

CHAPTER II

THEORETICAL REVIEW

A. Concept of Correlational Research

Johnson and Christensen (2012, p. 44) state that in correlational research, the researcher studies the relationship between one or more quantitative independent variables and one or more quantitative dependent variables. There is correlation coefficient, which is a numerical index that provides information about the strength and direction of the relationship between two variables. It provides information how variables are associated. More specifically correlation coefficient is a number that can range from -1 to 1, with zero standing for no correlation at all. If the number is greater than zero, there is a positive correlation. If the number is less than zero, there is a negative correlation. If the number is equal to zero, there is no correlation between the two variables. If the number is equal to +1.00 or equal to -1.00, the correlation is called perfect. Positive correlation is present when scores on two variables tend to move in the same direction while negative correlation is present when score on two variables tend to move in opposite direction – as one variable goes up, the other tends to go down, and vice versa.

The meaning of a given correlation coefficient can be seen below based on Johnson and Christensen (2012, p. 340):

Table 1
Correlation Coefficient

Interval Coefficient	Level of Correlation
0.00 – 0.34	Very Weak
0.34 – 0.40	Weak
0.41 – 0.64	Fair
0.65 – 0.84	Strong
0.85 – 1.00	Very Strong

There are two primary types of correlational research design; explanation and prediction (Creswell, 2005, p. 326). The explanatory research design is a correlational design in which the researcher is interested in the extent to which two variables (more) co-vary, that is, where changes in one variable are reflected in changes in the other. Explanatory design consists of a simple association between two variables or more than two. Creswell (2005, p. 327) shows that the characteristics of this design are that the researchers correlate two or more variables, collect data at one point in time, analyze all participants as a single group, obtain at least two scores for each individual in the group—one for each variable, report the use of the correlation statistical test (or an extension of it) in the data analysis, and make interpretations or draw conclusions from the statistical test results.

Johnson and Christensen (2012, p. 339) add that in an explanatory study, all the data on both variables will usually be collected within a fairly short time. Often, the instruments used are administered in a single session, or in two sessions—one immediately after the other.

In a prediction design, researcher seeks to anticipate outcomes by using certain variables as predictors. This design is useful because it helps anticipate or forecast future behavior. The purpose of this design is to identify variables that will positively predict an outcome or criterion. In this form of research, the investigator identifies one or more predictor variables and a criterion (or outcome) variable. A predictor variable is the variable used to make a forecast about an outcome in correlational research while criterion variable is the outcome being predicted. Creswell (2005, p. 328) shows that the characteristics of this design are that the researchers typically include the word “prediction” in the title or research questions, measure the predictor variable(s) at one point in time and the criterion variable at a later point in time, and forecast future performance.

In addition, the minimum acceptable sample size for a correlational study is considered by most researchers to be no less than 30 (Fraenkel, Wallen & Hyun, 2012 p. 338; and Creswell, 2005, p. 150).

B. Concept of Critical Thinking

Nikou, Bonyadi, and Amirikar (2015) explain that the definitions of the concept of critical thinking are broad, the definitions range from multiple perspective: philosophical, psychological, and educational. Some of definitions given by experts are sometimes different. However, it is important to gather the serious definition to construct the definition of critical thinking.

Critical thinking can be defined as the ability to identify and analyze problems as well as seek and evaluate relevant information in order to reach an appropriate conclusion (Watson and Glaser, 2012, p. 11) Good conclusion can be reached by identifying, analyzing, and evaluating the matter issues. Critical thinking is also called as “reasonable thinking”. It means that having good and logical reason is the major characteristic of critical thinking skill needed when drawing conclusion or making decision.

Paul and Elder (2007, p. 2) define critical thinking as the art of analyzing and evaluating thinking with a view to improving it. Freeley and Steinberg (2007) describe critical thinking as the ability to analyze, criticize, and advocate ideas, to reason inductively and deductively, and to reach factual or judge mental conclusions based on sound inferences drawn from unambiguous statements of knowledge of belief. Critical thinking is about analyzing, evaluating, and criticizing something (knowledge, information, problem, and issue) in order to find good conclusion and judgment.

Meanwhile, Wasshburn (2010, p. 3) points out that critical thinking relates to the activity to criticize people or things both in terms of negative side of them that may lead to the comprehension and best judgment about them.

From the explanation above, it shows that critical thinking ability is a process of evaluating and analyzing the problems or some issues with logical and reasonable thinking. It means that before making decision or judgment, a critical thinker has to think critically about what should to do or believe in order to make a good and reasonable judgment and decision.

To sum up, critical thinking is the ability to think critically, reasonably, and analytically about the problem or the matter issue.

Understanding cause and effect as well as evaluating information is required in order to reach good and logical interpretation from the problem or the matter issue. Such thinking is needed in every aspect of people' life as making decision and having problem are the part of life.

C. Characteristics of Critical Thinking

Critical thinking as defined above is the ability to think critically, that kind of ability can be seen by someone ability in analyzing and evaluating the problems or issue. Furthermore, knowing the cause and effect, can evaluate and make argument and interpretation from the problem or the matter issue. Therefore, a critical thinker should have such thinking abilities. Media educator, Ferrent (1997) suggests the following fifteen characteristics of a critical thinker:

1. Ask related questions of the issues.
2. Assess statement and arguments.
3. Able to admit a lack of understanding or information.
4. Have a sense of curiosity.
5. Interested in finding new solutions.
6. Able to define clearly a set of criteria for analyzing ideas.
7. Willing to examine beliefs, assumptions, and opinions and weigh them against facts.
8. Listen carefully to others and are able to give feedback.
9. Suspend judgment until all facts have been gathered and considered.
10. Look for evidence to support assumptions and beliefs.
11. Able to adjust opinions when ne facts are found.
12. Look for evidence.
13. Examine problems closely.
14. Are able to reject information that is incorrect or irrelevant.
15. See that critical thinking process of self-assessment.

Paul and Elder (2008), one of the leading researchers on critical thinking, mentioned some characteristic of a critical thinker as cited below:

1. Find out the critical questions and problems, and clearly formulating them;
2. Collect and evaluate relevant information, using abstract ideas to interpret it effectively;
3. After finding well-reasoned conclusions and solutions, then testing them against relevant criteria and standard;
4. Having open minded though by recognizing and assessing with their assumption, implications, and practical consequences; and
5. Find the solutions of the complete problems by effectively discussing it with other.

From the characteristics mentioned above, it can be drawn a conclusion that a good critical thinker must have the ability to evaluate information, examine, and analyze the evidence, as well as think open mindedly. A cultivated critical thinker could be expressed in the phrase “reasonable person” (Hunter, 2009). Such person always tries to evaluate and criticize information, issue and evidence before making decision, judgment as well as conclusion.

D. The Kinds of Critical Thinking

Critical thinking includes the component skills of analyzing arguments, making inferences, judging or evaluating, and making decisions or solving problems. Such skill has many levels of thinking as cited by Teys (2007), that critical thinking can be divided into two categories, namely lower order thinking and higher order thinking. Lower order thinking skills or basic skills covers many skills such as memorizing, summarizing, labeling, observing, and sorting. Meanwhile, higher order skills as usually called as comprehension skills include application, synthesis, making inference, comparison/contrast, justification, analysis, evaluation, moral reasoning, and using inductive and deductive reasoning.

Meanwhile, Bloom (1956), proposes six categories of thinking as usually called as “Bloom Taxonomy”. The taxonomy includes these

categories; Remembering, understanding, applying, analyzing, evaluating, creating. Here, is the table of Bloom Taxonomy for the clear explanation:

Table 2
Bloom Taxonomy

No.	Categories	Definition
1.	Remembering	Memorizing facts, figures, and basic processes
2.	Understanding	Understanding and illustrating the facts and knowledge
3.	Applying	Generalizing or applying the facts to other contexts and situations
4.	Analyzing	Examining the information and separating it into component parts.
5.	Evaluating	Defending your own opinion, or presenting a new one. Judging the value and quality of work, information and ideas.
6.	Creating	Using diverse elements to build a completely new structure. it also involves putting various parts together to form a whole.

Based on the table above, it shows that the first and the second categories of thinking are basic or lower order thinking. It is about understanding, the knowledge and the fact. Therefore, the higher and critical thinking ability is not required. While, the third until the sixth categories are higher order thinking activity involve application, analysis, synthesis, and evaluation. Consequently, the higher order thinking as usually called as critical thinking ability is needed in those thinking activities. However, using the higher order skill or critical thinking skill requires both knowledge and comprehension of the content or fact; therefore, all levels of thinking should be encouraged.

Questions based on Bloom's taxonomy theory deal with productive learning and stimulate thinking. Bloom's Taxonomy is a classification of learning goals that should be held by educators in determining learning goals. There are three domains in this framework;

cognitive, affective, and psychomotor. The cognitive domain is concerned with the recall or recognition of knowledge and the development of intellectual abilities and skills. The second part is the affective domain that includes describing changes in interest, attitudes, and values, and the development of appreciations and adequate adjustment. And the third domain is the psychomotor domain. On the other hand, is the manipulative or motor-skill area. (Bloom, 1956: p.7-8)

Thus, reading was a necessary medium for students in understanding the reading questions. Furthermore, reading texts usually completed by questions and become the important parts of reading purposes in guiding students to think critically. Reading comprehension questions had used HOTS in analyzing Category. It was one of the ways to increase learners to attest and stimulate students to think critically by using reading comprehension questions. Students should have the critical and logically thinking skills which appropriated to their capability that they had. By using critical thinking, students had a skill to analyze the passage or text without checking dictionary to gain some difficult words. The Critically thinking was the rationally of intellectual skill in analyzing and assessing information. (Anderson and Krathwol, 2001), critical thinking indicated a skill to divide the materials became each section and also to comprehend the composition of text. Coherency it means to indicate a skill to rearrange the component parts into coherent and connected each other. Thus, evaluation indicated the assessing skill of specific purpose which usually directed in higher order thinking skill (HOTS). Moreover, Yousefi & Mohammadi (2016), mentioned an important interrelation both of reading comprehension and critical thinking skill. It was one of the important ways to motivate and support students' critical thinking by applying questions of reading comprehension.

Comprehension made the students able to determine the core of the sentence or text and get the main purpose of the reading process. By comprehending the text, the students can get the purpose of reading the text and will find the essence of the text such as essential messages or

information from the text. Grabe and Stoller (2002 : 3) define “reading is the ability to draw meaning from the printed page and interpret this information appropriately”. It means reading is the process of trying to understand a written text then translate information obtained in the text correctly. Reading consists of two related processes, word recognition, and comprehension.

In (Elan Fitria, 2014), McWhorter (1985:53) says that “questions are trying to connect what already know about a topic with the new information to be learned, the question should ask something that feels if important to know, it also begins with what, why, or how are more useful.” In learning about reading, questions become one of the important media to know whether the students understand the reading passage or not. Questions arise students’ curiosity about the material that they read and check students’ comprehension (Hayati, Djufri, & Fitrawati, 2012). By answering the questions, students can gain a complete understanding by thinking critically and using different levels of thinking

Meanwhile, based on Ruggiero (2004), there are three basics of thinking, they are investigation, interpretation, and judgment. For the further explanation, we can see the table below:

Table 3
Basics of Thinking

No.	Activity	Definition	Requirements
1.	Investigation	Finding the evidence such as data that will be the answer key of the question about the issue	The relevant and adequate evidence is must
2.	Interpretation	Deciding what the meaning is of the evidence	The interpretation must be more reasonable than competing interpretations

3.	Judgment	Determining a conclusion about the matter issue	The conclusion must meet the test of logic
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Based on the table above, the critical thinking encompasses the activity of investigation which is the activity to find the evidence such as data or fact in order to solve their issue, the activity of interpretation which the activity to decide the evidence meaning, and the activity of judgment, this is the activity of drawing the conclusion about the matter issue. All of the three activities stated above are the basic of critical thinking activities.

In conclusion, the ability of critical thinking can be seen in many kinds of thinking activities. Those thinking activities are investigating, analyzing, judging, evaluating, etc. Some of thinking activities require lower thinking skills, while some needs higher level of thinking that it usually called critical thinking.

E. The Benefits of Critical Thinking

Acknowledging that critical thinking skills are important for life is fundamental. Critical thinking is applicable whenever people make a decision or resolve a problem since the function of critical thinking is to help people think deeply of all information, so they are able to decide the good information and avoid misinformation, including biased persuasion, prejudice, irrational attitude or idea (Leicester & Taylor, 2010). Therefore, people who have critical thinking ability will be more careful in the act and believe in something before making a decision. Vice versa, lacks of these skills can result in unsatisfactory appraisals at their work or poor.

According to Cottrell (2005) some benefits of critical thinking skills are:

1. Improved attention and observation

2. More focused reading improved ability to identify the key points in a text or other message rather than becoming distracted by less important material
3. Improved ability to respond to the appropriate points in a message
4. Knowledge of how to get the key ideas more easily
5. Skills of analysis that can be selected to be applied in a variety of situations

Critical thinking not only plays a significant role in the dynamic life of work life but also in learner's academic achievements. Murawski (2014) explained that by using this skill, students tend to expand their perspectives from which they view the world and increase their ability to navigate important learning and life decisions. She also added that these skills will produce students as both inventors and critics of the new information.

In conclusion, critical thinking helps people be more accurate and specific in noting what is relevant and what is not. This skill is requisite in most of all aspects of human life, and the smallest scope is academic environment and workforce. Critical thinking skills that learned during the academic years have a big impact on future learning in the workforce because it is transferable. Therefore, people who have critical thinking skills will find it easier to face real life.

F. The Levels of Critical Thinking

Critical thinking involves many levels of thinking. Linda Elder and Richard Paul (2006) divided it into six stages of critical thinking, as follows:

1. Stage one: *The Unreflective Thinker.*

The Unreflective thinkers do not reflect on the thinking and the effect it has on their lives. As such, they form opinions and make decisions based on prejudices and misconceptions. This stage also lacks crucial skills, where the knowledge that high-quality thinking requires

regular practice in taking thinking apart, accurately assessing it, and actively improving it.

2. *Stage two: The Challenged Thinker.*

In this stage, people are aware of the importance of thinking about their existence and know that thinking deficiencies can bring about major issues. Challenged thinkers also understand the role of self-deception in thinking, though their understanding is limited. At this stage, the thinker develops some reflective awareness of how thinking operates for good or ill.

3. *Stage three: The Beginning Thinker.*

Thinkers at this level can go beyond the nascent intellectual humility and actively look to take control of their thinking across areas of their lives. In this stage, people also recognize that they have basic problems in their thinking and make initial attempts to understand better how they can improve it. Based on this initial understanding, beginning thinkers begin to modify some of their thinking but have limited insight into deeper levels of the trouble inherent in their thinking. Most importantly, they lack a systematic plan to improve their thinking; hence their efforts are hit and missed.

4. *Stage four: The Practicing Thinker.*

A thinker of this level will practice better-thinking habits and will analyze their mental processes with regularity. They not only recognize that problems exist in their thinking, but they also recognize the need to attack these problems globally and systematically. Based on their sense of the need to practice regularly, they actively analyze their thinking in several domains. However, since practicing thinkers are only beginning to approach the improvement of their thinking in a systematic way, they still have limited insight into deeper levels of thought and thus into deeper levels of the problems embedded in thinking.

5. *Stage five: The Advanced Thinker.*

In this higher level, thinkers would have strong habits that would allow them to analyze their thinking with insight into different life areas. They would be fair-minded and able to spot the prejudicial aspects of others' points of view and understanding. Advanced thinkers also value the deep and systematic internalization of critical thinking into their daily habits. They have keen insight into the role of egocentrism and socio centrism in thinking, as well as the relationship between thoughts, feelings, and desires.

6. Stage six: *The Master Thinker.*

This stage is the super-thinker, the one who is totally in control of how they process information and make decisions. A master thinker achieves great insights into deep mental levels, strongly committed to being fair and gaining control over their egocentrism. They effectively and insightfully articulate the strengths and weaknesses inherent in their thinking. Their knowledge of the qualities of their thinking is outstanding. Although, as humans, they know they will always be fallible (because they must always battle their egocentrism, to some extent), they consistently perform effectively in every domain of their lives. People of good sense seek out master thinkers, for they recognize and value the ability of master thinkers to think through complex issues with judgment and insight.

G. Concept of Reading Comprehension

According to Tarigan (2008, pp. 608-615) reading is a process in which done by reader to get message or information from the writer through printed media. It is very complex process in which recognize and comprehend written symbols are influenced by perceptual skill, decoding, experiences, language background, mind set and reasoning of reader.

Hornby (2000) states that comprehension has same meaning with understanding. It is capability to grasp meaning in a text and also the writer's idea. It is readers' ability to understand the author's message which is influenced by their background knowledge in the topic given by the text.

According to Hornby “comprehension is means and has excessive aimed in improving or testing one’s understands of a language whether written or spoken.” Comprehension is not only need in student’s reading activities, but also to measure the ability of each student in classroom.

Carrel (2010, p. 52) states that “reading comprehension in general viewed is the resulting from the four way interaction between readers, text, task, and structured activity. The success of this interaction depends of the availability of quality of content and strategist schemata to new problem solving situations. Moreover, reading comprehension is the process of simultaneously extracting and constructing meaning through interaction and involvement with written language. It entails three elements: the reader who is doing the comprehending, the text that is to be comprehended, and the activities.

The questions of reading comprehension test in form of multiple choices that measured the student’s skills in analyzing main idea, analyzing detail, analyzing cause and effect, analyzing interference, evaluating vocabulary, and evaluating sequence.

In short, reading comprehension is the act of understanding what readers are being read. It is an intentional, active, interactive process that occurs before, during and after a person reads a particular piece of writing. Without comprehension, reading is nothing more than tracking symbols on a page with eyes and sounding them out. People read for many reasons but understanding is always a part of their purpose. Reading comprehension is important because without it, reading doesn’t provide the reader with any information.

H. Concept of Reading Comprehension Strategies

In improving reading skills, the students have to practice reading a lot, and use certain strategies. The student ability to comprehend the text depends on their ability to use strategy to understand what writer say. It means that strategy helps the students to comprehend the text they read.

Nuttal (1982) classifies reading strategies into four types. Those are skimming, scanning, extensive and intensive readings.

1. Skimming

Skimming is a useful skill to be applied in reading. Grellet (1999) stated that skimming means glance rapidly over a text to get the gist of it. It means skimming is used to build students confidence and an understanding that it is possible to gain meaning without reading every word in a text. Skimming assists the readers to understand the main idea of the text before reading it carefully. Students can do skimming in several ways such as reading the title or the other heading and look at the picture, reading the first and the last paragraph of the text (Islam and Steenburgh, 2009).

2. Scanning

Scanning means glancing rapidly through a text to search for a specific piece of information (Grellet, 1981). It means that scanning is the ability to read a text quickly in order to find specific information that is needed like a date, a figure, or a name and ignore over all unimportant information. For example, a student scan the list of name in a telephone directory to find a phone number. Scanning helps the reader find information quickly without reading the whole text.

3. Extensive Reading

In extensive reading, the readers usually face a longer text. In reading, the readers need a total understanding of writing. According to Brown (2001), extensive reading is carried out to achieve a general understanding of a text. Long and Richards (1987) identify extensive reading as occurring when the students read large amounts of high interest material, concentrating of meaning, reading for gist and skips unknown the words. So, the aims of extensive reading are to build the readers' confidence and enjoyment.

4. Intensive Reading

Intensive reading is reading for detail. It usually has a shorter text. A reader usually wants to get some specific information. According to

Macleod (2011), intensive reading exercises may include looking at main ideas versus details, understanding of what the text implies, making inferences, looking at the order of information and how it affects the message, identifying words that connect one idea to another and identifying words that indicate change from one section to another.

I. Concept of Reading Comprehension Aspect

According to Nuttal (1982), there are five aspects of reading comprehension which the students should comprehend a text well, such as determining main idea, locating reference, making inference, detail information, and the understanding vocabulary. These aspects are regards as difficulties that the students encounter in comprehending the text.

1. Determining Main Idea

The main idea is a statement that tells the author's point about the topic. According to Longan (2002), said that finding main idea is a key to understand a paragraph or short selection. The main idea is usually located in a sentence, it is usually the first sentence but it can be in the middle or in the last sentence (Vener, 2002). Therefore, this can make the main idea more difficult to find. The students may get confused to see what the main idea of a passage is, and where the main idea is located.

2. Locating Reference

Reference is antecedent of a pronoun. The antecedent is a word or phrase to which a pronoun refers (Sharpe, 2005). In identifying reference, the students are expected to understand for what the pronouns in the sentences are used such as the pronouns that are used to show people, place, or situation.

3. Understanding Vocabulary

The student expands their knowledge of vocabulary while he is reading a passage, such as by finding out new words meaning in dictionary and guessing the meaning from the context. Context helps students making a general prediction about the meaning (Sharpe, 2005).

It means that making prediction from the context will help students understand the meaning of a passage without stopping looks up every new word in a dictionary. In fact, one of the problems readers have difficulties in understanding material is that they have lack of vocabularies.

4. Making Inference

In making of inference, the students are expected to comprehend the text to find the conclusion of the statements in the text. Kopitski (2007) stated that readers need to practice combining clues from the text with their background knowledge in order to make inferences. It means that the clues in the text will help students to build assumption and draw conclusion. So they can answer the questions. These questions are often stated in one the following form:

“From the passage, we can conclude that ..”,

“It can be inferred from the passage...”,

“what the meaning of the statement above?”.

Therefore, sometimes the students are difficult to find the conclusion of the text because the meaning of the statement is not written on the text.

5. Detail Information

The last type of question that is usually found in reading test is detail question or information. This question used to check students ability to understand material that is directly stated in the text. Some example of detail question fall in the following pattern:

“According to the passage, who were fighting for the conversation in the forest?”,

“All of the following are the true except..”,

“A person, date, or place is,,,”.

In understanding and answering detail question, the students can use scanning strategy. In addition, to find out the answer of detail question, the reader can note or underline the key word in the question, and then scan the passage for that words synonym.

J. Concept of Reading Comprehension Challenges

Difficulty is something that complicated to do (Richard 2007, as cited in Wahab 2012). It will be seen from students' mistake or error learning process. In fact, many senior high school students often find the difficulties in reading comprehension. These difficulties result the student's poor performance in reading test. Thus, from these factors arise some difficulties in reading comprehension. Factors difficulties that faced by students divided into external and internal. Internal factor includes physics, intellectual, and psychological. While external factors include family and school environments (Rahim, 2006). There are some internal factors that influence the students in reading comprehension that are generally found by the reader during reading, namely; difficulty in understanding long sentence and text, difficulty that is caused by limited background knowledge, difficulty in using reading strategies and difficulty in concentration (Fajar: 2009).

1. Difficulty in understanding long sentence

In a common problem that most of students finds difficulty in understanding the long sentence with complicated structure. It is supported by report of Barfield (1999) that shows almost 12 percent of students had difficulty in understanding long sentences in graded story and 20 percent in academic text. Therefore, the effect of this problem is the students who cannot comprehending long sentence they fail to understand the main idea presented in the text.

2. Difficulty in Using Reading Strategies

The students who lack of reading strategies often fails in understanding the text. The students who are not familiar with reading strategies such as skimming and scanning will feel down and frustrated because they lack of tool necessary to succeed in reading comprehension test (Duarte, 2005). There are characteristics of the students who lack in use of reading strategies. First, the students read word by word within the text, relying too heavily on their visual information, which greatly impedes their reading speed and hampers their reading comprehension.

Second, the students spent a lot attention on detail with the result they often miss the main idea of the text. Third, they just focused too much attention on form of the expense meaning. Furthermore, the students who do not possess effective reading strategies may be difficulty to deal with reading comprehension test. (Mei-yu, 1998 as cited by Fajar, 2009).

3. Difficulty in Concentration

Difficulty in concentration during reading can be caused by a psychological factor. Bad concentration will lead the students fail to comprehend the text. It can be worse when the students do reading test. Difficulty in concentration is another reason for students' poor reading because concentration is an important factor for a good and effective reading. Shaw (1959) states that comprehension of a text results from reading with concentration. But students, in most cases, cannot or do not concentrate properly while reading.

K. Factors Affecting Reading Comprehension

There are many ideas of the factors affecting reading comprehension proposed by some experts. Below four factors affecting reading comprehension are presented.

1. Background knowledge of the text

Students' background knowledge of the text is one of the factors affecting reading comprehension. Readers understand what they read because they are able to take the stimulus beyond the graphic representation and assign it membership to an appropriate group of concepts already stored in their memories. Here, the students' background knowledge is important since the students start to make connections about what they already know in order to construct meaning (Alderson, 2000 p. 32; Brown, 2001 p. 299).

2. Affection

Affection factor includes the students' interest, motivation, attitudes and beliefs. The affective factors have an important role in influencing what is understood by the readers (Alderson, 2000 p. 32).

3. Purpose of reading

Efficient reading consists of clearly identifying the purpose in reading. Purposes of reading help the reader to focus on information that they want to find out. A reader can have problems in understanding a text if he reads with no particular purpose in mind (Alderson, 2000 p. 32; Brown, 2001 p. 306).

4. Vocabulary mastery

Vocabulary mastery is essential to reading comprehension. It is impossible to understand the text if the readers do not know much about a significant number of the words in the text. By mastering much vocabulary, the reader can construct the meaning of the text easily (Klinger, Vaughn, and Boardman 2007 p. 47).

From the theories above, it can be concluded that reading comprehension is not a single process. It is a complex process which is affected by some factors such as the reader's background knowledge of the text, the reader's motivation and interest in reading, the reader's purpose of reading, and the reader's vocabulary mastery. All of those factors relate to each other in influencing the reader's reading comprehension ability.

L. Critical Thinking and Reading Comprehension

According to Aloqaili (2011), the connection between critical thinking and reading comprehension is related to schema theory. Shihab (2011, p. 209) asserts "reading involves an interactive process in which the reader actively produces meaning through a set of mental processes." Readers construct a meaningful representation of text using their schemata (Gilakjani & Ahmadi, 2011). Schemata are considered to be necessary for regulating and organizing the readers' reading experience and his ability to interpret the meaning of the text. Readers need to think while reading to bridge his own previous knowledge and new knowledge in the text (Shihab, 2011).

Anderson (1994) explains that there are six ways in which schemata function in thinking and remembering new information. Those

are: 1) Most new knowledge is gained by assimilating new information into existing structure; therefore, subject matter learning should build on prior knowledge whenever possible. 2) The students' existing schemata help to allocate attention by focusing on what is pertinent and important in newly presented material. 3) Schemata allow and direct the inferential elaboration of incoming information and experience. 4) Schemata allow orderly searches of memory by providing learners with a guide to the types of information that should be recalled. 5) Schemata facilitate the thinking skills of summarizing and editing. 6) Schemata permit inferential reconstruction when there are gaps in memory, which means that they help the learners generate hypotheses about missing information.

To be successful readers, they must have inferential and reasoning skills to establish meaningful connections between information in the text and relevant background knowledge. While Gallo (1987) uses metacognitive strategies to develop critical thinking. She suggests that improved critical thinking requires developing the processes of observation, analysis, inference, and evaluation.

M. Previous Related Study

One of the researchers is Ranti Wulandari (2019) entitles *The Relationship between Critical Thinking and Reading Comprehension by Second Year Students of Islamic State Senior High School 4 Kampar*. This research was conducted in the second year students of Islamic State Senior High School 4 Kampar, Riau-Indonesia. The total of sample in this research was 54 students. This research aimed to find out whether or not there is any significance relationship between critical thinking and reading comprehension. Meanwhile, this research focused in relationship between critical thinking and analytical exposition text of reading comprehension. The research used correlational design which carried out two kinds of instruments. They are questionnaire and test. For critical thinking, the researcher used questionnaire. Then, for reading comprehension, the researcher used test in the form of multiple choice. The data was analyzed

using product moment formula through SPSS 16.0 which the researcher finding showed that there is a significant relationship between critical thinking and reading comprehension of the second year students of state Islamic senior high school 4 Kampar.

The other related research by Aygozel Jumayeva (2016) entitles *The Relationship between Students' Critical Thinking Skill and Their Reading Comprehension of Descriptive Text*. This research was conducted at the eleventh grade students of SMA Kharisma Bangsa. The sample of this research was taken based on purposive sampling technique with the total number were 35 students. This research aimed to find out whether or not there is any significance relationship between critical thinking ability and reading comprehension. Meanwhile, this research focused in relationship between critical thinking and descriptive text of reading comprehension. The research used correlational design which carried out two instrument in collecting the data. The first instrument was to measure students' critical thinking skill used Cornell Critical Thinking Test and the second instrument was to measure students' comprehension reading skill, in this research an instruction asking the students to read and improve students' comprehension reading skill. The data collected then were calculated by using Pearson Product Moment correlation coefficient and t-test with sig. 5% and 1%. It shows that there is significant relationship between critical thinking and reading comprehension of the eleventh grade students of SMA Kharisma Bangsa. Therefore, it can be concluded that higher the students critical thinking skill, the better the students' comprehension reading skill.

The last research by Hady Maresyah Putra (2017) entitles *The Correlation between Critical Thinking and Reading Comprehension Achievement of English Educational Study Program Students' of UIN Raden Fatah Palembang*. This research was conducted in English Education Study Program Students at UIN Raden Fatah Palembang. The population of the research was 636 active EFL students. By using purposive sampling technique, there were 108 students involved as participants in this research. Therefore, the aims of the research were to find out whether

critical thinking had any significant correlation to reading comprehension. Meanwhile, this research focused in relationship between critical thinking and reading comprehension achievement. The research used correlational research method. The data were obtained by using two instruments which were critical thinking test and reading comprehension test. To answer the problem using Pearson Product Moment Correlation Coefficient. From the data analysis, it was found that there was no significant correlation between students' critical thinking and reading comprehension since the p-value was (.20) greater than significance value (.20 > .005). In short, critical thinking did not have any relation to reading comprehension of English Education Study Program students of UIN Raden Fatah Palembang.

In comparison with the previous related studies above, this research has some similarity since it has the same independent variable (critical thinking) and dependent variable (reading comprehension). The first research above investigated whether or not critical thinking had relationship with analytical exposition text of reading comprehension; while the finding of this research showed that there is significant relationship between critical thinking and reading comprehension. Then for the next research above investigated whether or not critical thinking had relationship with descriptive text of reading comprehension; while the finding of the research showed that there is significant relationship between critical thinking and reading comprehension. The last research above investigated whether or not critical thinking had correlation with reading comprehension achievement; while the finding of the research showed that there is no significant correlation between critical thinking and reading comprehension achievement. However, there is the different among each other; the types of reading comprehension of the researches different in this research. This research is more specific and detail in reading comprehension of TOEFL preparation than other investigations conducted by other researchers.