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## CHAPTER II

### REVIEW OF RELATED LITERATURE

#### 2.1 Theoretical Framework

The theoretical framework of this study is based on the concepts, theories and previous study about reading comprehension, natural science and social science students that will be discussed below.

##### 2.1.1 An Overview of Reading Comprehension

There is no single definition of reading; therefore, it is difficult to formulate a perfect definition of reading. A broader definition presented by Rubin in Hamra & Syatriana (2010, p. 3) is that “reading is the bringing and the getting of meaning from the printed page”. This definition implies that readers bring their background knowledge when they are reading. Background knowledge is needed to make the reader easier in getting the meaning of what they read. By knowing the meaning of what they read, the readers get information that they need. If we do not have the background experience to relate to the reading event, the message can be meaningless. In line with the statement above, Farrall (2012) states that the word that we read has a variety of meaning.

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 (1995, p.235), “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.

According to Wilkinson in Klingner, et al (2007) reading comprehension is the process of constructing meaning by coordinating a number of complex process that include word reading, word and world knowledge, and fluency. It means that to get a perfect comprehension about a text, readers need to coordinate the process that stated above. Carrel (1993) states that “reading comprehension in general viewed is the result from the four ways 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 a new problem-solving situation. 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.

In conclusion, reading comprehension is the act of understanding what readers are being read. 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, otherwise it does not provide the reader with any information. In other words, if the readers are unable to comprehend the text, it means that the reading activity is useless.

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unfamiliar words to the next and the topic of the text that is read. The word has been nearly equivalent meaning when it has or nearly the same meaning as another word.

#### 2.1.1.1.5 Identifying reference

Reference is the relationship which holds between word and things: words refer things. This reference can help readers understanding the reading.

#### 2.1.1.1.6 Making inferences

Inference is a logical connection that the reader draws between what he/she observes or knows and what he/she does not know, inferences are reasonable guesses made on basis of available information.

#### 2.1.1.2 Reading Comprehension of Analytical Exposition Text

Analytical exposition text is a kind of text that is learned in Senior High School in Indonesia especially in eleventh grade. According to Coffin (2001), analytical exposition text is the text which is used to put forward a point of view or an argument. It means that analytical exposition text is used to explain the writer's point of view.

Pertaining to Anderson and Anderson (2003), exposition is "a piece of text that presents one side of an issue." It means that analytical exposition text has the social function to inform the reader or listener about something or phenomenon that need attention more. It contains of some arguments that convince the reader to deal with something happen around them. Its generic structure consists of an introductory paragraph that has thesis statement, a series of arguments that supported by evidence to convince the reader in the middle paragraph, and the restatement of the thesis in the last paragraph.

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From the explanations above, it is clear that an analytical exposition text is not only a common reading text but it also a text that needs the reader to analyze and interpret the writer's point of view deeply. This statement in line with Mali-Jali (2007), he states that the social function or the purpose of the analytical exposition text is to argue and give reasons for particular point of view of an issue.

There are some aspects in analytical exposition text that should be known by readers. In terms of the generic structures, analytical exposition text can be analyzed as follows:

- 2.1.1.2.1 Thesis (Introduction): introducing the topic and indicating the writer's position.
- 2.1.1.2.2 Arguments (Body): explaining the arguments to support the writer's position.
- 2.1.1.2.3 Reiteration (Conclusion): restating the writer's position.

Then, analytical exposition text also can be identified with some language features below:

- 2.1.1.2.1 Using relational process. Relational process means that the relationship between and among readers, workers, followers, partners, co-workers, etc. People knowing and caring about people.
- 2.1.1.2.2 Using external conjunctions. It means that enhancing by linking to real world events. (Holocaust, the Final Solution, death trains)
- 2.1.1.2.3 Using internal conjunction. It means that elaborating and itemizing steps in an argument (Firstly, secondly, next, finally)

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- 2.1.1.2.4 Use mental processes. It is used to state what the writer or speaker thinks or feels about something, for example: realize, feel, etc.
- 2.1.1.2.5 Using causal conjunction: the cause of an event, because
- 2.1.1.2.6 Using contractive conjunction: but, nevertheless
- 2.1.1.2.7 Using simple present tense
- 2.1.1.2.8 Focusing on generic human and non-human participants, e.g.: car, pollution, leaded petrol car
- 2.1.1.2.9 Using abstract noun: policy, government
- 2.1.1.2.10 Using relational processes

Here is the example of analytical exposition text

#### Homework

The amount of homework given to students needs to be reduced for several reasons. In short, time is limited in many students' lives. At the same time, other students are showing alarming levels of obesity due to sedentary lifestyles. Lastly, family disharmony has increased as a result of stressed parents trying to get their children to do their homework.

Firstly, time is limited. Many students don't arrive home until 6pm. This is because they have chosen to play sports which require a few hours training each week or they engage in cultural activities, which are often taught after school. By the time they have finished dinner, showered and finished jobs it is 8pm. If they have homework, then it is too late to start. Therefore, it is fair to say there is not enough time after school to complete quality homework.

On the other hand, many other young people are recording high levels of obesity because of their sedentary lifestyles. Why sit still at night when students have been sitting still in classrooms all day? This is not good for their health and contributes to the high level of obesity seen today.

Finally, homework places huge amounts of stress on already stressed-out families. In many families both parents are working and the last thing they need is to fight with their children at the end of a stressful day.

In conclusion, homework should be reduced. We must recognize that students' time is limited, sedentary work contributes to the high levels of obesity and finally, homework can cause an increase in family disharmony. The wellbeing of students is far more important than excessive amounts of homework.

From the example of analytical exposition text above, we can see the structure of that text. The first paragraph is introduction thesis or writer's opinion.

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Second to fourth paragraphs are the arguments of the writer with supporting evidences. And the last paragraph is the conclusion or thesis revised.

Moreover, from the text above we also found that the writer used formal, clear and persuasive language. The writer also focused on group not individuals eg “students”. In addition, the writer used present tense to describe current events and used the verb ‘to be’ e.g ‘is’ and ‘are’. Last, writer used causal conjunctions eg ‘if students have homework’ and used words to tie arguments e.g ‘firstly, finally’.

### 2.1.2 Assessing Reading Comprehension

Assessment refers to a systematic approach to collect information and make inference about students’ ability which can be done by test, interview, observation, questionnaires etc. (Richards & Schmidt, 2010). According to Brown (2004) assessment is an ongoing process that encompasses a much wider domain. Thus, assessment is a process to know students’ ability by using test, interview, observation, questionnaires, etc. In assessing reading comprehension for Senior High School students, Brown (2004) mentioned some possible activity which can be done in term of interactive reading, they are:

#### 2.1.2.1 Cloze Tasks

Cloze task is ability to fill in gap in an incomplete text with a calculate guess, using linguistic expectancies, background experiences and some strategic competence. So, in Cloze task, test-taker have to fill incomplete text with appropriate words.

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### 2.1.2.2 Impromptu Reading Plus Comprehension Questions

In this activity, there will be reading comprehension passages followed by some questions in form of multiple choice questions. The questions cover these features of comprehension:

- 2.1.2.2.1 Main idea (topic)
- 2.1.2.2.2 Expression/idioms/phrases in context
- 2.1.2.2.3 Inference
- 2.1.2.2.4 Grammatical features
- 2.1.2.2.5 Detail
- 2.1.2.2.6 Excluding facts not written
- 2.1.2.2.7 Supporting ideas
- 2.1.2.2.8 Vocabulary in context

### 2.1.2.3 Short-Answer Tasks

In this activity, there will be reading passages followed by some questions which must be answered in sentences. Questions might cover the same specifications indicated above, but it is in form of open-ended questions.

### 2.1.2.4 Editing

In this activity, test-taker have to detect grammatical or rhetorical errors in passages of 200 to 300 words

### 2.1.2.5 Scanning

In this activity, test-taker will be given texts (can be in the form of prose or something in a chart or graphic) and it requires rapid identification of relevant information.

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### 2.1.2.6 Ordering Tasks

In this activity, test-taker will be given some sentences and need to assemble it into a story.

### 2.1.2.7 Information Transfer: Reading Charts, Maps, Graphs, Diagram

In this activity, test-taker will be given such charts, maps, graphs, or diagrams and need to interpret the information include there.

Based on the explanation above, there are some activities can be done in assessing students' reading comprehension. Thus, in this research, the researcher used impromptu reading plus comprehension questions in assessing students' reading comprehension by considering its function and features include.

### 2.1.3 An Overview of Natural Science Program

After one-year studying, originally students are allowed to enter each particular program based on their intelligences that is supported by their academic result as the main requirement. Gardner (2011) claims that all human beings have multiple intelligences. These multiple intelligences can be nurtured and strengthened, or ignored and weakened. He believes each individual has nine intelligences, they are:

- 2.1.3.1 Verbal-linguistic intelligence (well-developed verbal skills and sensitivity to the sounds, meanings and rhythms of words)
- 2.1.3.2 Logical-mathematical intelligence (ability to think conceptually and abstractly, and capacity to discern logical and numerical patterns)
- 2.1.3.3 Spatial-visual intelligence (capacity to think in images and pictures, to visualize accurately and abstractly)

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- 2.1.3.4 Bodily-kinesthetic intelligence (ability to control one's body movements and to handle objects skillfully)
- 2.1.3.5 Musical intelligences (ability to produce and appreciate rhythm, pitch and timber)
- 2.1.3.6 Interpersonal intelligence (capacity to detect and respond appropriately to the moods, motivations and desires of others)
- 2.1.3.7 Intrapersonal (capacity to be self-aware and in tune with inner feelings, values, beliefs and thinking processes)
- 2.1.3.8 Naturalist intelligence (ability to recognize and categorize plants, animals and other objects in nature)
- 2.1.3.9 Existential intelligence (sensitivity and capacity to tackle deep questions about human existence such as, What is the meaning of life? Why do we die? How did we get here? (Thirteen ed online, 2004)

In Indonesia, most of schools divide students into two intelligences they are logical-mathematical intelligence which belongs to Natural Science students and inter-personal intelligence which belongs to Social Science students.

Regarding with Drechsler in Nuril (2015) stated that natural science focuses on natural phenomenon as its object, while social science focuses more on social phenomenon and places human being as its main subject. So, for those students who have interest in natural science program, their result on such particular subjects as Biology, Chemistry, and Physics should be above the minimum standard.

Actually, the students of natural science have such a way of thinking because their activities during learning in the classroom are engaging in

investigations and activities that would allow them to develop deep conceptual understandings of scientific ideas and of the process of inquiry. They also read the work of others as their progress through an investigation to help them make sense of their own findings.

### **2.1.4 Natural Science Students' Reading Comprehension on Analytical Exposition Text**

An analytical exposition text is not only a common reading text but it also a text that needs the reader to analyze and interpret the writer's point of view deeply. According to Anderson and Anderson (2003), exposition is "a piece of text that presents one side of an issue." It means that analytical exposition text has the social function to inform the reader or listener about something or phenomenon that need attention more. It contains of some arguments that convince the reader to deal with something happen around them.

Students' reading comprehension on analytical exposition text means the students are able to understand all components of analytical exposition text, such as generic structures, language features and also can gain the meaning of analytical exposition texts. It means if the students have good ability in recognizing organization and features of texts and gaining the meaning of analytical exposition texts, automatically they also have good reading comprehension on analytical exposition text.

According to Stenbergh in Safitri (2013) the students who study in natural science tend to think logically and based on the fact. He also categorized students who study in natural science major into conservative. In this category, they like

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adhering to existing rules and procedures, minimize changes, avoid ambiguous situations as far as possible, and prefer familiarity in life and work. In short, in terms of reading comprehension on analytical exposition texts, natural science students tend to be easy in comprehending the text.

### 2.1.5 An Overview of Social Science Program

In Indonesia, most of schools divide students into two intelligences they are logical-mathematical intelligence which belongs to Natural Science students and inter-personal intelligence which belongs to Social Science students. Regarding with Drechsler in Nuril (2015) stated that social science focuses more on social phenomenon and places human being as its main subject. So, for those students who have interest in social science program, their result on such particular subjects as Economy, Geography, History, and Sociology should be above the minimum standard.

Social science students tend to be more synthetically and qualitative (verbal-linguistic evidence). Stenberg in Safitri (2013) categorized students who study in social major into liberal. In this category, they like surpassing existing rules and procedures and attempt to maximize changes. In addition, they also seek or at least comfortable with ambiguous situations, and accept to certain degree unfamiliarity in life and work.

Actually, the students of social science major have such a way of thinking because their activities or the subjects during learning in the classroom are engaging them in memorizing and arguing toward the social phenomena that existing in the

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social life. They also consider of others' opinion or ideas as they progress through a discussion and they respect the differences as it is accepted by the society.

### **2.1.6 Social Science Students' Reading Comprehension on Analytical Exposition Text**

Reading comprehension is understanding what has been read. It is an active process which not only depends on comprehension skills, but also readers' background knowledge and experiences. It means that students' reading comprehension is their understanding of texts which can be influenced by their background knowledge and their experience. Thus, students' major at the school can influence their reading comprehension.

Stenberg in Safitri (2013) stated that the students who study in social science major tend to memorize and recall information. Stenberg in Safitri (2013) also categorized students who study in social major into liberal. In this category, they like surpassing existing rules and procedures and attempt to maximize changes. In addition, they also seek or at least comfortable with ambiguous situations, and accept to certain degree unfamiliarity in life and work.

There are some texts which are taught in the school, one of them is analytical exposition texts. According to Coffin (2001), analytical exposition text is the text which is used to put forward a point of view or an argument. It means that analytical exposition text is used to explain the writer's point of view. In comprehending analytical exposition text students need to be able to understand text structures and also gain the writer's point of view. Analytical exposition text has the social function to inform the reader or listener about something or phenomenon that need

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attention more. Social science students focus more on social phenomenon and places human being as its main subject. Thus, if the topic of text is suitable with them, they will be easy to comprehend the text.

### 2.1.7 Comparison between Natural and Social Science Students' Reading Comprehension on Analytical Exposition Text

In Indonesia, most of schools divide students into two intelligences they are logical-mathematical intelligence which belongs to Natural Science students and inter-personal intelligence which belongs to Social Science students. Regarding with Drechsler in Nuril (2015) stated that natural science focuses on natural phenomenon as its object, while social science focuses more on social phenomenon and places human being as its main subject. So, for those students who have interest in natural science program, their result on such particular subjects as Biology, Chemistry, and Physics should be above the minimum standard. It is also applied for social science program as well with Economy, Geography, History, and Sociology as its main particular subjects. This particular focused-subjects difference, however, can create different characteristic between students in each program that has potential to influence general subject as English.

In line with idea above, Khun's paradigm in Nuril (2015) which is supported by several researches on both programs, natural-science students tend to be more analytical and quantitative (logical-mathematical evidence) than social science students. In contrast, social science students tend to be more synthetically and qualitative (verbal-linguistic evidence). Those different characteristics of both programs, in relation with education, have potential to influence the way they

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present or interpret similar subject. In short, it is common to think that natural and social science students may have different interpretation on how they comprehend the text. In other words, its variety of students' characteristic in each program also has potential to influence their reading comprehension on analytical exposition text.

The students of the two majors have different cognitive process in doing something. Cognitive process is something happening in the students' mind. However, there is an evidence or tendency that natural science students are smarter than the social science students. Most of people or even the teachers themselves belief that the students of natural science are better especially in reading than the students of social science do. They propose that the natural science students will have better comprehension in reading analytical exposition text than the social science students do. In fact, the curriculum of English in Indonesia especially in State Senior High School 12 Pekanbaru for both natural science and social science programs is the same. They are even taught by the same teacher with the same materials and teaching strategy.

## 2.2 Relevant Research

As a novice in terms of conducting a research, the researcher pointed out some relevant researches which have resemblance with this research.

### 2.2.1 A research from Febriyani Nuril Akhmaliyah

In 2015, Febiyani Nuril Akhmaliyah conducted a research entitled "**A Comparative Analysis of Natural Science and Social Science Students' Critical Thinking in Writing Analytical Exposition Text**". This research used descriptive

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qualitative methodology, particularly a case study design. The subject of the research consisted of 6 students categorized into 3 types. They are high achiever, middle achiever and low achiever. There were two important findings indicated. First, the difference of the result in writing ability was not influenced by different background program, but different level of achievement. Second, this research also found that the most dominant critical thinking standards in each program are clarity in natural science and clarity and relevance in social science. Yet, further researches on this subject need to be conducted due to a small area used in this research, meaning that the result was not absolute.

#### 2.2.2 A research form Siti Muniroh

In 2016, Siti Muniroh conducted a research entitled **“The Comparative Study of the Eleventh Science and Social Students’ Listening Skill Affected on Motivation”**. The research design used independent sample t-test. The subject was the eleventh grade of natural science and social science class of Madrasah Aliyah Darul Falah Sirahan in the academic year of 2015/2016. The result of the study is that there is any significance difference between experiment class and control class from t-test. The t-test value is higher than t-table ( $t_o 7.782 > t_t 1.67$ ). Then, the research also indicated that the students’ listening motivation of XI social science was fair. On the other hand, the students’ listening motivation of XI natural science was high.

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## 2.3 Operational Concept

In reference to Syafii (2015, p.103) he pointed out that operational concept is a concept that related to the theoretical concepts on all of the variables that should be used in a research paper practically and empirically. It means that operational concept is a concept that comes from theoretical concepts which is modified by the researcher into an empirical concept that support her research. The operational concept is needed to avoid misunderstanding about the thesis content by other readers.

There are two variables used in this research. They are major program (natural science and social science) as X variable and reading comprehension as Y variable. Therefore, the writer focused on analyzing the difference between natural science and social science students on reading analytical expositions text comprehension. Then, the variable can be measured from the indicators (Syllabus curriculum 2013 in SMAN 12 Pekanbaru):

- 2.3.1 Both natural science and social science students' ability to identify social function of analytical expositions text.
- 2.3.2 Both natural science and social science students' ability to identify the thesis of analytical expositions text.
- 2.3.3 Both natural science and social science students' ability to identify the argument of analytical expositions text.
- 2.3.4 Both natural science and social science students' ability to identify the reiteration of analytical expositions text.

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2.3.5 Both natural science and social science students' ability to identify language features such as the use of simple present tense and conjunctions in analytical expositions text.

2.3.6 Both natural science and social science students' ability to identify the author's perspective or argument in analytical expositions text.

2.3.7 Both natural science and social science students' ability to identify the topic analytical expositions text.

## 2.4 Assumption and Hypothesis

### 2.4.1 Assumption

The researcher would like to point out an assumption of the research before formulating the hypothesis. According to Khun's paradigm in Nuril (2015) which is supported by several researches on both programs, natural-science students tend to be more analytical and quantitative while in contrast, social science students tend to be more synthetical and qualitative. Those different characteristics of both programs, in relation with education, have potential to influence the way they present or interpret similar subject. In short, natural and social science students may have different interpretation on how they comprehend the text which is in this case is analytical exposition text.

Based on the idea above, it is clear that natural science students tend to be more analytical than social science students. So, the researcher assumes that the comprehension on reading analytical exposition text between natural science and social science students has difference or variations.

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## 2.4.2 Hypothesis

2.4.2.1 Ha: There is a significant difference between natural science and social science students on reading analytical exposition text comprehension at the eleventh grade of State Senior High School 12 Pekanbaru.

2.4.2.2 Ho: There is no significant difference between natural science and social science students on reading analytical exposition text comprehension at the eleventh grade of State Senior High School 12 Pekanbaru.

