

CHAPTER III

RESEARCH METHODOLOGY

In order to answer the research questions in this study, there are several aspects that need to be elaborated. This chapter will focus on providing explanations related to research methodology, research site, participants, and data collection.

3.1 Research Design

This study used qualitative methodology equipped with descriptive analysis to collect, interpret, and identify data. This study utilizes qualitative method due to its interpretative nature. One of the primary characteristics of qualitative method is that the researcher constructs interpretations based on the data collected in the research (Creswell, 2009). The research design will be employed in an effort to answer the research questions as follow:

- How is the critical thinking skill of students as reflected in argumentative text?

Referring to the research question, this study is aimed at examining the quality of critical thinking. The research question was answered by investigating argumentative text written by students using a critical thinking measurement tool and supported by interview and classroom observed activity. This is in line with Fraenkel that states qualitative study is a study administered by investigating the quality of relationships, activities, situations, or materials (Fraenkel, Wallen, & Hyun, 2012).

3.2 Research Site and Participants

The research was conducted at one public senior high school students located in Bandung. The research was administered at that school based on three considerations: it was still continuing to implement 2013 curriculum which correlates with critical thinking, it was one of the most preferred schools in Bandung meaning that the result of the research could be used as a benchmark for other

schools, and the location was easily accessible for the researcher to conduct a research.

As for the participants, this study involved 4 participants from 10th grade. The participants were chosen using purposive sampling method in which participants are selected for the most proper utilization of available resources (Bernard, 2002). The students are henceforth referred using pseudonym which are Anggit, Balqis, Chelsy, and Derby. From each participant, three argumentative writing samples were taken. In addition, interviews and classroom observation were also conducted to support data.

3.3 Data Collection

In gathering the data to be explored and analyzed in this research, this study used triangulation method. Triangulation is the usage of different instruments to improve data quality and accuracy (Fraenkel, Wallen, & Hyun, 2012). Thus, this study employed three data collection methods, which are document analysis, interview, and observation.

As for the duration of collecting data, it took approximately two months. The first month was used to extract the argumentative writing texts from students. Then, the second month was allotted to conduct interview session and classroom observation.

3.3.1 Document Analysis

Document analysis is a way to study human behavior in indirect sort of way, mostly in written form (Fraenkel, Wallen, & Hyun, 2012). Document analysis or content analysis is often used in qualitative research methodology. This particular study will conduct document analysis upon the consideration of suitability between qualitative research methodology and document analysis. This is in line with Bowen (2009) that perceived document analysis as an applicable data source for qualitative methodology. Regarding document analysis, Fraenkel, Wallen, & Hyun (2012) assert that:

“There are several reasons a researcher might want to do a document analysis: to obtain descriptive information about a topic, to formulate theme, to check other research findings, to obtain information useful in dealing with educational problems, and to test hypotheses.”

In this instance, the aim of the study is to investigate students’ critical thinking skill as a way to investigate students’ critical thinking skill due to the need of critical thinking skill in curriculum and nationwide assessment. Thus, related to the prior statement, the objective of the study is to obtain information useful in dealing with educational problems.

The document referred in this study is students’ argumentative text. The document was obtained during researcher’s field experience program (PPL) with permission from supervisor teacher. The participants were all from the same class of 10th grade. Out of 28 students, 4 were asked to participate in this study. The participants were chosen through purposive sampling method.

The topics of the argumentative text were related to students’ daily lives. Those topics are listed as follows:

- Is Instagram Beneficial for Students?
- Should National Exam Be Banned?
- Does Video Game Create Violent Behavior in Children?

The aforementioned topics were chosen because according to Pei, Zheng, Zhang, & Liu (2017) topic familiarity would affect critical thinking and the more familiar the topic is, the better critical thinking would be generated.

Regarding Instagram and video games, students were very familiar with them, as observed by the researcher in their daily activity. As for National Examination, it was a very well-known topic for them because they were going to do that in the next two years.

3.3.2 Interview

Interview is a crucial method of data collection. Fetterman (1988) state that interview is the most important data collection technique in qualitative research. Interview reveals what has not been found in previous data collection and act as a supporting data for research.

There are three types of interviews: structured, semi structured, informal, and retrospective (Fraenkel, Wallen, & Hyun, 2012). This study employed semi-structured interview in which the participants were asked a set of questions that had been prepared beforehand. However, students were also asked unlisted questions which depends on their performance in argumentative writing.

Below are the guiding questions used to interview the participants:

1. What are the things that you know about the topic?
2. Why did you think that your arguments are relevant?
3. Did you consider alternative point of view in your text? Why?
4. Why was your justification for this argument?
5. How did you draw conclusion in this text?

3.3.3 Classroom Observation

This study employs classroom observation as one of the data sources. In this study, non-participant observation was conducted in which researcher did not participate in any way to the classroom activity but instead ‘sit in the sidelines’ (Fraenkel, Wallen, & Hyun, 2012). This method was chosen due to researcher’s intention to obtain data in the most authentic way possible without interfering the outcomes.

In the classroom observation, students were holding a discussion in a video conference session. The discussion was conducted through internet-based website named Generation Global which allowed them to communicate with schools around the world.

The discussion was led by a native speaker and administrator of the website. Meanwhile, the other school that partake in the discussion was a school from Ohio, USA. The discussion was about Economic Inequality topic where students were given free rein to speak and hold discussion.

3.4 Data Analysis

The data which had been collected from all of the instruments were analyzed. The data analysis took one month. In one month analysis, students' argumentative writings were analyzed using an assessment tool. Interview was used to check and confirm students' performance of critical thinking in argumentative writing. Lastly, classroom observation was analyzed to verify previous data finding.

3.4.1 Document Analysis

The document analysis was conducted by analyzing participants' argumentative texts using a critical thinking assessment tool adopted from Buck Institute of Education (2013). The consideration behind the use of the assessment tool was because the assessment tool manifested indicators of critical thinking according to Facione (2013). Those indicators are: interpretation, analysis, evaluation, explanation, and inference.

Moreover, the assessment tool was developed for grade 6-12 students in USA. This is imperative because critical thinking skill tends to differ in adult and adolescent due to their brain development (American Academy of Child and Adolescent Psychiatry, 2016). Also, when compared to adolescent, adult in general is more ready in evaluating and understanding, some traits of critical thinking (King & Kitchener, 1994). Therefore, it is suggested that adult and adolescent require different assessment tool.

The assessment tool was divided into three categories of level: *Below Standard*, *Standard*, and *Above Standard*. After finding was obtained, the students' critical thinking skill level was considered through simple averaging method based on their performance when writing the three argumentative text. This means that

when a student performed *Standard* critical thinking skill in two texts, and one *Above Standard* in one text, the student would be considered as having *Standard* critical thinking skill. The assessment tool of critical thinking skill employed in this research is displayed on the next page.

C R I T I C A L T H I N K I N G A S S E S S M E N T
(for grades 6-12)

<i>Critical Thinking</i>	Below Standard	Standard	Above Standard
Interpretation	<ul style="list-style-type: none"> • does not identify any variable involved • fail to provide significance and clarify meaning • writing is disorganized and oftentimes creates confusion 	<ul style="list-style-type: none"> • identifies some central aspects or variables of the Driving Question • provide significance, does not clarify some meaning, in a disorganized fashion 	<ul style="list-style-type: none"> • identifying in detail of all variables • provide significance and clarify meaning to show understanding in organized fashion

Analysis	<ul style="list-style-type: none"> • is unable to provide relevant and sufficient argument 	<ul style="list-style-type: none"> • attempts to provide relevant and sufficient argument to address topic 	<ul style="list-style-type: none"> • provide relevant and sufficient argument consistently
Evaluation	<ul style="list-style-type: none"> • providing arguments without questioning whether reasoning is valid • does not consider alternative answers 	<ul style="list-style-type: none"> • recognizes the need for valid reasoning and strong evidence, but does not evaluate it carefully • understands that there may be alternative answers to the Driving Question, but does not consider them carefully 	<ul style="list-style-type: none"> • providing valid argument • considers alternative perspectives carefully
Explanation	<ul style="list-style-type: none"> • does not give rationalization or explanation to justify argument 	<ul style="list-style-type: none"> • recognize the need to provide rationalization to justify argument, but some arguments are without rationalization and some rationalizations are invalid 	<ul style="list-style-type: none"> • justifies all arguments provided in the text with valid reasoning
Inference	<ul style="list-style-type: none"> • is not able to provide conclusion 	<ul style="list-style-type: none"> • can provide conclusion but is illogical and incoherent or without careful consideration of alternative perspective, claim, and argument 	<ul style="list-style-type: none"> • can provide logical and coherent conclusion through careful consideration of alternative perspective, claim, and argument

3.4.2 Interview

The data from interview were transcribed and interpreted as a way to confirm, strengthen, and verify students' performance in argumentative writing. The interview was recorded to help researcher in analyzing the data. Then, the data were transcribed based on what the participants had said.

3.4.3 Classroom Observation

The data from classroom observation, in which video conference session was happening, were transcribed so as to ease analysis. The data was analyzed using the

same assessment tool illustrated in the previous subchapter. Then, the finding obtained from classroom observation was used as a support for data finding from document analysis.

3.5 Concluding Remarks

This chapter has discussed research methodology used in this study covering the research design, research site and participants, data collection, and data analysis. Next chapter will present the findings and discussion of students' critical thinking skill as reflected in argumentative text.