CHAPTER III

RESEARCH METHODOLOGY

This chapter provides the steps taken in the research process of this study to answer the research questions previously stated in Chapter 1. It covers research design, site and participants, data collection, data analysis, and conclusion remarks. The research design elaborates the method used by this study with its characteristic. The site and participants presents the location of the research taken and the participants involved in the study. Data collection covers types of the data and the techniques used to collect the data needed for the study. Data analysis focuses on the elaboration of the data collected, in this case is text analysis, descriptively to identify critical thinking elements and critical thinking standard exists in student's text which will be evaluated using framework of Paul and Elder's "universal intellectual standards". And, finally the conclusion remarks to summarize this whole chapter.

1.1 Research Method

This research is conducted by using descriptive qualitative methodology that is described as follow.

"Qualitative research is a situated activity that locates the observer in the world. It consists of a set of interpretive, material practices that make the world visible. These practices transform the world. They turn the world into a series of representations, including field-notes, interviews, conversations, photographs, recordings, and memos to the self. At this level, qualitative research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them.

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A COMPARATIVE ANALYSIS BETWEEN NATURAL-SCIENCE AND SOCIAL-SCIENCE STUDENTS' CRITICAL THINKING IN WRITING ANALYTICAL EXPOSITION TEXT

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(Denzin & Lincoln, 2005: 3, cited in Creswell, 2003)

This descriptive qualitative method was chosen because this study focused on analyzing text by following these phases: collecting, categorizing, examining, and interpreting the data comprehensively which were suitable to qualitative that is essentially interpretive (Creswell, 2003). He also proposes other characteristics of qualitative research as follow: 1) focus in natural setting, 2) research as key instrument, 3) use multiple sources of data, 4) emerging design, 5) participant's meaning, 6) use theoretical lens, and 7) is a holistic account (Creswell, 2003, 37-39).

Particularly, case study was employed as the research design in this study since the major purpose was to examine and to discover the elements and standards of critical thinking in student's analytical exposition text, which is in line with statement of Cohen *et al* (2007). Furtherore, Yin (2003) states that case study is conducted based on implementation process of which the main point is to observe the effects in real contexts and recognize that context. Yin (2003) then offers categorization of case study according to its purposes as follows: exploratory, explanatory, and descriptive. Hence, to be in line with the purpose of this study to examine students' critical thinking elements in writing analytical exposition text in order to find out the most dominant critical thinking standards existed in those writings, descriptive case study was chosen to obtain a reflective understanding of study.

1.2 Site and Participant

This study was undertaken in one private senior high school in Bandung. This school was chosen for at least two reasons. First, this school

provides familiarity environment for the researcher that made it accessible to conduct the study there. Second, this school had natural-science and social-science programs that were needed by the researcher as the main participants in this study.

The participants involved in this research were the twelfth grade of both natural-science program and social-science program since this school only has one class each. There were 25 students of natural-science program and less than 20 students of social-science program. Meanwhile, the twelfth graders were chosen for two main reasons. Firstly, they had experience in learning **analytical exposition** text as the main instrument in conducting this study when they were on their previous level (eleventh grade). Secondly, they had been placed in each program for more than a year that would make it easier to seek out whether or not there are significant difference characteristics between those two programs.

1.3 Data Collection

To follow triangulation that is often used in case study to interpret a multiple source of data (Yin, 1994; Creswell, 2003), the data collection techniques used in this study initially involved observation and text analysis. Each of the data will be described below.

1.3.1 Observation

In this study, the observation was conducted in six times which was started from 2nd to 21st September 2013. The observation was conducted passively as the researcher did not participate in learning activity, but just as an observer. Unfortunately, no record for this activity that made this instrument became inaccessible.

1.3.2 Text Analysis

Text analysis became the main data used in this study. The text chosen was analytical exposition as part or argumentative genre since the objection of this study is to seek the most frequent standards of critical thinking that reflected from students' text. The generic structures of that genre provided the elements of critical thinking such as **thesis, arguments and reasoning, and conclusion (reiteration)** that would be analyzed by using its standards. To determine those standards emerged in each elements of analytical exposition, the criteria of "universal intellectual standards" designed by Ricard Paul and Lisa Elder was used.

Analytical exposition text actually had been taught previously in eleventh grade. When the data was being taken, the genre taught was narrative. Due to incompatibility of the genre taught and the research objection, after a careful consideration, it was decided to maintain the curriculum agenda of the school which taught narrative genre at that time. In addition, to accommodate the text needed which was 'argumentative genre', it was decided to collaborate those genres. Since the narrative contains of 'moral values' feature which mostly implicit from the text, therefore the student asked to expose those moral values implied in the narrative text given by arguing them through analytical exposition text.

A narrative text entitled *"A Story from Roti Island"* (see Appendix) was given to the student. Prompt questions were provided as the guidance for them to arrange an analytical exposition text with 'moral values' as the topic. The prompt questions were given in table 3.1 as follows:

Table 3.1 Prompt Questions for Arranging Analytical Exposition Text

Arrange short paragraphs based on the questions below! a) How many moral values that you can find in the story above? b) What is it/what are they? c) Why do you think so? Mention the evidence of each moral value to support your answer! (Show the paragraph/sentence/phrase/word which indicate it) and giving further explanation! d) Conclude your statement above in last paragraph!

From the prompt questions in table 3.1 above, question (a) was to indicate "Topic or issue" and "thesis"; question (b) was to indicate "arguments"; question (c) was to indicate "evidence and reasoning"; question (d) was to indicate "reiteration".

Moreover, another prompt was also given to invite their prior knowledge of the schematic structure of the analytical exposition text that supposed to had been learned in eleventh grade. The second prompt was the framework of Analytical exposition text (or "Exposition Plan") as the table 3.2 below:

Table 3.2 The Framework of Composing the Analytical Exposition Paragraphs Adapted from Education Department of Western Australia (1997a: 138, cited in Emilia, 2011: 64)

Paragraph 1 How many moral values you can find?
Paragraph 2 (What is it) (Why?/the evidence/supporting idea)
Paragraph 3 What is it) (Why?/the evidence/supporting idea)

Paragraph 4 What is it) (Why?/the evidence/supporting idea)
Paragraph 5 Conclusion.

By giving the framework, the students were supposed to have awareness of the generic structure of the analytical exposition text.

1.4   Data Analysis

After the Exposition texts were submitted by the students, the researcher then analyzed the data in terms of schematic structure, linguistic features, organization and purpose of the text at the first time. Then, to follow Ennis (1996), Reichenbach (2001), Chaffee (2000), Chafee *et al* (2002), Paul & Elder (2007), each texts then categorized based on the elements of critical thinking which are: *issue, thesis, arguments, reason, evidence, fact & opinion, and conclusion.*

Afterwards, the texts that had been categorized in each element of critical thinking were being tested by using the critical thinking standard. In this study, the Richard Paul & Lisa Elder's "universal intellectual standard" was chosen as the tools to confirm whether or not each element of critical thinking found in students' texts meet certain standards of critical thinking which are: "clarity" in arguments, "relevance" in terms of data and facts used to support the claim or main point, "accuracy" of argument quality, "depth", "breadth", and "sufficiency" in arguments, and "precision" that is bring specific about detail (Chaffee et al, 2002; Lipman, 2003, Emilia, 2010, cited in Samahudi, 2011: 16).

1.5   Conclusion Remark

This chapter has portrayed the research method of the study which comprises research design, site and participants, data collection and data analysis.