

Chapter III

Methodology

This chapter presents a delineation of the research methodology. The explanation begins with research design followed by research setting, participants, data collection, data analysis, and research procedure.

3.1. Research Design

The present study was conducted under a mixed-method design with an exploratory approach (Lodico *et. al.*, 2006; Creswell, 2012). The mixed-method design was chosen since it fits the nature of the research questions of the study and the requirement of the data collection procedure to answer the questions (Lodico *et. al.*, 2006). Research questions of the study were qualitative in nature. However, the questions required both qualitative and quantitative procedures to obtain a deep and convincing data. According to Lodico *et. al.*, (2006) mixed-method design is beneficial since it combines the strengths of both qualitative and quantitative research and provides both an in-depth look at context, processes, and interactions and precise measurement of attitudes and outcomes. Therefore, the mixed-method design was employed.

The exploratory approach was employed since it corresponds to the purpose of the study to investigate critical thinking in Senior High School students' writing (see Lodico *et. al.*, 2006). The present study relied more on qualitative data rather than quantitative data. In an exploratory approach, quantitative measurement is developed or refined based on qualitative data and collected and analyzed with the goal of building on or explaining the

qualitative data (Lodico *et. al.*, 2006). Moreover, the exploratory approach is relevant to the purpose of the study. The purpose of an exploratory approach involves the procedure of gathering qualitative data to explore a phenomenon, and then collecting quantitative data to explain relationships found in the qualitative data (Creswell, 2012). For that reason, the mixed-method design under the exploratory approach was selected to conduct the study.

3.2. Research Setting

The study was undertaken in a Public Senior High School in Bandung. The school was selected for three reasons. First, the Senior High School level was the level of education in which three types of argumentative essays are introduced, including analytical exposition, hortatory exposition, and discussion text. The nature of argumentative essays is potential to portray students' critical thinking as it requires argumentation, analysis, synthesis, and evaluation during the process of writing. Secondly, the selected school was one of prestigious schools in the selected area. It was assumed that the students of the selected school had a good English proficiency so that the students could mostly focus on their critical thinking rather than their English during the writing process. Lastly, the school was a school which was most accessible for conducting the study. Thus, the study was more probable to be conducted.

3.3. Participants

Thirty one second grade students were selected as participants. The students were different in English proficiency levels and performance. Therefore, the obtained data were expected to discover a wide range of students' critical thinking capacity. Meanwhile, second grade students were selected based on two considerations. First, the present study was

investigating students' writing, particularly in writing a hortatory exposition text where it was taught in the second grade at Senior High School level. Secondly, second grade students had received an analytical exposition lesson in the previous semester, so that the students were expected to have an adequate background knowledge of an argumentative text. In addition, all of the students participated in the study were put under a pseudoname.

In the present study, the researcher also participated in the research. The researcher had two roles in the study, including as an observer and the teacher. As an observer, the researcher observed the critical thinking elements and difficulties occurred during the observation. As a teacher, the researcher conducted the teaching program of Hortatory Exposition text writing.

The researcher participated as a teacher in the study for two reasons. First, to provide students with a larger portion of time of writing a Hortatory Exposition text. Most teachers usually provide a small amount of time in teaching writing of a type of text or even make the text writing as a take-home task. Meanwhile, writing proficiency takes time to develop (see Graham & Perin, 2007; Baş, 2012). Secondly, as a teacher, the researcher is possible to observe closely in a way that a non-participant observer cannot do such as enabling the researcher to know the right question to ask to get the data and how to ask it during observation (Bernard cited in Guest *et. al.*, 2013). Therefore, the researcher participated in the research as the teacher teaching Hortatory Exposition text writing.

3.4. Data Collection Techniques

A variety of data collection instruments were utilized to gain the data. The instrument comprises students' hortatory exposition texts, observation, questionnaire, and interview. A brief explanation of each instrument is explained separately as follows.

3.4.1. Students' Hortatory Exposition Texts

The students' writing in the form of hortatory exposition text was the main instrument to find out the elements of critical thinking in students' writing. According to Lai (2011), to activate critical thinking and to make students' reasoning visible, materials containing contradictions and requiring students to provide evidence or logical arguments in support of judgments, choices, claims, or assertions are needed. In this essence, the hortatory exposition text was chosen as the text's structure and nature require students to give an argumentation, analysis, synthesis, and evaluation that are fluid with the nature of critical thinking. Thus, the text was assumed to provide a better potential to capture students' critical thinking in writing.

The texts were collected by asking students to write a hortatory exposition text during the lesson of hortatory exposition text writing. Seven topics were offered to the students as the theme of their writing. Some topics were similar to the previous research conducted by Flores (2007), Samanhudi (2011), and Rohayati (2014). The topics included drugs trafficking, global warming, internet, LGBT, feminism, terrorism, and cell phones. Students could freely select one of the topics for their writing. As the content of the material can influence EFL students' involvement and motivation in the related tasks

(Ebrahimi & Rahimi, 2013), it is expected that, when students are able to determine their own topics for writing, they would be able to find more meaning in the writing assignment so that their motivation and ownership of the piece increase (Lubold *et. al.*, 2016).

3.4.2. Classroom Observation

Observation was conducted to enable the researcher to gain information about particular elements of critical thinking during the lessons of hortatory exposition text writing lively. Through observation, the researcher can look at what is taking place *in situ* rather than relying on second-hand accounts, thus the researcher has the potential to yield more valid or authentic data (Cohen *et. al.*, 2007). However, in the present study, observation was not the major technique to obtain the data to answer the questions. Observation was conducted to triangulate and to find additional information (if there were any) of students' critical thinking which was portrayed in their writing.

The classroom observation was videotaped, recorded, and provided with field-note. The observation was carried out five times from April 2016 – May 2016. In this research, the observation was conducted by the researcher herself as the teacher participant assisted by one non-participant observer. The participant observation was selected for two reasons. First, a participant observation was the most possible type of observation to be conducted for most of the teachers allocated only a small amount of time for a text writing session. Secondly, a participant observation is commonly conducted in exploratory approach as it connects the researcher to the most basic of human experiences, discovering through immersion and participation

the hows and whys of human behavior in a particular context (Guest *et. al.* 2013).

To validate the data and to lessen the bias that might occur, a non-participant observer was involved. The non-participant observer was a postgraduate student who had received training in critical thinking related to the study. The non-participant observer was also provided with the field-note. Hence, the data from observation were expected to be reliable and valid.

3.4.3. Questionnaire

Questionnaire was distributed to discover what the students beliefs about their critical thinking. The questionnaire was in two different formats: checklist and open-ended. The checklist format functioned as the baseline of the data related to students' beliefs on their critical thinking. Checklist format was selected for efficiency reason as it was distributed to thirty one students with a number of questions that comprised two major issues: students' beliefs on their critical thinking and students' basic barriers in developing critical thinking. According to Cohen *et. al.* (2007) checklist questions provide a clear, unequivocal response that compels respondents to come off the fence on an issue and to code responses quickly. Therefore, the students can easily answer the question, thus it would be time-saving. The questionnaire was adapted from Barrier Checklist and Self-Evaluation rubric constructed by Cottrell (2011). The checklist questionnaire was distributed twice, before the writing teaching program and after the writing teaching program. It was conducted to investigate whether there was a change in their critical thinking barriers and beliefs in general. The complete form of the questionnaire

can be seen in the appendix.

To enhance a deeper understanding of the students' beliefs on the difficulties in incorporating critical thinking in writing a hortatory exposition text and the students' beliefs on their critical thinking during the writing process, an open-ended questionnaire was formulated. Open-ended question was selected for its possibility to capture the specificity of a particular situation (Cohen *et. al.*, 2007) because the students have a chance to develop their answer regarding the situation given. It fits the aim of the questionnaire that intended to gain specific information on a particular topic, in this case hortatory exposition text writing. Moreover, as open-ended questions are useful if the possible answers are unknown or the questionnaire is exploratory (Bailey cited in Cohen *et. al.*, 2007), an open-ended question format was chosen to allow the participants to answer more freely as several questions might result in a different and unexpected answer. As stated by Elliot and Timulak (2005), open-ended questions would encourage participants to elaborate on their account. The open-ended questionnaire was distributed at the end of the last session of hortatory exposition text writing lesson. The complete form of the open-ended questionnaire can be seen in the appendix.

3.4.4. Group Interview

Interview, as stated by Cohen *et. al.* (2007), is a flexible tool for data collection that enables multi-sensory channels to be used: verbal, non-verbal, spoken, and heard. Moreover, the interview may be conducted in conjunction with other methods in a research undertaking (Cohen *et. al.*, 2007). Hence, the interview was utilized in the present study to gain a deeper data and to confirm the data

regarding students' answers and behaviors found in the other instruments.

The interview was carried out in a group discussion. It involved nine participants from three different achievement levels in incorporating critical thinking in writing. Group interview was selected since it provides the potential for discussions to develop, thus yielding a wide range of responses (Cohen *et. al*, 2007). Moreover, since the interview involved nine participants from three different levels of achievement, the group interview was expected to be time-saving without neglecting the representatives of different collectivities. As stated by Cohen *et. al*. (2007), group interviews are time-saving and bring together people with varied opinions. The group interview can also bring together people with varied opinions, or as representatives of different collectivities. The questions of the interview involved students' general barriers to critical thinking, students' beliefs on their critical thinking, and students' difficulties in incorporating critical thinking in their writing. The questions of the group interview were adapted from *Critical Thinking Inventory* constructed by Ruggiero (2008) which were combined with the questions of the open-ended questionnaire. The complete questions of the interview are provided in the appendix section.

3.5. Data Analysis

The collected data in this study were analyzed in inductive analysis. The inductive analysis covers three stages, including identifying each information of the data gathered carefully, formulating hypothesis, and arranging the general conclusion (Mertler, 2011). In the process, the data analysis also concerned on frequencies and percentages. In an exploratory

approach, those forms of analysis are most closely concerned with seeing what the data themselves and are responsive to the data being presented (Cohen *et. al.*, 2007). The data analysis was conducted during and after the data collection and presented descriptively.

3.5.1. Data from The Students' Hortatory Exposition Texts

Firstly, all of the texts were assessed and scored based on the general grading criteria of a hortatory exposition text adapted from Gerot and Wignell (1995) and Priyana, *et.al.* (2008). Nine texts from the students' works that represented three levels of performance (low, middle, and high achievement) were then selected to be analyzed in a deeper analysis. The analyses of the students' writing were divided into three steps, including identifying, categorizing and coding, and interpreting the elements of critical thinking reflected in the students' hortatory exposition texts. The data related to the elements of critical thinking from the students' writing were divided into eight categories, including identifying and formulating an issue, formulating reasons, analyzing and developing arguments, selecting and providing facts, voicing opinions to show the position, making a conclusion and offering solutions, getting everything clear, and attempting to be a fair and caring critical thinker (see Beyer, 1995; Toulmin, 2010; Emilia, 2005; Paul & Elder, 2006; Browne & Keeley, 2007; Paul & Elder, 2010; Ennis, 2011).

3.5.2. Data from Observation

The analysis of classroom observation was firstly conducted by gathering data from video recording and fieldnote. The data from observation and fieldnote were categorized and interpreted. The categorization of the classroom observation data was conducted based

on the theory related to the elements of critical thinking (see Beyer, 1995; Toulmin, 2010; Emilia, 2005; Paul & Elder, 2006; Browne & Keeley, 2007; Paul & Elder, 2010; Ennis, 2011), difficulties (Cottrell, 2011), and fallacies (Harnadek, 1980; Barry, 1983; LaBossiere, 2002; Acker, 2006; Ruggiero, 2008; LaBossiere, 2009; Height, 2011; Paul & Elder, 2012). The data from observation were compared with the data from the texts, questionnaire, and group interview to draw general conclusions.

3.5.3. Data from Questionnaire

The questionnaire was analyzed in three steps involving identification, categorization, and interpretation. First, data from the checklist questionnaire were identified and categorized into four central themes including critical thinking barriers, critical thinking knowledge, critical thinking skills, and critical thinking attitudes (Cottrell, 2011). Secondly, the data from the open-ended questionnaire were identified and categorized into two categories including difficulties in incorporating critical thinking in writing a hortatory exposition text and the students' beliefs on their critical thinking. Lastly, the data from checklist questionnaire and open-ended questionnaire were compared to triangulate one another.

3.5.4. Data from Group Interview

The recorded group interview was analyzed in several steps: transcribing, categorizing and coding, condensing, and interpreting. Firstly, the recorded interview was transcribed to render an incomplete account of meanings, which were expressed in the lived group interview situation. Secondly, the transcriptions were categorized and

coded into the central themes: students' beliefs on their critical thinking and their difficulties in incorporating critical thinking in writing a hortatory exposition text. Third, the data were interpreted to re-contextualize the statement within broader frames of references that might be provided by the theory. Lastly, the result of the group interview analysis was displayed and compared with the result of the questionnaire analysis, observation analysis, and textual analysis to triangulate and to assert the general conclusions.

3.6. Research Procedure

The present study was conducted from 16 April 2016 until 14 May 2016. It involved classroom observations and the teaching program of Hortatory Exposition text writing. During the observation and the writing teaching program, the researcher acted both as an observer and the teacher. In addition, the data collection of other instruments, including distributing questionnaire, administering group interview, and collecting the students' texts, were also conducted in this period.

The observation was conducted five times. The observation was conducted on 16 April 2016, 23 April 2016, 30 April 2016, 07 April 2016, and 14 April 2016. On 16 April 2016, the researcher observing the teaching and learning process to know the students' English competence, thinking capacity, and participation in the classroom. Meanwhile, in 23 April 2016-14 May 2016, the researcher observed the critical thinking elements and difficulties occurred during the writing teaching program.

The writing teaching program was conducted in four meetings. The first meeting, conducted on 23 April 2016, focused on exposing the students to the samples of various Hortatory Exposition texts and teaching the students

to write a thesis statement. The second meeting, conducted on 30 April 2016, focused on writing the body of arguments. The third meeting, conducted on 07 April 2016, focused on writing the recommendations, combining the thesis statement, arguments, and recommendations that had been written in the previous meetings into a complete Hortatory Exposition text, and revising the text. The last meeting, conducted on 14 April 2016, focused on the final editing and the presentation of the text.

In every meeting, the teacher prompted the students to think and to write critically by conducting various activities such as exposing students to various issues, giving examples of various critical writing, conducting discussions of various issues, assisting the students to develop a compelling argument, and giving feedbacks on their writing in every meeting (see Barnett, 1992; Abrami *et. al.*, 2008; Dasbender, 2011; Donnelly & Fitzmaurice, 2011; Azizi *et. al.*, 2014; Sharagdah, 2014). However, the teacher did not explicitly explain the terms related to critical thinking. The detailed activities of each meeting can be seen in the lesson plans provided in appendix.

Each meeting of the writing teaching program was divided into three major stages: pre-writing stage, writing stage, and revising stage. The pre - writing stage was a mean of introducing and preparing students with background knowledge for the next stage. In this section, students were engaged in activities exposing insights into and leading students to the next stage such as brainstorming, discussion, and modeling (see Dasbender, 2011; Sharagdah; 2014). Activities in the pre-writing stage helped students to start their papers such as involving students with a composition topic, letting them realize what might be included in their papers, helping them work out rhetorical problems, or reviewing useful vocabulary (Barnett, 1992).

The writing stage was conducted after pre-writing stage. In this stage, students worked individually. However, they were allowed to discuss with their friends when it was necessary. Discussion during the writing process was to provide the students with experience in collaborative activities since collaboration among students, such as writing collaboratively, promotes active learning and provides students with experiences working as part of a team that is beneficial to promote critical thinking (see Abrami *et. al.*, 2008; Donnelly and Fitzmaurice, 2011). During the writing process, the students were also allowed to use the internet, conventional dictionary, and electronic dictionary. The use of the internet was a way of assisting students to solve problems, as well as to find necessary research information to support their projects and papers (Dixon *et. al.*, 2005).

The last stage is revising stage. Revising stage was conducted after the students finished a draft. Therefore, they can consider revision of the content and the organization of their ideas as the whole. In this stage, a peer-review was conducted. This activity was expected to provide feedbacks to correct the students' writing. Moreover, by doing peer-review, the students were expected to get more exposure of the sample of writing at the same level. After doing peer-review, a classroom discussion comprising text presentation and teacher commentary was conducted. Lastly, students revised their writing based on peer's comments and teacher's feedbacks. In this stage, students had a choice to consider the feedback on their own.

3.7. Concluding Remarks

This chapter has explained the methodology of this study. A delineation of research design, research setting, participants, data collection, data analysis, and research procedure has also been presented in this chapter. The forthcoming chapter will present the findings of the study employing the methodology explained in this chapter.