of critical thinking has been recognized in language teaching. Although critical thinking skills were first used/ applied in language learning in the United States, they are now acknowledged internationally (Shen & Yodkhumlue, 2013 cited in Sano, 2014). Critical thinking has been implemented into foreign language classrooms in Europe by various researchers and educational authorities. For example, the National Curriculum in the United Kingdom introduced thinking skills into Modern Foreign Language classrooms (MFL), and it was discovered that teaching students to think can help them communicate in the new language, produce various types of spoken and written language, and demonstrate creativity in using the foreign language.Furthermore, it has been discovered that thinking skills can aid language learning, such as making inferences from unfamiliar language elements and reflecting on cross-linguistic connections (Lin and Mackay, 2004 cited in Alnofaie, 2013). This type of thinking skill integration could help learners become more conscious of their progress and acquire language autonomy.

For the last few decades, researchers and practitioners in language education have focused on the development of learners' higher-order thinking (Saeger, 2014; Vong and Kaewurai). As more focus is placed on the communicative ability of language learners, teaching linguistic aspects of a language is not the sole purpose of language education. Language education curriculum focuses on actual language use; in response to this goal, educating language learners so that they can analyze, provide reasons, solve problems, and evaluate judgment is now an important issue (Alnofaie, 2013; Siegel, 1988).

The phrase critical thinking first appeared in ESL/EFL literature in the late 1970s, when the communicative method was introduced to the field of English language instruction (ELT) (Shaila and Trudell, 2010; Shirkhani and Fahim, 2011). Students studying English as a foreign language require a high degree of language ability to complete content-based assignments and achieve cross-cultural perspectives on a variety of political and social issues. Students must use critical thinking in a variety of ways in order to not only improve their language skills but also adapt their discourse style to new contexts (Ibid.). However, requiring pupils to articulate their thoughts and feelings in the four macro-skills necessitates both critical thinking and linguistic talents. The current educational system, the learning environment, and their own genetic diseases, not to mention their inability to redefine their social identities, are all barriers to pupils developing their language proficiency and critical thinking abilities (Vdovina, 2013; Sanavi and Tarighat, 2014). To encourage critical thinking, EFL teachers must encourage students to think about how to think rather than what to think in the language they are learning. It would improve their ability to read, write, and think clearly in that language if they could be taught to think critically in that language.

Recent trends in EFL/ESL instruction have emphasized the importance of promoting thinking as an integral part of English language teaching, as various scholars have noted. Empirical studies show that critical thinking skills can be taught as part of academic EFL/ESL instruction (Gelder, 2005; Ghanizadeh and Mirzaee, 2012; Halvorsen, 2005).

Encouragement of critical thinking in foreign language courses is critical for a variety of reasons. To begin, language learners who are able to control their thoughts can better monitor and evaluate their own learning methods(Harizaj and Hajrulla, 2017; Hove, 2011). Second, critical thinking broadens learners' learning opportunities and increases their understanding of language. Finally,

critical thinking is strongly linked to student achievement (Rahimi, 2014; Pourghasemian, and Hosseini, 2017).

Because of the benefits of strengthening critical thinking in language learners in an academic language program, the curriculum's aims should go beyond linguistic elements to enhance critical thinking in students. In fact, the effectiveness of language instruction will be determined by what is taught in addition to language, which learners can view as a useful and meaningful extension of their horizons (Widdowson, 1990).

There was a discussion about how critical thinking abilities may be applied in non-Western settings when English is taught as a foreign language. Critical thinking, according to Atkinson (1997), is used in specific subjects in Western societies where critical thinking is a social practice. He excludes the teaching of English as a second language in non-Western contexts from the list of disciplines that could benefit from a critical thinking approach, claiming that critical thinking is culture-specific. Critical thinking can be found in any culture or situation, according to Davidson (1998), referenced in Alnofaie (2013), although the degree to which it is utilized differs. As a result, critical thinking should not be linked to a specific culture (ibid.). This discussion appears to be the beginning of trying to bring non-Western critical thinking to EFL teaching and learning. The impacts of critical thinking interventions on EFL teaching and learning have been studied by several linguists and language educators. The majority of these studies discovered that incorporating critical thinking into EFL lessons resulted in positive outcomes (Hughes, 2014; Lai, 2011).

2.14. Approaches to Teaching Critical Thinking

Different scholars and researchers have come up with different models/approaches to teaching critical thinking. In the following part, the four common approaches (General, Infusion, Immersion, and Mixed) are briefly discussed.

2.14.1. The General Approach

This approach to teaching critical thinking is based on the idea that critical thinking can be taught as a standalone course or as part of a program aimed at developing learners' critical thinking abilities, as the name implies. According to Ennis (1992), as cited in Adege (2016), the general method includes explicit and direct training in critical thinking skills as a separate course, where critical thinking skills and abilities are emphasized outside of the context of specific subject matter.

Some content is usually used to contextualize examples and tasks. The content, on the other hand, is based on challenges that students are likely to face in their daily lives rather than discipline-specific information.

Adege (2016) cites Van Gelder (2005) as a proponent of the generic approach to critical thinking teaching. Van Gelder claims that pupils require "deliberate practice" in exercising critical thinking skills and capacities, based on specialized literature. Only when critical thinking is taught as a separate and clear element of the curriculum can this type of practice take place. Students must, however, be taught to use critical thinking abilities in a number of situations by giving them opportunity to practice using critical thinking skills in a range of settings.

According to Halpern (2001, p. 278) cited in Adege (2016), the most successful technique of teaching critical thinking is to teach general thinking abilities as part of a "broad-based, cross-disciplinary" course. Critical thinking can be taught in this style in independent courses, instructional modules, or as a different thread within an existing subject. This method of teaching critical thinking is similar to teaching the four language skills independently. For instance, teaching writing as a course to improve learners' writing skills and assist them in transferring the talents acquired through education.

2.14.2. The Infusion Approach

In this approach, a certain subject serves as the foundation or background for critical thinking instruction. The integration of critical thinking teaching is founded in topic area, unlike the broad approach. Students are encouraged to think critically about the subject while gaining a comprehensive comprehension of the material. During instruction, students are taught the general principles of critical thinking. The infusion method combines in-depth subject matter training with specific instruction on critical-thinking skills. This critical thinking training takes place in the context of a given subject. According to Ennis (1989), this strategy is widespread in "across the curriculum" movements. Resnick (1987), Swartz (1987), and Glaser (1987) are proponents of the infusion method (1984).

2.14.3. The Immersion Approach

This approach is related to the infusion method in some ways. Immersion students receive intensive subject-matter instruction. Although critical thinking skills and abilities are part of the information to be studied, no critical thinking instruction is provided. Critical thinking skills and

abilities, in other words, are not explicitly and directly taught. Students are instead encouraged to learn these skills as a natural byproduct of engaging with the material. Both Bailin et al. (1999), who vigorously defend critical thinking's domain specificity, and Lipman (1988), who views critical thinking skills as somewhat general but believes that critical thinking instruction must be combined with instruction in basic skills such as reading, writing, listening, and speaking, appear to support the infusion and immersion approaches.

Silva (2008), referenced in Adege (2016), agrees, stating that both knowledge and thinking must be taught simultaneously. Similarly, Pithers and Soden (2000), cited in Adege (2016), argue that critical thinking is a lens through which to teach the content and skills embedded in the curriculum.

2.14.4. The Mixed Approach

Finally, the hybrid strategy combines aspects of both the broad and narrow approaches. Teachers combine stand-alone critical thinking principles training with critical thinking skills application in the context of specific subject matter. Both the general and specialized components may include explicit critical thinking skills education (Ennis, 1989). When Facione (1990), as cited by Adege (2016), states that critical thinking can be taught in the context of domain-specific information or content drawn from "events in everyday life," he appears to be advocating for this approach.

Different scholars recommend basic critical thinking skills courses, as well as including critical thinking within discipline-specific courses. Kennedy et al. (1991) cited in Adege (2016), after reviewing extant research on the various approaches, conclude that the evidence does not support the superiority of any particular approach. Accordingly, they recommend using the mixed approach.

Subject matter expertise is required for critical thinking in the infusion and immersion approaches, but not in the general approach. Fisher (1991) distinguishes two approaches to teaching critical thinking based on the involvement (or lack thereof) of the subject matter. One method is to teach critical thinking through direct methods, which are methods designed specifically to assist students in developing critical thinking skills. Learning to think critically is thus independent of any particular topic. The third option is to indirectly teach critical thinking by having students acquire critical thinking skills while studying a subject. All reasoning, according to the indirect method (McPeck, 1990, cited in Adege, 2016), is subject-specific, and the only way to learn to reason well is to practice. Thus, the content of the subject determines the appropriateness of the reasoning.

It's difficult to dismiss the idea that critical thinking education would be ineffective if delivered alone. It is widely agreed that it should be a comprehensive and integrated component that complements the whole. As a result, teachers must incorporate CT skills into their classroom instruction. They must also allow students to identify the material with which they are working, analyze it, characterize it, and compare and contrast it with other materials. Carr (1998), cited in Vera Schneider (2002), outlines techniques for embedding critical thinking activities in classroom activities, including: providing time and space for brainstorming through discussions; not trying to find solutions for students unless they have to identify tasks and a problem to solve for them; providing an opportunity for students to compare and contrast and categorize matters at hand; and finally, encouraging creativity and preventing boredom.

2.15. Why and How to Integrate and Develop Critical Thinking in EFL Classes?

Critical thinking is associated with quality thinking and, when fully developed, enables learners to communicate more effectively with others, acquire new knowledge, and deal with ideas, beliefs, and attitudes (Alagozlu, 2007; Collins & Mangieri, 1992). Language is essential in all of these areas. It is critical to distinguish between using language as a communicative vehicle in everyday contexts and using language beyond the survival level in this situation. In reality, a lot of verbal communication takes place in everyday situations that don't require much thought but do involve a lot of situational clichés and facts(Elfatihi, 2017; Külekçi & Kumlu, 2015). When a foreign language is taught or mastered, even the survival language level may require more thought about how to communicate in a foreign language.

Furthermore, the English language has assumed the role of lingua franca and is utilized globally for intercultural communication by non-native English speakers. When training intellectual attributes like empathy and tolerance, critical thinking skills are essential for preparing for communication in multicultural settings (Lombard and Grosser, 2008; Masduqi, 2011). Another reason for including critical thinking in ELT classes is the fast increasing international student mobility trends and the usage of English as a medium of instruction in universities all over the world.

According to the American Foundation for Critical Thinking (www.criticalthinking.org), critical thinking is not an innate skill like speaking or running, but rather a purposefully developed complicated combination of abilities and traits that takes years to master. Similarly, it takes years

of consistent practice to learn a new language. As a result, exercising both simultaneously saves time and creates a synergy effect: by improving one, we improve the other, and vice versa.

Critical thinking necessitates active and participatory learning; it rejects passive learning, which accepts new information and points of view as ready-made wisdom (Meiramova and Seifullin, 2017; Nguyen, 2005). Students learn better when they actively communicate with one another in a specific academic subject, especially when they are encouraged to use critical thinking when comparing their points of view and ideas, evaluating arguments, and probing into the intellectual standards of clarity and accuracy, breadth and width, relevance and fair-mindedness, among other things. Students have a better chance of improving their self-awareness and understanding of their own strengths and limitations by engaging in interactive activities that require both communicative and critical thinking skills, paving the way for self-improvement as learners and future professionals (Ibid).

Furthermore, teachers are expected to go beyond the traditional approach to language instruction in order to improve students' higher-order thinking skills; teachers are expected to have a plan in place to help students improve their cognitive skills (Pourghasemian and Hosseini, 2017; Nguyen, 2005; Qing, 2013). Some key elements or components are shared by all lesson plans, while others must be added or modified to include a critical thinking component. After all, if teachers want their foreign language students to develop critical thinking skills, they must include some additional lesson components, such as prerequisites, instructional objectives, supporting activities, and assessment, in addition to the standard components of the lesson description (Shaila and Trudell, 2010; Vdovina, 2013).

To summarize, it is necessary to go beyond simply delivering facts to learners in order to integrate and develop their higher-order thinking skills in EFL classrooms. Learners must be active participants who create their own knowledge based on their prior knowledge and personal experiences. Teachers should employ a variety of active learning strategies that allow students to actively participate in the teaching and learning process. Various studies in the field show that when students are made to actively participate in classrooms, they are encouraged to use their cognitive skills.

2.16. Language skills and Critical Thinking

Language skills are divided into two categories: productive skills and receptive skills. Language learning/acquisition is founded on both production and comprehension. These abilities must be developed through tasks and activities in the areas of speaking, writing, listening, and reading. These tasks should be designed to help students transition from the classroom to the real world (King eta l., 1984; Kirschner, 2004). Tasks such as pair work, role plays, and group work must be included in language learning materials in order to provide opportunities for optimal learning. The teacher assists with these tasks, which the students then complete using their own linguistic resources. These activities provide feedback while also encouraging students to participate fully and effectively (Nadia and Fitrawati, 2020).

A good task encourages students to engage in active and creative language learning (Nelson and Crow, 2014). Each student has their own set of knowledge, ideas, perspectives, and experiences. Students can only be engaged and creative if they can use their own background information, such as world knowledge resources, in addition to the course material (Nguyen, 2005).

Effective language teaching should include the development of students' thinking skills (Hughes, 2014). Language and thinking are intertwined, according to several researchers and educators; language instruction influences thinking/cognition, while thinking instruction influences language development. So, there is direct or indirect teaching of learners' thinking in the teaching of the four language skills, but what is required is deliberate use of this opportunity by instructors to properly deal with learners' thinking ability in the language classroom (Masduqi, 2011; Alagozlu, 2007). Teachers must have a planned approach for strengthening learners' critical thinking skills when teaching language skills and patterns. This is primarily accomplished through the use of exercises that teach students to think beyond the literal meaning and encourage them to think deeply (Ibid.).

For instance, in the teaching of reading, teachers can make learners do reading activities that make them read between the lines and also understand the assumptions of the writer. In doing so, the teacher is creating an opportunity for the learners to use their thinking ability through activities that demand the learners’ cognitive skills. It is possible to help students use their higher cognitive skills in the listening classroom by making learners actively listen to the main idea of the text or speech delivered. In writing, students can be made to critically write based on the given activities, which require learners to use higher order thinking skills rather than focusing on simple writing tasks. In

teaching speaking, it is possible to create opportunities for learners that help them see things from different perspectives and give their own reasons and necessary evidence for what they utter.

From the foregoing, it is possible to deduce the roles that teachers play in integrating critical thinking into the teaching of language components as well as the structure of the language. Teachers are expected to implement activities that encourage students' thinking and encourage them to try something new or deviate from the norm. Students must be made to construct their own knowledge and be active participants in the teaching and learning process. Teachers should avoid spoon-feeding; instead, they should create a learning environment in which students struggle to use their mental faculties, allowing thinking ability to develop.

2.17. English Language Teachers' Belief and knowledge of Critical Thinking skills in the teaching/testing of Reading comprehension

Teachers always play a vital role in integrating critical thinking skills into their classroom practices. One of their roles is that teachers must encourage and respect students to ask questions and express opinions (King etal, 2011). It indicates that one of their roles is as a facilitator. They have to direct and support students in the learning process. They should create a learning environment that develops students' intellectual and thinking skills development (Coffman, 2013; King etal, 2011). Besides, they also play various vital roles such as a learner, facilitator, assessor, manager, and evaluator (Archana &Usha , 2017). Hence, as Richards & Lockhart (1996) state, it is crucial to explore their beliefs, knowledge and practices of critical thinking skills because what teachers do reflect what they know and believe and serve as the fundamental framework that guides their classroom practice.

2.17.1. The Concept of Teacher Belief

According to Richardson (1996), belief is defined as mentally held understandings, premises, or propositions about the world that are felt to be true. Belief is made up of four components: cognitive, affective, evaluative, and behavioral (Borg, 2011; Nespor, 1987; Rokeach, 1968). According to the researchers cited, the cognitive component includes knowledge. When a belief functions as a proposition or assumption about a person, an object, or an event, the cognitive component reflects knowledge. The affective component is the following. It incorporates the emotion or sensation. Another essential component is the evaluative component, which serves to compare the existing belief with the new one, resulting in acceptance or rejection of the new belief.

It also serves as an important regulator in predicting how much energy teachers will expend in the classroom. The final components are behavioral in nature. It is triggered when an action is required. It is also the physical manifestation of the cognitive and affective components.

Teacher belief is an indicator of teacher behavior in the classroom. Teachers' beliefs will influence their teaching actions (Richardson, 1996). What teachers do in class, such as instruction to students, assessment, material, or teaching process, is influenced by their beliefs and can have an impact on a student's learning process (King et al., 2011; Richardson, 1996). Teachers' beliefs influence their goals, procedures, materials, classroom interaction patterns, roles, students, and the schools in which they work (Tuzlukova et al. 2017). What teachers do in class influences their teaching process in class, which in turn influences a student's learning of English.

Teaching English, particularly teaching reading, requires more attention from the teacher because this skill not only focuses on how students read and translate the text, but they must also understand what the text means (Ibid.). Not only that, but students must understand the significance of what they have learned and apply it to others, particularly in society and the environment. In this case, the teacher's role is critical in guiding the students in the classroom. The teacher's beliefs influenced what the teacher told the student.

Furthermore, the goals, values, and beliefs that teachers have about the content and teaching process, as well as their understanding of the systems in which they work and their roles within them, can be used to identify teachers' belief systems (Richards & Lockhart, 1996). Teachers' beliefs will lead to different interpretations and, at times, a mismatch in their classroom practice. Teachers' beliefs, as mentioned in theories, are closely related to their classroom practice (Borg, 2003; Pajares, 1992).

Previously, there has been a growing body of research conducted to explore teachers' beliefs about thinking skills. Aziz et al. (2017) researched to examine ESL teachers' beliefs and practices of higher-order thinking in Malaysia. The results revealed that teachers were aware of their responsibility to integrate higher-order thinking skills in their teaching. They believed that they could use some resources for the effective learning of higher-order thinking skills in their classrooms. For the practice, the results showed that they frequently used a low level of questioning and low-level thinking verbs in the classroom. By contrast, the results of the research conducted by Hasni, Ramli, and Rafek (2018) indicated that Malaysian lecturers know that

thinking skills are essential and understand the concept of thinking skills. Moreover, there was a match between their beliefs about thinking skills and their classroom practice.

Li (2016) conducted another study in China on teachers' cognition and teaching abilities. She discovered that EFL teachers in China struggled to define thinking skills and had a misunderstanding of the concept of thinking skills. Furthermore, while they expressed support for the integration of thinking skills in the language classroom, they did not believe that the language classroom should promote those skills. According to Li's findings, EFL teachers believe it is possible to teach thinking skills, primarily through reading, science, and mathematics. In contrast to Li's findings, Tuzlukova etal (2017) found that teachers in Oman understood the concept of thinking skills. They also believed that thinking skills were necessary and beneficial, so language teaching should incorporate them.

As previously stated, teachers' beliefs toward the teaching-learning process have a significant impact on students' learning development and outcomes. As a result, this study focuses in part on English language teachers' beliefs and knowledge of critical thinking skills and its classroom practices in teaching and testing reading. By revealing and understanding teachers' beliefs and practices, it can assist teachers and policymakers in general in developing and evaluating the foreign language education system to make it more meaningful for Ethiopian foreign language learners.

2.17.2. English Language Teachers’ Knowledge of Critical Thinking skills

Traditionally, it was assumed that the most important aspects of student learning were teacher characteristics and teaching methods. It is only recently that it has been recognized that teachers' knowledge and how they express it are critical to student learning (Connelly, Clandinin, & He, 1997). Teachers were regarded as executors in many educational innovations, with the responsibility of implementing these innovations and demonstrating the required behavior in accordance with the intentions of the innovators.Nonetheless, the vast majority of educational innovations failed after a period of change because teachers abandoned the new behavior and returned to the old routine ways (Verloop, Driel, & Meijer, 2001). As a result, researchers recognized teachers' importance in educational processes. Failure is unavoidable if educational reforms do not appear to correspond to teachers' knowledge and beliefs (Birman etal, 2000).

Teachers' knowledge is defined in the literature as their understanding of the subject matter taught in the classroom. The facts, concepts, and principles taught and learned in specific academic courses are referred to as subject content (Tengku NorRizan et al., 2012). The English language will be used to refer to teacher knowledge in this study. Teachers' understanding of higher-order thinking skills concepts, processes, and activities Teachers who have a strong command of the subject matter they teach are more likely to be effective. As a result, teachers must be experts in the subjects they teach (Ibid.). In this regard, English language teachers must understand higher-order thinking skills in order to effectively incorporate them into their reading lessons.

In the 21st century, higher-order thinking skills are needed by every individual to face the global era in the form of critical and creative thinking, collaboration, and good communication skills(Coffman, 2013; King et al., 2011). The teachers are regarded as the main actors in transferring the knowledge of higher-order thinking skills in the lessons, and it is the easiest to see the changes in the students' thinking skills in their daily lives (Ibid.). Teachers are the main factors that influence the success or failure of applying higher-order thinking skills in the classroom.

Teachers will be unable to implement higher learning unless they have extensive knowledge of integrating higher-order thinking skills in general and reading comprehension in particular (Richards & Lockhart, 1996). Higher-order thinking skills integration includes more than just the final assessment in the classroom; teachers must also incorporate higher-order thinking skills into their instruction to help students improve their thinking level.

However, if the teacher is unable to master the knowledge of higher-order thinking skills, the students who have been taught to master the skills will fail to learn higher-order thinking skills in the classroom (Richards & Lockhart, 1996). According to Shamiliti, Wan, et al. (2017), teachers who are unable to recall and list the six levels of Bloom's Taxonomy thinking skills will struggle to teach higher-order thinking skills in the classroom (Richards & Lockhart, 1996). Teachers with low knowledge of higher-order thinking skills, according to Shamiliti, Wan et al. (2017), cannot remember and list the six levels of Bloom's Taxonomy thinking skills accurately, despite the fact that they are key elements in the higher-order thinking skills.

Teachers may be unable to assess students' thinking levels due to a lack of knowledge about higher-order thinking skills (Tan and Siti, 2015). Teachers with low levels of higher-order thinking skills are also less likely to be committed to incorporating higher-order thinking skills into their

teaching (Shamiliti, Wan et al. 2017). As a result, teachers who do not master the knowledge of higher-order thinking skills cannot teach effectively, as it would be illogical to expect students to learn skills that the teacher does not understand.

As cited in Verloop eta l (2001) Several studies on the analysis of teachers' knowledge of Higher-order thinking skills has been conducted by some scholars in different disciplines like mathematics (Abdullah et al., 2017; Madu, 2017), physics (Kusuma et al., 2017), history (Hashim, Osman, Arifin, Abdullah, & Noh, 2015), or integrated fields of science such as at the basic education level (Yusoff & Seman, 2018). Those studies revealed that the teachers and pre-service teachers of those subjects at schools have different knowledge and perception about HOTS in the teaching and learning process. Also, the implementation of higher-order thinking skills in the teaching and learning process was still far from higher-order thinking skills principles.

Furthermore, several studies on higher-order thinking skills were discovered in the field of English language teaching. For example, a study on how to innovate with higher-order thinking skills in the reading class at the university level in Malaysia (Yoke et al., 2015) discovered that ESL students have a favorable attitude toward the teaching of higher-order thinking skills in the reading classroom. Ashadi and Lubis (2017) and Yuliati and Lestari (2018) also conducted a survey on level questions in the field of teaching English at the university level. According to the survey results, the lower thinking level is most commonly used in questions.Thamrin and Agustin (2019) investigated the perceptions, practices, and constraints of English teachers from three generations in endorsing higher-order thinking skills in teaching a foreign language, and the findings show that teachers from all generations were aware of higher-order thinking skills and applied them differently when teaching English.

As to the knowledge of the researcher, there is no local study on the knowledge of English language teachers regarding higher-order thinking skills and their integration in the instruction and testing of reading comprehension in our country. Thus, the researcher is interested in learning how much teachers know about higher-order thinking skills and how they apply that knowledge in teaching and testing reading comprehension in this study.

2.18. Constructivism Learning Theory: A Theory Underlying Developing Learners' Higher-Order Thinking Skills/Critical Thinking Skills

The fundamental paradigm shift in education is the focus on the development of learners' thinking capacities rather than rote learning and memorizing for the majority of knowledge (Mayer, 2002; Masduqi, 2011). Many current researchers, academics, and educators criticize the traditional educational approach, which focuses on providing learners with a large amount of information but little understanding of how or when to apply it. Academics believe that education should be meaningful in the sense that it allows students to apply what they have learned in the classroom to real-world situations and make appropriate decisions that benefit them personally and socially. Both teachers and students have roles that are very different in such an educational approach.

Under the current educational paradigm, learners are expected to take active roles and be protagonists in the teaching and learning process, with the goal of increasing learners' thinking ability (Scott, 2010; Mayer, 2002). Teachers are expected to facilitate the teaching and learning process for students by creating a welcoming learning environment, and they are no longer encouraged to take control of the process. Learners are now in charge of their own education; they must construct and develop their own knowledge based on prior knowledge and experiences (Olusegun, 2015; Scott, 2010).

Constructivism is the fundamental learning theory that promotes education's primary goal of strengthening learners' cognitive skills. Mayer (2002), Masduqi (2011), and Suhendi (2018) provide philosophical, sociological, psychological, and educational foundations for this theory. As demonstrated by Piage and Vygotsky's studies in psychology, learning necessitates the construction or production of knowledge as well as the application of that knowledge to real-life situations. According to Piage, an individual's active participation in their surroundings is critical to their cognitive development and learning. While Vygotsky describes the importance of active participation and interaction in society in an individual's cognitive and learning development, interaction within a learning group and/or society at large contributes to cognitive development and successful learning.

Bloom (1956), Dewey (1956), as quoted in Adege (2016), and Freire (1970), to name a few, have all emphasized the importance of making the development of learners' cognitive skills the primary goal of education. Furthermore, these individuals, particularly Dewey and Freire, have emphasized the critical role of active student participation in the teaching and learning process in achieving

effective and meaningful learning. They openly criticized traditional educational approaches' passive roles for students and advocated for students' active participation in teaching and learning scenarios to better prepare them for the challenges of the twenty-first century.As a result, requiring learners to construct their own knowledge in a specific educational setting or prioritizing cognitive skill development as a goal of education should be prioritized. Bloom (1956) created a taxonomy of educational objectives that has served as the foundation for educational objectives and goals ever since.

In relation to what was previously stated, one of the underlying principles of constructivism learning theory is the development of learners' thinking ability in the teaching and learning process by making learners active participants and constructing their own knowledge (Masduqi, 2011; Suhendi, 2018; Scott, 2010). Students in constructivist classrooms must actively engage and think about the content presented to them, as well as construct their own knowledge by relating and interpreting it in relation to their own experiences and background knowledge.

A constructivist teacher is also expected to create a learning environment in which students participate in activities that require higher-order thinking skills in order to develop the students' cognitive skills. Many scholars and educators in the field argue that modern language teachers must be constructivist; these teachers must use a variety of teaching approaches, methods, and techniques to help learners engage in thinking and constructing their own knowledge (Suhendi, 2018; Scott, 2010; Qing, 2013). Furthermore, language classes provide an important environment for learners to develop their thinking abilities, and thinking skills (critical thinking) have become the fifth basic language skill to be developed (Hughes, 2014; Meiramova and Seifullin, 2017; Nguyen, 2005). Modern language teachers, as many academics and educators in the field have explained, must be constructivists.

2.19. Bloom’s Revised Taxonomy: Cognitive Domain

Bloom’s Taxonomy is a useful framework for designing sequential educational objectives with the aim of enabling learners to move from lower knowledge levels to higher level thinking skills. The taxonomy identified six levels of thinking: a) *knowledge* which includes recalling previously learned material and grasping its meaning; b) *comprehension* which involves constructing meaning by making connections between the text and the reader’s prior knowledge; c) *application* defined as the use of previously learned information in new situations in order to solve problems; d) *analysis* which refers to the ability of learners to break down information into component parts to

make valid generalizations; e) *synthesis* entails the ability to conceive new or original concepts; and f) *evaluation* intended to develop the ability to judge the quality and credibility of information (Anderson and Krathwohl, 2001).

The original/initial taxonomy has been revised and amended as educators have grown increasingly interested in proper assessment of student learning. By incorporating both the type of knowledge to be learned – knowledge dimension – and the process used to learn – cognitive process – Anderson and Krathwohl (2001) revised Bloom's original taxonomy and changed the categories from nouns to verbs, allowing instructional designers to align learning objectives with assessment techniques. The two dimensions can be used to aid in the creation of clear, focused objectives/goals (Cruz, 2003). The learning objectives for an entire unit can be included into the taxonomy table to guarantee that students are exposed to various types of knowledge and that all levels of the cognitive process are engaged.

The revised taxonomy includes the following cognitive functions: (a) remembering, which is the ability to recognize and recall information from memory; (b) understanding, which is critical to the construction of meaning from various types of functions; (c) applying, which is the use of information in another familiar situation via execution or implementation; and (d) analyzing, which is the ability to break information into parts to explore understandings and relationships*; (e) evaluating* which enable students to make judgments and decisions about the value of ideas or materialsbased on in-depth reflection, criticism and assessment; and (f) *creating* which involves the use of higher order thinking skills to generate new ideas and information using what previously has been learned and combine elements to form a coherent whole (Anderson and Krathwohl, 2001).

Bloom's Revisited Taxonomy ensures that standards and assessments are aligned in order to transform English language teaching from a traditional teacher-centered method to a student-centered model that aims to help students solve problems, evaluate, synthesize, and create in order to maximize learning internalization. The categories are arranged in the following order: simple to complicated, concrete to abstract. The Taxonomy is a cumulative hierarchy of thinking levels, which means that mastering each easier category is a prerequisite for mastering the next more difficult one (Anderson and Krathwohl, 2001).

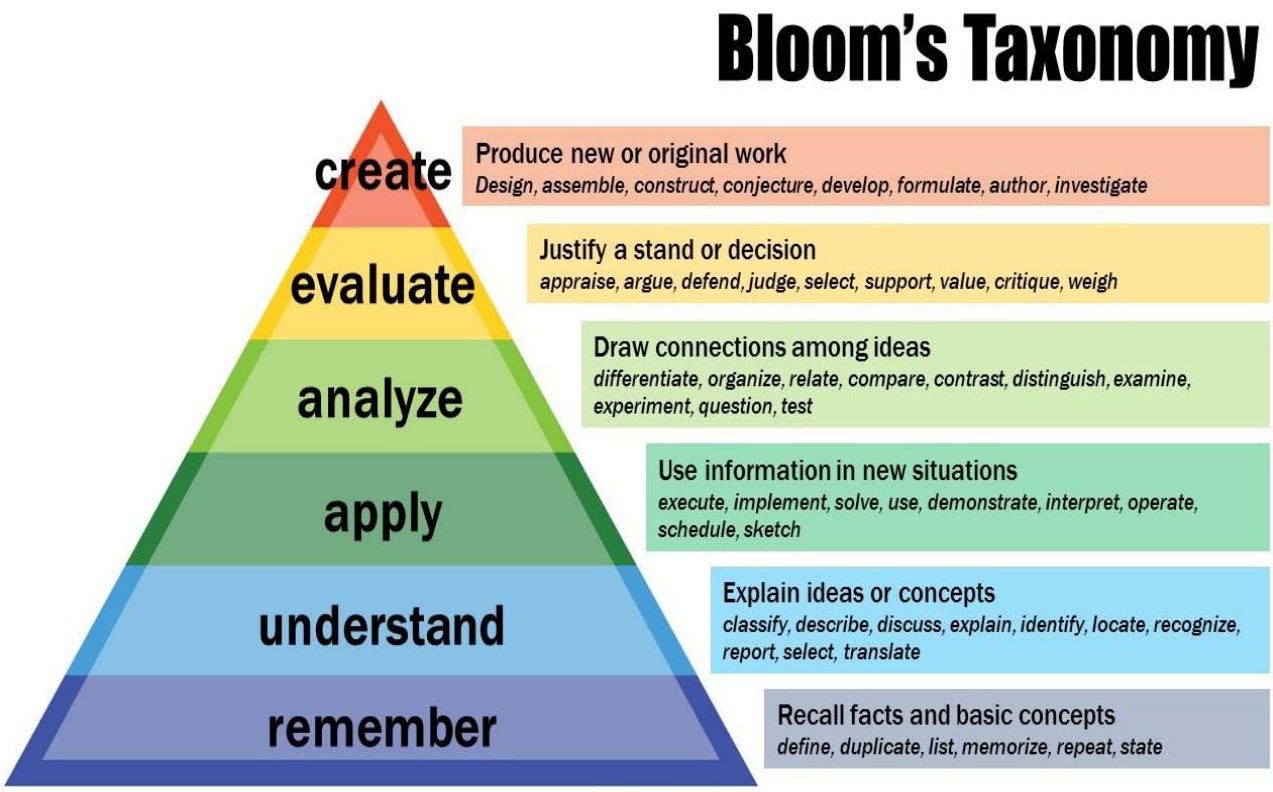

Figure 1: Bloom's Revised Taxonomy

From lower-order thinking skills (knowledge, understanding, and application) to higher-order thinking skills, the levels get more complex (analysis, evaluation, and creation). Convergent thinking is connected with the lower levels, while divergent thinking is associated with the upper levels (Anderson and Krathwohl, 2001). Traditional instruction approaches that facilitate the transmission of information, particularly factual knowledge, to pupils who are meant to receive, gather, and recall the information presented to them frequently include divergent thinking(Hove, 2011).

Divergent thinking, on the other hand, is a thought process based on higher critical thinking skills that allows a learner to use a variety of resources, such as information technology, to develop potential answers to a problem.This form of instruction aims to encourage students to take an active role in their own education (Anderson and Krathwohl, 2001). To determine if students have achieved the necessary learning outcomes and abilities, a range of assessment methods, such as student self-evaluations and collaborative observations, can be devised.

Bloom's Revised Taxonomy of Learning Objectives can be used to assess the different types of reading comprehension activities and their efficacy in improving learners' higher-order thinking skills. On the basis of the revised taxonomy, a coding scheme, analysis card, and check list can be created. The following table shows the revised Bloom's taxonomy and its sublevels:

Categories and Cognitive processes	**Alternative Names**	**Definitions and Examples**	**Key Words**
1. **Remember**- retrieve relevant knowledge from long-term memory			
1.1 Recognizing	Identifying	Locating knowledge in long-term memory that is consistent with presented material	Define, describe, identify, label, list, match, name, outline, recall, recognize, reproduce, select, state
1.2 Recalling	Retrieving	Retrieving relevant knowledge from long term memory	
2. **Understand**- construct meaning from instructional messages, including oral, written, and graphic communication			
2.1 Interpreting	Classifying, paraphrasing, representing, translating	Changing from one form of representation	Comprehend, convert, defend, distinguish, estimate, explain, extend, generalize, give examples, interpret, paraphrase, predict, rewrite, summarize, translate
2.2 Exemplifying	Illustrating, instantiating	Finding a specific examples or illustration of a concept or principle	
2.3 Classifying	Categorizing, subsuming	Determining that something belongs to a category (e.g. concept or principle)	
2.4 Summarizing	Abstracting, generalizing	Abstracting a general theme or major point(s) (e.g. write a short summary of the events portrayed on a videotape)	
2.5 Inferring	Concluding,	Drawing a logical conclusion from	

	extrapolating, interpolating, predicting	presented information (e.g. in learning a foreign language, infer grammatical principles from examples)	
2.6 Comparing	Contrasting, mapping, matching	Detecting correspondences between two ideas, objects, and the like	
2.7 Explaining	Constructing, models	Constructing a cause and effect model of a System	
3. **Apply**- Carry out or use a procedure in a given situation			
3.1 Executing	Carrying out	Applying a procedure to a familiar task	Apply, change, compute, construct, demonstrate, discover, manipulate modify, operate, predict, prepare, produce, relate, show, solve,use
3.2 Implementing	Using	Applying a procedure to an unfamiliar task	
4. **Analyze**- break materials into constituent parts and determine how the parts relate to one another and to overall structure or purpose			
4.1 Differentiating	Discriminating, distinguishing, focusing, selecting	Distinguishing relevant from irrelevant parts or important from unimportant parts of presented materials (e.g., Distinguish between relevant and irrelevant numbers in a mathematical word problem)	Analyze, break down, compare, contrast, diagram, deconstruct, differentiate, discriminate, distinguish, identify, illustrate, outline, relate, select, separate
4.2 Organizing	Finding coherence, integrating, outlining, parsing, structuring	Determining how elements fit or function within a structure	

4.3 Attributing	Deconstructing	Determine a point of view, bias, value, or intention underlying presented materials	
5. **Evaluate**- make judgments based on criteria or standards			
5.1 Checking	Coordinating, detecting, monitoring, testing	Detecting inconsistencies or fallacies within a process or product; determining whether a process or product has internal consistency; determining the effectiveness of a procedure as it is being implemented	Appraise, compare, conclude, contrast, criticize, critique, defend, describe, discriminate, evaluate, explain, interpret, justify, relate, summarize
5.2 Critiquing	Judging	Detecting inconsistencies between a product and external criteria; determining whether a product has external consistency; detecting the appropriateness of a procedure for a given problem	
6. **Create-** put elements together to form a coherent or functional whole; reorganize elements into a new pattern or structure			
6.1 Generating	Hypothesizing	Coming up with alternative hypotheses based on criteria (e.g. generate hypotheses to account for an observed phenomenon)	Categorize, combine, compile, compose, create, devise, design, explain, generate, modify, organize, plan, rearrange, reconstruct, relate, reorganize, revise, rewrite, summarize, tell, write
6.2 Planning	Designing	Devising a procedure for accomplishing some tasks (e.g. plan a research paper on a given historical topic)	
6.3 Producing	Constructing	Inventing a product (e.g. build habitats for a specific purpose)	

Cognitive dimension of Bloom's revised Taxonomy (2001)

2.20. Conceptual Framework of the Study

As clearly expressed above, the theory underpinning the development of learners' higher cognitive skills, which is the major goal of contemporary education, is constructivism learning theory. This theory promotes the facilitating roles of teachers and the active participation of students in the classroom. Moreover, this theory highlights the necessity of using cognitively challenging learning and assessment tasks to give students various chances to activate their various cognitive skills.

The conceptual framework for this study is based on the above ideas, which are the principles of constructive learning theory. As vividly put in the objectives, the study looks at the teachers' aspects, the students' aspects, and the teaching and testing tasks with respect to the teaching and testing of reading comprehension. Teachers' roles in the classroom and teachers' knowledge and beliefs about critical thinking skills are among the teacher-related issues treated in the study. Task-related issues include the level of thinking skills that question items in reading comprehension exercises and tests aim to elicit from the students. Whereas the student-related issues in the study encompass students' classroom activities regarding employing critical thinking strategies.

In constructivism learning theory, teachers should assume a facilitating role, meaning they should create conducive environment for the learners to create knowledge. Students are no longer passive recipients of knowledge; rather, they are active classroom participants and creators of knowledge that they can apply in real-life situations. As proponents of the theory underscore, such roles of teachers and students in the classroom lead to meaningful learning and teaching where students are encouraged to use their cognitive skills through working on different tasks with various cognitive demands.

In contemporary education, in addition to teachers' classroom roles, teachers' knowledge and beliefs also play tremendous roles in realizing meaningful teaching and learning. As constructivist teachers should target developing learners' higher cognitive skills, their knowledge and beliefs of the constructs and how to integrate them in both teaching and testing are of utmost importance. In this regard, English language teachers' knowledge and beliefs of critical thinking skills and their integration into the teaching and testing of reading comprehension play a significant role in the successful teaching and testing of reading comprehension.

In modern language teaching, teachers are expected to teach beyond language skills. For instance, enhancing learners' higher cognitive skills has become one of the roles of English language

teachers. Effective language teaching has been seen not only in equipping students with communicative competency but also in fostering learners' thinking competence, which helps the students get prepared for the challenges and demands of the 21st century. It is in line with this idea that this study was initiated to explore critical thinking skills in the teaching and testing of reading comprehension. The study looks at different aspects related to English language teachers, English language learners, and materials employed for teaching and testing reading comprehension. The following diagram clearly depicts the interplay between the different aspects that the study tries to encompass.

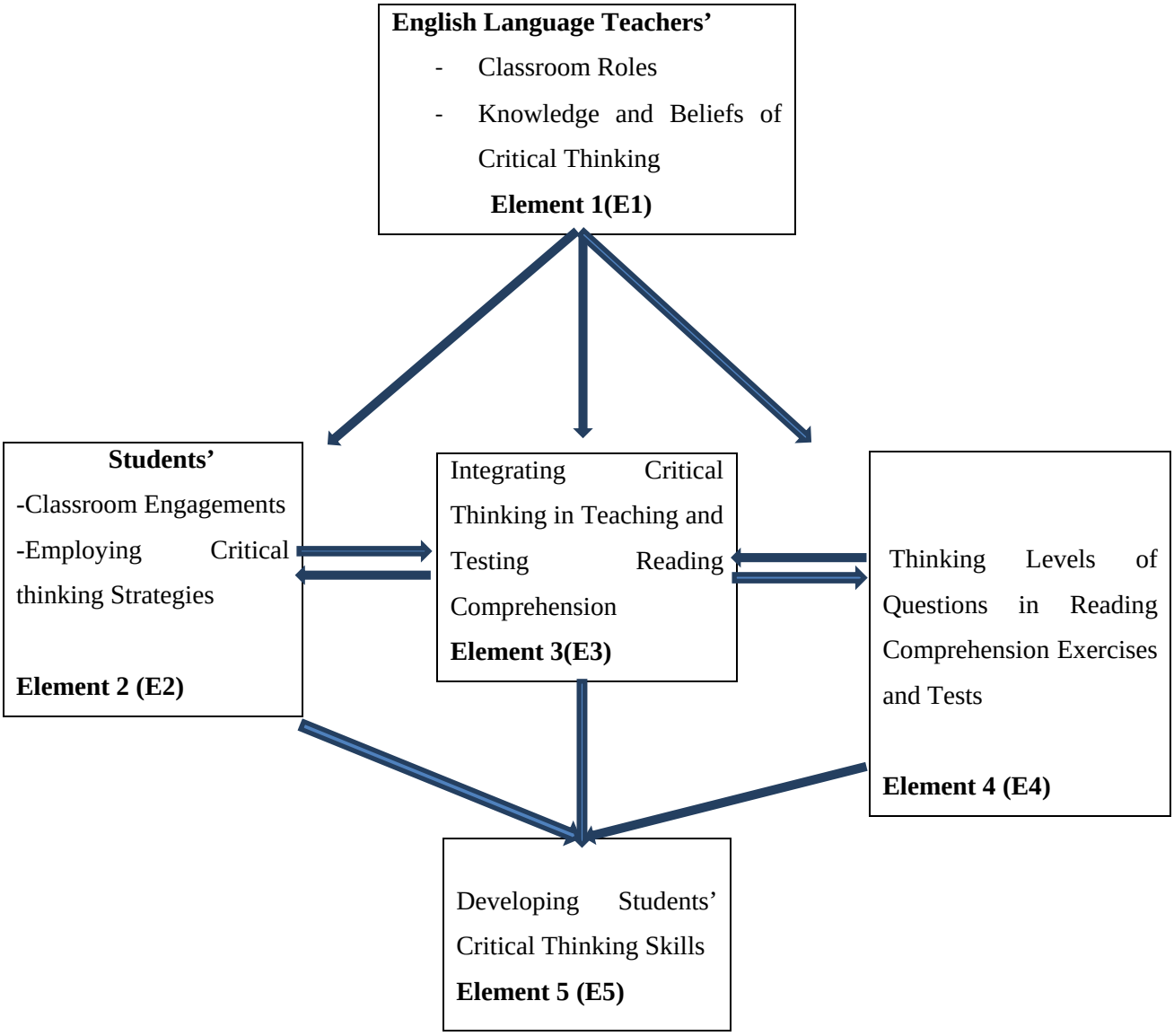

Figure 2: Conceptual Model of the Study

Based on the above illustration, the existing relations between the constituents are described as follow. English language teachers' classroom roles, and their knowledge and beliefs have direct impacts on all the elements in the model. This shows how E1 is critical to achieve E5, which is the major goal of contemporary education. To achieve this goal, teachers are expected to make the leaners have active classroom participations, use different critical thinking strategies and work on learning tasks involving questions with various thinking levels, E4. As can be seen, E2 also has tremendous role in realizing the development of students' critical thinking skills. Students' classroom roles which can be expressed through their level of classroom engagement and utilization of different critical thinking strategies can determine the integration of critical thinking in the teaching and learning process.

As the principles of constructive learning theory put, students are the protagonist of the classroom. What students do by themselves and what are done by teachers too have direct influences on the students. Mainly, the cognitive levels the tasks demands from the students have direct impact on learners' cognitive skills development. E4 in the model refers to the aforementioned idea.

2.21. Summary of Literature Review

In this review of related literature part, it has been attempted to incorporate important issues related to the construct under investigation in order to give solid theoretical foundation for the study. Concepts which are pertinent to Higher Order Thinking/Critical Thinking are briefly presented and discussed. Definitions of critical thinking, components of critical thinking, reasons for the necessity of critical thinking, critical thinking in education, critical thinking and language education, approaches to teach critical thinking, Why and how to integrate and develop critical thinking in EFL classes, roles of educators in critical thinking instruction, Language skills and Critical Thinking, Reading comprehension and Higher-Order Thinking Skills, Critical Thinking Strategies, Critical Thinking Teaching Techniques/Instructional Strategies, Critical Thinking Activities, Characteristics of effective tasks that develop learners' Critical Thinking, Role of Assessment in Developing Learners' Critical Thinking, and Constructivism Learning Theory: a theory underlying developing learners' higher order thinking skills/Critical Thinking are major points dealt to offer sound theoretical frame work for the study. At the end, the conceptual framework aimed to guide the study is clearly put.

CHAPTER THREE
RESEARCH METHODOLOGY

The purpose of this study is to explore critical thinking skills in the teaching and testing of reading comprehension at Addis Ababa Science and Technology University. This chapter aims at providing a detailed description of the research methodology used in this study. First, it discusses the philosophical and theoretical foundations of the study. Second, the chapter presents a detailed description of the research methodology and design employed in the process of data collection. In addition, it describes about the subjects of the study and the methods employed in the study to collect the data. Subsequently, it explains the process of the study sampling, the type of data collection tools used to collect the data, and the reliability and validity of instruments. It also incorporates the data collection procedures and data analysis and interpretation issues. What is more, it presents lessons learned about the data collection tools used in the pilot study. Last, it describes ethical issues concerning the research procedures and requirements employed in conducting this study.

3.1. Paradigms and Perspectives Underpinning the Research

A research paradigm is a guide line in conducting a research as it helps researchers plan and use the relevant methodology in relation to their research topic. In other words, it enables them to use the multiple data collection methods, tools, analysis techniques and interpretations. According to Neuman (2007:41), "a paradigm is an integrated set of assumptions, beliefs, models of doing good research, and techniques for gathering and analyzing data." It organizes core ideas, theoretical frameworks, and research methods. Johnson and Anthony (2013) stated that it can also refer to how researchers view the world and how they interpret and act within that world about reality or truth, based on their established beliefs and principles about the world. According to Creswell and Creswell (2018), there are four major world views in research that lead to embracing qualitative quantitative or mixed methods approaches in a research. They are called post positivism, constructivism, participatory/ advocacy or transformative, and pragmatism world views.

The post positivist assumptions have represented the traditional form of research, and these assumptions hold true more for quantitative research than qualitative research. Numeric measures or quantitative data are employed to study the behavior of a subject. The constructivism (interpretivism) world view is such a perspective, and it is typically seen as an approach to qualitative research. Therefore, qualitative data about the subjects lived experience are analyzed by

developing themes and patterns. The transformative philosophical worldview focuses on the needs of groups and individuals in our society that may be marginalized. Proponents of transformative research reject both positivism and interpretivism, believing that these frameworks do not accurately represent the experiences of marginalized communities. Transformative researchers generally use both qualitative and quantitative techniques to better understand the disparities in community relationships, support social justice, and ultimately ensure transformative change. In the pragmatic world view, the researchers employ the framework that is most applicable to the research questions they are examining. Therefore, both qualitative and quantitative techniques are often used as positivist and interpretivist approaches are combined.

Among the above mentioned paradigms, the pragmatism world view is employed in this study, as it deals with the multiple approaches to study EFL teachers' beliefs and knowledge about critical thinking skills and its integration in the teaching and testing of reading comprehension within the context Addis Ababa Science and Technology University.

3.2. The Pragmatism Research Paradigm

The pragmatism research paradigm is believed to provide researchers with multiple methodological approaches in studying a particular research as it provides researchers with which method of data collection will work in answering a particular research question.

According to Creswell and Creswell (2018), the pragmatism research paradigm refers to a worldview that arises out of human actions, the consequences of these actions, and the conditions under which these actions take place. In this paradigm, researchers believe that reality is relative and changing. They also believe that reality lends itself to multiple realities that depend on human experiences and beliefs that originated from these experiences. It also tries to combine positivism, which assumes that social reality is made up of objective facts, and constructivism, which deals with the assumption that there is no single reality. Therefore, this paradigm applies to mixed-method research, which allows researchers to use both qualitative and quantitative assumptions to collect data in depth and breadth for their research (Creswell, 2009 & Johnson and Anthony 2013). Similarly, the researcher employed quantitative and qualitative data to explain the quantitative results with a qualitative data collection and analysis. The researcher believes that this paradigm helps to examine reality of critical thinking integration in teaching and testing reading comprehension in looking at the knowledge and belief teachers have about the critical thinking.

The ontology, epistemology, axiology, methodology, and methods of the pragmatism paradigm are explained in detail in the following sections.

3.2.1. Ontology

When we conduct a research we need to know what we are going to find out, why we are studying and what problem we will address through this study. This is what we call it ontology that helps researchers recognize how certain they can be about the nature and existence of objects they are researching. As Jonker and Pennink (2010:61) stated, "Ontology, in general, relates to the assumptions we hold about reality—whether it is external or a construct of our mind." Moreover, it discusses the explicit and implicit interactions of assumptions about reality. In the pragmatic paradigm, reality is multiple, it is actively created by individual acts in the world, and it is always changing based on the human experience. Ontology, in this study, refers to the assumptions the researcher holds about what reality exists about EFL teachers' beliefs and knowledge of critical thinking and its integration in the teaching and testing of reading comprehension within the context of Addis Ababa Science and Technology University.

3.2.2. Epistemology

In conducting a research knowing what we study or reality is not sufficient. It is also important to know how to study what we want to study or our research questions. It should be done by choosing an appropriate methodology. This is what we call it epistemology. According to Jonker and Pennink (2010:61), "Epistemology can be described as the philosophy of knowledge, especially about its methods, validity, nature, sources, limits, and scope." Similarly, Cohen, Manion, and Morrison (2007:6) also stated that epistemology deals with what knowledge is, how it is formed, how it can be acquired, and how it is communicated to other human beings. Similarly, epistemology in pragmatism states that knowledge is changing and acquired through experience in the context of social reality. Concerning how information is acquired, it focuses on what method works to address the research questions in the study. As a result, it enables researchers to employ various methods, including both quantitative and qualitative research methods. In this study, the researcher employed quantitative and qualitative data collection methods to acquire data about integration of critical thinking in teaching and testing reading comprehension and teachers' beliefs and knowledge of critical thinking and its integration into the teaching and testing reading comprehension.

.

3.2.3. Axiology

Axiology is a branch of philosophy that studies judgments about the value. It is engaged with assessment of the role of researcher's own value on all stages of the research process. When conducting research there should be balance between the purposes of the research, the value the researcher is looking to achieve and other ethical considerations that exist within the research (Killman, 2013). In pragmatism, the researchers adopt both objective and subjective points of view in their research. The pragmatic researchers should be biased only by the degree necessary to enhance their research and help to answer their research questions. Similarly, the researcher made necessary bias to decide which data collection methods and tools were to be used in relation to each research question.

3.3. The Mixed Methods Research Design

Research design is a way that aids in utilizing empirical data to address the research questions. Additionally, it is crucial to assist the researcher in selecting the appropriate tools, techniques, and methodologies for data analysis. A mixed methods research design is an approach for gathering, examining, and "mixing" quantitative and qualitative data in a single study to comprehend a research problem. This study used a mixed methods research design due to its strength in producing both qualitative and quantitative data and reducing the constraints of both methodologies, Cresswell and John (2018). The researcher used quantitative data collection techniques to gather quantifiable information from students about the frequency their teachers make them employ critical thinking strategies and their perceptions of levels of thinking in questions in reading comprehension exercises and tests. When collecting data for a qualitative study, a researcher relies on the opinions of the participants, ask open-ended, general questions, gather information mostly made up of participant words and describe and look for themes. To support the quantitative data in the study, the research participants were interviewed in relation to each research question and their opinions were included in the study.

In general, the study was guided by mixed methods design to get both quantitative and qualitative data which provided the researcher with sufficient evidence about the beliefs and knowledge of English language teachers hold about critical thinking skills and its integration in teaching and testing reading comprehension.

The rationales for adopting such an approach to examine the research problem are threefold. First, the mixed-methods research approach, which includes both quantitative and qualitative data

collection and analysis, is especially appropriate for this study because it best promotes answering the research questions.

Second, the phenomenon of the classroom is complex. In classroom research, combining qualitative and quantitative methodologies can help researchers gain a better understanding of the intricate tapestry of classroom events (Dornyei, 2007). The quantitative components of the study, such as the survey questionnaire, can then add depth to a more thorough understanding of classroom practices. Two research methods are used to gain a better understanding of the classroom phenomenon. Many other authorities (Creswell, 2003; Dorney, 2007; Creswell et al., 2010) agree that combining methodologies is the most effective way to answer research questions.

Third, by gathering and analyzing both quantitative and qualitative data, the researcher is able to make a compelling case for drawing conclusions based on convergence and corroboration of findings. The qualitative classroom data is supported by collecting data from students using a survey questionnaire, which is quantitative research. To supplement and confirm the findings of the qualitative classroom observation and document reviews, a quantitative research methodology is used. The use of multiple data sources in such a study is a method of data triangulation (Patton, 2002). This data triangulation, combined with methodological triangulation, or the use of multiple methods to investigate a specific problem, is regarded as critical to validating and cross-checking the research findings in this study.

3.3.1. The Concurrent Mixed Methods

Mixed methods approach is acknowledged for providing researchers with freedom in using multiple data collection tools to answer the research questions they may raise in their study. According to Johnson and Anthony (2013) and Creswell and John (2018), mixed methods research is a flexible approach that enables the researcher to combine quantitative and qualitative data to broaden the researcher's understanding. Among the mixed methods typologies, the concurrent mixed methods approach was used in this study. In terms of data collection and analysis, this approach gives equal weight to time and effort. In addition, it provides a researcher with achance for data triangulation. Similarly, the researcher employed this method to gain breadth and depth of understanding and corroboration of the data about EFL teachers' beliefs and knowledge regarding critical thinking and its integration in the teaching and testing of reading comprehension. Therefore, the researcher was able to triangulate the data collected by both quantitative and qualitative methods based on the following research questions:

1. To what extent do English language teachers make students employ critical thinking strategies in the practice of teaching reading comprehension?
2. What levels of thinking skills do the question items in reading comprehension exercises and in reading comprehension tests aim to elicit from the students?
3. What is the knowledge of English language teachers about critical thinking?
4. What are the beliefs of English language teachers of incorporating critical thinking skills into teaching and testing of reading comprehension?

The following diagram clearly depicts the steps in Concurrent Triangulation Design employed in this study.

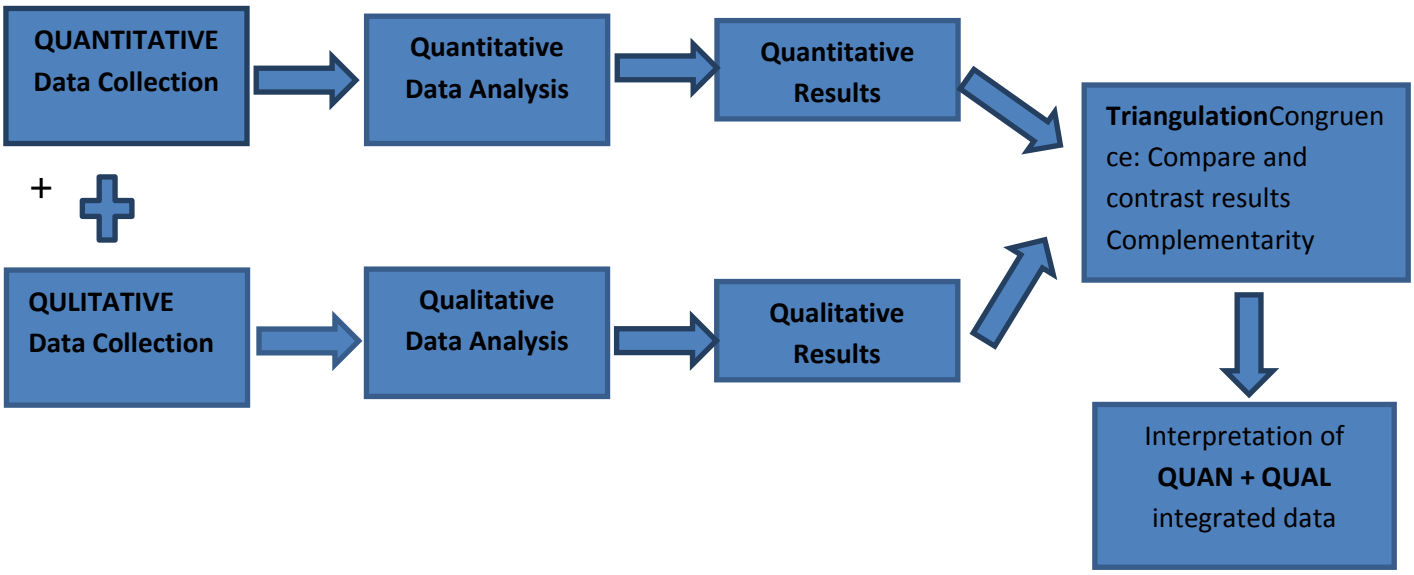

Figure 3: Steps in Concurrent Triangulation Design

As indicated in the diagram above, both quantitative and qualitative data were collected to achieve the objective of this study. Questionnaire, Interview, Document Analysis and Observation were the data gathering tools employed to collect the data. Similarly, as indicated in the above diagram and also described below, both quantitative and qualitative data were gathered concurrently and analyzed separately to answer the above research questions.

To answer the questions, both quantitative and qualitative data were simultaneously collected. To briefly put it, classroom observation and questionnaire were employed to collect qualitative and quantitative data respectively to answer the first research question. Document analysis was used to collect qualitative data to answer the second research question. Interview was employed to elicit data from English language teachers who participated in the study, and the data was used to answer

the third and fourth research questions. As illustrated in Figure 3 above, the qualitative and quantitative data concurrently collected employing observation, document analysis, questionnaire, and interview were separately analyzed to achieve the overall objective of the study.

3.4. Research Setting and Rationale for selection

Addis Ababa Science and Technology University is the study's research site. This institution is one of the two science and technology universities in the country founded by the Council of Ministers Directive No. 216/2011. It was established with the intention of creating a new driving force for the nation's growth and development in the twenty-first century, as well as serving as the National Hub of Science and Technology, with its sphere radiating throughout the country.

Students with the highest national exam scores were admitted to this university after taking an admission exam set by the university. Only those students who passed the entrance exam were admitted to the university. Using this information, it was feasible to estimate the quality of students likely to attend the university.

Currently, the university consists of nine schools and 22 departments, specializing in applied science, engineering, and ICT fields. The university has also enrolled more than 8000 undergraduates (under regular and continuing education programs) and close to 700 postgraduate students under its nine applied sciences, technology, engineering, and ICT-focused schools. Moreover, it has the interdisciplinary program, hosting basic, social, and computational sciences in which the English division is included.

The English division offers English skills I and II courses to freshman students. In addition, a technical writing course is given to the third year students, especially, to civil engineering students, electromechanical as well as chemical engineering students. Since the researcher is the member of the university he chose this setting to collect the data without time constraints and financial challenge.

3.5. Participants of the Study

The study targeted English language teachers and first-year students at Addis Ababa Science and Technology University in the academic year 2021–2022. 320 randomly selected first-year students taking Communicative English Language Skills I (FLEn 1011) and six English language teachers in the mentioned institution participated in the study.

3.5.1. Sample Size and Sampling Techniques

Due to cost, time constraints, or the inaccessibility of the entire population, researchers frequently need to be able to gather data from a smaller group or subset of the overall population in order to obtain knowledge that is representative of the total population under investigation (Creswell, 2009:145; Cohn, Manion, & Morrison, 2007:100). Accordingly, the participants in the study were drawn from the institution's first-year students and English language teachers.

Six English language teachers from Addis Ababa Science and Technology University were chosen at random to participate in the study. From 1602 (one thousand six hundred two) first-year students at the university, 320 were chosen as study participants. The students were chosen at random from 32 sections. This means that 10 students from each section were selected. Slovin's formula (**$n = N / (1 + Ne^2$**) where n=Number of sample Size, N=Total Population, e=Margin of error) was used to calculate the number of participants for the study.

3.6. Data Collecting Instruments

A mixed-methods research design allows a researcher to use a variety of techniques to gather information. Thus, in order to achieve the overall goal of the study, a questionnaire, interview, document review and observation were used in this study to collect the necessary data.

3.6.1. Questionnaire

A questionnaire, as described by Wilson and McLean (1994), cited in Cohn, Manion, and Morrison (2007), is a widely used useful instrument for gathering information, and relatively simple to analyze. In terms of economic and time benefits, Kumar (2012) and Best and Khan (2005) state that questionnaires save time as well as human and financial resources. The use of a questionnaire, therefore, is comparatively convenient when it is administered collectively to a study population.

A questionnaire was used to collect data from the student participants for this study. This tool was used to collect data in order to answer the study's first research questions. The questionnaire was created based on the study's research questions and a review of the related literature discussed in Chapter 2 of this paper. Many of the questionnaire items were adapted from Madden and Almasi (2006), which was cited in Yenus (2017), Al Sereidi (2019), and Keshta and Seif (2013).

The questionnaire dealt with issue concerning English language teachers' classroom practice of teaching reading comprehension. It contained 16 close-ended questions. These questions were designed to elicit the information needed to determine the extent to which English language teachers who took part in the study make the students usecritical thinking strategies in the practice of teaching reading comprehension. Students were asked to rate the extent to which their English language teachers allowed them to do the activities represented by the statements on a 5-point Likert scale ranging from 1 (Never) to 5 (Always).

There were some open-ended questions in the questionnaire. These questions were used in order to elicit more and additional information from the respondents of the questionnaire.

3.6.2. Interview

Data from English language teachers who took part in this study were gathered through interviews. This tool was primarily used to elicit data for the third and fourth research questions (about participants' knowledge and beliefs about critical thinking and its integration into reading comprehension instruction and testing), as well as to supplement and triangulate information gathered through classroom observation.

A semi-structured interview was prepared and conducted to gather information from the six English language teachers. As Nunan (1992) suggested, a semi-structured type is preferred to make the questions more flexible and to give the interviewees more control over the course of the interview. Semi-structured interviews, according to Dornyei (2007:123), allow the interviewee to "elaborate on the issues raised in an exploratory manner." Furthermore, because the semi-structured format allows subjects to freely express their emotions, the researcher believed that it would help him obtain information that would not be obtained through other data collection techniques.

The interviews were conducted using interview question guidelines. A review of related literature was used to develop the questions used for the interviews. The interviews with all the English language teachers participated in the study were conducted after the classroom observations were made. The interviews were recorded upon the permissions of the participants.

3.6.3. Document Reviews

In this study, the analysis of documents was made to gather data for answering the second research question (about the levels of thinking skills the question items in reading comprehension exercises and reading comprehension tests aim to elicit from the students) of the study. To answer the mentioned research question, Module for Communicative English Language Skills I (FLEn 1011) and Reading Comprehension Tests used by the teachers were documents for the reviews. This is to mean that question items in reading comprehension exercises provided in the indicated module and in reading comprehension tests were the focus of the analysis. Accordingly, question items in reading comprehension exercises in all 5 chapters of the module and question items in 6 reading comprehension tests employed by the teachers were analyzed. The reading comprehension tests were collected from the six English language teachers who participated in this study.

The question items in the mentioned documents were analyzed using an Analysis Card (See Appendix-E) and an Item Analysis Checklist (See Appendix-G). The Analysis Card and the Checklist for Item Analysis were adapted from Nur (2014**)** andErvina (2020). The underlying cognitive model of these Analysis Card and Checklist is Bloom's Taxonomy. This taxonomy is the most widely used thinking framework for analyzing thinking levels in teaching and assessment activities.

3.6.4. Observation

Classroom observation was the other tool used to collect data for the study's first research question. The checklist (See Appendix-C) adapted from Madden and Almasi (2006), as cited in Yenus (2017), was used to conduct classroom observations. The checklist includes statements that express higher-order thinking strategies that English language teachers can use to teach reading comprehension.

Using the mentioned checklist, the researcher and the co-observer accomplished two classroom observations for each of the six English language teachers who participated in the study. Moreover, the observers took necessary notes during the classroom observations. The observations were carried out when the teachers were teaching reading comprehension in units one and two of Communicative English Language Skills I (FLEn 1011).These units were purposely selected for observation as most of the teachers are expected to give due attention to the reading activities in

these units in order to prepare students for the reading activities in subsequent units. The classroom observations were carried out May 20-June 30 during 2021/22 academic year.

3.7. Reliability and Validity of the Data Collection Tools

Reliability and Validity of the Questionnaire

An instrument is considered reliable when the same set of information is collected more than once using the same instrument and yields the same or similar results under the same or similar conditions. Similarly, a research tool is said to be reliable if it is consistent and stable, and thus predictable and accurate. The greater an instrument's consistency and stability, the greater its reliability exists (Kumar, 2011; Cohn, Manion, and Morrison, 2007).

It was also necessary to obtain some evidence of reliability in order to make questionnaire items generate the data required for the study. In this regard, the pilot study assisted the researcher in determining the internal consistency of the closed-ended questions used in students' questionnaire. For the question items, a reliability test based on Cronbach's alpha was calculated. The questionnaire's reliability tests for categories of items and overall items were computed (see Appendix-E). The reliability test result for the 16 question items in Direction-I of the questionnaire is 0.805. This coefficient indicates high internal consistency and is an excellent predictor of questionnaire reliability.

Validity, according to Kumar (2011) and Cohn, Manion, and Morrison (2007), is a critical component of effective research. Thus, validity is required in both quantitative and qualitative/naturalistic research. It is concerned with the belief that a specific instrument actually measures what it claims to measure, or the ability of an instrument to measure what it is designed to measure. Validity in quantitative data can be improved through careful sampling, appropriate instrumentation, and statistical treatment of the data. Face validity, which deals with items in an instrument that have a logical link with a research objective, and content validity, which deals with the assessment of the items to determine whether they cover the entire range of the issue, are both used in this study. The content and face validity of the questionnaire used to collect data from the students who participated in this study were ascertained by the four experts. The researcher gained useful insights from these experts, especially about the content validity and clarity of the questions

and instructions in the questionnaire. On the basis of their comments, the researcher revised the contents of the questionnaires before they were used in the pilot study.

Reliability and Validity of the Interview

There do not appear to be any hard and fast rules for determining the validity and reliability of qualitative data collection instruments such as interviews. This appears to be why Grey (2004:218) says, "Since interviews often come from a more qualitative perspective, it would be a mistake to apply these concepts (of validity and reliability) rigidly." Thus, the need for flexibility necessitates that a researcher, particularly one conducting a mixed methods study, obtain evidence of validity and reliability from the outset by making justifiable decisions in the choice of methods for the mixed design, subject selection, data collection procedures, and analysis (Dorneyi, 2007; Creswell, 2009). However, this does not preclude checking the validity and reliability of interviews prior to and during data collection.

According to Grey (2004:219), "in the case of structured and semi-structured interviews, the issue of validity can be directly addressed by attempting to ensure that the content of the question directly concentrates on the research objectives" As a result, in order to achieve this level of validity, the interview items developed on the basis of the reviewed literature were validated by four experts.

The researcher used a validation form developed by Chen (2002) to have a panel of experts evaluate the content and face validity of the questionnaire and interview in a study. The validation was performed to obtain evidence on whether the content of the items was relevant in assisting with the answers to the research questions, as well as to check the clarity of the questions.

According to Wiersma (2000), the reliability of interviews can be jeopardized by the interviewer's conscious or unconscious bias in the procedures. This can be seen in different treatments of subjects (for example, varying the length of time given and asking questions out of order). Grey (2004) proposes that using more than one interviewer and the same protocol for different interviews can help to reduce bias. While involving an interviewer other than the researcher was not possible, an attempt was made to use a written interview guide in which questions were asked in the same sequence and enough time was given to different respondents to allow them to express their views freely.

Before the interview guide was used in the main study, it was also pilot tested. On the basis of the insights gained from the study, some modifications were made to the procedures for conducting interviews.

Reliability and Validity of the Document Reviews

As previously stated, the documents were analyzed using an Analysis Card and a Checklist for Item Analysis. The Analysis Card and Checklist for Item Analysis were adapted from Nur (2014) and Ervina (2020), respectively, and were reviewed and commented on by the panel of experts involved in the pilot study.

To help ensure the internal consistency of the analysis, the documents were analyzed by two people: the researcher and one analyst. The documents were analyzed by the researcher and one English teacher who was also a co-observer during classroom observations. Prior to beginning the analysis, the researcher explained the purpose of the analysis and went over the analysis card and checklist with the analyst. The researcher believes that using this analyzer has greatly increased the reliability of the analysis. Finally, an inter-rater reliability test (See Table 8) was performed to determine the level of consistency between the findings of the two analysts.

Reliability and Validity of the Observation

As previously stated, the checklist for classroom observation was adapted from Madden and Almasi (2006), as cited in Yenus (2017). The checklist was reviewed by a panel of experts who were involved in the tool validation process during the pilot study. They remarked on the statements' relevance and clarity in answering the research question.

To improve the internal consistency of the observations, a co-observer was used. Before conducting the observations, the co-observer was informed of the study's objectives, as well as the purpose of the classroom observation and observation checklist. The researcher and the co-observer then conducted two classroom observations for each of the six English language teachers involved in the study. During the analysis of the data obtained through observation, only the features observed by both observers were taken into account.

3.8. Procedures of Data collection

The questionnaire items for this study were developed using a review of related literature and were also adapted from Madden and Almasi (2006), as cited in Yenus (2017), Al Sereidi (2019), and Keshta and Seif (2013). Experts reviewed and commented on the tool in order to improve its reliability and validity. The comments were taken into account, and some items were improved; other items that were deemed irrelevant were removed, and the pilot study was carried out. Following a slight revision based on the findings of the pilot study, the questionnaire was distributed to 320 first-year students taking Communicative English Language Skills I (FLEn 1011).

When conducting research, it is unethical to collect information from participants without their knowledge and expressed willingness and informed consent (Kumar, 2011). As a result, after informing them of the study's objectives, the researcher solicited the students' willingness to participate in the study. The questionnaire was administered after securing the consent of these participants. It was distributed face-to-face and collected by the researcher.

Among the 320 participants, 318 returned the questionnaire, which shows a return rate of 98.4%. However, since three subjects did not answer some of the questions in the questionnaire, these questionnaires were discarded, and hence the analysis of the quantitative information was made for 315 students.

Regarding the interview and classroom observation, the researcher verbally informed the six randomly selected English language teachers and requested their consent. The interviews and the classroom observations were conducted after securing consent from the participants. Interview guides and observation checklists were used for the interviews and classroom observations, respectively. Both of them were prepared in advance and commented on by the panel of experts involved in the process of validation of the tools before being used for the pilot study.

The classroom observations were undertaken before the interviews. As indicated in the reliability and validity part of the interview, the classroom observations were carried out simultaneously by two persons: the researchers and the co-observer.

Following the classroom observations, the interviews were conducted face-to-face at the respondents' preferred location. The researcher conducted the interviews himself. During the

interview, questions were read from the written schedule one by one, and respondents were given enough time to freely express their opinions. Participants were free to express any additional thoughts or comments. Each interview lasted approximately 30 minutes. With the consent of the interviewees, all interviews were audio-recorded. The data analysis was based on the transcriptions of the interviews (See Appendix-I).

The analysis of question items in reading comprehension exercises and in reading comprehension tests was carried out using the Analysis Card and the Checklist prepared for the document reviews. The levels of thinking skills in the question items of the reading comprehension exercises of the 5 chapters of the module (Communicative English Language Skills I) and 7 reading comprehension tests (6 tests and 1from the final exam) were identified using the Analysis Card and the Checklist of Item Analysis. The data obtained through this tool was presented in tables and analyzed.

3.9. Methods of Data Analysis and Interpretation

Regarding data analysis in mixed methods research, Dorneyi (2007: 245) notes that "in many cases, it may be better to keep the analyses separate and only mix the qualitative and quantitative results at a late stage to illuminate or corroborate each other." According to Creswell (2009), this approach also aids in what is known as 'concurrent triangulation' in mixed methods design, where comparisons between different databases can be made for greater effect. According to him, mixing qualitative and quantitative data is done at the interpretation or discussion "to actually merge the data (i.e., transform one type of data to the other type so that they can easily be compared) or integrate or compare the results of two databases side by side"(Creswell, 2009: 213). As a result of using this approach, the data analysis in this study was done separately for the quantitative and qualitative information, and then mixed in the discussion and interpretation so that information gathered from different datasets could be integrated in answering the study's research questions.

3.9.1. The Quantitative Data Analysis

The data gathered through questionnaires distributed to students was quantitatively analyzed. The questionnaire data was entered into SPSS 24, a statistical package program, and descriptive statistics such as percentage, mean, and standard deviation were calculated. The data was analyzed using tables and verbal descriptions in relation to the study's specific objectives. Furthermore, the quantitative data gathered from document reviews and classroom observations was presented in a table and analyzed using percentages.

3.9.2. The Qualitative Data Analysis

The qualitative data were generated through interviews, classroom observation and document review. The procedure used in analyzing the qualitative data from interviews was as follows: First, all the audio-recorded interviews were transcribed verbatim. Next, transcripts of the interviews were categorized, and key themes were identified. Then, the analysis was made based on the themes. The data collected from classroom observation was qualitatively described up on the frequency at which the teachers observed making students employ critical thinking strategies in reading classrooms. Concerning the document review, the thinking levels of questions in reading comprehension exercises and reading comprehension testes were identified based on the Bloom's thinking model. The identified higher-order and lower-order thinking questions put in the tables and qualitatively described.

3.10. Ethical Issues

All professionals are thought to be guided by corrective principles of conduct. Similarly, researchers and participants are expected to follow the correct procedures and requirements of research principles, according to Kumar (2012) and Cohn, Manion, and Morrison (2007). As a result, the researcher attempted to adhere to the following research principles: To persuade participants to participate in this study, the researcher first informed them in person about the nature of the research, the type of information sought from them, and the importance of the study. They were also told that the information they provided would be kept private and that their identities would be concealed. The questionnaires were distributed following the consent. . Similarly, interviewees who took part in the study were also asked for their permission. The interview was carried out at their convenience. Moreover, the researcher tried to be as objective as possible by strictly focusing on the research issues in order to minimize bias during data interpretation.

3.11. Summary of the Pilot Study

The pilot study was carried out primarily to gain insights for establishing appropriate design and procedures for the main study, i.e., to assess the appropriateness of instruments and overall procedures and to make any necessary revisions (if any) before they were used in the main study. This is because "deficiencies may be uncovered during the pilot run that were not apparent by

simply reviewing the items" (Wiersma, 2000:171). As a result, the pilot was carried out to ensure the appropriateness and clarity of the items in the instruments used. Before the full study, the study assisted the researcher in identifying potential problem areas and deficiencies in the overall research procedures and instruments. It also assisted the researcher in becoming acquainted with the procedures and instruments that would be used in the research.

3.11.1. Participants

The pilot study included four English language teachers and 115 first-year students at Addis Ababa Science and Technology University in the academic year 2020/21.

Questionnaire, interview and classroom observation were pilot tested using the aforementioned samples. 115 first-year students at Addis Ababa Science and Technology University were made fill out questionnaires. Semi-structured interviews with four randomly selected English language teachers at the mentioned institution were conducted. Additionally, each of these teachers was observed twice while teaching reading comprehension. Concerning the document reviews, the levels of thinking skills in the question items of reading comprehension exercises and reading comprehension tests were identified using the prepared Analysis card and Checklist for item Analysis.

The analysis of the data collected during the pilot study was made using tables, verbal descriptions, and thematic analysis for qualitative data. The lessons gained from the pilot study are the following:

3.11.2. Lessons Learnt about the Questionnaire

1. In pilot study, the questionnaire contained only closed-ended questions. The researcher modified the questionnaire used in the main study by adding open-ended questions. This gave respondents the freedom to share information in addition to the responses they gave for closed-ended items.
2. It is possible to use the terms ***Higher Order Thinking Skills*** and ***Critical Thinking Skills***interchangeably in this study as they have nearly the same meaning as different scholars indicate. However, it was found important to put the terms like this ***Higher Order Thinking Skills***/***Critical Thinking Skills***in the questionnaire as it was found that students are more familiar with the term Critical Thinking Skills as compared to Higher Order Thinking Skills

3. One statement expressing an idea of how frequently English language teachers employ **debating** in their classrooms during teaching reading comprehension needs to be added to the questionnaire for the main study. As a result, this statement was added to the questionnaire employed for the main study.

4. Terms like ***reflective journal*** in item 8, ***probe*** in item 9, ***creative writing*** in item 21 and ***creative or innovative concept*** in item 22 of the questionnaire need to be described in brackets in order to make their meanings clearer to the students. Descriptions of these terms were provided in the questionnaire used for the main study.
5. Even if entering the data from the questionnaires into SPSS was found tiresome during the pilot study, the researcher gained good experience doing such an activity. This experience helped the researcher successfully feed the data into SPSS for the main study.

It was found that many of the items on the questionnaire were easily answered by the students, so the questionnaire was used in the main study with minor modifications.

3.11.3. Lessons learnt about Interview, Classroom Observation, and Focus Group Discussion

1. It is possible to use the terms ***Higher Order Thinking Skills*** and ***Critical Thinking Skills***interchangeably in this study as they have nearly the same meaning, as different scholars indicate. However, it was found important to mention/present terms like this ***Higher Order Thinking Skills/Critical Thinking Skills***in the interviews with the teachers and focus group discussions with the students, as it was understood that both the teachers and the students were more familiar with **critical thinking** than **higher order thinking**. This procedure was implemented during the main study.

2. During the pilot study presentation, the examiners advised using co-observers in classroom observations and note-taker in focus group discussions. Thus, a co-observer and note-taker were used for the main study.

3. At the time of the pilot study, it was attempted to use open-coding software for qualitative data, but it was not successfully implemented. However, this technology was employed in the main study.

3.11.4. Lesson Learnt about Methods of Data Analysis

Mixed-data analysis involves both quantitative and qualitative data. It usually happens concurrently or sequentially. Concurrent mixed analysis was used in the pilot study. Both quantitative and qualitative data were analyzed independently, and the interpretation was based on both quantitative and qualitative data. SPSS software was used to analyze the quantitative data. In addition, an open-source coding app was used to analyze the qualitative data. Similarly, the researcher determined that this analysis approach would be appropriate for the main study.

The pilot study aided the researcher in determining how to work out the procedures for the main data collection and the research procedures in general. The comments from adviser and examiners were also incorporated into the main study. Overall, the pilot study was critical for carrying out the main study because it provided a valuable lesson.

CHAPTER FOUR
DATA ANALYSIS, FINDINGS AND DISCUSSION

The study mainly aimed at exploringcritical thinking skills in the practice of teaching and testing reading comprehension at Addis Ababa Science and Technology University. More specifically, it was intended to examine the extent to which English language teachers make learners employcritical thinking strategies in the classroom practice of teaching reading comprehension, investigate the status of question items in reading comprehension exercises and in reading comprehension tests in contributing towards enhancing learners' thinking skills, and identify English language teachers' knowledge and beliefs of critical thinking skills and its integration to the teaching and testing of reading comprehension.

The chapter is concerned with the presentation and analysis of both quantitative and qualitative data gathered for the main study.

4.1. Presentation and Analysis of the Data

The analyses of the study are presented in two major sections: the analysis of quantitative data and the analysis of qualitative data. The analysis of quantitative data includes students' responses to statements exploring their English language teachers' frequency of making learners employ critical thinking strategies during teaching reading comprehension. The qualitative analysis focuses on the data gathered throughinterviews, observation, and document reviews. As well described in the Methodology section (see Chapter 3), the separate analysis of the quantitative and qualitative data employed in this study is based on the idea of concurrent triangulation design of the mixed-methods.

4.1.1. Presentation and Analysis of Quantitative Data

The major objective of the questionnaire was to gather data from students regarding how frequent their English language teachers make them employ critical thinking strategies in the practice of teaching reading comprehension. Among 320 first-year students taking the course Communicative English Language Skills I (FLEn 1011) participated on the study, 315 properly completed the questionnaire. The analysis was made based on the data collected from these respondents. The data was analyzed using tables, percentages, numbers, and the mean. Accordingly, the necessary interpretation was provided.

Table 1: Students' Responses on how frequent their English language teachers make them employ Critical Thinking Strategies

No.	In the practice of teaching reading, how frequent does your English language teacher…	1	2	3	4	5	
		No or %	No or %	No or %	No or %	No or %	**Mean**
1	engage students to generate questions of their own about what they read?	129	126	45	15	-	1.79
		40.9%	40%	14.28%	4.76%	-	
2	engage the students to focus on meaning as reading of the text?	21	35	87	109	63	3.5
		6.7%	11.1%	27.6%	34.6%	20%	
3	elicit students' prior knowledge to help them employ their background knowledge when reading texts?	25	33	101	88	68	3.45
		7.9%	10.47%	32.06%	27.93%	21.6%	
4	help the students set purpose for reading and self-evaluate?	87	132	65	26	5	2.15
		27.6%	41.9%	20.63%	8.25%	1.59%	
5	explain reading strategies and the rationale for learning them?	30	44	80	102	59	3.62
		9.52	13.9%	25.4%	32.38%	18.7%	
6	teach and model reading strategies and provide adequate time and opportunities for the students to practice the strategies through guided practice and independent work?	82	105	65	63	-	2.55
		26%	33.3%	20.6%	20%	-	
7	assesse students' comprehension by asking various levels of questions?	95	101	73	46	-	2.21
		30.2%	32%	23.1%	14.6%	-	
8	encourage students to write reflective journal on the text they read?	97	120	59	39	-	2.12
		30.8%	38.1%	18.7%	12.4%	-	
9	probe students' responses?	109	76	78	52	-	2.19
		34.6%	24.1%	24.8%	16.5%		
10	facilitate a collaborative learning environment to support the students' intellectual knowledge and skills?	26	39	73	99	78	3.52
		8.2%	12.4%	23.1%	31.4%	24.7%	

11	make the students express opinions and support their opinions with logical reasoning and sources?	129	123	47	16	-	1.8
		40.9%	39%	14.9%	5.07%	-	
12	engage students to present contrasting opinions about the topic of the text?	132	116	40	24	3	1.9
		41.9%	36.8%	12.7%	7.6%	0.95%	
13	promote students to react to the content of the text and justify their answers from the text?	89	109	71	46	-	2.23
		28.2%	34.6%	22.5%	14.6%	-	
14	engage learners in higher order questions (divergent questions) and gives the students time to answer them?	139	115	32	23	6	1.86
		44.1%	36.5%	10.2%	7.3%	1.9%	
15	make students predict what a text is about and give logical reason to the prediction?	137	129	29	20		1.8
		43.5%	40.9%	9.2%	6.4%		
16	engage students to examine issues in the text from different points of view?	107	114	58	36	-	2.24
		33.9%	36.2%	18.4%	11.4%	-	
	Total number of Participants	**315**					

Never =1, Rarely=2, Sometimes =3, Usually=4, Always=5

Table 1 above contains responses from students indicating how frequently their English language teachers make them employ critical thinking strategies in the practice of teaching reading comprehension. Each statement in the table describes strategies that can be employed by students to engage in critical thinking/ higher-order thinking in the practice of teaching reading comprehension.

Figures of the participants' responses to question item 1 in the table indicate that 129 (40.9%) respondents answered that their teachers never engage them in generating questions about what they read. Whereas 126 (40%) participants responded that their teachers rarely engage them in generating questions about what they read. The remaining respondents, 45 (14.2%) and 15 (4.7%), responded that their teachers sometimes and usually respectively make them generate questions on what they read. It is possible to deduce that students are rarely engaged in such activity that would give them a chance to cognitively engage in the text they are required to read and understand in the

classroom. The mean value for the obtained response, which is 1.79, that can be rounded to 2 also justifies that teachers rarely engage students in the activity of generating questions about what they read.

Regarding the respondents' responses to question item 2, the obtained figures show that 87 (27.6%) respondents stated that their English language teachers sometimes make them focus on meaning during reading; 109 (34.6%) respondents, a sizable proportion of the total respondents, stated that their English language teachers usually engage them in focusing on meaning during reading. Furthermore, the responses of 63 (20%) respondents' show that their English language teachers usually make them focus on the meaning aspect of what they read. However, 21 (6.7%) and 35 (11.1%) of respondents indicated that their English language teachers never and rarely respectively engage them in focusing on meaning during reading. As a result, the data obtained on this particular question clearly shows that teachers are frequently engaging the students to focus on meaning while undertaking reading lessons. The mean value of the responses obtained on this item also depicts that the teachers frequently make students to focus on meaning of what they read.

Question 3 requires the participants to respond on how frequently they are required to activate prior knowledge in order to use background knowledge when reading a text. 101 (32.1%) respondents stated that their teachers sometimes require them to elicit prior knowledge during teaching reading comprehension. Responses from 88 (27.9%) respondents indicate that their teachers usually require them to activate prior knowledge while responses from 68 (21.6%) participants indicate that their English language teachers always require students to activate prior knowledge. However, some participants, 25 (7.9%) and 33 (10.4%), responded that their English language teachers never and rarely respectively make them activate their prior knowledge. The data clearly shows it is sometimes that English language teachers elicit learners' prior knowledge to assist them in employing their background knowledge when reading.This conclusion is evident from the calculated mean value of the item, which is 3.45, equivalent to the value of sometimes indicated in the table.

The idea in statement 4 in the above table was constructed based on one of the responsibilities of English language teachers in the process of reading comprehension instruction, which is to make learners set a purpose for reading and self-evaluate to engage in higher-order thinking. For this item , 87 (27.6%) participants reported that their English language teachers never help them set

purpose for reading and self-evaluate; 132 (41.9%) respondents answered that their English language teachers rarely help them set purpose for reading and self-evaluate in reading comprehension classes. On the contrary, 65 (20.6%), 26 (8.25%), and 5 (1.59%) respondents indicated that their English language teachers sometimes, usually, and always respectively help them set purpose for their reading and self-evaluate. As can be seen from the table, the mean value for the item is 2.15, which is nearly equivalent to the value of rarely in the table. Based on this mean value, it is possible to conclude that it is rarely that English language teachers help the students set a purpose for reading and self-evaluate in reading comprehension classes.

Participants were asked to respond to question 5 in Table 1 above to determine how frequent English language teachers explain reading strategies and the rationale for learning them, as strategy instruction is one of the activities that English language teachers are expected to complete during the reading comprehension lesson. 30 (9.5%) and 44 (13.9%) respondents responded that their English language teachers never and rarely respectively explain reading strategies and the rationale for learning them. However, the responses of 80 (25.4%) respondents depict that it is sometimes English language teachers explain reading strategies and the rationale for learning them. The remaining respondents, 59 (18.7%), also expressed that it is always that their English language teachers explain to them reading strategies and the rationale for learning them. These figures tell that it is usually, as the calculated mean value of the item is nearly 4, that English language teachers explain reading strategies and the reasons for learning them to the students.

Item 6 was constructed and used to elicit responses from the participants because teachers' teaching and modeling of reading strategies and providing adequate time and opportunities for the students to practice the strategies through guided practice and independent work play a significant role in developing students' reading and thinking skills. 82 (26%) participants responded that their English language teachers never do such things in their reading classrooms; 105 (33.3%) indicated that their teachers rarely accomplish it. 65 (20.6%) respondents answered that their teachers sometimes teach and model reading strategies and provide them with adequate time and opportunities to practice through guided practice and independent work. 18 (15.7%) respondents indicated that their English language teachers always do this in their teaching of reading comprehension. Nevertheless, the responses of the majority of the participants indicate that English language teachers infrequently teach and model reading strategies in the process of teaching reading comprehension.

English language teachers may pose various levels of questions in reading class to assess and deepen students' comprehension of the text being read. It is necessary to investigate how frequently English language teachers employ such strategies in the process of teaching reading comprehension. As evidenced by the elicited data on item 7 in Table 1, responses from 95 (30.2%) participants show that English language teachers never use questions of various levels to assess and support students' comprehension. The responses of 101 participants, accounting for 32% of the total participants, indicate that English language teachers rarely use questions of various levels in the classroom to assess and support students' comprehension. 73 (23.1%) respondents indicated that their English language teachers sometimes use questions of varying levels to assess and assist students' comprehension. Furthermore, 46 (14.6%) respondents stated that their English language teachers usually use questions of various levels to assess and assist students' comprehension when teaching reading comprehension. Based on the mean value calculated for this item, which is 2.21, it is possible to conclude that it is rarely that the English language teachers use different levels of questions to assess and help students' comprehension in the teaching of reading.

Item 8 was aimed at eliciting participants' responses on producing or writing personal reflections on the text being read, which is termed a reflective journal. It is one of the activities that give learners opportunity to engage in critical thinking. Student participants of this study were asked to provide responses to the item mentioned in order to find out how frequent their English language teachers encourage them to write reflective journals on the text being read. 97 (30.8%) participants provided responses that clearly show their English language teachers never employ this strategy in the teaching of reading; 120 (38.1%) participants' responses also indicate that English language teachers rarely use the mentioned strategy in their reading classrooms. 59 (18.7%) and 39 (12.4%) respondents' responses indicate that English language teachers sometimes and usually respectively encourage students to write reflective journals. As can be seen from the table, the obtained mean value for the item is 2.12 which is the value rarely put in the table. Thus, it is possible to say that it is rarely that English language teachers encourage students to write reflective journals while teaching reading comprehension.

Item 9 was used to gather information on probing, which is an important technique that assists students in providing more and more reasons or justifications for the specific response they provide to a question. It is one of the strategies that teachers can use to engage students cognitively in the activities they are required to participate on. The questionnaire's item 9 inquired as to how

frequently English language teachers probe their students in the teaching of reading comprehension. 109 (34.6%) respondents' answers to the item indicate that English language teachers never probe students' responses in the reading classes; 76 (24.1%) participants answered that their English language teachers rarely employ the mentioned strategy. 78 (24.8%) respondents revealed that their English language teachers sometimes use probing techniques in the teaching of reading comprehension; however, the responses of 52 (16.5%) participants indicate that English language teachers usually probe students' responses in the reading classrooms. Based on the calculated mean value of the item, which is 2.19 and indicating the value of rarely in the table, it is logical to state that English language teachers rarely use probing in the practice of teaching reading comprehension.

Item 10 is based on the idea that collaborative learning environments have many benefits for learners' cognitive development because they allow students to share and receive different ideas and opinions. Participants in this study were asked to respond how frequenttheir English language teachers facilitate a collaborative learning environment to support students' intellectual knowledge and skills. 99 (31.4%) respondents replied that their English language teachers usually facilitate collaborative learning in the reading comprehension classrooms; 73 (23.1%) and 78 (24.7%) answered that their English language teachers sometimes and always respectively facilitate a collaborative learning in the practice of teaching reading comprehension. However, 26(8.2%) and 39(12.4%) replied that their English language teachers never and rarely respectively facilitate collaborative learning while teaching reading comprehension. The calculated mean for the obtained response is 3.52 which is nearly equivalent to the value of usually given in the table. Thus, it is possible to deduce that English language teachers usually facilitate collaborative learning in the reading comprehension classrooms.

Item 11 is concerned with the idea that making learners to express their opinions backed up by logical reasons allows them to exercise higher order thinking skills. This item sought responses on how frequently English language teachers require students to express their opinions and support those opinions with logical reasoning. According to the data in the table, 129 (40.9%) respondents replied that their English language teachers never make them express opinions backed with logical reasons; 123 (39%) replied that English language teachers rarely make the students express opinions supported with logical reasons. However, 47 (14.9%) and 16 (5.1%) responded that English language teachers sometimes and usually respectively make the students express opinions

backed up with logical reasons. The calculated mean value for this item is 1.8, which can be rounded to 2 and equivalent to the value of rarely put in the table. Based on the value of the mean, it is possible to say that English language teachers rarely require students to express their opinions and support those opinions with logical reasoning.

Item 12 is about English language teachers' making students present opposing viewpoints on the text being read. According to 132 (41.9%) participants, English language teachers never give students the opportunity to present opposing ideas on the text read; 116 (36.8%) respondents said their English language teachers rarely make them engage in such activity. 40 (12.7%) respondents indicated that English language teachers sometimes engage students in presenting contrasting opinions on the topic of the text being read; 3 (0.95%) participants responded that their teachers usually make them present contrasting opinions on the topic of the text being read. The data gathered clearly shows that English language teachers rarely give students the opportunity to present opposing ideas on the text read. This conclusion is supported by the mean value of the item. As can be seen from the table, the mean value for this particular item is 1.9 that becomes 2 upon rounding.

Item 13 of the questionnaire identifies a very useful strategy for providing students with more opportunities to practice higher-order thinking skills in the teaching of reading comprehension. It is about getting students to react to the text's content and justify their answers. 89 (28.2%) respondents said this strategy is never used in the teaching of reading comprehension, while 109 (34.6%) said it is rarely used by English language teachers. However, responses from 71 (22.5%) and 46 (14.6%) of respondents indicate that teachers sometimes and usually respectively encourage students to react to the content of the text and justify their answer based on the text being read. According to the figures, the responses to this item show that teachers rarely require students to react to the text's content and justify answers from the text. This conclusion is supported by the value of the mean, which is 2.23, that is equivalent to the value of rarely provided in the table.

Item 14 is about English language teachers' implementations of higher-order questions, which require students to initiate their critical thinking abilities in order to respond successfully. This item is intended to elicit data on how frequently English language teachers use such questions in reading comprehension instruction. Accordingly, the responses of 139 (44.1%) participants'

indicate that English language teachers never employ higher order questions in their teaching of reading comprehension; 115 (36.5%) respondents' responses show that English language teachers rarely employ higher order questions in their reading classes. 32 (10.2%), 23 (7.3%), and 6 (1.9%) of respondents' responses indicate that English language teachers sometimes, usually and always respectively use higher-order questions, which are also known as divergent questions, in the instruction of reading comprehension. From the obtained figures, it is possible to deduce that English language teachers rarely employ higher-order questions in their practice of teaching reading comprehension.The mean value for this particular item which is 1.86 justifies the above conclusion.

Item 15 is about engaging students in predictions about the text to be read. Prediction is a common reading strategy employed by English language teachers; however, requesting students' logical reasons for their predictions in order to foster enhancement of learners' higher order thinking skills is an important concept in the item. The item aims at revealing data on how frequently English language teachers make students predict what a text is about and give a logical reason for the prediction. 137 (43.5%) respondents replied that their teachers never engage them in such a strategy; 129 (40.9%) participants responded that it is rarely that their teachers make them employ the strategy. However, 29 (9.2%) and 20 (6.4%) respondents answered that their English language teachers usually and always respectively make them employ such strategy in the practice of teaching reading comprehension. The sum of the responses gathered on the item clearly indicates that English language teachers rarely make the students predict what a text is about and give logical reasons for the predictions. This conclusion is evidenced from the mean value of the item. The calculated mean for the item is 1.8 which is nearly equal to the value of rarely given in the table.

The last item is all about creating opportunities for students to engage in examining issues in the text from different points of view. As can be seen from the table, the responses of 107 (33.9%) participants indicate that English language teachers never make students employ such a strategy; 114 (36.3%) respondents' replies indicate that English language teachers rarely make students use it. In contrast, 58 (18.4%) and 36 (11.4%) respondents answered that their English language teachers sometimes and usually respectively engage them to examine issues in the text from different points of view. However, the sum of the obtained responses shows that English language

teachers rarely make students employ such strategy in their reading comprehension instruction process.

To summarize the analysis presented on Table 1, the responses of the students revealed that, of the critical thinking strategies mentioned in the table, only a few were employed by the students in the process of teaching of reading comprehension. Students were made employ strategies mentioned in items 2, 3, 5, and 10, but the students were not made employ the rest of the strategies put in the table.

4.1.2. Qualitative Data Presentation and Analysis

The data gathered through interviews with English language teachers, classroom observations, and document analysis are presented and analyzed in this section. The presentation and analysis of qualitative data starts with the data obtained from interviews with teachers and is followed by others.

4.1.2.1.Presentation and Analysis of data obtained from Teachers' Interviews

In this section, the analysis of the data drawn from interviews with six English language teachers participated in the study are presented. The main purpose of the interview was to elicit the teachers' knowledge of critical thinking and beliefs its integration into the practice of teaching and testing of reading comprehension. Eight questions as interview guide were used in semi-structured interviews conducted with the teachers. The interviews were recorded and transcribed for the analysis. The interviewees are coded T1-T6. The data was analyzed using the following identified themes: a)Teachers' conceptions of thinking skills and Critical Thinking Skills, b) teachers' understanding of Bloom's Taxonomy and their experiences of applying in teaching and testing, c) teachers' beliefs about roles of English language teachers in enhancing students' thinking skills in the teaching and testing of reading comprehension , and d)Teachers' understanding and utilization of Instructional Strategies that enhance Critical Thinking Skills.

A) Teachers' conceptions of thinking skills and definitions of Critical Thinking Skills

The interview began with questions about thinking skills/abilities, specifically /critical thinking skills. The interviewees were asked the question to find out what they know and how they understand the constructs. The following are the teachers' descriptions of thinking skills/abilities:

Thinking is a mental activity of processing information. It is one of unique features of humankind. It can distinguish humankind from the other creatures on the earth. (T1, Appendix J)

…thinking is the way we process information. (T3, Appendix J)

Thinking is the process of reflecting on something and aims at taking decision and problem solving. (T4, Appendix J)

Thinking is a unique feature of human being. It is mental/brain activity of human being that aims at doing/accomplishing something. (T5, Appendix J)

What the teachers stated is more similar to how thinking is described in many literatures. Thinking is described in various literatures as a mental activity, a method of mentally processing information, a process of reflecting on something for the purpose of reaching a specific decision, and a unique feature of a human being.

Regarding the critical thinking(higher-order thinking), the teachers uttered the following statements:

*Critical thinking is the thinking process that requires higher energy and focuses mainly during engaging in unfamiliar situation. It is a thinking someone manifests during solving problem and the like. (*T6, Appendix J)

When we say higher order thinking, it is a thinking process that we make taking a longer time to pass good and flawless decision; it is also a thinking that an educated person can make. (T4, Appendix J)

Higher Order Thinking Skills/Critical Thinking skills are the extent to which we see things, ideas etc (T3, Appendix J)

When we say higher order thinking skills we are referring to the thinking ability one performs at problem solving, decision making and the like. It is critical thinking ability that we need to have mainly in this 21st century to look the credibility of the sources of the information that comes to us from different angles of our daily activities. (T2, Appendix J)

HOTs is the level of thinking as all human beings may not think equally. It is the thinking that one requires in dealing with problem and decision making. (T1, Appendix J)

The following definitions of critical thinking skills can be derived from the quotes above. The definitions provided by teachers are more similar to the definitions of critical thinking provided in various literatures.

- ✓ It is the thinking that involves in problem solving, decision making , creative and reflective thinking
- ✓ It is level of thinking, which is higher level thinking
- ✓ It is the thinking that goes beyond surface level of what we see, read and hear.
- ✓ It is a thinking ability that we need to be competent mainly in this 21st century
- ✓ It is cognitive activity that one engages in during reflective thinking

Based on the responses gathered, it is possible to conclude that teachers are not new to the concept of higher order thinking skills/critical thinking skills. The responses clearly show that the teachers have a good understanding of higher order thinking /critical thinking.

B) Teachers' understanding of Bloom's Taxonomy and their experiences of applying in teaching and testing

The question related to Bloom's taxonomy was presented to the teachers because many educators assert that Bloom's taxonomy is one of the most useful teaching tools, discussing thinking processes ranging from simple to complex, with each level resting upon the previous one. It is a taxonomy used for formulating learning objectives, designing learning tasks, and preparing different tests. Participants were asked how well they know this taxonomy and how they are using it to develop learning objectives, design learning tasks, and prepare various tests.

Five of the participants mentioned their familiarity with Bloom's Taxonomy in response to the question because they had different pedagogical courses during their undergraduate and postgraduate learning programs. It is important to mention the following from a conversation with one of the participants here:

I well remember about my pedagogy course during my first degree/undergraduate. I had really very interesting teacher for the course. He was deeply discussing the Bloom

> *Taxonomy with well-illustrated examples on the several lesson spent on the mentioned taxonomy. Even if I cannot exactly name which elements of the category named as Higher Order, I do have better understanding of the taxonomy and they are hierarchical and should be in learning objective that teachers should design and students are required to achieve them.* (T2, Appendix J)

However, one of the participants has stated unequivocally that he is unfamiliar with the taxonomy. He stated his reasoning as follows:

> *I guess these terms go to pedagogy course; I am not from education background, I learned Applied English; I did not take pedagogy course during my undergraduate study. What I remember is some of the courses I took on my MA program. Even at this level, I do not remember any course related to such concept.* (T3, Appendix J)

Concerning the use of the taxonomy for developing learning objectives, designing learning tasks, and developing various tests, all respondents are hesitant about their current use of the taxonomy in accomplishing the aforementioned tasks. One of the participants described how he used to apply the taxonomy as follows:

> *As I have aforementioned, I do have better understanding of this taxonomy. I used to design learning objectives mainly when I was teaching at high schools before 12 or 14 years. Frankly speaking, here in the university, I do not rely on this. (*T2, Appendix J)

All of the teachers failed to mention the sub-skills of critical thinking. This is mainly because most of the teachers have no necessary experience in employing Bloom's Taxonomy or model of thinking in constructing learning objectives, designing learning tasks and preparing tests. As a result, the teachers have minimal understanding on the thinking skills or levels of thinking that are categorized as lower-order thinking skills and higher-order thinking skills.

C) Teachers' beliefs about roles of English language teachers in enhancing students' thinking skills in the teaching and testing of reading comprehension

All of the participants agree that English language teachers play important roles in helping students improve their thinking skills. They have stated that language learning and thinking are linked. This is how one of the teachers expressed it:

> *Learning in general and language learning in particular has something to do with learners' thinking ability. Specifically, as different scholars put and I also believe learning language has effect on students' cognitive levels as language and thinking are interconnected in different ways. Moreover, English language teachers can consciously work on enhancing their learners' thinking abilities through engaging them in meaningful learning process in which learners are given opportunity to accomplish learning tasks demand different cognitive levels.*(T4, Appendix J)

From the above quote, it is possible to infer that students are required to enhance their thinking abilities in the English language classroom. As a result, teachers must deliver learning tasks that require students to engage at various cognitive levels.

Another teacher mentioned that one of the responsibilities of English language teachers is to help students improve their thinking skills. He articulated the concept as follows:

> *We should know that one of the objectives of schooling (learning and teaching) is to develop learners' thinking skills; education should help students have developed cognitive abilities. Education that does not work on students' mental/cognitive ability is meaningless. The basis of meaningful learning is to promote students' thinking ability. Therefore, it is mandatory to consider students' cognitive development in the teaching learning process. As I feel, enhancing students' thinking skills is one of the responsibilities of English language teachers.*(T2, Appendix J)

Some teachers are well aware of the reasons why students must have enhanced thinking skills or higher order thinking skills/critical thinking skills. They stated that being competent in this era necessitates independence and confidence. The following is a quote from the conversation with one teacher to illustrate the aforementioned idea:

> *In this century, there is a continuous technological advancement and wide spread of information. Moreover, the philosophy behind economy of different countries has*

become knowledge based economy, which has direct link with the thinking abilities/skills of the working forces of the countries. So, it has become mandatory to have critical thinking skills to be competent and productive citizen. (T5, Appendix J)

The preceding statement implies that the current state of continuous technological advancement and widespread dissemination of information necessitates improving learners' thinking abilities. So, creating necessary situations that foster learners' thinking skills is sought by English language teachers.

The teachers also expressed their strong beliefs that enhancing learners' thinking skills in the teaching and testing of reading comprehension should be among the roles of English language teachers. The following are statements uttered by some of the interviewees:

As we know well reading is majorly a cognitive process; it is a mental process that a reader undergoes to construct meaning from what he/she reads. It is the activity that greatly related to thinking ability. Student who reads well and broad can have big chance to enhance his/her thinking abilities. This is due to two major reasons: first, when he/she reads, there are new knowledge and experiences he/she acquires. Second, engaging in to reading and understanding of the meaning of the text by itself initiate different cognitive process in the reader. (T1, Appendix J)

Reading is a cognitive process; it is what students are expected to do actively to construct the meaning of texts they read. Through reading students can add something on their existing knowledge and also get chance to make their mind exercise thinking. This is because readers are not passive absorbers of what they read; they are active constructors of the meaning of what they read. (T3, Appendix J)

According to the quotes above, teachers believe that reading and thinking are inseparable because both are mental activities. As a result, it is impossible to teach reading comprehension without dealing with the students' thinking skills.

D) Teachers' understanding and utilization of Instructional Strategies that enhance Higher Order Thinking/Critical Thinking Skills

The teachers were asked questions on instructional strategy as instructional strategies teachers employ in the classroom have an impact on the academic success of the students. In the interviews conducted, an attempt was made to elicit teachers' understanding of instructional strategies that aim at facilitating learners' critical thinking skills/higher-order thinking skills and their beliefs about incorporating them in the teaching of reading comprehension.

Most of the teachers described instructional strategies that promote higher-order thinking as active learning/teaching techniques. They have mentioned brainstorming, pair or group work, debating, role-play, presentation, and case study as instructional strategies that foster students' higher-order thinking. The following quote summarizes what has been said:

> *I think when we say instructional strategies that facilitate higher order thinking we are referring to active learning techniques that give learners chances to actively participate in the classroom and use the target language. Brainstorming, debating, and pair/group work can be among the instructional strategies that foster students' active participations in the classroom.* (T4, Appendix J)

The teachers also discussed the importance of incorporating higher-order thinking instructional strategies into the practice of teaching reading comprehension. Some of them explained that, as reading is a cognitive process, teachers' conscious use of such kinds of instructional strategies can benefit students more.

> *Reading is a cognitive process in which the reader brings together his prior knowledge and information in the text in order to construct the meaning. I feel the level of reader's comprehension depends on the extent to which he/she exerts his/her cognitive effort. As teacher, we need to make the learners cognitively engage in the process of reading. Moreover, the questions we let students do in the reading class should be those which help students' thinking beyond literal comprehension*. (T5, Appendix J)

In the statements given above, the role of higher-order questions in reading comprehension is briefly explained. As indicated, reading exercises and questions teachers pose in the reading classroom need to incorporate higher-order questions that help students think divergently.

In addition to teaching reading, teachers believe that incorporating higher-order thinking into testing is important for improving learners' critical thinking abilities/skills. The teaches believe that

question items for testing reading comprehension should include higher-order questions that require students to think beyond the surface level of what is being read.

Based on what has been discussed thus far, teachers have a better understanding of higher-order thinking skills and instructional strategies that can foster higher order thinking in learners during teaching reading comprehension. Furthermore, they believe that higher-order thinking skills should be incorporated into the teaching and testing of reading comprehension.

4.1.2.2.Presentation and Analysis of data obtained through Classroom Observation

The primary goal of the classroom observation was to observe the actual classroom practices of six randomly selected English language teachers when teaching reading comprehension and to investigate the extent to which they make learners employ critical thinking strategies/ higher-order thinking strategies. The teachers were observed while teaching reading comprehension in Communicative English Language Skills I in units one and two. These units were purposely selected for observation as most of the teachers are expected to give due attention to the reading activities in these units in order to prepare students for the reading activities in subsequent units.

The classroom observations were carried out using checklist (See Appendix C). The checklist contained sixteen statements describing different critical thinking strategies/ higher-order thinking strategies. Data on how frequently teachers make learners use each higher-order thinking strategy listed on the checklist were collected (see Appendix H).

The analysis of the data obtained from classroom observations is based on the frequency the teachers make learners employ higher-order thinking strategies and the number of teachers make students utilized it. In addition, memos or field notes taken during classroom observations were used in the analysis.

1) Making students generate questions of their own about what they read.

Engaging students in the activity of generating their own questions about the text they read is one of the strategies that teachers can use to help students comprehend the text well. Teachers were observed in the classroom to determine whether or not they were letting learners employ the indicated strategy. As evidenced by the data in Appendix H none of the teachers were observed making the students utilize the strategy. In any of the sections observed, students were not given the opportunity to construct questions based on the texts they were required to read.

As shown in Table 1, the data obtained from the students' questionnaire responses is similar to the data obtained through observations. According to the students' responses to the questionnaire also, teachers never or rarely require them to generate their own questions about what they read.

2) **Engaging the students to focus on meaning as reading of the text**

Some of the teachers (T1, T3, and T6) started the teaching of reading comprehension in unit 1 of the module by asking the question: What does reading mean? What do you do when you read? What does it mean when someone say I understand the passage? What does it mean understanding what you read?

After listening to the students' responses, the teachers provided the necessary explanations for the questions. The teachers emphasized in their explanations that reading is a means of making meaning. They explained that while reading, students must create/construct and extract meaning.

It was discovered that all of the teachers explained the concept of reading and the student's role in reading. The teachers explained that the students' primary role in reading is to construct and extract meaning from the text being read.

The data gathered from the students via a questionnaire also shows that the teachers encouraged the students to focus on meaning as they read the text. This is evident from the data in Table 1. The responses clearly show that teachers occasionally or usually engage students in focusing on meaning as they read the text.

3) **Eliciting students' prior knowledge to enable them employ background knowledge when reading text**

As evidenced by the data in Appendix H, all of the teachers were observed asking questions and assisting students in connecting their experiences with the passages to be read. In unit two of the module, for example, some teachers asked students to talk about football and their favorite footballers, their experiences doing physical exercises, and the benefits they have received from doing physical exercises.

Even though the methods differed, the teachers were seen eliciting students' prior knowledge. Some teachers asked text-related questions, while others used brainstorming and gave students the

opportunity to express any ideas they had about the topic of the texts. Some teachers allowed students to share their personal experiences related to the texts.

In general, all of the teachers were observed eliciting prior knowledge from students in order for them to use background knowledge when reading texts. They made the students employ the strategy using the various approaches mentioned above.

The questionnaire's data also shows that teachers elicit students' prior knowledge in order for them to use background knowledge when reading text. According to Table 1, 101 (32.1%) respondents indicated that their teachers sometimes make them elicit their prior knowledge in the teaching of reading comprehension. Responses from 88 (27.9%) respondents indicate that their teachers usually require them to activate prior knowledge, while responses from 68 (21.6%) participants indicate that their English language teachers always require students to activate prior knowledge prior to reading a given text.

4) Helping students set purpose for reading and self-evaluate.

This strategy was observed being used by only one teacher. The following is how the teacher explained the strategy to the student:

Teacher:*While reading a particular text you should have purpose. You should know why you read. So, try to write down your purpose. After reading you have to see whether or not achieved your purpose. Today, in this unit 2, we practice using this strategy.*

The teacher instructed the students to write down their reason for reading the passage in unit two (about Health and Fitness).The teacher stated that the purpose of reading the passage could be to gain a thorough understanding of the passage, to identify the main idea of each paragraph in the passage, to complete the reading comprehension exercise, and so on. The teacher then instructed the students to read the text critically in order to achieve their goals.

The data from questionnaire also shows that teachers never or rarely assist students in setting a reading goal and self-evaluation. According to Table 1, 87 (27.6%) participants reported that their English language teachers never help them set a goal for reading and self-evaluate; 132 (41.9%) respondents responded that their English language teachers rarely help them set a goal for reading and self-evaluate in reading comprehension classes.

5) **Explaining reading strategies and the rationale for learning them**

Four teachers were observed demonstrating various reading strategies. Among the strategies described were activating background knowledge, predicting about the text, questioning, and discussing the text with students. Among the four teachers observed explaining the reading strategies, only two of them explained to the students the rationale for learning the reading strategies. However, in responding to the questionnaire, majority of the students indicated that their teachers frequently explain reading strategies and the rationale for learning them.

6) **Teaching and modeling reading strategies and providing students adequate time and opportunities to practice the strategies through guided practice and independent work.**

As previously stated, some teachers were observed teaching various reading strategies. Nonetheless, they were not seen modeling strategies to students or requiring students to practice strategies through guided practice and independent work.

The information gathered through the questionnaire is consistent with the information gathered through classroom observations. The majority of participants' responses indicate that English language teachers rarely teach and model reading strategies when teaching reading comprehension.

7) **Assessing students' comprehension by asking various levels of questions**

Teachers were not observed asking various levels of questions in assessing students' comprehension. They were making students work on reading comprehension exercises after students read the texts. Even from the reading comprehension exercises in the module, no teacher was seen asking students different levels of questions.

The data from the questionnaire also backs up the preceding idea. As shown in Table 1, the responses of 95 (30.2%) participants indicate that English language teachers never posequestions of various levels to assess and support students' comprehension. The responses of 101 participants, accounting for 32% of the total participants, indicate that English language teachers rarely use questions of various levels in the classroom to assess and support students' comprehension.

8) **Encouraging students to write Reflective Journal on the text they read**

The teachers were observed to see if they used the above strategy because, as various scholars explain, encouraging students to write reflective journals (personal experiences) about what they

read helps students improve critical thinking. However, no teachers were observed requiring students to keep a reflective journal, which allows them to connect what they read to their everyday lives.

The questionnaire data also indicates that teachers rarely or never use the mentioned strategy. The responses of 97 (30.8%) participants clearly show that their English language teachers never use this strategy in the teaching of reading; the responses of 120 (38.1%) participants also show that English language teachers rarely use the mentioned strategy in their reading classrooms.

9) Probing students' responses

During classroom observations, some teachers were observed probing students' responses. For example, as shown in discussion 2, three teachers were observed probing student responses. Nonetheless, student responses to the questionnaire show that teachers probe students less frequently. 109 (34.6%) respondents stated that English language teachers never probe students' responses in reading comprehension classes; 76 (24.1%) participants stated that the mentioned strategy is rarely used by their English language teachers.

10) Facilitating a collaborative learning environment to support the students' intellectual knowledge and skills.

In the reading comprehension instruction, all six observed teachers were seen facilitating a collaborative learning environment. During pre-reading and post-reading activities, teachers required students to collaborate. The instructions of activities in the material also instruct teachers to have students complete the activities collaboratively. For instance, both the pre-reading and post-reading tasks in units one and two of the module demand the learners work in groups. As a result, teachers were able to make the learners work collaboratively in reading classes.

The data obtained through questionnaire also demonstrate that English language teachers use collaborative learning in the teaching of reading comprehension. As can be seen from the data in Table 1, 99 (31.4%) respondents replied that English language teachers usually facilitate collaborative learning in reading comprehension classrooms; 73 (23.1%) and 78 (24.7%) said their English language teachers sometimes and always respectively facilitate collaborative learning in the practice of teaching reading comprehension.

11) **Making the students express opinions and support their opinions with logical reasoning and sources**

None of the observed teachers was engaging students in expressing opinions and support their opinions with logical reasoning and sources. The data from students' responses in questionnaire also go in line with the data from the observation. According to the data in the Table 1, 129 (40.9%) respondents replied that their English language teachers never make them express opinions backed with logical reasons; 123 (39%) replied that English language teachers rarely make the students express opinions supported with logical reasons.

12) **Engaging students to present contrasting opinions about the topic of the text**

Similarly to the strategy mentioned in point 11 above, none of the teachers used the above strategy. Students were not observed presenting opposing viewpoints on the text's topic.

The responses of students to the questionnaire also show that teachers do not use the mentioned strategy. 129 (40.9%) respondents said their English language teachers never made them express opinions supported by logic; 123 (39%) said their English language teachers rarely made students express opinions supported by logic.

13) **Promoting students to react to the content of the text and justify their answers from the text**

Two of the six teachers were observed engaging students in responding to the text's content and justifying answers from the text. Students were asked to justify their answers by citing evidence from the text being read. The teachers employed this strategy when the students were working on reading comprehension exercises. They asked students to justify answers given to some questions in reading comprehension exercises.

In terms of the frequency students required to employ the aforementioned strategy, as shown in Table 1, 89 (28.2%) respondents said it was never used, while 109 (34.6%) said it was rarely used.

14) **Engaging learners in higher-order questions (divergent questions) and gives the students time to answer them.**

As stated in discussion 7 above, teachers were not seen asking students different levels of questions to assess their comprehension. As a result, none of the teachers was seen engaging students in higher-order questions (divergent questions) and giving them time to respond. The responses of the students to similar items in the questionnaire yielded the same result. That is, 139 (44.1%) students' responses indicate that English language teachers never use higher-order questions in their teaching of reading comprehension; 115 (36.5%) students' responses indicate that English language teachers rarely use higher order questions in their reading classes.

15) Making students predict what a text is about and let them give logical reason to the prediction

It was discovered that one teacher was exactly implementing the aforementioned strategy. This teacher encouraged students to predict the passage and provide a logical explanation for their prediction. Other teachers required students to predict the passage to be read, but they did not require students to provide reasons for their predictions.

The data obtained from the questionnaire distributed to the students also supports the above idea. 137 (43.5%) respondents replied that their teachers never make them predict and give reasons for the prediction; 129 (40.9%) participants responded that it was rarely that they weremade engage in the strategy.

16) Engaging students to examine issues in the text from different points of view.

The preceding strategy was also not made employ by the students. The teachers were not seen allowing students to examine issues in the text from various perspectives. It is possible to argue that the teachers did not encourage students to approach the text critically.

The responses obtained from students through questionnaire also indicate similar finding to the one mentioned above. This is evident from the responses of 107 (33.9%) participants and 114 (36.3%) participants indicating that their English language teachers never and rarely respectively let them examine issues in the text from different perspectives.

To summarize the analysis of the data from classroom observation, teachers were never seen making students employ higher-order thinking strategies indicated in statements 1, 6, 7, 8, 11, 12, 14, and 16. This means that none of the teachers was observed in engaging students to generate questions of their own about what they read; teaching and modeling reading strategies and

providing adequate time and opportunities for students to practice the strategies through guided practice and independent work; assessing students' comprehension by asking various levels of questions; encouraging students to write reflective journal on the text they read; making the students express opinions and support their opinions with logical reasoning and sources; engaging students to present contrasting opinions about the topic of the text; engaging learners in higher order questions (divergent questions) and giving the students time to answer them and engaging students to examine issues in the text from different points of view. However, all teachers were seen implementing the strategies stated in statements 2, 3, and 10. That is, the teachers were seen engaging the students to focus on meaning as they read the text, eliciting their prior knowledge to employ their background knowledge when reading text, and facilitating a collaborative learning environment to support the students' intellectual knowledge and skills. It is possible to conclude that the teachers were not making learners employ varieties of higher-order thinking strategies in their teaching of reading comprehension in order to give learners multiple opportunities to foster their critical thinking abilities.

4.1.2.3.Presentation and Analysis of data obtained through Document Analysis

This part deals with the presentation and analysis of data gathered through document analysis. Content analysis was employed to identify the thinking levels demonstrated in the questions in reading comprehension exercises and in reading comprehension tests. Reading comprehension exercises in *Communicative English Language Skills I* and reading comprehension tests were subjected to content analysis.

An Analysis Card and a Checklist which were prepared based on Bloom's Taxonomy of Cognitive Domain (See Appendix E and F) were employed to identify the levels of thinking skills in reading comprehension questions of the selected reading comprehension exercises and tests.

Two analysts carried out the analysis. A test for inter-rater reliability was performed to determine the degree of consistency between the findings of the reading comprehension exercise analysis and the reading comprehension tests performed by the two analyzers. The table below shows the level of consistency between the two analyzers' results.

Table 2: Coefficient Correlation among Analyzers: Reliability through Persons

	Analyzers	**Number of**	**Points of**	**Points of**	**Correlation**

		Items	Agreement	Difference	Coefficient
Reading Comprehension Exercises	First Analyzer	99	99	0	100
	Second Analyzer	99			
Reading Comprehension Tests	First Analyzer	105	102	3	95.6
	Second Analyzer	105			

A) **Cognitive/Thinking Level of Questions in Reading Comprehension Exercises**

Table 3: Frequencies and Percentages of Thinking Skills in Reading Comprehension Exercises

Level of Thinking Skills		Unit One	Unit Two	Unit Three	Unit Four	Unit Five	**Total**	**Percentage**
Lower Level Thinking	Remember	9	1	7	6	1	**24**	24.24%
	Understand	17	8	18	9	11	**64**	64.64%
	Apply	-	-	-	-	-	-	-
Higher Level Thinking	Analyze	-	1	-	-	1	**2**	2.02%
	Evaluate	-	2	1	2	-	**5**	5.05%
	Create	1	1	1	1	-	**4**	4.04%
Total		**27**	**13**	**27**	**18**	**14**	**99**	**100%**

The table above depicts the distribution of thinking skills in reading comprehension exercises from the *Communicative English Language Skills I* module. As shown in the table, the reading comprehension exercises in the five units of the course contain both Lower-order Thinking Questions (Questions of Remembering, Understanding, and Applying) and Higher-order Thinking Questions (Questions of Analyzing, Evaluating, and Creating). Lower-order and higher-order questions from the reading comprehension exercises are presented separately below.

Lower-order Questions: Questions of Remembering, Questions of Understanding and Questions of Applying in Reading Comprehension Exercises

According to Table 2, 24 of the 99 questions in the reading comprehension exercises in the five units are questions of remembering. These questions make up 24.24% of the total number of reading comprehension questions in the material. The following are samples of questions for remembering taken from the material (Module for *Communicative English Language Skills I*)

Table 4: Samples of Questions of Remembering in Reading Comprehension Exercises

Question Items	Units
Our reading purpose changes according to our approach to reading.(True/False)	Unit 1
List the benefits of team sports.	Unit 2
The Awramba community and the Amhara society around Fogera have very similar waysof life. (True/False)	Unit 3
The mountain gorilla lives in a small group with a dominant leader.	Unit 4
In the 1800s many countries had large numbers of young people and small numbers of olderpeople. (True/False)	Unit 5

The reading comprehension exercises in the material contain 64 questions of understanding. These questions account for 64.64% of the question items in the reading comprehension exercises in the module's five units. This figure shows that the majority of questions in reading comprehension exercises are questions of understanding. The table below shows sample of questions of understanding taken from the material.

Table 5: Samples of Questions of Understanding in Reading Comprehension Exercises

Question Items	Units

What do the writers mean by ―Reading is a skill which is often taken for granted?	Unit 1
Find the main idea of Paragraph 1.	Unit 2
According to the article, what does the Awramba community want to do in the future?	Unit 3
What does ―**too big and heavy to climb trees"** (paragraph 3, lines 2&3) mean?	Unit 4
Summarize the fifth paragraph in 3-5 sentences.	Unit 5

There is no question of applying, as shown in Table 9. In the analysis of questions in the reading comprehension exercises presented in the five units of the material, such a question was not identified.

Higher-order Questions: Questions of Analyzing, Questions of Evaluating and Questions of Creating in Reading Comprehension Exercises

The reading comprehension exercises presented in the material contain only two questions of analyzing. Only 2.02% of the questions in reading comprehension tests are of this type. This figure depicts a very low distribution of questions of analysis in reading comprehension exercises across the material. Only in units two and five of the reading comprehension exercises were questions of analyzing identified. These questions are listed in the table below.

Table 6: Samples of Questions of Analyzing in Reading Comprehension Exercises

Question Items	**Units**
The writer believes that the ultimate goal of team sports should be winning the competition. a. True b. False c. Information not given	Unit 2
Towhich category do you think Ethiopia belongs?	Unit 5

As shown in Table 2, only five evaluating questions are there in the reading comprehension exercises given in the material. These questions account for 5.05% of the 99 in the reading comprehension exercises. This figure also shows that questions of analyzing are few in comparison to questions about remembering and understanding. There is no question of analyzing in reading comprehension exercises in units one and five. Samples of questions for analyzing excerpted from the material are presented in the following table

Table 7: Samples of Questions of Evaluating in Reading Comprehension Exercises

Question Items

How did you find the information in the passage? a. acceptable b. doubtful c. exaggerated d. unacceptable
Do you think the Awramba community will continue to grow in number or will itdiminish? Why?
Look at the title of the article: _Africa‘s Wild Animals‘. Do you think that the title isappropriate for the article? W

In terms of creating questions, there are four questions of creating in the reading comprehension exercises examined in this study. These questions are scattered throughout the four units of the material's reading comprehension exercises. The reading comprehension exercise in the fifth unit of the material does not include any creating questions. The following table lists the four creating questions, which account for 4.04% of the questions in reading comprehension exercises.

Table 8: Samples of Questions of Creating in Reading Comprehension Exercises

Question Items	Units
Think of your own reading experience and write a paragraph of 150 – 200 words.	Unit 1
Write a short paragraph explaining all that you have learned from the passage.	Unit 2
Write a paragraph of about 120 words describing a couple of cultural values you are proud of or you uphold and explain their importance to society.	Unit 3
Write a short paragraph (5-8 lines) explaining how the above article can attract tourists to Africa (or you can take the opposite view)	Unit 4

Based on the analysis of the reading comprehension exercises, it is possible to conclude that the majority of the questions in the reading comprehension exercises given in the material for communicative English language skills are questions of lower thinking skills. There are 88 questions of lower cognitive level, which engage learners in lower thinking skills, from the 99 questions in the reading comprehension exercises provided in the five units of the module. These questions account for 88.89% of the questions in the reading comprehension exercises. The remaining 11 questions, which account for 11.11%, are questions of higher cognitive level**.** This figure clearly shows that the proportion of questions requiring higher-order thinking skills is very small when compared to the proportion of questions requiring lower-order thinking skills.

B) **Cognitive/Thinking Level of Questions in Reading Comprehension Tests**

Seven reading comprehension tests (See Appendix I) were analyzed. Six tests were collected from the six English language teachers participated in the study. These tests were used to assess the students reading comprehension. The seventh one was the part of the final exam for Communicative English Language Skills I. The tests are labeled Test A-Test G, and the frequencies and percentages of thinking skills in questions of the tests are presented below.

Seven reading comprehension tests (See Appendix I) were analyzed. Six tests were collected from the six English language teachers who participated in the study. These tests were used to assess the students reading comprehension. The seventh one was part of the final exam for *Communicative English Language Skills I*. The tests are labeled Test A–Test G, and the frequencies and percentages of thinking skills in the questions of the tests are presented below.

Table 9: Frequencies and Percentages of Thinking Skills in Reading Comprehension Tests

Level of Thinking Skills		Test A	Test B	Test C	Test D	Test E	Test F	Test G	**Total**	**Percentage**
Lower Level Thinking	Remember	2	2	5	1	2	4	6	**23**	21.9%
	Understand	9	13	7	9	3	10	12	**63**	60%
	Apply	-	-	-	-	-	-	-	**-**	-
Higher Level Thinking	Analyze	3	-	3	4	3	1	2	**16**	15.24%
	Evaluate	1	-	-	-	2	-	-	**3**	2.86%
	Create	-	-	-	-	-	-	-	**-**	-
Total		**15**	**15**	**15**	**15**	**10**	**15**	**20**	**105**	**100%**

As shown in the table above, there are lower-order and higher-order questions in the seven reading comprehension tests examined in this study. These two types of questions are presented separately below.

Lower-order Questions: Questions of Remembering, Understanding and Applying in Reading Comprehension Tests

The above table clearly shows that 23 of the 105 questions on reading comprehension tests are questions of remembering. These questions make up 21.9% of the questions in reading comprehension tests. This figure illustrates that questions of remembering are the second-dominant questions in reading comprehension tests. Sample of questions of remembering taken from reading comprehension tests are given in the following table.

Table 10: Samples of Questions of Remembering in Reading Comprehension Tests

Question Items	Tests
Which of the following is NOT a use for the coconut palm? **a.** margarine **b.** buttons **c.** helium balloon **d.** diesel fuel	Test A
Before the personal computer, someone who wanted to access information on a computer had to A) fill out request form B) wait until the personal computer was invented C) go to where the computer was located D) access a remote terminal	Test B
During World War II, all women stayed at home to cook and clean for their families. (True/False)	Test C
According to paragraph 2, the eastern grey kangaroo is different from other species in its a. population size b. preferred habitat c. occupation of varied climates d. distinctly larger body	Test D
Which technologies enable modern societies to use credit systems? a) Computers and government identification b) Airplanes and phone networks c) Radio waves and license plates d) Steam power and waterways	Test E
Dave farrow set a world record _____ A) In 1959 B) in 2008 C) When he was a student D) when he was seven	Test F
Recycled building materials cannot be used by home owners. (True/False)	Test G

Table 9 shows that questions of understanding are the most common in the reading comprehension tests examined in the study. There are 63 questions of understanding among the 105 questions, accounting for 60% of the reading comprehension tests used by teachers. The table below contains examples of comprehension questions taken from the tests.

Table 11: Samples of Questions of Understanding in Reading Comprehension Tests

Question Items	Tests
The passage implies that a. coconut palms are a valuable plant. b. coconut oil is the best way to cook. c. Portuguese explorers loved coconuts. d. coconut palms are good shade trees.	Test A
When connecting one computer to another using a telephone line, a modem is necessary because a.it reduce the time necessary for transmitting data b. the phone company requires it c. the phone system is not designed to be able to transfer data from computer d. electric lines are too expensive	Test B
Each of the following was listed by the author as a contributing factor to the changes in family life except a. Women entering the work force b. Changed economic conditions c. Women entering the fight for civil rights d. Government interference	Test C
According to paragraph 5, which of the following is NOT a unique feature of the antilopine kangaroo? a. Appearance b. Radius of travel from its pack c. The origin of its name d. Its preferred habitat	Test D
Which is TRUE based on information from the text? a. Roman army camps were much smaller than ancient tribes b. Roman army camps were about the same size as ancient tribes c. Roman army camps were much larger than ancient tribes d. Nobody knows the actual size of Roman army camps.	Test E
What is the main idea of paragraph 4? a. People with good memories use tricks to help them remember things b. Your sort-term memory can only hold information from 15 seconds to a few minutes c. Short term memories can work better if tricks are used d. If you practice regularly, you can remember information using the memory tricks	Test F
You can infer from the passage that green builders _____ a. have been more successful with private homes b. are particularly concerned with lowering energy use c. have not been successful outside the United State d. have planted lots of gardens in their buildings.	Test G

Higher-order Questions: Questions of Analyzing, Questions of Evaluating and Questions of Creating in Reading Comprehension Tests

Based on the analysis of reading comprehension tests used by the teachers who participated in this study, 16 questions of analyzing were identified. These questions account for 15.24% of the reading comprehension questions. The table below contains examples of these questions taken from the tests.

Table 12: Samples of Questions of Analyzing in Reading Comprehension Tests

Question Items	Tests
What is the writer's attitude towards coconut?	Test A
The best statement of the main idea of this passage is that a. Children are experiencing a higher level of poverty than ever before in America b. People now have more choices than ever regarding family life c. Women should never have entered the fight for civil rights in the 1960s d. Family life in America has changed considerably since World War II.	Test C
The author discusses the term "Great Kangaroos" in paragraph 1 in order to emphasize the kangaroos' a. prevalence b. importance c. fame d. size	Test D
What is the author's main purpose in writing the THIRD paragraph? a. He is trying to convince us to forgo modern life and to live in tribes b. He is informing readers of the history of credit and debt systems c. He is explaining why tribal life is unproductive and wasteful.	Test E
Which statement can best express the overall idea of the passage? a. The green building movement began because people were worried about pollution b. All buildings are generally made so that they will be environmentally friendly c. Environmental problems are causing serious damage to the world we live in d. Green buildings are friendlier to the environment than ordinary buildings.	Test F
Write the possible title for the passage. _____	Test G

It was discovered that the seven reading comprehension tests used by teachers contain only three questions of evaluating. These questions account for 2.86% of the total number of questions in reading comprehension tests. As shown in Table 10, these questions appear only in the tests of two

teachers. The remaining four teachers' tests did not include question of evaluating. The following table contains examples of questions of evaluating.

Table 13: Samples of Questions of Evaluating in Reading Comprehension Tests

Question Items	Tests
Do you agree or disagree with the idea in the text? Why?	Test A
With which statement would the author most likely DISAGREE? a. If someone has a good reputation, it is easier to trust him or her b. Reputations are important for lenders and borrowers c. Money makes trading easier for people who do not know each other d. People can easily maintain good relationships with thousands of other people.	Test E

From the data given in Table 9, it is possible to deduce that there is no question of creating in the tests used by the teachers. Similarly, the question of applying is also missing from the tests. The majority of the questions used by the teachers to assess the students reading comprehension are questions of lower-order thinking skills. From the 105 questions, 89 are lower-order questions that do not aim to make learners engage in higher-order thinking skills. These questions encourage learners to deal with information explicitly put in the texts, and they have little role in promoting learners' higher order thinking skills and deep comprehension of the texts.

Based on the analysis carried out on the reading comprehension exercises and tests, it is possible to conclude the following points:

- Majority of the questions in reading comprehension exercises and in reading comprehension tests are lower-order questions. Both of them are dominated with questions of remembering and understanding.
- There is no Question of Applying both in reading comprehension exercises and tests
- There is no Creating question in reading comprehension tests
- There are fewer higher-order questions in both reading comprehension exercises and reading comprehension tests as compared to lower-order questions. However, relatively there are more higher-order questions (questions of Analyzing) in reading comprehension tests than reading comprehension exercises.

4.2. Discussions

This part presents an in-depth discussion of the results emerging from the analyses conducted above, with links to the literature presented in chapter two. These results are discussed in accordance with the objectives of the study, as stated in chapter one, in order to explore critical thinking skills in teaching and testing reading comprehension in Addis Ababa Science and Technology University.

The primary goal of this research was to explore critical thinking skills in the practice of teaching and testing reading comprehension in the delivery of *Communicative English Language Skills I*. The discussion of the primary findings of the study is carried out in light of the study's specific research questions indicated below:

1. To what extent do English language teachers make students employ critical thinking strategies in the practice of teaching reading comprehension?
2. What levels of thinking skills do the question items in reading comprehension exercises and in reading comprehension tests aim to elicit from the students?
3. What is the knowledge of English language teachers about critical thinking?
4. What are the beliefs of English language teachers of incorporating critical thinking skills into teaching and testing of reading comprehension?

4.2.1. Research Question One: To what extent do English language teachers make students employ critical thinking strategies in the practice of teaching reading comprehension?

This research question was developed to assess the extent to which English language teachers provide different opportunities for students to engage in critical thinking during the teaching and learning process of reading comprehension. The question seeks to ascertain how frequently English language teachers make the students employ various critical thinking strategies to contribute to enhancement of learners' thinking skills in teaching reading comprehension.

To answer this question, data was gathered through questionnaire and observation. According to the findings of the data analysis in Table 1 (Students' Responses on How Frequently Higher Order Thinking Strategies are Employed) and in Appendix H (Frequency of Higher Order Thinking

Strategies Observed in Classrooms) teachers rarely or never make the students employ critical thinking strategies in the process of teaching reading comprehension.

The findings indicate that the approach employed by the teachers to teach reading comprehension contribute less to the enhancement of learners' critical thinking skills. This is because teachers are almost not making the learners employ varieties of critical thinking strategies that help students engage in higher-order thinking. Rather teachers are found making learners employ reading strategies that have less contribution in helping learners engage in critical thinking. Such strategies help learners deal only with the surface level of the texts used in the reading lessons. For this reason, students are not given the chance to critical approach reading texts.

From the above ideas, it possible to statethe currentinstruction of reading comprehension is ineffective. This is because effective reading comprehension instruction should go beyond developing learners' literal comprehension ability. In modern language instruction, effective teaching of reading comprehension is the one that should create a better opportunity for learners to exercise different levels of thinking skills that contribute to the enhancement of students' cognitive skills (Alnofaie, 2013; Dong, 2006). This is mainly due to the nature of reading, which demands active cognitive engagement from students in the process of constructing and extracting meaning from what they read. Moreover, reading is a cognitive process in which a reader should rely on his/her past experiences by activating existing background knowledge in order to successfully construct meanings and fully comprehend the text being read (Dong, 2006; Elfatihi, 2017; Ervina, 2020).

Although reading by its nature has a lot to do with students' thinking abilities, teachers' conscious planning on making learners employ different strategies that help students enhance thinking skills in the process of teaching reading comprehension is mandatory (Cox, 2019; Ervina, 2020; Fahas, 2021). English language teachers are expected to make learners employ varieties of critical thinking strategies in the process of teaching reading comprehension (Ervina, 2020; Hosseini et al., 2012; Hove, 2011).

Scholars suggest different critical thinking strategies that can possibly be utilizedin the teaching of reading comprehension. Debating, collaborative learning, questioning, reciprocal teaching, discussion, and probing are among the common strategies to be used to stimulate students thinking in the process of teaching reading comprehension (Grabe, 2009; Harvey, & Goudvis, 2007; Karimi

and Veisi, 2006; Keshta and Seif, 2013). Moreover, teachers' engaging students to focus on meaning as reading of the text, elicit prior knowledge to employ background knowledge, and work in a collaborative learning environment to support their intellectual knowledge and skills have a lot to do with learners' critical thinking skills (Ibid). It was observed that teachers engaging students in these strategies in teaching reading comprehension.

However, it has been found that teachers rarely or never engaging learners in the following critical thinking strategies in reading comprehension classes: making learners generate questions of their own about what they read, helping the students set purpose for reading and self-evaluate, teaching and modeling reading strategies and provide adequate time and opportunities for the students to practice the strategies through guided practice and independent work, assessing students' comprehension by asking various levels of questions, encouraging students to write reflective journal on the text they read, probing students' response, making the students express opinions and support their opinions with logical reasoning and sources, engaging students to present contrasting opinions about the topic of the text, and engaging learners in higher order questions (divergent questions) and gives the students time to answer them.

The above mentioned strategies, which the teachers were not seen making the learners employ them, are essential critical thinking strategies that give learners chances to critically approach a text being read (Beck and Mckeown, 2001; Bowman eta'l 1998; Cox, 2019; Sacco, 1987). They make learners process a text at higher cognitive levels and have a deep understanding of it (Ben-David, R. (2002; Cohen, 1983); Davey and McBride, 1986; Ersianawati and Suprianti, 2018; Styron, 2014). Therefore, as the teachers were not giving the students the chance to employ such strategies, it is possible to conclude that there was little opportunity for the students to practice processing texts with higher cognitive skills in order to enhance their thinking skills.

4.2.2. Research Question Two: What levels of thinking skills do the question items in reading comprehension exercises and reading comprehension tests aim to elicit from the students?

The above research question focuses on the cognitive levels of the question items in reading comprehension exercises and tests. To answer the question, the revised Bloom's taxonomy (the

widely used thinking model) was used to analyze reading comprehension exercises and reading comprehension tests. Using the model, the thinking skills/levels the questions in reading comprehension exercises and reading comprehension tests aim to elicit from the students were identified.

The findings of the analysis show that both reading comprehension exercises and tests incorporate questions at different cognitive levels. However, it has been identified that there is a big variation in the proportion of lower-order questions and higher-order questions.

Both reading comprehension exercises and reading comprehension tests are dominated by lower-order questions, which have less contribution to the enhancement of learners' thinking skills as compared to higher-order questions. Higher-order questions stimulate learners' higher level thinking skills and engage them to critically read and process the information in the text using higher level cognitive skills (Liaw, 2007; Nur, 201). According to the revised Bloom's taxonomy, higher-order questions are questions that demand learners analyze, evaluate, and create about the text being read. Such questions require learners to go beyond literal understanding and make learners have a deeper comprehension of what they read. Being divergent questions, they give learners the chance to see things from different perspectives in the process of answering them (Nur, 2014; Pourghasemian and Hosseini, 2017; Sano, 2014).

As mentioned above, the findings show that the majority of questions in reading comprehension exercises and in reading comprehension tests are lower-order questions. These are questions that encourage learners focus on literal comprehension of a given text and engage in processing the information using lower cognitive levels such as remember, understand and apply (Anderson, et al. 2001; Bloom, 1956). They are questions that encourage learners to use their lower thinking skills because they do not require them to consider ideas from various perspectives (Nur, 2014; Pourghasemian and Hosseini, 2017; Williams, 1996).

The analysis of the data in Table 3 (Frequencies and Percentages of Thinking Skills in Reading Comprehension Exercises) clearly shows that the majority of the thinking skills demonstrated in reading comprehension exercises is lower-order thinking skills. It was identified that 88 (88.89%) of the 99 questions subjected to the analysis are lower-order questions while only 11 (11.11%) are higher-order questions. These figures vividly show the dominance of remembering and understanding questions in the reading comprehension exercises provided in the material.

Concerning the analysis of questions in reading comprehension tests used by teachers, the results of the analysis on the data in Table 9 (Frequencies and Percentages of Thinking Skills in Reading Comprehension Tests) show that, similar to the reading comprehension exercises, the questions in the tests are dominated by lower-order questions. To put it another way, 86 (81.9%) of the 105 questions in the tests are lower-order questions, while only 16 (15.23%) are higher-order questions.

The results show that there is no balanced mix of higher-order and lower-order questions in both reading comprehension exercises and in reading comprehension tests. Various scholars recommend a balanced mix of both types of questions to help students improve their critical thinking/higher-order thinking skills (Thamrin and Agustin, 2019; Yuliati and Lestari, 2018). This is because such a mix allows learners to work on questions with varying cognitive levels and adequately practice answering them using various thinking skills. Some academics believe that more higher-order questions, particularly for students in higher education, should be included (Shaila and Trudell, 2010; Thomas and Thorne, 2009). Students in higher education, according to such scholars, need to be equipped with higher-order thinking skills that will help them in their academic, professional, and personal lives.

The findings to this particular research question of the study are similar to those of Ervina (2020), Nurfalah (2021), Hidayati (2015), Keshta and Seif (2013), Nur (2014), Nadia and Fitrawati (2020), Utami, Rahman, and Albiansyah (2021), Sing and Azianura (2019), and Merizka and Jufrizal (2020). The studies by Ervina (2020), Keshta and Seif (2013), Nur (2014**),** Nurfalah (2021) and Nadia and Fitrawati (2020) targeted the analysis of reading comprehension questions in English language teaching materials. Hidayati (2015), Utami, Rahman, and Albiansyah (2021), Sing and Azianura Hani (2019), and Merizka and Jufrizal (2020) studies, on the other hand, focused on the analysis of questions in reading comprehension tests. These studies, both on reading comprehension exercises in the materials and reading comprehension tests, have come to the conclusion that the questions in the materials and the tests are dominated by lower-level skill questions. The questions incorporate greater lower-order thinking skills but fewer higher-order thinking skills. The researchers concluded that such exercises and tests have a lower likelihood of assisting students in improving and assessing their higher-order thinking skills.

4.2.3. Research Question Three: What is the knowledge of English language teachers about Critical Thinking?

Identifying English language teachers' knowledge of critical thinking is among the specific objectives of the study. The following is the rationale for devising the above mentioned research question: As teachers are the major actors in the teaching and learning process, their knowledge (subject matter knowledge, pedagogical knowledge, and professional knowledge) plays a tremendous role in the teaching and learning processes they undertake.

Interview was employed as a major data gathering tool to answer the research question. Semi-structured interviews were conducted with six English language teachers participated in the study. The result of the analysis of data obtained through interviews revealed that the teachers have a better understanding of higher-order thinking skills/critical thinking skills. For instance, in defining higher-order thinking/critical thinking, the teachers explained the term in expressing concepts that are common among different scholars. The definitions demonstrate that the teachers are familiar with higher-order thinking/critical thinking and have a better understanding of it. It is obvious that teachers' familiarity with the contents to be taught and their better understanding of these contents have important contributions for better classroom practice (Hasni, etal 2018; Retnawati, et al. 2018).

However, as the data from the interviews show, all of the teachers failed to mention the sub-skills of critical thinking. This is mainly because most of the teachers have no necessary experience in employing Bloom's Taxonomy or model of thinking in constructing learning objectives, designing learning tasks and preparing tests. As a result, the teachers have minimal understanding on the thinking skills or levels of thinking that are categorized as lower-order skills and higher-order skills. This shows that teachers should revise the Bloom's Taxonomy they studied in undergraduate or postgraduate studies, as most of the teachers mentioned. In doing so, the teachers can refresh their content knowledge of this particular thinking model and may plan to use in constructing learning objectives, designing learning tasks and preparing tests.

Another important issue dealt related to teachers' knowledge of critical thinking is teachers' understanding of instructional strategies that foster critical thinking. The teachers mentioned that employing varieties of active learning techniques help students foster their higher cognitive skills like critical thinking. The teachers explained that using group/pair works, debating, discussion, presentation and brainstorming in English language teaching in general and in instruction of reading comprehension in particular create good opportunities for learners to engage in critical

thinking. However, teachers were observed rarely or never employing such instructional strategies in the instruction of reading comprehension.

Based on the finding, it is possible to state that the teachers have well understanding of critical thinking but minimal knowledge of the skills that constitutecritical thinking. This finding is in contrast to the finding obtained by Pusparini, et al (2020). This study showed that the teachers do not understand higher-order thinking/critical thinking conceptually. However, their implementation of higher-order thinking/critical thinking in teaching reading showed that teachers implement higher-order thinking/critical thinking to teach reading that enables students to activate their critical thinking.

As cited in Verloop eta l (2001) Several studies on the analysis of teachers' knowledge of critical thinking skills has been conducted by some scholars in different disciplines like mathematics (Abdullah et al., 2017; Madu, 2017), physics (Kusuma et al., 2017), history (Hashim, Osman, Arifin, Abdullah, & Noh, 2015), or integrated fields of science such as at the basic education level (Yusoff & Seman, 2018). Those studies revealed that the teachers and pre-service teachers of those subjects at schools have different knowledge and perception about critical thinking skills in the teaching and learning process. Also, the implementation of critical thinking skills in the teaching and learning process was still far from critical thinking skills principles.

Furthermore, several studies on higher-order thinking skills were discovered in the field of English language teaching. For example, a study on how to innovate with higher-order thinking skills in the reading class at the university level in Malaysia (Yoke et al., 2015) discovered that ESL students have a favorable attitude toward the teaching of higher-order thinking skills in the reading classroom. Ashadi and Lubis (2017) and Yuliati and Lestari (2018) also conducted a survey on level questions in the field of teaching English at the university level. According to the survey results, the lower thinking level is most commonly used in questions.Thamrin and Agustin (2019) investigated the perceptions, practices, and constraints of English teachers from three generations in endorsing higher-order thinking skills in teaching a foreign language, and the findings show that teachers from all generations were aware of higher-order thinking skills and applied them differently when teaching English.

4.2.4. Research Question Four: What are the beliefs of English language teachers of incorporating Critical Thinking Skills into teaching and testing of reading comprehension?

As stated above, identifying English language teachers' beliefs about incorporating critical thinking skillsin the teaching and testing of reading comprehension is among the specific objectives of the study. This objective necessitated because teachers' belief system has an invaluable place in their classroom practices , and most of the activities teachers accomplish in the classroom are directly or indirectly related to their beliefs, which are constructed based on their past experiences, observations, interactions with others, etc. (Muliyah and Rekha, 2020; Yunita, W. et al., 2020).

Interview was employed as a major data gathering tool to answer the research question. Semi-structured interviews were conducted with six English language teachers who participated in the study. The result of the analysis of data obtained through interviews revealed that the teachers strongly believe in the importance of improving learners' thinking skills in the practice of teaching and testing reading comprehension.

Citing the link between reading and thinking, the teachers have expressed the responsibility of English language teachers to deal with the thinking skills of the learners in the process of teaching and testing reading comprehension. The teachers indicated there is a close connection between reading and thinking stating thatreading is a cognitive activity that needs thinking to effectively understand what is being read. This idea goes in line with the idea that reading is not a passive act in which learners simply engage with texts, but reading is a cognitive process in which readers cognitively engage in meaning making through conscious use of different strategies that help them effectively deal with the text (Ben-David, 2002; Block, and Israel ,2005).

Some of the teachers also stated that the goal of teaching English in the twenty-first century should not be limited to developing learners' language skills. As they stated, developing learners' thinking skills should be emphasized in the teaching and learning process of English in general and the teaching and testing of reading comprehension in particular.This is based on the assumption that in the 21st century higher-order thinking skills are needed by every individual to face the global era in the form of critical and creative thinking, collaboration, and good communication skills(Coffman, 2013; King et al., 2011). The teachers are regarded as the main actors in transferring the

knowledge of higher-order thinking skills in the lessons, and it is the easiest to see the changes in the students' thinking skills in their daily lives (Ibid.). Teachers are the main factors that influence the success or failure of applying higher-order thinking skills in the classroom.

Previously, there has been a growing body of research conducted to explore teachers' beliefs about thinking skills. Aziz et al. (2017) researched to examine ESL teachers' beliefs and practices of higher-order thinking in Malaysia. The results revealed that teachers were aware of their responsibility to integrate higher-order thinking skills in their teaching. They believed that they could use some resources for the effective learning of higher-order thinking skills in their classrooms. For the practice, the results showed that they frequently used a low level of questioning and low-level thinking verbs in the classroom. By contrast, the results of the research conducted by Hasni, Ramli, and Rafek (2018) indicated that Malaysian lecturers know that thinking skills are essential and understand the concept of thinking skills. Moreover, there was a match between their beliefs about thinking skills and their classroom practice.

Li (2016) conducted another study in China on teachers' cognition and teaching abilities of critical thinking skills. She discovered that EFL teachers in China struggled to define thinking skills and had a misunderstanding of the concept of thinking skills. Furthermore, while they expressed support for the integration of thinking skills in the language classroom, they did not believe that the language classroom should promote those skills. In contrast to Li's findings, Tuzlukova etal (2017) found that teachers in Oman understood the concept of thinking skills. They also believed that thinking skills were necessary and beneficial, so language teaching should incorporate them.

CHAPTER V
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This final chapter presents the summary, conclusions, and recommendations of the study. First, the entire summary of the study is presented. Next, conclusions based on major findings of the study are presented. Finally, possible recommendations are presented based on the conclusions.

5.1. Research Summary

The study was intended to explore critical thinking skills in the teaching and testing reading comprehension in Addis Ababa Science and Technology University. The first step in conducting this study was to find and read related literature about critical thinking skills/higher-order thinking skills, reading and reading comprehension.Accordingly, a lot of literature written in the local and global context was read to get a springboard for this study. Then, background information was given in relation to the topic of the study. Next, the statement of the problem was explained clearly to show the purpose of the study. The research questions that guided this study were the following:

1. To what extent do English language teachers make students employ critical thinking strategies in the practice of teaching reading comprehension?
2. What levels of thinking skills do the question items in reading comprehension exercises and in reading comprehension tests aim to elicit from the students?
3. What is the knowledge of English language teachers about critical thinking?
4. What are the beliefs of English language teachers of incorporating critical thinking skills into teaching and testing of reading comprehension?

To answer the research questions, the researcher employed mixed methods research design as it allowed him to use both quantitative and qualitative data to get answers to the research questions in a better way.

6 English language teachers and 320 first year students from Addis Ababa Science and Technologies University were participants of the study. The participants were selected using the total population sampling method.

Both qualitative and quantitative data collection instruments such as questionnaire, semi-structured interview, observation and document analysis were employed to collect the necessary data and to answer the research questions. Questionnaire was used to collect data from the student participants whereas interview was used to collect data from the six English language teachers involved in the study.

Both the quantitative and qualitative data were analyzed separately following the concurrent mixed methods data analysis procedure. Tables and verbal descriptions were used for the analysis of quantitative data collected via questionnaire, and thematic analysis was used for the qualitative data collected via interviews, observation, and document analysis. Next to this, by mixing the quantitative and qualitative data, the discussion was made in line with each research question.Accordingly, the major findings of this study are summarized as follows:

1. It was found that in the practice of teaching reading comprehension, English language teachers rarely or never make students use a variety of critical thinking strategies that help students to process information at higher cognitive levels, such as analyzing, evaluating, and creating. There was little opportunity for students to approach the reading texts critically and gain a thorough understanding of them.
2. The findings reveal that the majority of the questions in reading comprehension exercises and in reading comprehension tests are lower-order questions which are questions of remembering and understanding designed to elicit lower thinking skills from students. Higher-order questions, which are questions of analyzing, evaluating and creating, in reading comprehension exercises and in reading comprehension tests are fewer as compared to lower-order questions. There is no Question of Applying both in the analyzed reading comprehension exercises and tests. There is no Creating question in reading comprehension tests.However, it has been found that relatively there are more higher-order questions (questions of Analyzing) in reading comprehension tests than reading comprehension exercises.
3. It was found that the teachers had a better understanding of critical thinking. However, all of the teachers failed to mention the sub-skills of critical thinking. The teachers have expressed that they have no necessary experience in employing Bloom's Taxonomy or model of thinking in constructing learning objectives, designing learning tasks and preparing tests.

4. The teachers have the belief English language teachers are responsible for developing learners' thinking skills in addition to developing both macro and micro language skills. They believe that it is necessary to address learners' higher-order thinking skills when teaching and testing reading comprehension in order to improve learners' thinking capacity. However, the teachers' classroom practices did not correspond to their identified beliefs

about incorporating critical thinking skills in the teaching and testing reading comprehension.

5.2. Conclusion

Based on the above findings obtained from the study's quantitative and qualitative data, the following conclusions that are persistent with the study's research questions are given below:

1. As the English language teachers rarely or never make the students employ a variety of critical thinking strategies, students have little opportunity to process information at higher cognitive levels, such as analyzing, evaluating, and creating. As a result, the current practice of English language teachers in teaching reading comprehension is less likely to contribute to the development of students' higher-order thinking skills/critical thinking skills. Students are encouraged to employ strategies which engage them process information at lower-level thinking skills like remembering and understanding, which emphasize literal comprehension of the texts being read.
2. The majority of questions in reading comprehension exercises and in reading comprehension tests target learners' lower cognitive levels; they aim to elicit lower level thinking skills from the students. There are a high proportion of lower-order questions than higher-order questions in both reading comprehension exercises and reading comprehension tests. There is lack of balanced mix of higher level and lower level questions. Thus, being dominated by lower-order questions, such exercises and tests have fewer roles to develop and assess learners' higher-order thinking skills/critical thinking skills.
3. The teachers have well conceptual understanding of critical thinking. However, it was identified that the teachers have little knowledge about the sub skills of critical thinking as most of the teachers have lacked the experience of employing Bloom's Taxonomy or model of thinking in constructing learning objectives, designing learning tasks and preparing tests. As a result, the teachers have minimal understanding on the thinking skills or levels of thinking that are categorized as lower-order skills and higher-order skills.
4. All the teachers believe that devolving learners' thinking skills should be one of the responsibilities of English language teachers. They have the belief that there should be a room to deal with students' critical thinking skills during teaching and testing reading comprehension as reading and thinking are inseparable. However, there is a mismatch

between the teachers' beliefs and their classroom practices. This is to mean that the teachers' classroom practices did not correspond to their identified beliefs about incorporating critical thinking skills in the teaching and testing reading comprehension.

5.3. Recommendations

Based on the conclusions drawn from the findings of this study, the following recommendations are forwarded:

1. TheEnglish language teachers should have a planned approach for strengthening learners' critical thinking skills during teaching reading comprehension. In line with this idea, English language teachers should plan on how to make learners employ varieties of critical thinking strategies in reading comprehension classrooms in order to help learners think beyond the literal meaning to encourage them to think deeply for enhancing learners' critical thinking skills.
2. The English language teachers should have a planned approach for strengthening learners' critical thinking skills in testing reading comprehension. English language teachers should plan to incorporate questions of various thinking levels mainly higher-order questions in the reading comprehension tests they prepare.
3. The English language teachers should adapt questions in reading comprehension exercises of the material currently in use. In doing so, they can create better opportunity for students to deal with reading comprehension exercises with balanced mix of lower-order questions and higher-order questions.
4. Reading comprehension exercises in the module *Communicative English Language Skills I*shouldbe revised. Reading comprehension exercises should include a sufficient number of higher-order questions so that students can practice thinking at a higher level and gain a thorough understanding of the texts they read.
5. Producers of English language materials used at higher education institutions should incorporate higher-order thinking skills in reading comprehension exercises during the preparation of the materials.
6. As this study has been carried out at Addis Ababa Science and Technology University, the results cannot be generalized to the other higher education institutions in the country. The

researcher would like to recommend future research on similar issues incorporating more higher education institutions in the country so that more generalizable results can be found.

BIBLIOGRAPHY

Abosalem, Y. (2016). Assessment Techniques and Students' Higher-Order Thinking Skills.*International Journal of Secondary Education, Volume **4**, Number 1.*

Acosta, L. &Maria, M. F. (2010).Reading strategies to develop higher thinking skills for reading comprehension.*Profile Issues in Teachers' Professional Development, Volume 12, Number 1.*

Adege Alemu.(2016).*The Effects of Explicit Instruction in Critical Thinking on Student Achievement in Writing Academic Papers, General Critical Thinking Ability, and Critical Thinking Dispositions.*Unpublished PhD Dissretation. Addis Ababa: AAU.

Akyol, H., & Kayabasi, Z. K. (2018). Improving the reading skills of a students with reading difficulties : an action research. *Education and Science, Volume43, 143- 158.*

Al Sereidi, A. (2019). Critical Reading Experiences by Emirati 11th Grade Students with Regard to Bloom's Taxonomy. *Journal of Applied Linguistics and Language Research Volume 6, Issue 6*

Alabachew Getaye. (2010). An Overview of Ethiopian Educational Engagement, History and philosophy.Retrived from www.ethiopian.education.

Alagozlu, N. (2007). Critical Thinking and Voice in EFL Writing. *The Asian EFL Journal, Volume 9, Number 3 p.118-136.*

Alder, C.R. (Ed.) (2001, September). Put reading first: The researcher building blocks for teaching children to read. Jessup, MD: ED pubs.

Alemayehu Bishaw. (2012). Education in Ethiopia: Past, Present and Future Prospects. *Journal of African Nebula,Issue 5.*

Alnofaie, A.H. (2013). *The Implementation of Critical Thinking as EFL Pedagogy: Challenges and Opportunities*.Unpublished PhD Dissertation.Newcastle University.

Amanuel Gebru (2002). Institute of Educational Research.Quality of Primary Education in Ethiopia. Proceedings of the National Conference held in Adama Ras Hotel, Nov. 9-11.

Amlaku B. Eshetie (2010). Language Policies and the Role of English in Ethiopia.Retrived from www.ethiopia. Education system

Anderson, L. W., et al. (2001*). A Taxonomy for learning, teaching, and assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. New York: Longman.

Anderson, N.J. (2006). Crossing borders through reading. *Selectedpapers from the fifth International symposium on EnglishTeaching.*Taipei:Crane.

Ansori1, M., Nurkamto, J. and Suparno3. (2019). Teacher's Beliefs and Practices in the Integration of Higher Order Thinking Skills in Teaching Reading.*ELS Journal on Interdisciplinary Studies on Humanities Volume 2 Issue 4.*

Archana, S., & Usha Rani, K. (2017). Role of A Teacher in English Language Teaching (ELT). *International Journal of Educational Science and Research (IJESR), 7(February), 1–4.*

Ashadi, R. I., & Lubis, N. (2017). A survey on the levels of questioning of ELT: a case study in an Indonesian tertiary Education. *Advances in Language and Literary Studies, Volume 8, Number,3.*

Atkinson, D. (1997). A critical approach to critical thinking in TESOL.*TESOL Quarterly, Volume 31, 71–94.*

Ayelech Zewdie (1997). *The Impact of the Use of Vernacular on English Language Learning in Primary Education.*A Senior Essay Submitted to the Department of Foreign Languages and Literature in Partial Fulfillment of the Requirements for the Degree of Bachelor of Arts.AAU.

Aziz, A. A., Ismail, F., Ibrahim, N. M., & Samat, N. A. (2017).Investigating the Implementation of Higher Order Thinking Skills in Malaysian Classrooms: Insights from L2 Teaching Practices.*Sains Humanika, Volume 9, Number 4.*

Bailey, Eileen.2000. Making Inferences, Improving Reading Comprehension for Students with Dyslexia: South Dakota Department of Education.(http: www. Making Inference/ pdf.//)

Beck, I.L., Mckeown, M.G., (2001).Designing questions toward thinkingand understanding rather than answers.Perspectives, Baltimore,MD, International Dyslexia Association.

Bedir, H. (2013). Reading and Critical Thinking Skills in ELT Classes of Turkish Students World *Applied Sciences Journal , Vol.21 , No.10.*

Bellanca, J., & Fogarty, R. (1991). Blueprints for thinking in the cooperative classroom (2nd ed.). Palatine, IL: Skylight.

Ben-David, R. (2002). Enhancing comprehension through graphic organizers. Access ERIC: FullText (040 Dissertations/ Theses; 143 Reports--Research). New Jersey.

Benesch, S. (1999). Thinking Critically, Thinking Dialogically. *TESOL Quarterly, Volume 33, Number 3*

Beyer, B. K. (1985). Critical thinking: What is it*? Social Education. Volume49,* 270-276.

Birman, B. F., Desimone, L., Porter, A. C., & Garet, M. S. (2000). Designing professional development that works.*Educational Leadership, Volume 5, Number 8*

Block, C., 8 Israel ,S. (2005). Reading First and beyond :The completeguide for teachers and Literacy coaches**.** *Thousands Oaks: CAiCrow in press.*

Bloom, B. (1956).*Taxonomy of educational objectives: the classification of educational aims, handbook 1, cognitive domain*. New York: David McKay.

Bloor, T., & Tamirat, W. (1996).Issues in Ethiopian Language Policy and Education.*Journal of Multilingual and Multicultural Development , 17/5*, 4-34.

Borg, S. (2011). The impact of in-service teacher education on language teachers' beliefs.*System, 39(3),* 370–380.

Boroditsky, L. (2009). How does our language shape the way we think? Retrieved from http://www.edge.org/3rd_culture/boroditsky09/boroditsky09_index.html

Bowman, L. A., Carpenter, J., & Paone, R. A. (1998).Using graphic organizers, cooperative learning groups, and higher order thinking skills to improve reading comprehension.Chicago: M. A. (ERIC Document Reproduction Service No. ED420842).

Braselton, S., & Decker, B. (1994).Using graphic organizers to improve thereading of mathematics.*The Reading Teacher.Volume 48,* 276-281.

Brookhart, S. M. (2010). How to Assess Higher-Order Thinking Skills in Your Classroom. In Assess Thinking Higher-Order Skills. Virginia, USA: ASCD.

Brown, H. D. (2004). Some practical thoughts about students- sensitive critical pedagogy.*The Language Teacher, Vol. 6, No.23.*

Burke, K. (1994). *How to assess authentic learning*. Palatine, IL:IRI/Skylight.

Celce-Murcia, M. (1991).*Teaching English as a Second or ForeignLanguage*. Rowley Mass: New Burry House, Heinle publishers, Inc.

Chaffee, J. (1985).*Thinking critically*.Boston: Houghton Miftlin Company.

Chatterjee, R., & Correia, A. P. (2020).Online students' attitudes toward collaborative learning and sense of community.*American Journal of Distance Education, 34(1),* 53–68.https://doi.org/10.1080/08923647.2020.1703479

Chee, K. N., Yahaya, N., & Ibrahim, N. H. (2018).An evaluation of the learning effectiveness of a formulated ideal social collaborative mobile learning environment application towards cognitive level in biology.*International Journal of Mobile Learning and Organization, 12(2),* 162–189.

Chen, Mei-Hui.(2016). Theoretical Framework for Integrating Higher-order Thinking into L2 Speaking, ISSN 1799-2591.*Theory and Practice in Language Studies, Vol. 6, No. 2,* 217-226, DOI: http://dx.doi.org/10.17507/tpls.0602.01

Coffman, D. M. (2013).*Thinking about Thinking: An Exploration of Pre-service Teachers' Views about Higher Order Thinking Skills*. University of Kansas.

Cohen R (1983). Self-generated questions as an aid to reading comprehension.*The Reading Teacher. 36(8),* 770-775

Cohen, L. M. (2007). *Research Methods in Education*.New York: Routledge.

Collins, C.& Mangieri, JN.(1992). *Teaching Thinking: An Agenda for the 21st century.* New Jersey: Lawrence Erlbaum associates Publishers.

Conklin, W.(2012). *Higher-Order Thinking Skills to Develop 21st Century Learners*.Huntington Beach: Shell Educational Publishing, Inc.

Connelly, F. M., Clandinin, D. J., & He, M. F. (1997).Teachers' personal practical knowledge on the professional knowledge landscape.*Teaching and Teacher Education, 13 (7),* 665-674.

Correia, M. G., & Bleicher, R. E. (2008).Making connections to teach reflection.*Michigan Journal of Community Service Learning, 14(2),* 41-49.

Cox, J. (2019).Teaching strategies that enhance higher order thinking (weblog post).

Creswell, J. (2003). *Research Design: Quantitative, Qualitative and Mixed Methods Approaches*. (Second Edition) London: Sage Publications

Creswell, J., Klassen, A., Clark, V., and Smith, K. (2010).Best Practices for Mixed Methods Research in the Health Sciences. The Office of Behavioral and Social Sciences Research (OBSS)

Creswell, J.W.(2012). *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*. (4th Ed.). Boston: Pearson Education Inc.

Cruz, E. (2003). Bloom's revised taxonomy. In B. Hoffman (Ed.), Encyclopedia of Educational Technology.Retrieved July 23, 2009, from http://coe.sdsu.edu/eet/Articles/bloomrev/start.htm

Daniel Abera. (1998). English in the Ethiopian Modern Education (1900-1974). *Ethiopian Journal of Languages and Literatures . Volume 13, No. 8*, 113-146.

Daniel S. Alemu & Abebayehu A. Tekleselassie .(2006). Instructional Language Policy in Ethiopia: Motivated by Politics or the Educational needs of Children?*Journal of Planning and Changing Vol. 37, No. 3&4.*

Davey B, and McBride S (1986). Effects of question-generation training on reading comprehension.*Journal of Educational Psychology. 78(4)*, 256-262

De Coster, I., Baidak, N., Motiejunaite, A., & Noorani, S. (2011). Teaching Reading in Europe:

Denzin, N. K., & Lincoln, Y. S. (2005). Introduction: The discipline and practice of qualitativeresearch. In N. K. Denzin & Y. S. Lincoln (Eds.), The handbook of qualitative research (3rded., pp. 1-32). Thousand Oaks, CA: Sage

DoBeor, J.J. and Dalmaan, M. 1964. *The Teaching of Reading*.New York: Holt, Renerhart and Winston, Inc.

Dong, Y. (2015).Critical thinking education with Chinese characteristics.In M. Davies, & R. Barnett (Eds.), The Palgrave handbook of Critical thinking in Higher Education (pp. 335–351). New York: Palgave Macmillan

Dong, Y. R. (2006). Learning to think in English. *Journal of Educational Leadership, Vol. 64, No.2*

Dornye, Z. (2007). *Research Methods in Applied Linguistics: Quantitative, Qualitative and Mixed Methodologies.*Oxford: OUP.

Echevarria, J., Vogt, M., & Short, D. (2008).*Making content comprehensible for English learners*. Boston, MA: PearsonEducation, Inc.

Elekaei, A. et.al.(2016). Autonomy, Critical Thinking and Listening Comprehension Ability of Iranian EFL Learners.*International Journal of Applied Linguistics & English LiteratureVol. 5 No.*

Elfatihi, M. (2017). A Rationale for the Integration of Critical Thinking Skills in EFL/ESL Instruction .*Journal ofHigher Education of Social Science Vol. 12, No. 2*.

Ennis, .(1992). *The Generalizability of critical thinking*. New York: Teachers College Press.

Ersianawati, S., & Suprianti, G.A.P. (2018). Incorporating Reciprocal Questioning Strategy and Numbered Heads Together in Reading Class. *International Journal of Language and Literature, 2(1),* 19-29. DOI: http://dx.doi.org/10.23887/ijll.v2i1.16090

Ervina, J. A.(2020).*Higher Order Thinking Skills (Hots) Realization In Reading Comprehension Questions Found In English Textbooks.* Unpublished Senior Essay for the Partial fulfillment for the Requirements of MA

Fahas, R. (2021). Improving Students' Reading Comprehension Through Request (Reciprocal Question) Strategy for Indonesian Junior High School. SALEE: *Study of Applied Linguistics and English Education. 2(1),* 37-50. DOI: 10.35961/salee.v2i01.217.

Fahim, M., & Sa'eepour, M. (2011).The impact of teaching critical thinking skills on readingcomprehension of Iranian EFL learners.*Journal of Language Teaching and Research, 2*, 867–874.

Fakeye, D.O., & Ayede, E. (2013).Teachers' questioning behaviour and instructional organization as correlates of students' achievement in English language.*Global Journal of Human SocialScience,* 13, 13–19.

Federal Democratic Republic Government of Ethiopia (1994).*Education and training policy*. Addis Ababa. (Unpublished document).

Fisher, A. (2001*). Critical thinking: An introduction. Cambridge*: Cambridge University Press.

Freire, P. (1970). *Pedagogy of the oppressed*. New York: The Continuum International Publishing Group.

Fusco, E., & Fountain, G. (1993).Reflective teacher, reflective learner.In A.Costa, J. Bellanca, & R. Fogarty (Eds.). If minds matter: A foreword tothe future. Palatine, IL: Skylight.

Gardner, K. (1986). *Reading in today's schools*. Edinburgh: Oliver and Boyd.

Gelder, T. V. (2005).Teaching critical thinking: Some lessons from cognitive science.*College Teaching, Vol. 53, No.41*.

Ghanizadeh, Afsaneh and Mirzaee, Sepideh.(2012). EFL Learners' Self-regulation, Critical Thinking and Language Achievement.*International Journal of Linguistics, Vol. 4,No.3*

Gil-Garcia, A., & Villegas, J. (2003).Engaging minds, enhancing comprehension and constructing knowledge through visual representations.Retrieved from ERIC database.(ED480131)

Gillespie, C. (1993). Reading graphic displays.*Journal of Reading, 36,* 350-354.

Gokhale, A.A. (1995). Collaborative Learning Enhances Critical Thinking. *Journal of Technology Education.Vol. 7 No. 1.*

Grabe, W. (2009).*Reading in a second language.* Cambridge: Cambridge University Pres

Grabe, W., & Stoller, F. L. (2002).*Teaching and researching reading.* Harlow: Longman

Graham, S., & Herbert, M. (2011). Writing to Read: A Meta-Analysis of the Impact of Writing and Writing Instruction on Reading. *Harvard Educational Review, 81(4),* 710-744

Gray, D.E. (2004). *Doing Research in the Real World*. London: Sage Publications.

Grellet, F.(1981). *Developing Reading Skills*.Cambridge: Cambridge University Press, GB.

Hailegebriel Dagne .(2007). *Studies on Education in Ethiopian tradition.* Addis Ababa: Addis Ababa University Press.

Halvorsen, A.(2005). Incorporating Critical Thinking Skills Development in to ESL/EFL Courses.*Internet TESL Journal, Vol. 11, No.* 3.Retrived from http://iteslj.org/tTechniques/ Halvorsen Critical Thinking.Html.

Hamann, L. (1991). Making connections: The power of autobiographicalwriting before reading.*Journal of Reading, 35,* 24-28.

Hancock, M. (1993). Exploring and extending personal response throughliterature journals. The Reading Teacher, 46, 466-473.

Harizaj, M. and Hajrulla, V. (2017).Fostering Learner's Critical Thinking Skills in EFL:Some Practical Activities.*European Scientific Journal , Vol.13, No.29*

Harste, J. C., & Burke, C. L. (1977). A new hypothesis for reading teacher research: Both the teaching and learning of reading is theoretically based. In P. D. Pearson (Ed.), Reading: Theory, research and practice (pp. 32–40). Clemson, S.C.: National Reading Conference.

Hartman, H. J. (2001). Developing students' metacognitive knowledge and skills. In Metacognition in learning and instruction .Springer, Dordrecht.

Harvey, S., & Goudvis, A. (2007).*Strategies that work: Teaching comprehension for understanding and engagement.*Stenhouse :Stenhouse Publishers.

Hasni, N. A., Ramli, N. H. L., & Rafek, M. (2018). Instructors' Beliefs on Critical Thinking and Their Classroom Practices: A Case Study. *International Journal of Academic Research in Business and Social Sciences, 8(1),* 506–516. https://doi.org/10.6007/ijarbss/v8-i1/3823

Hassan S R, Rosli R and Zakaria E 2016 The Use of I-Think Map and Questioning to Promote Higher-Order Thinking Skills in Mathematics .*Journal of Creative Education, Volume 7***,** 1069-1078

Hautala, J., & Schmidt, S. (2019). Learning across distances: an international collaborative learning project between Berlin and Turku. *Journal of Geography in Higher Education, 43(2),* 181–200. https://doi.org/10.1080/03098265.2019.1599331

Hedgcock, J. S., & Ferris, D. R. (2009).*Teaching Readers of English: Students, Texts and Contexts.*Routledge.: Routledge Publisher

Hendricks, K., Newman, L., & Stropnik, D. (1996).Using higher order thinking skills to improve reading comprehension (Master's thesis). Saint Xavier University, Retrieved fromERIC database. (ED398538)

Hidayati,Sulistyani. (2015). *Types of Reading Comprehension Questions of English National Examination for Senior High School Students in Year 2011-2015.*Muhammadiyah University of Surakarta. Unpublished Senior Essay for the Partial fulfillment for the Requirements of MA

Hosseini, Effat, et.al. (2012). Exploring the Relationship between Critical Thinking, Reading Comprehension and Reading Strategies of English University Students. *WorldApplied Sciences Journal, 17 (10).*

Hove, G. (2011).*Developing Critical Thinking Skills in the High School English Classroom.* A Research Paper Submitted in Partial Fulfillment of the Requirements for the Master of Science Degree in Education.University of Wisconsin-Stout Menominee, WI.

Hudson, T. (2007).*Teaching second language reading*. Oxford: Oxford University Press.

Hughes, J. (2014).*Critical Thinkingin the Language Classroom*. Oxford: Oxford University press.

Institute of International Education.(2012).Enhancing the Quality of English Language Education in Ethiopia. Available online and retrieved from www.iie.org

Ismail, H., Syahruzah, J. K., & Basuki. (2017). Improving the students' reading skill through translation method. *Journal of English Education,* 124-131.

Issac, J. C. (2010). *Methods and strategies of teaching: An overview.* Puducherry: Pondicherry University Press.

Jacobs, G. M., & Farrell, T. S. (2003). Understanding and Implementing the CLT (communicative language teaching) Paradigm.*RELC Journal, 34, No.1.*

Jantrasakul, Prapai. (2012). Utilizing Critical Thinking-based EFL lessons: A means to improve language skills and encourage student engagement in Thai EFL classes. *Journal of Education and Practice, Vol. 3, No. 6.*

Johnson, R., & Onwuegbuzie, A. (2004). Mixed Methods Research: A Research Paradigm whose Time has Come .*Educational Researcher 33/7*, 14-26.

Karimi, L. and Veisi, F. (2006). The Impact of Teaching Critical Thinking Skills on Reading Comprehension of Iranian Intermediate EFL Learners.*Journal of Theory and Practice in Language Studies, Vol. 6, No. 9.*

Keene, E. O., & Zimmermann, S. (1997). *Mosaic of thought: Teaching comprehension in a reader's workshop*. Heinemann: 361 Hanover.

Kelty, C. (1999).Using questioning techniques and the cloze procedure in a second grade classroom to increase reading comprehension (Master's thesis). Nova SoutheasternUniversity, Retrieved from ERIC database. (ED447456)

Keshta , A.and Seif, A.(2013).Evaluating the Higher Order Thinking Skills in Reading of English for Palesti Grade Eight.*Asian Journal of Education and e-Learning (ISSN: 2321 – 2454) Volume 01– Issue 01.*

King A (1989). Effects of self-questioning training on college students' comprehension of lectures. Contemp.*Journal of Educational Psychology.,14(4*): 366-381

King, J., and Biggs S. (1984). Students' self-questioning and summarizing as reading study strategies. *Journal of Literacy 16(3):* 205- 218

King, F., Goodson, L., & Rohani, F. (2011). Higher Order Thinking Skills: Definition, Teaching Strategies, Assessment. In Thinking. Tallahassee, FL: Florida State University: Center for Advancement of Learning and Assessment.

Kirschner, P. A. (2004). Design, development, and implementation of electronic learning environments for collaborative learning.*Educational Technology Research and Development, 52(3*), 39–46. https://doi.org/10.1007/BF02504674

Külekçi, G.G & kumlu, E .(2015). Developing Critical Thinking Skills in English Language Teaching Classes through Novels.*International Journal of Language Academy.Volume ,3, No.2*

Kusumastuti1, I. Fauziati, E. and Marmanto, S. (2019).Revealing Teachers' Beliefs Of Higher-order ThinkingSkills in Teaching Reading at Junior High School. 3rd English Language and Literature International Conference (Ellic)Proceedings, Vol. 3, 2019)

Kusumawati, R., Hobri, & Hadi, A. F. (2019). Implementation of integrated inquiry collaborative learning based on the lesson study for learning community to improve students' creative thinking skill. *Journal of Physics: Conference Series*, 1–11. https://doi.org/10.1088/1742-6596/1211/1/012097

Lai, E. R. (2011). *Critical thinking: A literature review*. Pearson's Research Reports, 6, 40-41.

Larson, L., & Lovelace, M. (2013). Evaluating the efficacy of questioning strategies in lecture based classroom environments: Are we asking the right questions? *Journal of Excellence inCollege Teaching*, 24, 105–122.

Lederman, L. C. (1990). Assessing educational effectiveness: The focus group interview as a technique for data collection.*Communication Education, 38*, 117-127.

Lee, 1. (2000). A touch of class! Exploring reading-writing connections through a pedagogical focus on 'coherence'.*Canadian Modem Language Review*, 57(2), 352-356.

Li, L. (2016). Integrating thinking skills in foreign language learning: What can we learn from teachers' perspectives? Thinking Skills and Creativity, 22, 273–288. https://doi.org/10.1016/j.tsc.2016.09.008

Liaw, M.L. (2007). Content-Based Reading and Writing for Critical Thinking Skills in an EFL Context. *Journal of English Teaching & Learning, Vol. 31, No.2* .

Loes, C. N., Culver, K. C., & Trolian, T. L. (2018). How Collaborative Learning Enhances Students' Openness to Diversity. *Journal of Higher Education*, 89(6), 935–960.https://doi.org/10.1080/00221546.2018.1442638

Lombard, K and Grosser, M. (2008). Critical thinking: are the ideals of OBE failing us or are we failing the ideals of OBE?*South African Journal of Education Vol. 28*:561-579

Lourdes, E.V. and Gaibisso, C. (2013).Developing Critical Thinking in the English Language classroom: A Lesson Plan.*English Language Teachers' Association, Vol.1, No.1*

Mandušić, D. and Blašković, L. (2015).The Impact of collaborative Learning to Critically.Trakia Journal of Sciences, Vol. 13, No. 1.

Marier, R. (2000). *Reading Comprehension Techniques for Improving Students' Success in Extracting Useful Knowledge from Text*. New Jersey: Pearson Education, Inc.

Marzano, R. J., Pickering, D., & Pollock, J. E. (2001). Classroom instruction that works: Research-based strategies for increasing student achievement. Alexandria: ASCD. Retrieved from http://www.amazon.com/Classroom-Instruction-That-WorksResearch-Based/dp/0871205041

Masduqi, H. (2011).Critical Thinking Skills and Meaning in English Language Teaching.*TEFLIN Journal, Volume 22, Number 2*.

Mayer,R.E. (2002) Rote Versus Meaningful Learning. *Journal of Theory into Practice, Volume 41, Number 4.*

McDade, S. A. (1995). Case Study Pedagogy to Advance Critical Thinking.*Teaching Psychology, 22 (1),* 9-10

McDavitt, D. S. (1993).Teaching for Understanding: Attaining Higher Order Learning and Increasing Achievement through Experimental Instruction. Unpublished Thesis. Retrieved from: http://www.eric.ed.gov

McKown, B. A., & Barnett, C. L. (2007).Improving readingcomprehension through higher order thinking skills (Master's thesis, Saint Xavier University). Retrieved fromhttp://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/

Mebratu Mulatu.(2015). The status, roles and challenges of teaching English language in Ethiopia context: the case of selectedprimary and secondary schools in Hawassa Universitytechnology village area .*International Journal of Home Science, vol. 1, No. 2*

Meibodi MK, Lakdizaji S, Abdollahzadeh F, Hassankhanih H, Rahmani A, Lasater K. (2013). Impact of guided reciprocal peer questioning on the disposition of critical thinking among nursing students. Thrita J. Med. Sci., 2(3): 10-14

Meiramova, S. and Seifullin, S. (2017). Applications of Critical Thinking Research: Foreign Language Teaching in an Intercultural Context.*The Online Journal of New Horizons in Education , Vol.7, No.1*

Merizka1, A. and Jufrizal1.(2020) .Higher Order Thinking Skill Questions in Reading Comprehension Test Constructed by English Teacher of Senior High School in Padang Pariaman Regency.*Advances in Social Science, Education and Humanities Research, volume 539*

Ministry of Education.(2009). Curriculum Framework for Ethiopian Education (KG – Grade 12). Addis Ababa:MoE.

Minstry of Education (2002).The Education and Training Policy and Its Implementation.Addis Ababa; MoE.

Minstry of Education (2005).The Federal Democratic Republic of Ethiopia Education Sector Development Program Three (ESDP III): 2005/06-20010/11Program Action Plan. Addis Ababa: MoE

Mohammad, K. and Alizadeh, I. (2012).Critical Thinking Skills through Literary and Non-Literary Texts in English Classes.*International Journal of Linguistics 2012, Vol. 4, No. 4*

Moore, B.N, and Parker, R. (2009).*Critical Thinking*. New York: McGraw-Hill

Morrison, V., & Wlodarczyk, L. (2009).Revisiting read-aloud: Instructional strategies that encourage students' engagement with texts.*The Reading Teacher, 63(2),* 110-118.

Muliyah, P and Rekha, A.(2020). High Order Thinking Skills Teaching Innovation: An Analysis of English Teachers' Understanding and PracticesMETATHESIS.*Journal of English Language Literature and Teaching Vol.4* , No.2,

Munawati, A., & Nursamsu. (2019). The effectiveness of hots (higher order thinking skill) in teaching reading comprehension. *Journal of Education of English as a Foreign Language, 2(1),* 32–42.

Musial, Diann, et.al.(2009).*Foundations of Meaningful Educational Assessment*. NewYork: McGraw Hill.

Nadia Daniati and Fitrawati .(2020). High Order Thinking Skill Questions in Reading Exercises: An Analysis of Reading Exercises in *Bright an English* Course Book for the Grade IX.*Journal of English Language Teaching Volume 9 No. 2*

Narayana, T. (2015). Significance of various strategies for teaching and learning english. *International Journal on Studies in English Language and Literature, 3(11),* 75–79.

National Reading Panel (2000). (n. d). Comprehension III teacher preparation Andcomprehension strategies instruction. (Chop.4). Retrieved December14, 2005 from, http://www.nich.ninh.gov/publications/nrp/ch4- ///pdf.

Nelson, L. P. & Crow, M. L. (2014). Do Active-Learning Strategies Improve Students' Critical Thinking? *Journal of Higher Education Studies; Vol. 4, No. 2.*

Nelson, N., & Calfee, R.C. (1998).*The reading-writing connection.*Chicago: University of Chicago Press

Nespor, J. (1987). The role of beliefs in the practice of teaching. Journal of Curriculum Studies, 19(4), 317–328. https://doi.org/10.1080/0022027870190403

Nguyen, T. C.,(2005). From passive Participant to Active Thinker: Learner-Centered Approach to Materials Development.*E n g l i s h T e a c h i n g F o r u m., v o l u m e 4 3, n u m b e r 3*

Nigussie Negash.(2011). English language in Africa: An impediment or a contributor to development?. Retrived from: www.britishcouncil.org

Nobles, L.M.A.G. & Ortega-Dela Cruz, R.A. 2020.Making Connections: A Metacognitive Teaching Strategy in Enhancing Students' Reading Comprehension.*Journal of English Education, 5(1),* 49-60. DOI: http://dx.doi.org/10.31327/jee.v5i1.1209

Nosratinia, M.,and Zaker, A. (2013). Autonomous Learning and Critical Thinking: Inspecting the Association among EFL Learners. A paper presented on The First National Conference on Teaching English, Literature, and Translation (NCTLT) Shiraz University, Shiraz, Iran. Available online at: http://www.civilica.com/Paper-TELT01-TELT01_226.html

Nourdad, N., Masoudi, S., & Rahimali, P. (2018).The effect of higher order thinking skill instruction on EFL reading ability.*International Journal of Applied Linguistics and EnglishLiterature, 7,* 231–237.

Noyee, R. M., & Christie, J. F. (1989).Integrating reading and writing instruction in grades K-8. Needham Heights, MA: Allyn and Bacon

Nunan, D. (1988). *Syllabus Design*. Oxford: O.U.P.

Nur, P. (2014**).** *Higher Order Thinking Skill in Reading Exercise.* Unpublished Senior Essay for the Partial fulfillment for the Requirements of MA

Nurfalah, Siti Mutia. (2021). *Analyzing Higher Order Thinking Skills of Reading Questions in an English Textbook*. Syarif Hidayatullah State Islamic University Of Jakarta. Unpublished Senior Essay for the Partial fulfillment for the Requirements of MA

Nuttal, C.(2005) *Teaching Reading skills in a foreign language.* Oxford:MacMillan.

Nuttall, C. (1996). *Teaching reading skills in a foreign language.*(2nd ed.) Oxford: Heinemann.

Open University.(2008). *Thinking Critically*. United Kingdom: Thanet Press.

Pajares, M. F. (1992). Teachers' Beliefs and Educational Research: Cleaning Up a Messy Construct. *Review of Educational Research, 62(3),* 307–332. https://doi.org/10.3102/00346543062003307

Patton, M.Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). In Creswell, J.W. (2009).Research Design: Qualitative, Quantitative, andMixed Methods Approaches (3rd ed.). London: SAGE Publications Inc.

Pearson, P. D. & Johnson, D. D. (1972).*Teaching reading comprehension*. New York: Holt, Rinehart & Winston.

Pesa, N., & Somers, S. (2007). Improving reading comprehension through application and transfer of reading strategies (Master's thesis, Saint Xavier University). Retrieved fromhttp://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/

Peterson, D. S., & Taylor, B. M. (2012).Using higher order questioning to accelerate students' growth in reading.*The Reading Teacher, 65(5), 295.*

Petress, K. (2005). Questions and Answers: The Substance of Knowledge and Relationship. *College Student Journal*,374-376.

Pourghasemian, H and Hosseini, M.B. (2017). Critical Thinking Skills Instruction and Reading between the Lines. *ELT Voices- International Journal for Teachers of English. Volume (7), Issue (1),* 11-17 (2017)

Qing, X. (2013).Fostering Critical Thinking Competence in EFL Classroom.*Studies in Literature and Language Vol. 7, No. 1, 2013,* 6-9

Rahimi, M. (2014).The Relationship between EFL Teachers' Critical Thinking Skills and Vocabulary Learning Strategy Instruction across Gender.*International Journal of Applied Linguistics & English LiteratureVol. 3 No. 1*

Rauch, s. j. et al,. (1968). *Mastering Reading Skills*. New York: D.van Nostrand Company.

Remark, A., & Ewing, E. (2015).Use of high-level questioning to increase student achievementin reading.Masters action research paper. Available at: https://sophia.stkate.edu/maed/127

Resnick, L. (1992). Educational and Learning to Think.Washington DC: National Academy Press

Retnawati, H. et al. (2018).Teachers' Knowledge about Higher-order Thinking Skills and its Learning Strategy.*Problems of Education in The 21st Century Vol. 76, No. 2.*

Rezaei , S. eta'l. (2011).Critical Thinking in Language Education. *Journal of Language Teaching and Research, Vol. 2, No. 4,*769-777

Richard, C.S.(2002). Assessing Students' metacognitive awareness ofreading Strategies**.***Journal of Education psychology, 94(2),* 249-259.

Richards, J. (2001). *Curriculum Development in Language Teaching*.Cambridge : CUP

Richards, J. C., &Renandya., W. A. (1998). *Methodology in language teaching: An anthology of current practice.* New York: Cambridge University Press.

Richards, J. C., & Rodgers, T. (2001).*Approaches and methods in language teaching*. Cambridge: Cambridge University Press.

Richardson, V. (1996).The Role of Attitudes and Beliefs in Learning to Teach.*Handbook of Research on Teacher Education*, 102–119.

Richardson, V., Anders, P., Tidwell, D., & Lloyd, C. (1991).The relationship between teachers'beliefs and practices in reading comprehension instruction.*American Educational ResearchJournal, 28(3)*, 559–586.

Risemerg, R. (1996). Reading to write: Self-regulated learning strategies when writing essays from sources. *Reading, Research and Inspection, 35(4),* 365-383

Robinson ,R. & Good, T.(1987). *Becoming an Effective Reading Teacher*.New York: Hrper and Row, publishers, Inc.

Rodriguez, K. E. (2006). Contemporary issues and decisions: Reading, writing, and thinking in today's world New York: Pearson Longman

Rokeach, M. (1968).A Theory of Organization and Change within Value-Attitude Systems. Journal of Social Issues, 24(1), 13–33. https://doi.org/10.1111/j.1540-4560.1968.tb01466.x

Romano, T.(1995).Writing with Passion, Life Stories, Multiple Genres. Portsmouth, NH: Heinemann.

Rosenshine, B.V. 1980. Skills hierarchies in reading comprehension. In Spiro et al, editors, Theoretical issues on language testing (pp. 535-554). Hillsdale, NJ: Erlbaum.

Ruys, I., Van Keer Hilde, H., & Aelterman Antonia, A. (2011). Student teachers' skills in the implementation of collaborative learning: A multilevel approach. Teaching and Teacher Education, 27(7), 1090–1100. https://doi.org/10.1016/j.tate.2011.05.005

Sacco, S. J. (1987). An Approach to Developing critical reading andthinking skills in the Foreign Language Curriculum.*ForeignLanguage Annuals, 20 (1),* 57 -66.

Sanavi , R.V. and Tarighat, S.(2014). Critical Thinking and Speaking Proficiency: A Mixed-method Study.*Theory and Practice in Language Studies, Vol. 4, No. 1.*

Sanders,M.(2001). *Understanding Dyslexia and Reading Process: AGuide for Educators and Parents***.** Needham Heights: Allyn andBacon.

Sano, M .(2014). Critical Thinking Skills and Teachers' Questioning Behavior in a Japanese University EFL Context.Unpublished MA Thesis.Japan, Soka University.

Schafersman, S. D. (1991). An introduction to critical thinking. Retrieved from http://www.freeinquiry.com/ critical-thinking.html

Seth, M. (2013).Enabling adolescents to build life skills: Part I: Understanding concepts Evolving strategies. United Nations Population Fund (UNFPA).

Shafeei, K., Hassan, H., Ismail, F., & Azian, A. (2017).Incorporating higher order thinkingskills (HOTS) questions in ESL classroom contexts.*LSP International Journal, 4,* 101–116.Available at: https://journals.utm.my/lsp/article/view/15215 (accessed July 2021).

Shaila, M.Y. and Trudell, B. (2010). From Passive Learners to Critical Thinkers: Preparing EFL Students for University Success.*English Teaching Forum.Vol. 1, No. 3.*

Shamilati Che Seman, Wan Mazwati Wan Yusoff & Rahimah Embong. 2017. Teachers' Challenges in Teaching and Learning for Higher Order Thinking Skills (HOTS) in Primary School. *International Journal of Asian Social Science 7(7),* 534-545.

Shen, M. (2009).Reading-writing connection for EFL college learners' literacy development. Asian EFL Journal, 11(1), 87-106

Shirkhani, S. and Fahim, M. (2011).Enhancing critical thinking in foreign language learners.*Journal of Social and Behavioral Science , Vol. 29*

Siegel, H. (1988). *Educating reason: Rationality, critical thinking and education*. New York: Routledge & Metheun

Singh, P. (2008). The Unexpected Rewards of Qualitative research in Assessment: A case Example. *The Qualitative Report. 13*(2): 278-300. http://www.nova.edu/ssss/QR/QR13-2/singh.pdf

Singh, R.K, and Azianura Hani, A. H. (2019) The analysis of Higher-Order Thinking skills in English reading comprehension tests in Malaysia. *Malaysian Journal of Society and Space 15 issue 1,* 12-26.

Sofo, F. (2004).*Open your mind: The 7 keys to thinking critically*. Crows Nest, NSW: Allen & Unwin.

Styron, A.R. (2014). Critical Thinking and Collaboration: A Strategy to Enhance Student Learning.*Journal of Systemic, Cybernetics and Informatics, Vol. 12, No. 7*

Taboada A, Guthrie JT (2006). Contributions of student questioning and prior knowledge to construction of knowledge from reading information text.*Journal of Literacy Res.,* 38(1): 1-35.

Tan Shin Yen & Siti Hajar Halili. 2015. Effective Teaching of Higher- Order Thinking (HOT) In Education. *The Online Journl of Distance Education and e-Learning 3(2),*41-47.

Teemant, A, Hausman, C., & Kigamwa, J. (2016).The effects of higher order thinking on student achievement and English proficiency.*INTESOL Journal, 13*.

Tekeste N. (1990). *The Crisis of Ethiopian Education: Some Implications for Nation-Building*. Uppsala: Nordiska Africa Institute

Tekeste, N. (2006). Education in Ethiopia: From Crisis to the Brink of Collapse. Discussion Paper 33 (pp. 1-56). Stockholm: Elanders Gotab AB.

Thamrin, N. R., & Agustin, S. (2019). Conceptual variations on reading comprehension through higher order thinking skills (HOTS) strategy.English Review: *Journal of English Education, 7(2)*, 93-100. doi: 10.25134/erjee.v7i2.1777.

Thomas A and Thorne G. (2009). Higher level thinking-It's HOTS!. (http://www.cdl.org/articles/higher-order-thinking-its-hot/)

Tofade, T., Elsner, J., & Haines, S.T. (2013). Best practice strategies for effective use of questions as a teaching tool. American Journal of Pharmaceutical Education, 77, 155.

Tolmie, A. K., Topping, K. J., Christie, D., Donaldson, C., Howe, C., Jessiman, E., … Thurston, A. (2010). Social effects of collaborative learning in primary schools.*Learning and Instruction, 20(3),* 177–191. https://doi.org/10.1016/j.learninstruc.2009.01.005

Tosuncuoglu, I. (2018). Place of Critical Thinking in EFL. *International Journal of Higher Education, Vol. 7, No. 4.*

Toulmin, S. (1979).*An Introduction to Reasoning.* New York: MacMillan.

Toyoda, E.(2015). Relationship between Higher-Order Thinking Skills andL2 Performance.*Electronic Journal of Foreign Language Teaching, Vol. 12, No. 2.*

Tuzlukova, V., Al Busaidi, S., & Burns, S. L. (2017). Critical thinking in the language classroom: Teacher beliefs and methods.*Journal of Social Sciences and Humanities, 25(2),* 615–633.

Utami, M. A., Rahman, R., & Albiansyah. (2021). Analysis of Teachers-Constructed Reading Comprehension Test. *English Language in Focus (ELIF), 3*(2), 89–98. https://doi.org/10.24853/elif.3.2.89-98

Vdovina, E. (2013). Developing Critical Thinking in the English Language classroom: A Lesson Plan.*Journal of English Language Teachers' Association, Vo.1, No. 1*

Verloop, N., Driel, J. V., & Meijer, P. C. (2001).Teacher knowledge and the knowledge base of teaching.*Journal of Educational Research, 35,* 441-461.

Vong, S. A. and Kaewurai , W. (2017). Instructional Model Development to Enhance Critical Thinking and Critical Thinking Teaching Ability of Trainee Students at Regional Teaching Training Center in Takeo province, Cambodia. *Journal of Social Sciences, Vol.38.*

Walker, A., & Leary, H. (2008).A Problem Based Learning Meta-Analysis: Differences across Problem Types, Implementation Types, Disciplines and Assessment Levels. *Interdisciplinary Journal of Problem-Based Learning, 3(1),*12-43

Wang, X. and Zheng, H. (2016). Reasoning Critical Thinking: Is It Born or Made? *Theory and Practice in Language Studies, Vol. 6, No. 6,*1323-13

Wells, M. (1992-93). At the junction of reading and writing: How dialogue journals contribute to students' reading development. *Journal ofReading, 36,* 294- 301.

Whitten , C., Labby , S., & Sullivan , S. L. (2016). The impact of pleasure reading on academic success.*Journal of Multidisciplinary , 2(4),* 48-64.

Wiersma, W. (2000).*Research Methods in Education: An Introduction.* USA: Chestnut Hill Enterprises, Inc.

Williams, E. (1996). *Reading in the Language Classroom*. Malaysia: Modern English Publications.

Williams, R. L. (2005). Targeting Critical Thinking within Teacher Education: The Potential Impact on Society.*The Teacher Educator, 40(3),* 163-187.

Wilson, K. (2016). Critical reading, critical thinking: Delicate scaffolding in English for Academic Purposes (EAP). *Journal of Thinking Skills and Creativity,* Vol.22, No. 16

Wittrock MC (1974). Learning as a generative process.*Journal of Educational Psychology, 19(2):* 87-95.

Wright, I. (2002). *Is That right? Critical Thinking and the Social World of the Young Learner*. Toronto: Pippin Publishing Corporation.

Yen, T. and Siti, H.(2015). Effective Teaching of Higher-Order Thinking (HOT) in Education.*The Online Journal of Distance Education and e-Learning (TOJDEL), Volume* 3,41-47

Yen, T. S., & Halili, S. H. (2015).Effective Teaching of Higher-Order Thinking (HOT) in Education.*The Online Journal of Distance Education and E-Learning, 3(2),* 41–47. Retrieved from www.tojdel.net

Yenus, N. (2017). Pedagogical Practices in Teaching Reading Comprehension: A Case Study of Three EFL Teachers in a Secondary School in Ethiopia.*PASAA,Volume 54.*

Yoke, S. K., Hasan, N. H., Jangga, R., Rohani.,& Kamal, S. N. M. (2015). Innovating with HOTS for the ESL reading class.*English Language Teaching, 8(8),* 10-17. http://dx.doi.org/10.5539/elt.v8n8p10.

Yu FY (2009). Scaffolding student-generated questions: Design and development of a customizable online learning system.*Human Behavior., 25(5):* 1129-1138

Yuliati, S. R., & Lestari, I. (2018). Higher-Order Thinking Skills (HOTS) analysis of students in solving HOTS questions in higher education. *Perspektif Ilmu Pendidikan*, 32(2), 181-188. https://doi.org/10.21009/PIP.322.10.

Yunita, W. etal.(2020).English Teachers' Knowledge on Higher Order Thinking Skills (HOTS). English Review: *Journal of English Education Volume 9.*

Appendix-A

QUESTIONNAIRE FOR STUDENTS

Dear respondent,

Currently, I am conducting a research, entitled “An Exploration of Critical Thinking Skills in the Teaching and Testing Reading Comprehension at Addis Ababa Science and Technology University”. Thus, I kindly request you to give your genuine response for each question below.

Please answer all the questions as honest as possible. Be sure the responses that you make will be confidential.

Thank you in advance!

Note: You are not expected to write your name.

Direction I: The following questions are aimed to identify how frequent your English language teacher engages students in higher order thinking skills (like Analyzing Skill, Evaluating Skill and Creating Skill) in his/her practice of teaching reading. Read the questions in the table below and put a tick mark **(✓)** in the box on your appropriate response for each question.

No	**In the practice of teaching reading, how frequent does your English language teacher…**	**Never**	**Rarely**	**Sometimes**	**Usually**	**Always**
1.	engage students to generate questions of their own about what they read?					
2.	engage the students to focus on meaning as reading of the text?					
3.	elicit students' prior knowledge to help them employ their background knowledge when reading text?					
4.	help the students set purpose for reading and self-evaluate?					
5.	explain reading strategies and the rationale for learning them?					
6.	teach and model reading strategies and provide adequate time and opportunities for the students to practice the strategies through guided practice and independent work?					
7.	assesse students' comprehension by asking various levels of questions?					
8.	encourage students to write reflective journal					

	on the text they read?					
9.	probe students' responses?					
10.	facilitate a collaborative learning environment to support the students' intellectual knowledge and skills?					
11.	make the students express opinions and support their opinions with logical reasoning and sources?					
12.	engage students to present contrasting opinions about the topic of the text?					
13.	promote students to react to the content of the text and justify their answers from the text?					
14.	engage learners in higher order questions (divergent questions) and gives the students time to answer them?					
15.	make students predict what a text is about and give logical reason to the prediction?					
16.	engage students to examine issues in the text from different points of view?					

17.Do you think that your English language teacher promote thinking skills (like Analyzing Skill, Evaluating Skill and Creating Skill) in the practice of teaching reading? Why? And by making you do what?

_____

_____

_____

_____

_____

_____

18. In general, what do you say about your English language teacher's practice of teaching reading in terms of contributing towards developing your thinking ability/skills (like Analyzing Skill, Evaluation Skill and Creating Skill)?

_____

_____

_____

_____

_____

_____

Appendix-B

QUESTIONS FOR TEACHERS' INTERVIEW

1. How do you define thinking skills/abilities in general and Higher Order Thinking Skills (HOTS)/Critical Thinking Skills in particular?
2. What do you know about Bloom Taxonomy and its revised version? Among the categories of cognitive domain of the taxonomy, what are those considered/categorized as Higher Order Thinking Skills HOTS/Critical Thinking Skills?

3. Do you employ Bloom Taxonomy and to what extent while you formulate learning objectives, preparing learning activities and tests in teaching learning process of English language in general and in teaching and testing of reading comprehension in particular?
4. Do you think that students are required to develop their Higher Order Thinking Skills (HOTS)/Critical Thinking Skills?
5. Do you think that English language teachers are responsible to develop students' Higher Order Thinking Skills (HOTS)/Critical Thinking Skills? Why?
6. What do you think the teaching and testing of reading comprehension can do with the learners' thinking skills/abilities?
7. What are the instructional strategies that can help students employ higher order thinking skills or help them enhance their critical thinking skills?
8. Do you think that incorporating Higher Order Thinking Skills/critical thinking skills in teaching and testing of reading comprehension is what expected from English language teachers? Why?

Appendix-C

OBSERVATION PROTOCOL

Teacher:_____ Observer:_____

Number of Students:_____ Date of Observation: _____

Start Time of Observation:_____ End Time of Observation:_____

Section:_____

Directions: During observation, place a check mark by the features observed

No	Features Observed	Yes	No	Comments
1.	The teacher engages students to generate questions of their own about what they read.			
2.	The teacher engages the students to focus on meaning as reading of the text.			
3.	The teacher elicits students' prior knowledge to employ their background knowledge when reading text.			
4.	The teacher helps students set purpose for reading and self-evaluate.			
5.	The teacher explains reading strategies and the rationale for learning them.			
6.	The teacher teaches and models reading strategies and provides adequate time and opportunities for students to practice the strategies through guided practice and independent work.			
7.	The teacher assesses students' comprehension by asking various levels of questions.			
8.	The teacher encourages students to write reflective journal on the text they read.			
9.	The teacher probes students' responses.			
10.	The teacher facilitates a collaborative learning environment to support the students' intellectual knowledge and skills.			
11.	The teacher makes the students express			

	opinions and support their opinions with logical reasoning and sources.			
12.	The teacher engages students to present contrasting opinions about the topic of the text.			
14.	Teacher engages learners in higher order questions (divergent questions) and gives the students time to answer them.			
15.	The teacher makes students predict what a text is about and give logical reason to the prediction.			
16.	The teacher engages students to examine issues in the text from different points of view.			

Appendix-D

RESULTS OF RELIABILITY TEST FOR ITEMS IN THE QUESTIONNAIRE

Case Processing Summary

		N	%
Cases	Valid	315	100.0

	Excluded[a]	0	.0
	Total	315	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.805	.807	16

The above Reliability test result is for the 16 items in table under Direction I of the questionnaire

Case Processing Summary

		N	%
Cases	Valid	315	100.0
	Excluded[a]	0	.0
	Total	315	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.903	.900	21

The above Reliability test result is for the 16 items in table under Direction II of the questionnaire

Case Processing Summary

		N	%
Cases	Valid	315	100.0
	Excluded[a]	0	.0
	Total	315	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.887	.885	21

The above Reliability test result is for the 16 items in table under Direction III of the questionnaire

Case Processing Summary

		N	%
Cases	Valid	315	100.0
	Excluded[a]	0	.0
	Total	315	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.911	.910	58

The above is overall Reliability test result of the 58 items used in the questionnaire

Appendix-E

THE ANALYSIS CARD

Level	Key Words	Questions

Remember: Recall data or information from long-term memory. This level emphasizes on recognizing and recalling.	Define, describe, identify ,label, list, match, name, outline, recall, recognize, reproduce, select, state	What is …? Which one…? Where is…? What did…? What did…? How is/was …? Where is …? When did __ happen? How would you explain …? Why did …? How would you describe …? Can you recall …? How would you show …? Can you select …? Who (what) were the main …? Can you list three …?
Understand: Determine the meaning, translation, and interpretation of instructions and problems. This level emphasizes on grasping the meaning, interpreting, classifying, comparing, explaining, and summarizing.	comprehend, convert, defend, distinguish, estimate, explain, extend, generalize, give examples, interpret, paraphrase, predict, rewrite, summarize, translate	How would you classify the type of …? How would you compare …? Contrast …? How would you rephrase the meaning …? What facts or ideas show …? What is the main idea of …? Which statements support …? Can you explain what is meant …? What can you say about …? Which is the best answer …? How would you summarize …? What does it mean…?
Apply: Use a concept in a new situation or unprompted use of an abstraction. This level emphasizes on the ability to recognize, execute, and implement a form or a pattern as a means of understanding.	apply, change, compute, construct, demonstrate, discover, manipulate modify, operate, predict, prepare, produce, relate, show, solve, use	How would you use …? What examples can you find to… How would you solve __ using what you have learned …? How would you organize __ to show …? How would you show your understanding of …? What approach would you use to …? How would you apply what you learned to develop …? What other way would you plan to …? What would result if …? Can you make use of the facts to …? What elements would you choose to change …? What facts would you select to show …? What would happen to you if..? What questions would you ask in an interview with…? What is the real example of that phenomenon? How would you solve the problem?
Analyze: Separate material or	Analyze, break down,	What are the parts or features of

concepts into component parts so that its organizational structure may be understood. This level emphasizes on detection of the relationships of the parts and of the way they are organized. It involves differentiating, organizing, and attributing.	compare, contrast, diagram, deconstruct, differentiate, discriminate, distinguish, identify, illustrate, outline, relate, select, separate	…? How is __ related to …? Why do you think …? What is the theme …? What motive is there …? What conclusions can you draw …? How would you classify …? Can you identify the different parts …? What evidence can you find …? What is the relationship between …? Can you make a distinction between …? What is the function of …? What ideas justify …? What things would you have used…? What things are similar / different? What things couldn't have happened in real life? What caused….to act the way he/she did? Which of these statements are facts and which are opinions?
Evaluate: Make judgments about the value of ideas or materials based on the criteria and standards. It emphasizes on checking and giving critiques about an idea or value	Appraise, compare, conclude, contrast, criticize, critique, defend, describe, discriminate, evaluate, explain, interpret, justify, relate, summarize,	Do you agree with the actions? Do you agree with the outcomes? What is your opinion of …? How would you prove …? Disprove…? Can you assess the value or importance of …? What would you recommend …? How would you rate or evaluate the …? What choice would you have made …? How would you prioritize …? What details would you use to support the view …? Why was it better that …? Select the best …Why is it the best? What do you think will happen to…? What judgment would you make about…? Which character would you like to meet? Why? Was…good or bad? Why? Did you like the story? Why?

		What was the most important moment in the story and why?
Create: Build a structure or pattern from diverse elements. Put parts together to form a whole, with emphasis on creating a new meaning or structure. This category involves generating, planning, and producing	Categorize, combine, compile, compose, create, devise, design, explain, generate, modify, organize, plan, rearrange, reconstruct, relate, reorganize, revise, rewrite, summarize, tell, write	What changes would you make to solve …? How would you improve …? What would happen if …? Can you elaborate on the reason …? Can you propose an alternative …? Can you invent …? How would you adapt __ to create a different …? How could/would you change the plot (plan) …? What could be done to minimize (maximize) …? What way would you design …? What could be combined to improve (change) …? How would you test or formulate a theory for …? Can you predict the outcome if …? Can you construct a model that would change …? Can you think of an original way for the …? What do all these pictures have in common? How would use your imagination to draw a picture of…? How would you write a different ending of…?

Appendix-F

CHECKLIST FOR ITEM ANALYSIS

Levels of Thinking Skills in Reading Comprehension Exercises

No.	**Questions in Reading Comprehension Exercises**	**Chapters**	**Cognitive Domain of Bloom's Taxonomy**					
			Lower Order Thinking Skills			**Higher Order Thinking Skills**		
			C1	C2	C3	C4	C5	C6
1.	Why may reading be the most demanding work at university or college?	Chapter 1	✓					
2.	In what way is the written word common to every field of study?	Chapter 1	✓					
3.	What are some of the ways in which we read?	Chapter 1	✓					
4.	How do our ways of reading vary?	Chapter 1	✓					
5.	How do students who say *Oh no*…'differ from those who say *Oh wow*…'regarding their perceptions of reading?	Chapter 1		✓				
6.	What do the writers mean by ―Reading is a skill which is often taken for granted?	Chapter 1		✓				
	Instruction: Say whether the following statements are 'True 'or 'False'. Support your answers with evidence from the text.	Chapter 1						
7.	Students had developed reading skills when they come to university.	Chapter 1	✓					
8.	Our reading purpose changes according to our approach to reading.	Chapter 1	✓					

9.	Reading is the only way of gathering information about one‘s field of study.	Chapter 1	✓					
10.	Reading an instruction book in order to apply the information immediately and reading an enjoyable novel for escapism both employ the same reading skill.	Chapter 1		✓				
11.	The writers believe that reading requires thought and effort.	Chapter 1	✓					
12.	At university, it is very useful for students to start at the beginning and read through to the end of a book.	Chapter 1	✓					
13.	…**it** will be an invaluable learning tool… (paragraph 1)	Chapter 1		✓				
14.	Only by doing **this**… (paragraph 2)	Chapter 1		✓				
15.	…and how **these** are examined… (paragraph 4)	Chapter 1		✓				
16.	…and **both** involve a variety of skills (paragraph 5)	Chapter 1		✓				
17.	…in **their** everyday lives… (paragraph 7)	Chapter 1		✓				
	Guess the meanings of the following words and phrases as used in the reading text (18-	Chapter 1						
18	a. keys (paragraph 1)	Chapter 1		✓				
19	access (paragraph 1)			✓				
20	perceptions (paragraph 3)			✓				
21	interpreted (paragraph 4)		✓					

22	extract (paragraph 5)		✓					
23	vary (paragraph 6)		✓					
24	at their disposal (paragraph 7)		✓					
25	themes (paragraph 6)		✓					
26	recognizing (paragraph 8)		✓					
27	glancing through (paragraph 5)							
28	Find the main idea of Paragraph 1, 2, 3, 4, and 5.	Chapter 2	✓	✓				
29	List the benefits of team sports.	Chapter 2	✓					
30	The writer believes that the ultimate goal of team sports should be winning the competition. a. True b. False c. Information not given	Chapter 2				✓		
31	…them‘ (paragraph 1, line 3) refers to _____	Chapter 2		✓				
32	It‘ (paragraph 1, line 3) refers to _____	Chapter 2		✓				
33	Each one‘ (paragraph 5, line 1) refers to _____	Chapter 2		✓				
34	How did you find the information in the passage? a. acceptable b. doubtful c. exaggerated d. unacceptable	Chapter 2					✓	
35	Read through paragraph 4 again. If you **decide** to engage in team sports, which one(s) **will** you choose? Why?	Chapter 2					✓	

36	Write a short paragraph explaining all that you have learned from the passage.	Chapter 2						✓
	Write _True‘ or _False‘ to the following sente-nces based on the information contained in thep assage. Discuss your answers to these questions with a partner. You have to provide evidencefro m the text for your answers. (42-52)	Chapter 3						
37	The Awramba community and the Amhara soci ety around Fogera have very similar waysof life.	Chapter 3	✓					
38	The only thing that makes the Awramba commu nity exceptional is that it provides socialsecurity to its members.	Chapter 3	✓					
45	What surprises many people who visit or hear a bout the Awramba community is that thetransfo rmation has occurred in a traditional and conser vative society.	Chapter 3	✓					
39	Like the rest of Ethiopia, women in Awramba a -re generally subservient to men.	Chapter 3	✓					
40	The Awramba community has contacts with me mbers of other communities around it.	Chapter 3						
41	Many studies have been done on the ways of life of the Awramba community becausemembers of the community rejected the ways of life of th e rest of the society aroundthem.	Chapter 3	✓					
42	The Awramba community has contacts with me mbers of other communities around it.	Chapter 3	✓					
42	What is the main reason that the Awramba com-munity is engaged in making cloth orthread?	Chapter 3		✓				
43	According to the article, what does the Awramb a community want to do in the future?	Chapter 3		✓				
44	Do you think the Awramba community will con	Chapter 3					✓	

	tinue to grow in number or will itdiminish? Wh y?							
	Find the words in the reading text which have the following meanings and compare youranswe rs with a partner‘s. (53- 62)	Chapter 3						
45	behaviors accepted within a particular group (pa -ragraph 1)	Chapter 3		✓				
46	based on the belief that everyone is equal (parag -raph 1)	Chapter 3		✓				
47	to make something less bad (paragraph 2)	Chapter 3		✓				
48	praised (paragraph 2)	Chapter 3		✓				
49	eoffensive (paragraph 3)	Chapter 3		✓				
50	showing effort in one‘s work (paragraph 3)	Chapter 3		✓				
51	existed in large numbers (paragraph 4)	Chapter 3		✓				
52	not allowed to be a member of a social group (p aragraph 4)	Chapter 3		✓				
53	a new plan (paragraph 6)	Chapter 3		✓				
54	attempt (paragraph 6)	Chapter 3		✓				
	Match the topic of each paragraph with the num ber of the paragraph and tell your answers toyou r teacher. (55-60)	Chapter 3						
55	research on the Awramba community	Chapter 3		✓				
56	location and period of establishment of the com -munity	Chapter 3		✓				
57	appreciation of the community	Chapter 3		✓				

58	challenges the community faces and its economi -c activities	Chapter 3		✓				
59	norms of the community	Chapter 3		✓				
60	the social services the community provides	Chapter 3		✓				
61	Write a paragraph of about 120 words describin g a couple of cultural values you are proud of or you uphold and explain their importance to s- ociety.	Chapter 3						✓
	Look at the following titles of the paragraphs. C hoose from the titles (a- g) the one which fitsbest each gap (1- 5) in the article. There are two extra titles which you do not need to use. (62-68)	Chapter 4						
62	The biggest of the great apes	Chapter 4		✓				
63	Searching for food together	Chapter 4		✓				
64	Madagascar – my home	Chapter 4		✓				
65	A bit of geography	Chapter 4		✓				
66	The fastest animal in Africa	Chapter 4		✓				
67	Taller than a man	Chapter 4		✓				
68	Africa‘s natural resources	Chapter 4		✓				
69	What does **—too big and heavy to climb trees”** (paragraph 3, lines 2&3) mean?	Chapter 4		✓				
70	Look at the phrase _...only be found in this part of the world‘ (paragraph 1, line 6). What are animals which are only found in one area, and n	Chapter 4		✓				

	ot in other areas, called? _____							
71	Look at the title of the article: _Africa‘s Wild A nimals‘. Do you think that the title isappropriate for the article? Why? Why not?	Chapter 4					✓	
72	Find the required information about the animals described in the above article, and writeyour answe rs in the table below. When you finish, discuss you r answers in small groups.	Chapter 4	✓					
	Read the following sentences and decide if they ar- e‘True’ or ‘False’? If they are false,correct them. If they are true, leave the line empty. (73-77)	Chapter 4						
73	All lemurs are quite big - they are about 95cm long.	Chapter 4	✓					
74	The mountain gorilla lives in a small group with a dominant leader.	Chapter 4	✓					
75	The African elephant is the biggest animal on ea -rth.	Chapter 4	✓					
76	Chimpanzees sleep on the ground.	Chapter 4	✓					
77	The lemurs on Madagascar are not protected.	Chapter 4	✓					
78	Can the above article be used to attract tourists to Africa? Why? Why not?	Chapter 4					✓	
79	Write a shortparagraph (5- 8 lines) explaining how the above article can attra- ct tourists to Africa (or youcan take the opposite vi ew). When you finish writ ing, revise your paragraph and then give itto your p artner for comments and feedback.	Chapter 4						✓
80	Write the main ideas of the paragraphs 1-5.	Chapter 5		✓				

81	made up of‘ (paragraph 1, line 2) means ____.	Chapter 5		✓				
82	In the 1800s many countries had large numbers of young people and small numbers of olderpeople. (True/False)	Chapter 5	✓					
83	“stands for” (paragraph 3, line 2) means _____	Chapter 5		✓				
84	“This shape” (paragraph 5, line 6) refers to___	Chapter 5		✓				
85	“These countries” (paragraph 5, line 11) refers t-o___	Chapter 5		✓				
86	According to the last paragraph, there are _____ _____ categories of population pyramid. Towhich category do you think Ethiopia belongs?	Chapter 5				✓		
87	Summarize the fifth paragraph in 3-5 sentences.	Chapter 5		✓				
88	Write a short paragraph interpreting the data in th-e following table. The topic sentence has been provided to help you.	Chapter 5		✓				

Remember (C1), Understand (C2), Apply (C3), Analyze (C4), Evaluate (C5), and Create (C6)

Appendix-G

CHECKLIST FOR ITEM ANALYSIS

Levels of Thinking Skills in Reading Comprehension Tests

No.	Questions in Reading Comprehension Tests	Tests (A-G)	Cognitive Domain of Bloom's Taxonomy					
			Lower Order Thinking Skills			Higher Order Thinking Skills		
			C1	C2	C3	C4	C5	C6
1.	What is the main focus of this passage? **a.** the history of coconuts **b.** coconut trees have many uses **c.** how cooking oil is made **d.** Portuguese discoveries	Test A		✓				
2.	The underlined word *pith*, as used in the passage, most nearly means **a.** helmet. **b.** hairy material. **c.** black. **d.** meaty substance.	Test A		✓				
3.	The coconut earned the nick name "ghost" because **a.** of its pale color. **b.** it resembles a face. **c.** it is round. **d.** of its smell.	Test A		✓				
4.	The passage implies that **a.** coconut palms are a valuable plant. **b.** coconut oil is the best way to cook. **c.** Portuguese explorers loved coconuts. **d.** coconut palms are good shade trees.	Test A		✓				
5.	Which of the following is NOT a use for the coconut palm? **a.** margarine **b.** buttons **c.** helium balloon **d.** diesel fuel	Test A	✓					

6.	The underlined word *staples*, as used in the passage, most nearly means **a.** fasteners. **b.** plans. **c.** paperwork. **d.** foods.	Test A		✓				
7.	The coconut palm is sometimes called "the tree of life" because **a.** the Portuguese thought it cured disease. **b.** nearly every part of the tree is useful to mankind. **c.** it grows near the Equator. **d.** of its green color	Test A				✓		
8.	….. **them** (in paragraph 2) refers to _____	Test A		✓				
9.	. …**its** (in paragraph 3) refers to ____	Test A		✓				
10.	**They** (in paragraph 5) refers to_____	Test A		✓				
11.	What is the writer's attitude towards coconut?	Test A				✓		
12.	What is the appropriate title for the text?	Test A				✓		
13.	What is the main idea of the paragraph 1?	Test A		✓				
14.	Do you agree or disagree with the idea in the text? Why?	Test A					✓	
15.	List uses of coconut mentioned in the text.	Test A	✓					
16.	Most large computer systems today are A) expensive B) decentralized C) difficult to install D) centralized	Test B	✓					
17.	Before the personal computer, someone who wanted to access information on a computer had to A) fill out request form B) wait until the personal computer was invented C) go to where the computer was	Test B	✓					

	located D) access a remote terminal							
18	According to the information given in the passage, one of the following can be an example of decentralized computer access A) a large office building with a computer in each room B) a bank where money is deposited using one computer and accessed using another C) a security system where a computer activities the alarm D) a pharmacy chain that has information on all its customers accessible via a terminal at every branch	Test B		✓				
19	A local area network (LAN) would allow employees in an office to do all of the following except A) compare notes on a meeting or proposal B) share the use of a printer or scanner C) advertise on the Internet D) send one another electronic memos or messages	Test B		✓				
20	When connecting one computer to another using a telephone line, a modem is necessary because A) it reduce the time necessary for transmitting data B) the phone company requires it C) the phone system is not designed to	Test B		✓				

	be able to transfer data from computer D) electric lines are too expensive							
21	"…some storage **devices** may be in one place"(paragraph 1) A) closest B) apparatus C) locations D) options	Test B		✓				
22	"…are in **dispersed** locations." (paragraph 2) A) secret B) difficult C) widely separated D) easy to find	Test B		✓				
23	**.**"…several ways to **configure** the hardware…"(paragraph 2) A) dissect B) prepare C) apply D) describe	Test B		✓				
24	**.**"… a go between to **reconcile** the …" (paragraph 4) A) define B) highlight C) resolve D) diagram	Test B		✓				
25	."… the **inherent** differences between computers …" (paragraph 4) A) built-in B) controversial C) irreconcilable D) previous	Test B		✓				
26	**..it** in paragraph 1 refers to _____ A) computer B) storage device C) hardware of large computer D) telephone line			✓				
27	**.**"…one possible **conduit** for connectivity…" (Paragraph 4) A) problem B) situation	Test B		✓				

	C) reason D) channel							
28	**These** in paragraph 1 refers to _____ A) only terminals B) only other computers C) only storage devices D) terminals or computers	Test B		✓				
29	**…your** in paragraph 1 refers to_____ A) the writer of the text B) the reader of the text C) the owner of computer D) the worker in bank	Test B		✓				
30	**their** in paragraph 4 refers to_____ A) users of internet B) users of e-mail C) users of big computers D) users of personal computers	Test B		✓				
31	The best statement of the main idea of this passage is that A) Children are experiencing a higher level of poverty than ever before in America. B) People now have more choices than ever regarding family life. C) Women should never have entered the fight for civil rights in the 1960s. D) Family life in America has changed considerably since World War II.	Test C				✓		
32	One of the differences between families in the 1940s and families in the new	Test C					✓	

	millennium is that A) Women do not feel as satisfied by their roles as wives and mothers any more. B) The word *family* has a much broader definition today; people have many more choices about how and with whom they spend their lives than in the 1940s. C) Although women now do most of the same jobs as men, their pay is still significantly lower. D) Home economics classes are no longer offered in today's high schools							
33	The author of the passage explains that families are now having more economic problems than ever because A) Women don't earn as much money as money as men. B) The jobs available to women during World War II are now being taken by men. C) Industrial change has cost jobs, and many children are being raised in single-parent household. D) The child care system is inadequate in America.	Test C				✓		

34	The author refers to the "definition of complementary roles for men and women both within home and outside." What does this mean? A) Tasks and responsibilities were divided so that men had certain roles (provider, protector) and women had others (home keeper, nurture). B) Men and women were encouraged to express their gratitude for one another by complimenting the work each did. C) Today men and women have lost a sense of who they are and what their roles are in the society. D) Men and women were expected to be able to do all of the same things: work, chores, and house hold duties.	Test C		✓				
35	Each of the following was listed by the author as a contributing factor to the changes in family life except A) Women entering the work force. B) Changed economic conditions C) Women entering the fight for civil rights D) Government interference	Test C		✓				
36	During World War II, all women stayed at home to cook and clean for their families. (True/False)	Test C	✓					

37	The 1960s are known as a time when efforts were made to raise social consciousness. (True/False)	Test C	✓					
38	Although the family has changed a great deal in the last 50-60 years, children in America are doing better than ever. (True/False)	Test C	✓					
39	Fathers bear less of the burden of supporting children in America than mothers. (True/False)	Test C	✓					
40	The struggle for equal rights often raises moral and economic issues. (True/False)	Test C	✓					
41	.”to raise social consciousness of **inequalities**” a. situations b. biases c. abuses d. crimes	Test C		✓				
42	“can result in personal **demoralization**” a.Illness b.discouragement c. un employment d.happiness	Test C		✓				
43	“religious as well as economic **connotations**” a.undertones b.differences c. problems d. issues	Test C		✓				
44	“the extreme **polarization** of supporters and opponents” a. combination b. problem c. division in to two opposite positions d. organization	Test C		✓				
45	.”the obvious **discrepancies** between wages” a. arguments b.struggles/ difficulties c.arrangements d. disparities/differences	Test C		✓				

46	The word **indigenous** in paragraph 1 is closest in meaning to a. large b. important c. known d. local	Test D						
47	The author discusses the term "Great Kangaroos" in paragraph 1 in order to emphasize the kangaroos' a. prevalence b. importance c. fame d. size	Test D				✓		
48	According to paragraph 2, the eastern grey kangaroo is different from other species in its a. population size b. preferred habitat c. occupation of varied climates d. distinctly larger body	Test D	✓					
49	The word **shrubbery** in paragraph 2 is closest in meaning to a. trees b. grass c. bushes d. caves	Test D				✓		
50	It can be inferred from paragraph 3 that A) European settlement in Australia led to a decrease in the numbers of eastern grey kangaroos as farmland took over B) when Europeans settled in Australia, they cultivated the land on their homesteads so that it grew grass C) the increased numbers of western grey kangaroos helped to distinguish them from eastern grey kangaroos D) European settlers did not find the western greys threatening because of the soothing clicking noises the kangaroos made	Test D		✓				

51	The word " adaptable " in paragraph 3 is closest in meaning to a. flexible b. common c. agile d. mobile	Test D						
52	According to paragraph 4, red kangaroos are able to be more nomadic than either species of gray kangaroo because the reds A. can find food in any environment, even when other animals cannot. B. do not need to stay with a tribe, because they live as individuals. C. their larger size allows them to travel far due to their longer stride. D. their ability to retain water lets them live in different climates.	Test D		✓				
53	The word **arid** in paragraph 4 is closest in meaning to a. distant b. diverse c. dry d. difficult	Test D				✓		
54	The author's discussion of the antilopine kangaroos' gender balance in paragraph 5 indicates that A. it varies according to the season B. it favors large populations of males C. it is caused by the species' ability to travel D. antilopine kangaroos thrive in the rain	Test D		✓				
55	According to paragraph 5, which of the following is NOT a unique feature of the antilopine kangaroo? A. Appearance B. Radius of travel from its pack C. The origin of its name D. Its preferred habitat	Test D		✓				
56	The phrase **thesekangaroos** in paragraph 6 refers A. Great Kangaroos B. tree and rat kangaroos C. all kangaroos D. smaller kangaroos	Test D		✓				
57	'their' … para.1. . . line 6_____	Test D		✓				
58	'it' …. . .para.2. . . line 3 _____	Test D		✓				
59	'this' … para.3. . . line 9 _____ _____	Test D		✓				

60	Which main point about money is the author trying to make in this text? a) Money unfairly flows to the richest people in the world. b) Money allows people who don't know or trust each other to trade. c) Money is the root of all evil. d) Money can purchase many things but it cannot buy happiness.	Test E				✓		
61	According to the text, how did people mainly transact before the invention of money? a) They used the barter system and traded physical goods. b) They used seashells and beads as currency. c) They lent and borrowed from each other. d) Everything was free and everyone shared freely.	Test E	✓					
62	Why would the author lend to Joshua but not the tribe across the sea? a) Joshua is the wealthiest person in town. b) Joshua is a person who is known and trusted. c) Joshua is a feared Roman soldier. d) Joshua is the fastest person in the tribe.	Test E		✓				
63	What is the author's main purpose in writing the THIRD paragraph? a) He is trying to convince us to forgo modern life and to live in tribes. b) He is informing readers of the history of credit and debt systems. c) He is explaining why tribal life is unproductive and wasteful.	Test E				✓		
64	Why did Roman army camps need to use money to facilitate trade? a) Most people did not know each other. b) Most people did not trust each other. c) People often died in battle. d) All of these reasons.	Test E		✓				

64	Which technologies enable modern societies to use credit systems? a) Computers and government identification b) Airplanes and phone networks c) Radio waves and license plates d) Steam power and waterways	Test E	✓					
66	Which is TRUE based on information from the text? a) Roman army camps were much smaller than ancient tribes. b) Roman army camps were about the same size as ancient tribes. c) Roman army camps were much larger than ancient tribes. d) Nobody knows the actual size of Roman army camps.	Test E		✓				
67	With which statement would the author most likely AGREE? a) Money allows civilizations to grow very large. b) Credit and debt systems are primitive and only were only used in ancient times. c) Money ruins civilizations by making everyone greedy. d) Credit and debt systems cannot function in the modern world	Test E				✓		
68	Which event happened LAST in history? a) Thousands of people lived in Roman Army camps. b) Credit and debt systems became widespread again due to technology. c) Money was invented. d) Ancient tribes used mainly credit and debt systems for exchange.	Test E				✓		
69	With which statement would the author most likely DISAGREE? a) If someone has a good reputation, it is easier to trust him or her. b) Reputations are important for lenders and borrowers. c) Money makes trading easier for people who do not know each other.	Test E				✓		

	d) People can easily maintain good relationships with thousands of other people.							
70	Your brain will throw information away _____ A) If you keep reviewing the information B) If your long-term memory is full C) You don't keep using the information D) If your short-memory is full.	Test F	✓					
71	The article explains tricks to remember _____. A) How people developed from wormlike creatures into human beings B) The life story of Roy G. Biv. C) Disability hinders learning reading and writing D) Telephone numbers, addresses and different information	Test F		✓				
72	Your sensory memory _____. A) Can store a lot of information for a very short time B) Can store a small amount of information for just a few seconds C) Is able to hold lost of information for a long time D) Can hold more than seven things at a time	Test F	✓					
73	Dave farrow set a world record _____ A) In 1959 B) in 2008	Test F	✓					

	D) When he was a student D) when he was seven							
74	Dave farrow is from _____. A) USA B) Japan C) Great Britain D) Canada	Test F	✓					
75	What is this reading mainly about? A) The person with the world's greatest memory is a Canadian. B) People can have a good memory as long as they keep using information regularly. C) People with a learning disability like dyslexia can grow up to set world records. D) Everyone can read and write in spite of learning disability.	Test F				✓		
76	What is the main idea of paragraph 4? A) People with good memories use tricks to help them remember things. B) Your sort-term memory can only hold information from 15 seconds to a few minutes. C) Short term memories can work better if tricks are used D) If you practice regularly, you can remember information using the memory tricks	Test F		✓				
77	Dave farrow recommends breaking large tasks down into smaller ones in order to _____. A) Take as many rest periods as possible B) Keep your motivation strong	Test F		✓				

	C) Keep your focus strong D) Take as many information as you can.							
78	A disability is _____. A) a condition of the mind or the body B) a condition of the mind that makes learning difficult C) a condition of the body that makes walking difficult D) none	Test F		✓				
79	One of the following is false. A) Visualization works because the brain helps you create your own words and phrases. B) We can ignore of pay attention to the information depending on its importance. C) Tricks, in the article, refer to methods of holding information in our short term memory. D) Our brain usually remembers Test F telephone number in chunks.	Test F		✓				
80	It (para. 1 Line 6) refers to _____	Test F		✓				
81	It (para. 2 Line 9) _____	Test F		✓				
82	They (para. 4 Line 18) _____	Test F		✓				
83	It (para. 7 Line 43) _____	Test F		✓				
84	These (para. 8 Line 46) _____	Test F						
85	Recycled building materials cannot be used by home owners. (True/False)	Test G	✓					

86	The green building endeavors in Germany focus on saving energy use. (True/False)	Test G	✓					
87	According to the passage, the Chinese government has already implemented green building projects in new neighborhoods across China. (True/False)	Test G	✓					
88	One area of focus for the Genzyme Company was the fact that windows in many American office buildings cannot be opened. (True/False)	Test G	✓					
89	Environmental building methods are now practical means to save money for builders and for building owners, regardless of their damage to the environment.			✓				
90	Which statement can best express the overall idea of the passage? A) The green building movement began because people were worried about pollution. B) All buildings are generally made so that they will be environmentally friendly. C) Environmental problems are causing serious damage to the world we live in. D) Green buildings are friendlier to the environment than ordinary buildings.					✓		
91	Environmental building methods _____A) now save money for building owners. B) are now very expensive for			✓				

	building owners. C) are not practical for building owners now. D) are now considered unrealistic.							
92	Geothermal heating _____A) works through solar panels. B). requires a lot of fuel. C) uses the natural heat of the earth. D) does not work in the summer.		✓					
93	Which one of the following is NOT a way to reduce energy use? A) using low-energy light bulbs B) adding insulation to the walls C) making the building larger D) Positioning the building carefully		✓					
94	You can infer from the passage that green builders _____ A) have been more successful with private homes. B) are particularly concerned with lowering energy use. C) have not been successful outside the United States. D) have planted lots of gardens in their buildings.			✓				
	Find words from the passage that have similar meanings to the following definitions							
95	impractical, inappropriate to reality (parag. 2) _____			✓				
96	very great in size (parag. 3) _____			✓				
97	reduce, decrease (parag. 6) _____			✓				

98	ordinary, commonplace (parag. 8) ____			✓				
99	expensive (parag. 10) _____			✓				
100	'their' (parag. 2, line 1) refers to ____			✓				
101	'This' (parag. 4, line 2) refers to _____			✓				
102	'it' (parag. 7, line 7) refers _____			✓				
103	these' (parag. 8, line 2) refers to _____			✓				
104	'these ideas' (parag. 9, line 4) refers___			✓				
105	Write the possible title for the passage. _____			✓				

Remember (C1), Understand (C2), Apply (C3), Analyze (C4), Evaluate (C5), and Create (C6)

Appendix H

Frequency of Higher Order Thinking Strategies Observed

No	Features Observed	Frequency	Number of teachers employed
1.	The teacher engages students to generate questions of their own about what they read.	0	0
2.	The teacher engages the students to focus on meaning as reading of the text.	12	6
3.	The teacher elicits students' prior knowledge to employ their background knowledge when reading text.	11	6
4.	The teacher helps students set purpose for reading and self-evaluate.	1	1
5.	The teacher explains reading strategies and the rationale for learning them.	5	4
6.	The teacher teaches and models reading strategies and provides adequate time and opportunities for students to practice the strategies through guided practice and independent work.	0	0
7.	The teacher assesses students' comprehension by asking various levels of questions.	0	0
8.	The teacher encourages students to write reflective journal on the text they read.	0	0
9.	The teacher probes students' responses.	3	3
10.	The teacher facilitates a collaborative learning environment to support the students' intellectual knowledge and skills.	10	6
11.	The teacher makes the students express opinions and support their opinions with logical reasoning and sources.	0	0
12.	The teacher engages students to present contrasting opinions about the topic of the text.	0	0
13.	promote students to react to the content of the text and justify their answers from the text?	3	2
14.	Teacher engages learners in higher order questions (divergent questions) and gives the students time to answer them.	0	0
15.	The teacher makes students predict what a text is about and give logical reason to the prediction.	1	1
16.	The teacher engages students to examine issues in the text from different points of view.	0	0

Appendix I

READING COMPREHENSION TESTS

Reading Comprehension Test A

Instruction I: Read the following passage and answer the questions given below.

The coconut is an unusual food for many reasons. It is technically a seed, produced by the coconut palm tree, and as such is one of the largest edible seeds produced by any plant. Its unusual contents also make it unique in the seed world—the interior consists of both "meat" and "water." The meat is the white pith with which we are all familiar, as it is used extensively for cooking and flavorings; the coconut water is a white liquid that is very sweet and thirst-quenching.

Portuguese explorers gave the nut its name in the 15th century, referring to it as coco, meaning "ghost" in their language. The three dimples and the hairy texture reminded **them** of a ghost's face, and the tree has retained that name ever since.

The coconut has many varied uses. It is used to make margarine, as well as various cooking oils, and these cooking oils are used by fast-food restaurants around the world to make such diet staples as French fries. The coconut fluid is a favorite drink in hot climates, providing a cool and refreshing beverage right off the tree. This water is also used by manufacturers of various sports drinks because of **its** isotonic electrolyte properties. Even the shell itself has many uses, including cattle food and fertilizer.

Yet the coconut is also useful in many ways that have nothing to do with food. Coconut oil is used for cosmetics, medicines, and can even be used in place of diesel fuel. Dried coconut shells are used in many countries as a tool, such as a buffer for shining wood floors.
The shells are also used for shirt buttons, and are commonly found on Hawaiian clothing. **They** are even used for musical instruments and bird houses!

And all these are only some of the uses found for the coconut fruit. The coconut palm tree, which produces the nut, also produces countless useful items. It's no wonder that the coconut palm has been called "the tree of life."

1. What is the main focus of this passage?

a. the history of coconuts **b.** coconut trees have many uses

c. how cooking oil is made **d.** Portuguese discoveries

2. The underlined word *pith*, as used in the passage, most nearly means

a. helmet. **b.** hairy material.

c. black. **d.** meaty substance.

3.The coconut earned the nick name "ghost" because

a. of its pale color. **b.** it resembles a face.

c. it is round. **d.** of its smell.

4. The passage implies that

a. coconut palms are a valuable plant. **b.** coconut oil is the best way to cook.

c. Portuguese explorers loved coconuts. **d.** coconut palms are good shade trees.

5.Which of the following is NOT a use for the coconut palm?

a. margarine **b.** buttons

c. helium balloon **d.** diesel fuel

6. The underlined word *staples*, as used in the passage, most nearly means

a. fasteners. **b.** plans.

c. paperwork. **d.** foods.

7. The coconut palm is sometimes called "the tree of life" because

a. the Portuguese thought it cured disease. **b.** nearly every part of the tree is useful to mankind.

c. it grows near the Equator. **d.** of its green color.

8. …..**them** (in paragraph 2) refers to _____

9. …**its** (in paragraph 3) refers to _____

10. **They** (in paragraph 5) refers to_____

Based on the passage, answer the following questions.

11. What is the writer's attitude towards coconut?

12. What is the appropriate title for the text?

13. What is the main idea of the paragraph 1?

14. Do you agree or disagree with the idea in the text? Why?

15.List uses of coconut mentioned in the text.

Reading Comprehension Test B

Read the given passage and answer the questions that follow.

Originally, before the advent of personal computers, hardware for the big computer was kept in one place; that is**, it** was centralized in one room. Anyone wanting computer access had to go to where the computer was located. Today most large computer systems are decentralized. That is, the computer itself and some storage **devices** may be in one place, but the devices to access the computer—terminals or even other computers—are distributed among the users. **These** devices are usually connected to the computer by telephone lines. For instance, the computer and storage that has the information about **your** checking account may be located in the bank headquarters, but the terminals are located in branch banks all over town, so a teller at any branch can find out what your balance is. The subject of decentralization is intimately tied to data communications, the process of exchanging data over communications facilities, such as telephone lines.

In many systems processing is decentralized as well—the computers and storage devices are in **dispersed** locations. This arrangement is known as distributed data processing because the processing is distributed among different locations. There are several ways to **configure** the hardware; one common arrangement is to place smaller computers in local offices but still do some processing on a large computer at the headquarter office. For example, an insurance company headquarter in Denver with branches throughout the country might process payments and claims

through smaller computers in local offices. However, summery data could be sent regularly by each office for processing by the large computer in Denver.

Many organizations find that **their** needs are best served by a network, a computer system that uses communications equipment to connect computers and their resources. Resources include printer and hard disks and even software and data. In one type of network, a local area network (LAN), personal computers in an office are connected together so that users can communicate with one another. Users can operate their personal computers independently or in cooperation with other computers to exchange data and share resources.

Individual users have joined the trend to "connectivity "by hookingup **their** personal computers, usually via the phone lines, to other computers. Users who connect their computer to other computers must use a hardware device called a modem as a go-between to **reconcile** the **inherent** differences between computers and the phone system. From their own homes, users can connect to all sorts of computer-based services, performing such tasks as getting stock quotes, making airlines reservations, and shopping for videotapes. An important service for individuals is electronic mail, or e-mail, which let people send and receive message via computer. Whether the user is operating in a business capacity or simply exploring the options, one possible conduit for connectivity is the internet.

Instruction I: Answer the following questions by selecting the letter that contains the right information based on the given passage. **(1 pt each)**

1**.** Most large computer systems today are

A) expensive B) decentralized C) difficult to install D) centralized

2. Before the personal computer, someone who wanted to access information on a computer had to

A) fill out request form B) wait until the personal computer was invented

C) go to where the computer was located D) access a remote terminal

3. According to the information given in the passage, one of the following can be an example of decentralized computer access

A) a large office building with a computer in each room

B) a bank where money is deposited using one computer and accessed using another

C) a security system where a computer activities the alarm

D) a pharmacy chain that has information on all its customers accessible via a terminal at every branch

4**.** A local area network (LAN) would allow employees in an office to do all of the following except

A) compare notes on a meeting or proposal B) share the use of a printer or scanner

C) advertise on the Internet D) send one another electronic memos or messages

5**.** When connecting one computer to another using a telephone line, a modem is necessary because

A) it reduce the time necessary for transmitting data

B) the phone company requires it

C) the phone system is not designed to be able to transfer data from computer

D) electric lines are too expensive

Instruction II: Choose the letter that contains the best definition of the word written in bold for the following questions based on the context used in the indicated paragraph. **(1/2 pt each)**

6**.** "…some storage **devices** may be in one place"(paragraph 1)

A) closest B) apparatus C) locations D) options

7**.** "…are in **dispersed** locations." (paragraph 2)

A) secret B) difficult C) widely separated D) easy to find

8**.**"…several ways to **configure** the hardware…"(paragraph 2)

A) dissect B) prepare C) apply D) describe

9**.**"… a go between to **reconcile** the …" (paragraph 4)

A) define B) highlight C) resolve D) diagram

10.”… the **inherent** differences between computers …” (paragraph 4)

A) built-in B) controversial C) irreconcilable D) previous

11**.**”…one possible **conduit** for connectivity…” (Paragraph 4)

A) problem B) situation C) reason D) channel

Instruction III: Choose the letter that contains what the word written in bold refers based on the given passage. **(1/2 pt each)**

12**. it**in paragraph 1 refers to _____

A) computer B) storage device C) hardware of large computer D) telephone line

13**.These** in paragraph 1 refers to _____

A) only terminals B) only other computers C) only storage devices D) terminals or computers

14.**your** in paragraph 1 refers to_____

A) the writer of the text B) the reader of the text

C) the owner of computer D) the worker in bank

15.**their**in paragraph 4 refers to_____

A) users of internet B) users of e-mail C) users of big computers D) users of personal computers

Reading Comprehension Test C

Read the following passage carefully and answer the questions that follow.

Changes in the Family

During World War II women moved out of the home in to defense industries and they have never gone back. Two factors leading to limitations of opportunities for women- the obvious **discrepancies** between wages paid men and women for the same work, and the definition of complementary roles for men and women both within and the outside- made women a natural group in the rights movement of the 1960s. The era was characterized by efforts to raise social consciousness of **inequalities** and of legal definitions in the Constitution that ensure the rights of minorities, women, the aged, the mentally ill, the handicapped, and children, and the right to alternative lifestyles. These struggles have produced burning issues, often with moral and religious as well as economic **connotations**, and have resulted in the sometimes extreme **polarization** of supporters and opponents.

One result of the women's movement has been redefinition of roles with in the family, with a marked increase in divorce, in single- parent families, and in reconstituted families. With both parents often working outside the home, patterns of family life are changing. Role expectations of men and women have been redefined, and an entire industry, the alternative child system, has developed. Violence and abuse within the family are increasingly visible, a not un-expected occurrence given the stress of change and increasing openness about matters previously concealed within the closed- family system. The major purposes of the family are seen as nurturing of children and acting as the primary sources of socialization. But children, the most vulnerable members, have suffered as a result of the changes taking place, and the processes of socialization have broken down. The statistics are appalling. In 1992, 29.9 percent of the children in this country, nearly one-fourth, lived in poverty**;** half a million were living in foster care; one in every eight was not covered by health insurance; the teen age birth rate, which continues to rise steadily, reached more than half a million births to girls 15-19 in 1990; homicide was the third leading cause of death for children 5-14 in 1990, and the number of 10-to 17- year- olds using fire arms to commit murder continues to rise.

Change economic conditions have hit the family hard. Loss of jobs by the bread winners due to industrial change can result in personal **demoralization** and homelessness. The "feminization of

poverty," where in one- parent families headed by women are particularly hard pressed, is another reflection of conditions that can undermine the economic foundations of family life.

A natural outgrowth of the reexamination of personal and family roles, of sex role stereotyping, as well as sexual mores, has been the emphasis on the right to alternative life styles. People are now considered to have choices, more or less socially accepted, of not marrying at all; of traditional family life; of single parenting; of living in various types of communal family organizations; and of living openly in homosexual relationships.

I. Answer the following questions (1-5) by choosing the correct answer from the given alternatives. Write only the letter that contains your answer.

1. The best statement of the main idea of this passage is that

   a) Children are experiencing a higher level of poverty than ever before in America.
   b) People now have more choices than ever regarding family life.
   c) Women should never have entered the fight for civil rights in the 1960s.
   d) Family life in America has changed considerably since World War II.

2. One of the differences between families in the 1940s and families in the new millennium is that

   a) Women do not feel as satisfied by their roles as wives and mothers any more.
   b) The word *family* has a much broader definition today; people have many more choices about how and with whom they spend their lives than in the 1940s.
   c) Although women now do most of the same jobs as men, their pay is still significantly lower.
   d) Home economics classes are no longer offered in today's high schools

3. The author of the passage explains that families are now having more economic problems than ever because

   a) Women don't earn as much money as money as men.
   b) The jobs available to women during World War II are now being taken by men.
   c) Industrial change has cost jobs, and many children are being raised in single-parent household.
   d) The child care system is inadequate in America.

4. The author refers to the “definition of complementary roles for men and women both within home and outside.” What does this mean?

a) Tasks and responsibilities were divided so that men had certain roles (provider, protector) and women had others (home keeper, nurture).
b) Men and women were encouraged to express their gratitude for one another by complimenting the work each did.
c) Today men and women have lost a sense of who they are and what their roles are in the society.
d) Men and women were expected to be able to do all of the same things: work, chores, and house hold duties.

5. Each of the following was listed by the author as a contributing factor to the changes in family life except

a) Women entering the work force.
b) Changed economic conditions
c) Women entering the fight for civil rights
d) Government interference

II. Read the following statements and write ‘True’ if the statement is correct and write ‘False’ if the statement is incorrect.

6. During World War II, all women stayed at home to cook and clean for their families.

7. The 1960s are known as a time when efforts were made to raise social consciousness.

8. Although the family has changed a great deal in the last 50-60 years, children in America are doing better than ever.

9. Fathers bear less of the burden of supporting children in America than mothers.

10. The struggle for equal rights often raises moral and economic issues.

III. VOCABULARY

The following words which are written in bold are taken from the passage. Choose the meaning of each word from the alternatives given.

11.”to raise social consciousness of **inequalities**”

a. situations
c. biases
b. abuses
d. crimes

12. “can result in personal **demoralization**”

a. Illness
c. discouragement
b. un employment
d. happiness

13. “religious as well as economic **connotations**”

a. undertones
c. differences
b. problems
d. issues

14. “the extreme **polarization** of supporters and opponents”

a. combination
c. problem
b. division in to two opposite positions
d. organization

15.”the obvious **discrepancies** between wages”

a. arguments
c. struggles/ difficulties
b. arrangements
d. disparities/differences

Reading Comprehension Test D

Read the passage below and answer the questions that follow

The Four Great Kangaroos

Although the kangaroo is Australia's most famous indigenous species, few people outside of the country know many details about the animal. In fact, there are several different kangaroo species, including the western grey kangaroo, the eastern grey kangaroo, the red kangaroo, and the antilopine kangaroo. Though still bound together by traits characteristic of the genus Macropus, the four different types of kangaroo—also known as the four "Great Kangaroos," as they are the largest species in the genus—can behave very differently in terms of **their** native habitats, activities, and migration patterns.

The eastern grey kangaroo lives, as its name implies, on the east coast of Australia. Not only is the eastern grey the most common kangaroo, but it is also the quickest, as the fastest recorded kangaroo was a large female traveling at 40 miles per hour. **It** is by far the most populous kangaroo species; around ten million eastern greys inhabit the continent. To put that in perspective, Australia's current human population is only 23 million. The eastern grey prefers to inhabit large open areas of grassland, with shrubbery for daytime shelter, as it forages for food at night. Nevertheless, eastern greys have been seen in various climates, including coastal areas, woodlands, subtropical forests, and mountainous regions.

The western grey is difficult to distinguish from the eastern grey; for many years, the two were thought to belong to the same species. The western grey is distinguished, in the first place, by its habitat, on the west (rather than the east) coast of Australia. Secondly, it is different from the eastern grey in that it is a very vocal species. Mother western grey kangaroos communicate to their offspring, or joeys, with a series of clicking noises, whicheastern grey mothers do not do. Though less adaptable than the eastern grey, the western grey can still be found in a variety of habitats, including grasslands, forests, or woodlands near water. Zoologists believe that the population of western grey kangaroos increased dramatically as Europeans settled in Australia, because **this** led to the creation of more pastures, where members of the species could find their main food source, grass.

Unlike the two species of grey kangaroos, the red kangaroo is found throughout Australia, though there is a concentration of reds in the west corner of New South Wales, in the southeastern part of the country. The red has the ability to store water for periods of time, and so does not need to inhabit the same fertile areas as its grey cousins. Instead, **this** species can be found in more arid climates, including scrubland and deserts. The species has a remarkable ability to find nutritious food sources even in areas that seem devoid of life. Less social and more nomadic than the grey kangaroos, the red has the distinctions of being the largest of all kangaroos, the largest mammal native to Australia, and the largest living marsupial-a mammal of an order whose members are born incompletely developed and typically carried in apouch on the mother's belly.

Finally, the antilopine kangaroo breaks the trend among the three greats named for their color, drawing instead from a comparison to the antelope, which zoologists thought the kangaroo resembled with its distinctive appearance. Traveling in packs of up to 30 kangaroos, the antilopine inhabits the northern tropical and western regions of Australia, preferring flat, open lands, though **their** habitat does sometimes extend to eucalyptus woodlands. Like the eastern gray, the antilopine sleeps under the shade of shrubs during the hottest part of the day, grazing during the evenings from approximately an hour after sunset until 8am. It has the largest range of all the great kangaroo species, and is known to travel up to a third of a mile (76 hectares) from its group's territory. In the wet season, antilopine females outnumber the males by a ratio of two to one; in the dry season, **this** increases to three to one.

Even these four species of kangaroos do not fully represent their genus. Although the most populous are the "great" kangaroos, or the largest, there are many other, smaller species (up to 47) found throughout Australia. Like the four greats, **these** kangaroos are often descriptively named. There are large populations of tree-kangaroos, for example, in wooded areas, as well as various species of rat-kangaroos. If you're traveling through Australia, keep your eyes open: You never know if you're actually looking at a kangaroo you never knew existed

1. The word **indigenous** in paragraph 1 is closest in meaning to

A. large

B. important

C. known

D. local

2. The author discusses the term “Great Kangaroos” in paragraph 1 in order to emphasize the kangaroos’

A. prevalence
C. fame
B. importance
D. size

3. According to paragraph 2, the eastern grey kangaroo is different from other species in its

A. population size
C. occupation of varied climates
B. preferred habitat
D. distinctly larger body

4. The word **shrubbery** in paragraph 2 is closest in meaning to

A. trees
C. bushes
B. grass
D. caves

5. It can be inferred from*paragraph* 3 that

A. European settlement in Australia led to a decrease in the numbers of eastern grey kangaroos as farmland took over

B. when Europeans settled in Australia, they cultivated the land on their homesteads so that it grew grass

C. the increased numbers of western grey kangaroos helped to distinguish them from eastern grey kangaroos

D. European settlers did not find the western greys threatening because of the soothing clicking noises the kangaroos made

6. The word “ adaptable ” in paragraph 3 is closest in meaning to

A. flexible
C. agile
B. common
D. mobile

7. Which of the sentences below best expresses the essential information in the highlighted sentence in paragraph 4? Incorrect answer choices change the meaning in important ways or leave out essential information.

A. New South Wales, in southeastern Australia, is important as a sanctuary for red kangaroos.

B. Red kangaroos are similar to grey kangaroos in most ways, except for where it can be found.

C. Grey kangaroos cover a wider area of the country than the red kangaroo, which is only found in the southeast.

D. Red kangaroos are different from other species because they inhabit different areas of Australia.

8. According to paragraph 4, red kangaroos are able to be more nomadic than either species of gray kangaroo because the reds

A. can find food in any environment, even when other animals cannot.

B. do not need to stay with a tribe, because they live as individuals.

C. their larger size allows them to travel far due to their longer stride.

D. their ability to retain water lets them live in different climates.

9. The word **arid** in paragraph 4 is closest in meaning to

A. distant

B. diverse

C. dry

D. difficult

10. The author's discussion of the antilopine kangaroos' gender balance in paragraph 5 indicates that

A. it varies according to the season

B. it favors large populations of males

C. it is caused by the species' ability to travel

D. antilopine kangaroos thrive in the rain

11. According to paragraph 5, which of the following is NOT a unique feature of the antilopine kangaroo?

A. Appearance

B. Radius of travel from its pack

C. The origin of its name

D. Its preferred habitat

12. The phrase **thesekangaroos** in paragraph 6 refers

A. Great Kangaroos

B. tree and rat kangaroos

C. all kangaroos

D. smaller kangaroos

The pronouns listed below are taken from the passage, and they refer to ideas, nouns and phrases in the passage. Trace each of them in the paragraph they are used and write what they refer to. (7 Pts.)

13. 'their' … para.1. . . line 6 _____

14. 'it' …. . .para.2. . . line 3 _____

15. 'this' … para.3. . . line 9 _____

Reading Comprehension Test E

Directions: ***Read the following passage and answer the questions that follow. Refer to the text to check your answers when appropriate.***

Money is one of the most important inventions in human history. It helps people who do not know or trust each other to trade. If you have enough money, you can go into a store and walk out with a candy bar. The store owner does not need to know or trust you. They only need to count your money. This is a pretty big deal if you think about it.

Before money, most exchange was based on credit and debt. Imagine that you were part of an ancient tribe and had an extra pair of shoes. If your tribe mate Joshua needed shoes, you might give him your extra ones. Joshua would then be in debt to you. He would owe you one. Later, your family might be starving in the depths of winter. You might have no success hunting, and Joshua might share some of his food with you.

The credit and debt system served humans well for much of time. Our minds are good at remembering favors and who owes whom. The problem with this system is that it requires trust. I need to know the reputation of the person to whom I am lending. I need to trust that he or she will repay me. Otherwise, we cannot trade. It's easy to trust our tribe mate Joshua. We know him. We are familiar with his reputation. But what about those from the tribe across the sea? Do we trust them? Probably not.At least not enough to give them our shoes on credit. After all, we don't even know them.

A society that does not have money cannot grow very large. It's hard to maintain relationships with more than 150 or 200 people. Reputational systems of exchange fail as groups grow larger. The need for money develops.

Imagine that you were a soldier living in a Roman army camp in the 1st century. Thousands of men and women live alongside you. Many are soldiers. Some are nurses or physicians. Others are merchants, farmers, or cooks. Let's say that you needed a blacksmith to repair your armor. The blacksmith doesn't know you. Even if he or she did, you might die in the next battle. The blacksmith cannot trust you to repay your debts. But the blacksmith does not need to trust you.

You are paid in gold and silver coins. You can trade coins with strangers for whatever goods or services you desire.

Today, the monetary system once again relies on credits and debts. But now, banks and lenders can keep track of everyone's reputation. They use computers and government issued identities. They know our credit histories. They know our spending habits. They use algorithms to rank our credit worthiness. They know us well enough to issue credit to us, even though they don't actually know us. What a world!

1. Which main point about money is the author trying to make in this text?

a) Money unfairly flows to the richest people in the world.

b) Money allows people who don't know or trust each other to trade.

c) Money is the root of all evil.

d) Money can purchase many things but it cannot buy happiness.

2. According to the text, how did people mainly transact before the invention of money?

a) They used the barter system and traded physical goods.

b) They used seashells and beads as currency.

c) They lent and borrowed from each other.

d) Everything was free and everyone shared freely.

3. Why would the author lend to Joshua but not the tribe across the sea?

a) Joshua is the wealthiest person in town.

b) Joshua is a person who is known and trusted.

c) Joshua is a feared Roman soldier.

d) Joshua is the fastest person in the tribe.

4. What is the author's main purpose in writing the THIRD paragraph?

a) He is trying to convince us to forgo modern life and to live in tribes.

b) He is informing readers of the history of credit and debt systems.

c) He is explaining why tribal life is unproductive and wasteful.

d) He is describing the weaknesses of the credit and debt system.

5. Why did Roman army camps need to use money to facilitate trade?

a) Most people did not know each other.

b) Most people did not trust each other.

c) People often died in battle.

d) All of these reasons.

6. Which technologies enable modern societies to use credit systems?

a) Computers and government identification

b) Airplanes and phone networks

c) Radio waves and license plates

d) Steam power and waterways

7. Which is TRUE based on information from the text?

a) Roman army camps were much smaller than ancient tribes.

b) Roman army camps were about the same size as ancient tribes.

c) Roman army camps were much larger than ancient tribes.

d) Nobody knows the actual size of Roman army camps.

8. With which statement would the author most likely AGREE?

a) Money allows civilizations to grow very large.

b) Credit and debt systems are primitive and only were only used in ancient times.

c) Money ruins civilizations by making everyone greedy.

d) Credit and debt systems cannot function in the modern world.

9. Which event happened LAST in history?

a) Thousands of people lived in Roman Army camps.

b) Credit and debt systems became widespread again due to technology.

c) Money was invented.

d) Ancient tribes used mainly credit and debt systems for exchange.

10. With which statement would the author most likely DISAGREE?

a) If someone has a good reputation, it is easier to trust him or her.

b) Reputations are important for lenders and borrowers.

c) Money makes trading easier for people who do not know each other.

d) People can easily maintain good relationships with thousands of other people.

Reading Comprehension Test F

Directions: Read the following passage carefully and answer the questions that follow based on the text.

Dave farrow is a Canadian who appears in the Guinness Book of World Records for having the greatest memory. As a student, Dave had a learning disability called **dyslexia.** Despite his struggles with subjects like reading and writing, Dave found ways to improve his memory in order to do well in school. In 2008, he set a world record by memorizing the order of 59 decks of playing cards in two days. How did his brain **store** all of this information? According to Dave, anybody's brain can do **it**, but it helps to understand how memory works.

Your brain is constantly taking in information through your senses. The information enters your sensory memory, which has the capacity to hold lots of information, but only for a few seconds. If you **ignore** the information, your brain will discard **it**. However, if you pay attention to it, the information goes in to your short-term memory. This is why learning to pay attention is an important first step to improving your ability to recall what you learn.

To help the brain focus, Dave recommends breaking big tasks down into smaller ones. He sets a timer and works as hard as he can for short periods of time until the timer alarm sounds. Then he takes a small break. This keeps his focus strong.

Your **short-term memory** can only hold information from 15 seconds to a few minutes. In addition, short-term memory can only hold about seven things at one time. Memory **champions** like Dave have to hold long lists of information in their short-term memory at one time. To do this, **they** rely on different tricks.

One trick is to look at the first letter of every cord you want to memorize. Then, create your own word, phrase or sentence using all of those letters. This is called an **acronym.** For example, if you want to remember all the colours in a rainbow, try remembering the name Roy G. Biv. Each

letter in this fictional name matches the first letter of a colour: red, orange, yellow, green, blue, indigo, and violet. When you want to remember the colours of a rainbow, just think of Roy G. Biv and you will have an easier time.

Another trick is to organize information into **chunks.** For example, when you try to remember a telephone number, your brain usually remembers it in chunks. You remember the area code as one chunk, the next three number as a chunk, and the last four numbers as a chunk. This way, your brain only has to remember three things instead of ten. This works for words as well as numbers. Imagine that you wish to improve your vocabulary. Whenever you learn a new word, study words that share the same meaning. This way, you learn several new words at the same time and you only need to memorize one definition. Such words are called synonyms. For example, **synonyms** for the word big are huge, enormous, gigantic, large and massive.

A third memory trick is to use visualization. Say you wanted to memorize how people developed from wormlike creatures into human beings. First, create a picture in your mind for each stage (picture a worm, a fish, a monkey and a human). Then think of a path you regularly walk along. For example, you might normally walk from the path outside your home, into your house and into the kitchen. Finally, imagine each picture in a place along that path. For instance, in the garden you might see a worm. There might be a garbage can in the garden. You can imagine that the garbage can is full of rainwater and inside you can see a fish. When you enter the house you might see a bedroom door. You can imagine a monkey is jumping on the bed. Then you might see a member of our family, a human, cooking dinner. **Visualize** that path a few times and you'll have the information memorized. Visualization works because the brain remembers images well, and the crazier an image is, the easier **it** is to remember.

If you don't keep using the information, your brain throws it away. If you keep reviewing the information, it will go into your **long-term memory.** The more you practice recalling the information, the better you will be at remembering it. Try **these** tips the next time you need to remember a phone number, a new word or something for school

1. Your brain will throw information away _____.
   A. If you keep reviewing the information
   B. If your long-term memory is full
   C. You don't keep using the information

D. If your short- memory is full.

2. The article explains tricks to remember _____.
   A. How people developed from wormlike creatures into human beings
   B. The life story of Roy G. Biv.
   C. Disability hinders learning reading and writing
   D. Telephone numbers, addresses and different information
3. Your sensory memory _____.
   A. Can store a lot of information for a very short time
   B. Can store a small amount of information for just a few seconds
   C. Is able to hold lost of information for a long time
   D. Can hold more than seven things at a time
4. Dave farrow set a world record _____
   A. In 1959 B. in 2008
   C. When he was a student D. when he was seven
5. Dave farrow is from _____.
   A. USA B. Japan
   C. Great Britain D. Canada
6. What is this reading mainly about?
   A. The person with the world's greatest memory is a Canadian.
   B. People can have a good memory as long as they keep using information regularly.
   C. People with a learning disability like dyslexia can grow up to set world records.
   D. Everyone can read and write in spite of learning disability.
7. What is the main idea of paragraph 4?
   A. People with good memories use tricks to help them remember things.
   B. Your sort-term memory can only hold information from 15 seconds to a few minutes.
   C. Short term memories can work better if tricks are used
   D. If you practice regularly, you can remember information using the memory tricks
8. Dave farrow recommends breaking large tasks down into smaller ones in order to _____.
   A. Take as many rest periods as possible
   B. Keep your motivation strong
   C. Keep your focus strong
   D. Take as many information as you can.

9. A disability is _____.
   A. a condition of the mind or the body
   B. a condition of the mind that makes learning difficult
   C. a condition of the body that makes walking difficult
   D. none
10. One of the following is false.
   A. Visualization works because the brain helps you create your own words and phrases.
   B. We can ignore of pay attention to the information depending on its importance.
   C. Tricks, in the article, refer to methods of holding information in our short term memory.
   D. Our brain usually remembers telephone number in chunks.

Directions: Scan the passage once again and write what the following pronouns refer to.

11. It (para. 1 Line 6) _____
12. It (para. 2 Line 9) _____
13. They (para. 4 Line 18) _____
14. It (para. 7 Line 43) _____
15. These (para. 8 Line 46) _____

Reading Comprehension Test in Final Exam G

Read the following passage and answer questions 1-20 based on the passage

The green building movement is changing the way buildings are constructed. This movement started in the 1970s, as people began to see that modern life was destroying the environment we all share. Natural resources were being destroyed, energy and water consumption was rising, and so was pollution of all kinds. This environmental destruction has continued, and one important factor has been the way that buildings are constructed. In fact, energy use in buildings represents about 32 percent of all energy use in the United States.

In the early years, green builders were a small minority, and **their** goals of reducing the environmental impact of buildings were considered unrealistic. Now, however, the green building movement is growing, as builders have been able to take advantage of new technology and as the costs of this technology have gone down. Environmental building methods are now

practical enough to save money for builders and for building owners, even as they reduce damage to the environment.

First, green builders try to make use of recycled materials as much as possible. In fact, vast amounts of materials such as steel, cement, and wood are used in construction. Now, there are companies that specialize in gathering old materials, processing them, and selling them to builders for new buildings. States and cities are encouraging these companies, as the reuse of materials also means less waste in dumps. For larger builders or individual homeowners, it is possible to find everything from steel and cement to doors, windows, sinks, tubs, brick, and hardware.

Another way that builders can reduce environmental impact is to reduce the energy requirements of a building. **This** can be done in several ways. One is to provide an alternative, nonpolluting source of energy. The first alternative energy source to be developed was solar power. With solar panels – wide, flat sheets of special material – it is possible to produce electricity from the rays of the sun. Builders can install solar panels on the roofs of buildings and connect them to cooling or lighting systems. Once the panels are installed, they provide energy at no cost and with no pollution. In addition, nonpolluting solution for reducing energy use is a technology known as geothermal heating. To obtain geothermal heat, builders place special pipes below ground, where temperatures remain constant all year. In the winter, the earth's natural heat can be collected in these pipes, and then transferred into the building's heating system. In the summer, heat in the building can be collected and sent to the pipes underground.

A different kind of solution to the energy problem is for builders to reduce the amount of energy required in a building. For example, it is possible to cut electricity use noticeably just by improving natural lighting and installing low-energy light bulbs. To reduce the amount of fuel needed for heating or cooling, builders can also add **insulation** to the walls so that the building stays warmer in winter and cooler in summer. They can also consider the position of the building to take advantage of natural heating and cooling effects of the sun, the wind, and other buildings nearby. Furthermore, builders can plant trees that help reduce energy use by providing shade in sunny weather and protection from cold wind.

One of the best examples of advanced green building design in the United States is the Genzyme Center of Cambridge, Massachusetts. In 2000, the Genzyme Company decided to build the most

environmentally responsible office building ever made in America. Every aspect of the design and building had to consider two things: the need for a safe and pleasant workplace for employees and the need to reduce the negative environmental impact.

First, in constructing the building, 75 percent of the building materials were recycled materials. Furthermore, at least half of all the building materials came from nearby (less than 500 miles away) to use less energy in transporting them. Now, special mirrors on the roof bring the sunlight into the center of the building so that most of the employees can work under natural light. The windows in the building can be opened – unlike the windows in many American office buildings – so that people can get fresh air. Indoor gardens make the place more pleasant and also help clean the air of pollutants. Above all, the energy use in **it** has been reduced by 43 percent and water use by 32 percent, compared with other buildings of the same size.

In other parts of the world, several large-scale projects have recently been developed according to green building principles. One of **these** is in the town of Vauban, Germany, in an area that was once the site of army housing. The site has been completely rebuilt with houses that require 30 percent less energy than conventional houses. These houses are also heated by special nonpolluting systems that run on wood chips, and they are equipped with solar energy panels.

An even larger project is **under way** in China. The first phase of this project, in a small farming village, will include houses for 400 families built with solar power, nonpolluting bricks, and recycled wall insulation. In a second phase, entire neighborhoods in six cities will be built according to green building principles. And if all goes well, the Chinese government plans to copy **these ideas** in new neighborhoods all across China. Whether on a small or large scale, green building ideas are spreading.

For many ways, they were viewed as a costly option for the wealthy, but now individuals, companies, and governments are beginning to see their benefits. In addition to the fact that they are they environmental friendly, green buildings improve living and working conditions and also save money in the long run.

Direction: Decide whether the following statements are “True” or “False” and write your answers on the answer sheet (5%).

_____1. Recycled building materials cannot be used by home owners.

_____2. The green building endeavors in Germany focus on saving energy use.

_____3. According to the passage, the Chinese government has already implemented green building projects in new neighborhoods across China.

_____4. One area of focus for the Genzyme Company was the fact that windows in many American office buildings cannot be opened.

_____5. Environmental building methods are now practical means to save money for builders and for building owners, regardless of their damage to the environment.

Direction: Choose the correct answer from the given alternatives (5%).

6. Which statement can best express the overall idea of the passage?

A. The green building movement began because people were worried about pollution.

B. All buildings are generally made so that they will be environmentally friendly.

C. Environmental problems are causing serious damage to the world we live in.

D. Green buildings are friendlier to the environment than ordinary buildings.

7. Environmental building methods _____

A. now save money for building owners.

B. are now very expensive forbuilding owners.

C. are not practical for building owners now.

D. are now considered unrealistic.

8. Geothermal heating _____

A. works through solar panels. C. requires a lot of fuel.

B. uses the natural heat of the earth. D. does not work in the summer.

9.Which one of the following is NOT a way to reduce energy use?

A. using low-energy light bulbs

B. adding insulation to the walls

C. making the building larger

D. Positioning the building carefully

10. You can infer from the passage that green builders _____

A. have been more successful with private homes.

B. are particularly concerned with lowering energy use.

C. have not been successful outside the United States.

D. have planted lots of gardens in their buildings.

Direction: Find words from the passage that have similar meanings to the following definitions

.

11. impractical, inappropriate to reality (parag. 2) _____
12. very great in size (parag. 3) _____
13. reduce, decrease (parag. 6) _____
14. ordinary, commonplace (parag. 8) _____
15. expensive (parag. 10) _____

Direction: Reference: What do the following words/phrases refer to in the above passage .

16. 'their' (parag. 2, line 1) _____
17. 'This' (parag. 4, line 2) _____
18. 'it' (parag. 7, line 7) _____
19. 'these' (parag. 8, line 2) _____
20. 'these ideas' (parag. 9, line 4) _____

Direction: Give short answer

21. Write the possible title for the passage. _____

Appendix-J

Transcription of Teachers' Interviews

Transcription for T1 (Teacher 1)

I: Thank you T1, welcome to the interview for my PhD main study. My research is entitled as An Exploration of Higher Order Thinking Skills in the Practice of Teaching and Testing of Reading Comprehension. I am so pleased to have you for this interview.

T1: I also thank you too for inviting me for the interview for your research project.

I: Let me start the interview asking you about thinking. How do you define thinking skills in general and Higher Order Thinking Skills (HOTS)/Critical Thinking Skills in particular?

T1: This is interesting question. Thinking is a mental activity of processing information. It is one of unique features of humankind. It can distinguish humankind from the other creatures on the earth. HOTs is the level of thinking as all human beings may not think equally. It is the thinking that one requires in dealing with problem and decision making.

I: I am proceeding to the next question. What do you know about Bloom Taxonomy and its revised version? Among the categories of cognitive domain of the taxonomy, what are those considered as Higher Order Thinking Skills HOTS/Critical Thinking Skills?

T1: This is also very interesting question! This question made me to look at my past pedagogical courses. Bloom Taxonomy is a well-known thinking framework that can be used for designing learning tasks and assessments teachers can use. I afraid I cannot mention which category of the taxonomy is referred as HOT.

I: Now let's talk about your experience of employing the model for the teaching and learning process. Do you employ Bloom Taxonomy and to what extent while you formulate learning objectives, preparing learning activities and tests in teaching learning process of English in general and in teaching and testing of reading in particular?

T1: I expressed that I have good understanding of the taxonomy; however, I am not using it for what you have mentioned. I am regretting that I have been not using it for the mentioned activities. Hope, I will be using it. .

I: Just to pose the next question. Do you think that students are required to develop their Higher Order Thinking Skills (HOTS)/Critical Thinking Skills?

T1: This is very important question. We should know that one of the objectives of schooling (learning and teaching) is to develop learners' thinking skills; education should help students have developed cognitive abilities. Education that does not work on students' mental/cognitive ability is meaningless. The basis of meaningful learning is to promote students' thinking ability. Therefore, it is mandatory to consider students' cognitive development in the teaching learning process.

Here, I want to remind that it is not only education that works on the development of students' cognitive ability. Society, culture, nature and environment in general have their parts to paly in the development of learners' cognitive skills. As a result, to enhance students thinking level, the interaction students have with their parents, peers, and people at their surrounding etc have tremendous contributions.

I: That is good. To what extent do you think that English language teachers are responsible to develop students' Higher Order Thinking Skills (HOTS)/Critical Thinking Skills?

T1: Ok, as most of the time I read 21st century skills I have come to understand that these skills more specifically thinking skills are explicitly or implicitly teachable skills. In our curriculum, even if explicit teaching of thinking skills is not available, I do have the conviction that English language teachers address thinking skills in their classroom. However, what matter is the extent to which theses teachers consciously address the issue in their teaching and learning process.

Acquitting learners with thinking skills (HOTS) requires student to cognitively engage in the activities they undertake both in the classroom and outside the classroom. Mainly it needs learners performing meaningful activities but not activities that highly dominated with rote memorization.

As I mentioned earlier, engaging learners with cognitively demanding tasks gives learners opportunity to develop mental ability. Moreover, as different scholars put learning language by itself has big contribution to thinking development of the learners. I believe that language and thinking interrelated. Our language ability may be one of the indicators of our level of thinking.

From what said above, it is possible to conclude apart from instructional strategies teachers employ to teach English, being learning English (as far as it is the language) by itself has contribution to the development of learners' cognitive level.

I: What do you think the teaching and testing of reading can do with the learners' thinking skills/abilities?

T1: This is also very good question. As we know well reading is majorly a cognitive process; it is a mental process that a reader undergoes to construct meaning from what he/she reads. It is the activity that greatly related to thinking ability. Student who reads well and broad can have big chance to enhance his/her thinking abilities. This is due to two major reasons: first, when he/she reads, there are new knowledge and experiences he/she acquires. Second, engaging in to reading and understanding of the meaning of the text by itself initiate different cognitive process in the reader.

Students can benefit a lot from doing reading exercises on books and tests/exams. This is to say that reading questions have the role to enhance learners thinking abilities in addition to help the students comprehend what they have read on the text.

I: That is good. As you may think, what are the instructional strategies that can help students employ higher order thinking skills or help them enhance their critical thinking skills?

T1: Oh, yaa; I do employ different instructional strategies that can contribute to learners'' thinking ability. Just to mention, I use debating, questioning, collaborative teaching and other active learning techniques. I try to use different questions that require students employ different cognitive levels to answer them.

I believe in making the learners cognitively engage in what they do; I do not emphasis rote memorization. I want students engage into meaningful learning. Meaningful learning gives learners to cognitively engage and apply what they have learned to the situation different from what they have acquired the skills and knowledge.

I: Let me pose the last question. Do you think that incorporating Higher Order Thinking Skills/critical thinking skills in teaching and testing of reading is what expected from English language teachers? Why?

T1: As I have tried to mention above, we are I 21st century that we are expected to develop our students thinking competence. To do so, we are required to incorporate thinking skills in lessons, tasks and assessments we provide to our students. As I believe, reading is a mental activity that offers better chance to cognitively engage. Consequently, English language teachers are expected to use this opportunity to facilitate learners' thinking ability in the practice of teaching and testing of the skills involving in reading.

For instance, teachers can ask questions with different cognitive levels based on the texts students are required to read. Mainly, higher level questions demand students cognitive engagement as compared to lower level questions which require learners' less cognitive engagement.

I: I really thank you so much for participating.

T1: You welcome.

Transcription for T2 (Teacher 2)

I: Thank you T2, welcome to my interview for my study. My research is entitled as An Exploration of Higher Order Thinking in the Practice of Teaching and Testing of Reading Comprehension. I am very much grateful for having you for this interview.

T2: Thank you too for inviting me to the interview.

I: To begin with, how do you define thinking skills in general and Higher Order Thinking Skills (HOTS)/Critical Thinking Skills in particular?

T2: Ok, thinking is a mental activity and that can distinguish humankind from the other creatures on the earth. As I feel, all human beings do not think equally. The thinking ability of one person can be high, low or average. It is up to the cognitive level of the person. So, when we say higher order thinking skills we are referring to the thinking ability one performs at problem solving, decision making and the like. It is critical thinking ability that we need to have mainly in this 21st century to look the credibility of the sources of the information that comes to us from different angles of our daily activities.

I: Let me pass to the second question. What do you know about Bloom Taxonomy and its revised version? Among the categories of cognitive domain of the taxonomy, what are those considered/categorized as Higher Order Thinking Skills HOTS/Critical Thinking Skills?

T2: That is great! Emmm, I well remember about my pedagogy course during my first degree/undergraduate. I had really very interesting teacher for the course. He was deeply discussing the Bloom Taxonomy with well-illustrated examples on the several lessons spent on the mentioned taxonomy. Even if I cannot exactly name which elements of the category named as Higher Order, I do have better understanding of the taxonomy they are hierarchical and there should be in learning objectives that teachers should design, and students are required to achieve them.

I: Now let's talk about your experience of employing the model for the teaching and learning process. Do you employ Bloom Taxonomy and to what extent while you formulate learning objectives, preparing learning activities and tests in teaching learning process of English in general and in teaching and testing of reading comprehension in particular?

T2: As I have aforementioned, I do have better understanding of this taxonomy. I used to design learning objectives mainly when I was teaching at high schools before 12 or 14 years. Frankly speaking, here in the university, I do not rely on this.

I: I am passing to the next question. Do you think that students are required to develop their Higher Order Thinking Skills (HOTS)/Critical Thinking Skills?

T2: This is very important question. We should know that one of the objectives of schooling (learning and teaching) is to develop learners' thinking skills; education should help students have developed cognitive abilities. Education that does not work on students' mental/cognitive ability is meaningless. The basis of meaningful learning is to promote students' thinking ability. Therefore, it is mandatory to consider students' cognitive development in the teaching learning process.

Here, I want to remind that it is not only education that works on the development of students' cognitive ability. Society, culture, nature and environment in general have their parts to play in the development of learners' cognitive skills. As a result, to enhance students thinking level, the

interaction students have with their parents, peers, and people at their surrounding etc have tremendous contributions.

I: That is good. To what extent do you think that English language teachers are responsible to develop students' Higher Order Thinking Skills (HOTS)/Critical Thinking Skills?

T2: Ok, since most of the time I read 21st century skills I have come to understand that these skills more specifically thinking skills are explicitly or implicitly teachable skills. In our curriculum, even if explicit teaching of thinking skills is not available, I do have the conviction that English language teachers address thinking skills in their classroom. However, what matter is the extent to which theses teachers consciously address the issue in their teaching and learning process.

Acquitting learners with thinking skills (HOTS) requires student to cognitively engage in the activities they undertake both in the classroom and outside the classroom. Mainly, it needs learners performing meaningful activities but not activities that highly dominated with rote memorization.

As I mentioned earlier, engaging learners with cognitively demanding tasks gives learners opportunity to develop mental ability. Moreover, as different scholars put learning language by itself has big contribution to thinking development of the learners. I believe that language and thinking interrelated. Our language ability may be one of the indicators of our level of thinking.

I: What do you think the teaching and testing of reading comprehension can do with the learners' thinking skills/abilities?

T2: This is also very good question. As we know well reading is majorly a cognitive process; it is a mental process that a reader undergoes to construct meaning from what he/she reads. It is the activity that greatly related to thinking ability. Student who reads well and broad can have big chance to enhance his/her thinking abilities. This is due to two major reasons: first, when he/she reads, there are new knowledge and experiences he/she acquires. Second, engaging in to reading and understanding of the meaning of the text by itself initiate different cognitive process in the reader.

Students can benefit a lot from doing reading exercises on books and tests/exams. This is to say that reading questions have the role to enhance learners thinking abilities in addition to help the students comprehend what they have read on the text.

I: What are the instructional strategies that can help students employ higher order thinking skills or help them enhance their critical thinking skills?

T2: Oh, yaa; I do employ different instructional strategies that can contribute to learners' thinking ability. Just to mention, I use debating, questioning, collaborative teaching and other active learning techniques. I try to use different questions that require students employ different cognitive levels to answer them.

I believe in making the learners cognitively engage in what they do; I do not emphasis rote memorization. I want students engage into meaningful learning. Meaningful learning gives learners to cognitively engage and apply what they have learned to the situation different from what they have acquired the skills and knowledge.

I: Let me pose the last question. Do you think that incorporating Higher Order Thinking Skills/critical thinking skills in teaching and testing of reading comprehension is what expected from English language teachers? Why?

T2: As I have tried to mention above, we are in 21st century that we are expected to develop our students thinking competence. To do so, we are required to incorporate thinking skills in lessons, tasks and assessments we provide to our students. As I believe, reading is a mental activity that offers better chance to cognitively engage. Consequently, English language teachers are expected to use this opportunity to facilitate learners' thinking ability in the practice of teaching and testing of the skills involving in reading.

For instance, teachers can ask questions with different cognitive levels based on the texts students are required to read. Mainly, higher level questions demand students' cognitive engagement as compared to lower level questions which require learners' less cognitive engagement.

I: Thank you for taking part. I really appreciate your cooperation.

T2: You welcome and wish you all the best.

Transcription for T3 (Teacher 3)

I: Thank you T3, I would like to say welcome to my interview for my PhD main study. My research is entitled as An Exploration of Higher Order Thinking in the Practice of Teaching and Testing Reading Comprehension. I am very much grateful for having you for my interview.

T3: Thank you for having me and you welcome!

I: Let me present the first question, how do you define thinking skills in general and Higher Order Thinking Skills (HOTS)/Critical Thinking Skills in particular?

T3: I see, thinking is the way we process information. I guess (as I do not have adequate information on such issue) Higher Order Thinking Skills/Critical Thinking skills are the extent to which we see things, ideas etc.

I: Ok, What do you know about Bloom Taxonomy and its revised version? Among the categories of cognitive domain of the taxonomy, what are those considered as Higher Order Thinking Skills HOTS/Critical Thinking Skills?

T3: I guess these terms go to pedagogy course; I am not from education background; I did not take pedagogy course during my undergraduate study. What I remember is some of the courses I took on my MA program. Even at this level, I do not remember any course related to such concept.

I: Do you employ Bloom Taxonomy and to what extent while you formulate learning objectives, preparing learning activities and tests in teaching learning process of English in general and in teaching and testing of reading comprehension in particular?

T3: As mentioned above, this concept is new for me. I do not have different ideas from what I have just mentioned.

I: Do you think that students are required to develop their Higher Order Thinking Skills (HOTS)/Critical Thinking Skills?

T3: From this question, I guess that education can add something on ours thinking ability. Students need to be given opportunity to experiment their thinking abilities. I believe that students need to be given chances to practice thinking in their teaching and learning process.

I: Ok, proceeding to the next question, to what extent do you think that English language teachers are responsible to develop students' Higher Order Thinking Skills (HOTS)/Critical Thinking Skills?

T3: Let me talk referring thinking; I think there is connection between thinking and language. In learning language students can have opportunity to work on their thinking. This is mainly due to the interconnectedness of thinking and language. Moreover, teachers need to provide students with a little bit challenging tasks. Such tasks help students concentrate while doing either in groups or individually. This is to mean that such tasks have the potential to engage the learners. In general, I can say English language teachers have responsibility to enhance learners' thinking abilities.

I: What do you think the teaching and testing of reading comprehension can do with the learners' thinking skills/abilities?

T3: Reading is a cognitive process; it is what students are expected to do actively to construct the meaning of texts they read. Through reading students can add something on their existing knowledge and also get chance to make their mind exercise thinking. This is because readers are not passive absorber of what they read; they are active constructor of the meaning of what they read.

I: What are the instructional strategies that can help students employ higher order thinking skills or help them enhance their critical thinking skills?

T3: Making learners active participant can have benefit for students thinking ability. Giving the chance to get involved in what they are required to do means giving the chance to think and do it based on what they have thought.

Moreover, making students work in pairs or groups can enhance their thinking skills. Students exercise uttering different ideas and also get chance to compare their ideas with members of the participants when they are made work in pair or group. So, experimenting different ideas can benefit students thinking ability.

I: Now, we are coming to the last question. Do you think that incorporating Higher Order Thinking Skills/critical thinking skills in teaching and testing of reading is what expected from English language teachers? Why?

T3: Yes! We need to use varieties of teaching techniques to develop our students thinking ability. For instance, we need to implement debating in our classes to teach our students how to reason out on a particular issue.

In practicing reasoning out, students come to promote their thinking skills. So, it is possible to employ such thing in reading classes also. Finally, teachers are responsible to promote their learners' thinking skills.

I: I really appreciate you for giving me your precious time and participating in this interview. I would like to say again thank.

T3: Don't mention! I wish you all the good things on this project.

Transcription for T4 (Teacher 4)

I: Thank you T3, I would like to say welcome to the interview for my study. My research is entitled as An Exploration of Higher Order Thinking Skills in the Practice of Teaching and Testing of Reading Comprehension. I am very much grateful for having you for my interview.

T4: Thank you; I feel honored being one of your interviewees!

I: Just to begin, how do you define thinking skills in general and Higher Order Thinking Skills (HOTS)/Critical Thinking Skills in particular?

T4: Ok. Thinking is the process of reflecting on something and aims at taking decision and problem solving. When we say higher order thinking, it is a thinking process that we make taking a longer time to pass good and flawless decision; it is also a thinking that an educated person can make.

I: Well, proceeding to the next question, what do you know about Bloom Taxonomy and its revised version? Among the categories of cognitive domain of the taxonomy, what are those considered/categorized as Higher Order Thinking Skills HOTS/Critical Thinking Skills?

T4: Bloom's taxonomy is a very important tool in education. It is a model that every teacher expected to know well. It is a taxonomy that tells the three major goals of education which are Cognitive domain, Affective domain and psychomotor domain. Each domain has division. I can well retrieve the levels in cognitive domain which are Knowledge, Comprehension, Application, Analysis, Synthesis and Evaluation.

I guess that there are two levels in the model. The first one is lower level which includes Knowledge, Comprehension and Application. The other is the higher level which includes the rest of constitutes of the category: Analysis, Synthesis and Evaluation. I think the top three are what I think as higher Order Thinking.

I: Now let's talk you experience of employing the Bloom's taxonomy. Do you employ Bloom Taxonomy and to what extent while you formulate learning objectives, preparing learning activities and tests in teaching learning process of English in general and in teaching and testing of reading comprehension in particular?

T4: Frankly speaking, I am not employing the taxonomy during formulating learning objectives, preparing learning activities and test. I prefer I would use it.

I: Ok, do you think that students are required to develop their Higher Order Thinking Skills (HOTS)/Critical Thinking Skills?

T4: Yes! What I feel even if we do not directly teach student about thinking, what we do in the classroom have a lot to do with learners' thinking abilities. Learning by itself aims at enhancing with the learners' thinking. However, the activities we give, and the tests we prepare have direct impact on our students.

I have a belief that students should do on challenging tasks to improve their thinking. Moreover, the teaching approach and techniques teachers use in the class do have a lot to do with the learners' thinking ability. Whatever, in teaching learning process, students are required to develop their thinking ability.

I: I am passing to the next question. To what extent do you think that English language teachers are responsible to develop students' Higher Order Thinking Skills (HOTS)/Critical Thinking Skills? Why?

T4: Learning in general and language learning in particular has something to do with learners thinking ability. Specifically, as different scholars put and I also believe, learning language has effect on students cognitive level as language and thinking are interconnected in different ways. Moreover, English language teachers can consciously work on enhancing their learners thinking abilities through engaging them in meaningful learning process in which learners are given opportunity to accomplish learning tasks demand different cognitive levels.

We need to make our learner exercise doing something beyond the surface. We need to encourage them see things from different perspectives. It is also important to give learners chances to express their ideas on different issues raised in the class.

I: Ok. What do you think the teaching and testing of reading comprehension can do with the learners' thinking skills/abilities?

T4: Reading is a cognitive activity. It is what students are expected to undertake consciously. It is meaning construction activity that demands students' cognitive active engagement. As a result, making learners read means making them engage in thinking. Both in teaching and testing of reading students can benefit from what they are given to do. If students work on reading activity that encourage them see beyond literal meaning, they get better chance to promote their thinking.

So, to better help students develop their thinking abilities, we are expected to provide students with reading tasks that help them look beyond what explicitly stated in the texts they are reading. Similarly, in testing reading, comprehension questions that enable students understand beyond literal comprehension are needed.

I: We are near to complete our conversation. What are the instructional strategies that can help students employ higher order thinking skills or help them enhance their critical thinking skills?

T4: This is good question. I think when we say instructional strategies that facilitate higher order thinking we are referring to active learning techniques that give learners chances to actively participate in the classroom and use the target language. Brainstorming, debating, and pair/group work can be among the instructional strategies those foster students' active participations in the classroom.

In classroom where learners are given better chances to actively participate, there are better chances for the learners to think and use their cognitive skills. So, employing different active learning techniques in reading classes can have necessary impacts on learners' thinking abilities.

I: I am posing the last question. Do you think that incorporating Higher Order Thinking Skills/critical thinking skills in teaching and testing of reading is what expected from English language teachers? Why?

T4: Yes! Our students need to be equipped with thinking skills. In reading classes, we are expected to help students undertake activities that demand different thinking skills. Students should analyze, synthesize and evaluate the texts they are reading.

We have to help students critically approach what they are expected to read. Creating such scenarios for students help them enhance their thinking abilities. In general, we are expected to help students work on activities that need students use their cognitive.

I: Thank you so much for participating. I really appreciate your cooperation.

T4: That is great and thank you.

Transcription for T5 (Teacher 5)

I: Thank you T5, I would like to say welcome to my interview for my PhD research. My research is entitled as An Exploration of Higher Order Thinking Skills in the Practice of Teaching and Testing Reading Skill. I am very much grateful for having you for my interview.

T5: I feel great being part of this project.

I: Let me start with the first question, how do you define thinking skills in general and Higher Order Thinking Skills (HOTS)/Critical Thinking Skills in particular?

T5: Ok, that is good question. Thinking is a unique feature of human being. It is mental/brain activity of human being that aims at doing/accomplishing something. Critical thinking is the thinking process that requires higher energy and focus mainly during engaging in unfamiliar situation. It is a thinking someone manifests during solving problem and the like.

I: Ok, What do you know about Bloom Taxonomy and its revised version? Among the categories of cognitive domain of the taxonomy, what are those considered as Higher Order Thinking Skills HOTS/Critical Thinking Skills?

T5: Emmmm, I had got deep understanding of the taxonomy while I was learning during undergraduate. I have not read well after then. I feel that the higher order thinking related to the higher division of the taxonomy.

I: Let me pose the next question. Do you employ Bloom Taxonomy and to what extent while you formulate learning objectives, preparing learning activities and tests in teaching learning process of English in general and in teaching and testing of reading in particular?

T5: I am not employing the knowledge of the taxonomy for the teaching and testing purpose. I feel that I am missing something great that could benefit my students.

I: Do you think that students are required to develop their Higher Order Thinking Skills (HOTS)/Critical Thinking Skills?

T5: Yes! I believe that thinking ability can distinguish illiterate from literate; this is because those who have learned are expected to have better thinking as one of the objectives of teaching and learning is developing learners thinking skills.

Mainly, in this century, students are required to be competent enough and proficient in their thinking ability. So, in order to produce innovative and problem solver students we need to help students develop their thinking ability.

I: That is good. To what extent do you think that English language teachers are responsible to develop students' Higher Order Thinking Skills (HOTS)/Critical Thinking Skills?

T5: In this century, there is a continuous technological advancement and wide spread of information. Moreover, the philosophy behind economy of different countries has become knowledge based economy, which has direct link with the thinking abilities/skills of the working forces of the countries. So, it has become mandatory to have critical thinking skills to be competent and productive citizen.

In this regard, English language teachers are expected to play their own roles to contribute in developing learners' critical thinking ability. We need to make students see something in different perspective and also look for evidences and reasons before taking actions and decide. If we are making our students do something different from what already known and engage them into different experience from what has been common to them, we are giving them a better chance to experiment their thinking skills. So, we need to gear our teaching towards helping students to look something beyond literal.

I: Proceeding to the next question. What do you think the teaching and testing of reading can do with the learners' thinking skills/abilities?

T5: Ok. Reading is all about cognitive activity that a reader required to undertake in conscious approach. It is a task that demands learners' active involvement to construct the meaning of what is read. Since this is an activity that has close relation with thinking, its effective teaching and testing has impacts on students thinking ability.

But it is important to recall the importance and level of tasks students required to accomplish to benefit from teaching and testing of reading. This is to mean that the level of thinking tasks initiate in learners to successfully undertake the tasks determine the contributions of the tasks to the learners' thinking levels. In order to help the learners benefit from reading, teachers are required to present learners with reading exercises that make the learners critically approach the reading texts.

When I say critical approach to reading I mean that students need to be given tasks that make them read critically the given text. Students should be made analyze, evaluate and produce something based on the text they read.

I: As you may think, what are the instructional strategies that can help students employ higher order thinking skills or help them enhance their critical thinking skills?

T5: Ok, Reading is a cognitive process in which the reader brings together his prior knowledge and information in the text in order to construct the meaning. I feel the level of reader's comprehension depends on the extent to which he/she exerts his cognitive effort. As teacher, we need to make the learners cognitively engage in the process of reading. Moreover, the questions we let students do in the reading class should be those which help students' thinking beyond literal comprehension.

So, as English language teacher, I should help students critically approach a text. This can include making learners actively involved in reading and also actively participate in classroom activities in general.

Most of the time, I use different active learning techniques in my classroom to make my students actively engaged in the teaching learning process. I employ these techniques consciously to create good opportunity for my students to enhance their thinking skills.

I: This is the last question. Do you think that incorporating Higher Order Thinking Skills/critical thinking skills in teaching and testing of reading is what expected from English language teachers? Why?

T5: I have well described in my conversation so far. Yes! English language teachers are expected to incorporate higher order thinking skills in the teaching and testing of reading. This mainly because it is difficult to see reading and thinking as different and unrelated entity. Thinking and reading are interconnected.

As a result, teachers are expected to provide reading tasks that capture students' cognitive skills. The tasks should be something that students should devout on it to successfully undertake it; it should not be a task that learners answer in memorizing or recalling.

I: Thank you very much for giving me your invaluable time and providing me your responses on the questions.

T5: It is my pleasure. Wish you all the best!

Transcription for T6 (Teacher 6)

I: Thank you T6, I would like to say welcome to my interview for my pilot study. My research is entitled as An Exploration of Higher Order Thinking in the Practice of Teaching and Testing Reading Skill. I am very much grateful for having you for my interview.

T6: I feel great being part of this project.

I: Let me start with the first question, how do you define thinking skills in general and Higher Order Thinking Skills (HOTS)/Critical Thinking Skills in particular?

T6: Ok, that is good question. Thinking is a unique feature of human being. It is mental/brain activity of human being that aims at doing/accomplishing something. Critical thinking is the thinking process that requires higher energy and focus mainly during engaging in unfamiliar situation. It is a thinking someone manifests during solving problem and the like.

I: Ok, What do you know about Bloom Taxonomy and its revised version? Among the categories of cognitive domain of the taxonomy, what are those considered as Higher Order Thinking Skills HOTS/Critical Thinking Skills?

T6: I had got deep understanding of the taxonomy while I was learning during undergraduate. I have not read well after then. I feel that the higher order thinking related to the higher division of the taxonomy.

I: Let me pose the next question. Do you employ Bloom Taxonomy and to what extent while you formulate learning objectives, preparing learning activities and tests in teaching learning process of English in general and in teaching and testing of reading in particular?

T6: I am not employing the knowledge of the taxonomy for the teaching and testing purpose. I feel that I am missing something great that could benefit my students.

I: Do you think that students are required to develop their Higher Order Thinking Skills (HOTS)/Critical Thinking Skills?

T6: Yes! I believe that thinking ability can distinguish illiterate from literate; this is because those who have learned are expected to have better thinking as one of the objectives of teaching and learning is developing learners thinking skills.

Mainly, in this century, students are required to be competent enough and proficient in their thinking ability. So, in order to produce innovative and problem solver students we need to help students develop their thinking ability.

I: That is good. To what extent do you think that English language teachers are responsible to develop students' Higher Order Thinking Skills (HOTS)/Critical Thinking Skills?

T6: In this century, there is a continuous technological advancement and wide spread of information. Moreover, the philosophy behind economy of different countries has become knowledge based economy, which has direct link with the thinking abilities/skills of the working forces of the countries. So, it has become mandatory to have critical thinking skills to be competent and productive citizen.

In this regard, English language teachers are expected to play their own roles to contribute in developing learners' critical thinking ability. We need to make students see something in

different perspective and also look for evidences and reasons before taking actions and decide. If we are making our students do something different from what already known and engage them into different experience from what has been common to them, we are giving them a better chance to experiment their thinking skills. So, we need to gear our teaching towards helping students to look something beyond literal.

I: Proceeding to the next question. What do you think the teaching and testing of reading can do with the learners' thinking skills/abilities?

T6: Ok. Reading is all about cognitive activity that a reader required to undertake in conscious approach. It is a task that demands learners' active involvement to construct the meaning of what is read. Since this is an activity that has close relation with thinking, its effective teaching and testing has impacts on students thinking ability.

But it is important to recall the importance and level of tasks students required to accomplish to benefit from teaching and testing of reading. This is to mean that the level of thinking tasks initiate in learners to successfully undertake the tasks determine the contributions of the tasks to the learners' thinking levels. In order to help the learners benefit from reading, teachers are required to present learners with reading exercises that make the learners critically approach the reading texts.

When I say critical approach to reading I mean that students need to be given tasks that make them read critically the given text. Students should be made analyze, evaluate and produce something based on the text they read.

I: As you may think, what are the instructional strategies that can help students employ higher order thinking skills or help them enhance their critical thinking skills?

T6: Ok, Reading is a cognitive process in which the reader brings together his prior knowledge and information in the text in order to construct the meaning. I feel the level of reader's comprehension depends on the extent to which he/she exerts his cognitive effort. As teacher, we need to make the learners cognitively engage in the process of reading. Moreover, the questions we let students do in the reading class should be those which help students' thinking beyond literal comprehension.

So, as English language teacher, I should help students critically approach a text. This can include making learners actively involved in reading and also actively participate in classroom activities in general.

Most of the time, I use different active learning techniques in my classroom to make my students actively engaged in the teaching learning process. I employ these techniques consciously to create good opportunity for my students to enhance their thinking skills.

I: This is the last question. Do you think that incorporating Higher Order Thinking Skills/critical thinking skills in teaching and testing of reading is what expected from English language teachers? Why?

T6: I have well described in my conversation so far. Yes! English language teachers are expected to incorporate higher order thinking skills in the teaching and testing of reading. This mainly because it is difficult to see reading and thinking as different and unrelated entity. Thinking and reading are interconnected.

As a result, teachers are expected to provide reading tasks that capture students' cognitive skills. The tasks should be something that students should devout on it to successfully undertake it; it should not be a task that learners answer in memorizing or recalling.

I: Thank you very much for giving me your invaluable time and providing me your responses on the questions.

T6: It is my pleasure. Wish you all the best!