

CHAPTER III

RESEARCH METHODOLOGY

This chapter describes the method of the study including the research design, setting, participants, data collection technique, and data analysis. Each of them will be explained below.

3.1. Research Design

Relevant to the purposes and the research questions of the study, a qualitative case study design was employed for some reasons. First, the study was carried out to gain rich descriptive answers to respond to *how* (Liamputtong, 2009; Yin, 2003; Connole et al., 1993) or *what* questions (Yin, 2003) concerning a single specific case within the real-life context (Yin, 2003; Liamputtong, 2009; Denzin and Lincoln, 2000 in Silverman, 2005).

Second, the study was carried out in “a small scale, a single case” (Stake 1985 in Emilia, 2005; Nunan, 1992:82). It also focused on one particular instance of educational experience or practice” (Freebody, 2003 in Emilia, 2005) that was a teaching program in “a bounded system” (Cohen et al., 2007:253; Stake, 2008 cited by Liamputtong, 2009:189) which referred to a senior high school as the study site. Thus, it allowed participant interaction which was also the focus of the study goal (Mok, 2009:266).

Third, the study employed multiple data sources characterizing a qualitative case study (Yin, 2003; Liamputtong, 2009:199; Croker, 2009) including students’ writing text, classroom observation, and interviews. In this regards, the use of multiple data was intended to allow for in-depth study (Connole et al., 1993) and to construct the validity of the study (Yin, 2003:97).

3.2. Setting

The study was carried out in a twelfth grade classroom at a private senior high school in Bandung. The site was chosen for two reasons. First, the researcher has been teaching there for six years and the class observed was her regular class. Thus, besides getting easy access to the research site, the researcher has been very familiar with the school’s culture and participants as her own students. This was

expected to lead to a natural conduct of research to avoid students' unnatural behaviour performance due to their awareness of the study and the fact that the class was set up for the purpose of research (Emilia, 2005:75). Besides, there was also feasibility for the researcher to manage the class as designed in the teaching program (Chapter IV) without disrupting the class' regular activities and schedules.

Second, regarding the teaching program, the Discussion text used as the medium of the teaching of CT is one of the text types offered in Grade XII curriculum. In relation to CT, the students of this grade were expected to have been prepared to learn to think conceptually, write analitically, and read critically (Emilia, 2005; Chaffee et al., 2002:4).

3.3. Participants

The main participants of this study were the researcher as a participant observer, a post graduate student as an observer, and a class of 27 students in Class XII IPA-1, aged between 17-19, comprised 18 girls and 9 boys. The students had learned English in EFL contexts since they were in elementary schools. The students were divided into seven groups. Six groups consisted of four students and one group consisted of three students. As indicated in section 4.3.1. of Chapter IV, the division was based on the students' proficiency level which was represented by their grades of assessments in the cognitive and practical aspects in Semester 5. Following the characteristics of CL (see section 2.1.2 Chapter II), each group comprised one high achiever, two mid achievers, and one low achiever. Meanwhile, the group with three members consisted of one high, one mid, and one low achievers (Emilia, 2010; Kohonen, 1993).

With regards to the researcher's role as the participant observer, the role was chosen to allow the researcher to build relationship with the students being observed and to create an identity that she was an insider or one of them (Cohen et al., 2007:258) to maintain a natural classroom atmosphere during the study.

3.4. Data collection

The study employed multiple data collection techniques consisting of students' writing texts, classroom observation, interviews with students. However, the major

data collection employed were the students' writing texts and students' talk recordings obtained from the classroom observation. Multiple data collection was used to allow the researcher to triangulate the data to ensure the validity of the study (Alwasilah, 2011; Maxwell, 1996). Besides, multiple data could give more rounded and complete accounts to evaluate the value and the effectiveness of the teaching program conducted in this study (Emilia, 2005:74).

In this study, the data collecting was conducted for a six-week period from January 27th to March 7th, 2014. The teacher's regular schedule was three times a week, for the total of five teaching hours per week. Each data collection will be discussed below.

3.4.1. Students' writing texts

In this study, students' writing texts functioned as the main resource of information to plot students' development in control of writing skills and their critical capacities, and to check the value and effectiveness of the teaching program (Emilia, 2005:79). The texts also provided evidence as the students' actual achievements in writing an argumentative essay in the form of the Discussion genre as well as for the teacher and researcher became "a valuable source to evaluate students' CT" (Norris and Ennis, 1989 and Baron, 1987 in Emilia, 2005:80). Further, citing Lemke (2002:23), Emilia (2005:80) points out that texts analysis is also important since in students' texts can reflect the values and beliefs of the students about issues discussed.

As previously mentioned, the text focused was the Discussion text type. This text type was chosen because it enables the students to get exposed to arguments, which is the core of critical thinking (Emilia, 2010; Reichenbach, 2001; Van Gelder, 2005; Cottrell, 2005). There were two kinds of students' writing texts collected and analyzed in this study. First, the texts that were produced in the preliminary phase as the diagnostic writing (Appendix 1). Second, the final drafts that were produced collaboratively in the teaching program phase (Appendix 5). The first ones were used to get a preview of the students' language competence, their strength and weakness before they were engaged in the writing process. Meanwhile the later were used as the first major data to answer the first

research question, i.e. to find the elements of CT demonstrated in the students' writing texts.

In this study, this data collecting was focused on the final drafts which had been given feedback and revised as indicated in section 4.3.4 Chapter IV. Each group handed one final writing text to the teacher, but each group member also had the copy of it. Thus, there were seven Discussion texts collected from Group #1 to Group #7. The seven texts were analyzed, but only three of them were presented and discussed in Chapter V, i.e. the ones written by Groups #1, #6, and #7. The texts were chosen because their topics were much closer to the real life issues of the students' daily lives and experience (Moon, 2008) rather than other groups' so that the texts produced were expected to be more meaningful and could be analyzed to represent the other texts. The topics raised were *school uniforms*, *the Red Zone policy*, and *entertainment TV program*. The list of all titles of the students' texts can be seen in Chapter IV, whereas the students writing texts are attached in Appendix 5a, 5b, and 5c.

3.4.2. Classroom observation

Classroom observation was employed predominantly to obtain the second major data source for the second research question, i.e. how collaborative writing helps develop students critical thinking. Through the classroom observation, it was expected that the researcher could discern and infer the meaning of events or observed process from the perspectives of the participants which might not be revealed through interviews or surveys (Alwasilah, 2011:110; Cohen et al., 2007:260). This was also carried out in order that the researcher could get to know from the first hand, the information about social process in a naturally occurring context (Silverman, 1993).

In this study, classroom observation was concerned specifically with the students' talks in the group discussions. They were recorded per group to capture the real students' talks. According to Silverman (2005:183), it allows the researcher to focus on the 'actual details' of one aspect of social live to find their CT as well as to learn their language development. As pointed out in Chapter IV section 4.3, the students' talks were recorded in four stages of the teaching program phase, i.e. in the planning phase, in the writing phase, in group-peer

feedback phase, and in the revision phase. The recordings of each group were collected at the end of each session and transferred to the computer. They were collected and saved separately in the folder per group, so there were seven folders for all groups. After the post teaching program ended, the recorded talks were transcribed verbatim, categorized, analyzed, and triangulated with other data.

Besides recording the students' talks, observation was also conducted by video recording and note taking by the observer. However, these data collection were used only to support the major data, so both of them were not specifically analysed. The video recording was used mainly to see the overall physical classroom environment during the CW activity, whereas the observer's field note was used to get more objective accounts of events in the CW process specifically in the aspects of teaching and students' responses (Burns, 2003:87) so that it could also be used to triangulate the main data collections. Unfortunately, the observer was not provided with written guidelines of the main points to be observed so that the results were concerned mainly with the aspect of CW.

3.4.3. Interview

Interview is a useful tool to collect data about the participants from their perspectives (Mills, 2007). It was done since it enabled the interviewer and interviewees to discuss their interpretations of the world in which they live, and to express how they regard a situation from their own point of view (Cohen et al., 2007:349). Concerning CT, an interview is an important way to evaluate the students' CT (Norris and Ennis, 1989 in Emilia, 2005:80) as shown in Chapter V. As defined by Emilia (2005), in this study an interview was viewed as:

an important means of helping students to bring to consciousness their knowledge gained in the teaching program, what aspects they thought had developed, and which aspects of the teaching program were responsible for the development or changes observed in this study (p. 80).

In this study, a semi-structured interview was carried out to obtain a comprehensive answer from the participants (Emilia, 2005; Kvale, 1996:5) and specifically to ensure the accuracy of the interpretation of other data analysis (Silverman, 2005:154). In addition, Nunan (1992:150) and Alwasilah (2011) argue that semi-structured interview gives the interviewer a great deal of flexibility. Thus, when the interviewees had difficulty in answering a question or

provided only a brief response, the interviewer used cues or prompts to encourage the interviewee to consider the question further. It was advantageous for this study considering that the interviewees were only senior high school students who might not have the ability to communicate their ideas clearly and well organized.

The interview involved five open ended questions based on the main topic areas, i.e collaborative writing and critical thinking (see Appendix 8a). The first two questions concerned collaborative writing while the three others concerned CT. Questions (Q) 1 and 2 were used to identify the CT aspects demonstrated in the CW process as well as to evaluate the teaching program phase. Meanwhile, Q3 and 4 were used to analyse the CT elements in the students' writing texts. Specifically, Q5, which inquired the students' awareness of using CT, was used to triangulate the findings from both students' text analyses and classroom observation.

The interview was conducted individually on the 6th and 7th of March 2014 after the school hour. It was conducted in the school library which was considered comfortable and quiet after the school was over so that the participants could concentrate as well as the researcher could obtain clear recordings (Emilia, 2005:84). It was also carried out in *Bahasa* in order to create secure feeling and establish a friendly rapport with the interviewees so that they were encouraged to express their subjective feelings as fully and as spontaneously as they were able to (Cohen et al., 2007:356). Before, the interview was carried out, the participants had been all informed that their answers would be recorded to avoid the loss of data and to enable the researcher to transcribe the data (Emilia, 2005:84).

The interview was carried out by the researcher alone, involving three high achievers, three average, and three low achievers. The choice was suitable with the qualitative nature in taking sampling that is purposive sample (Cohen et al, 2007; Alwasilah, 2011). Considering the tight interviewee's learning schedule and the number of the interviewees, the interview was carried out in two days, four and five students each. Each interview lasted about 20 minutes or less than one hour as suggested by Kvale (1996:136). It is also in line with Glesne and Peshkin cited by Alwasilah (2011:157) who argue that an hour is the longest. The interviews were all recorded and then transcribed for analysis.

3.5. Data analysis

In this study, the data were analyzed informally over the study and explicitly after the study. Data analysis on the diagnostic writing was conducted in the preliminary phase of the teaching program (see Table 4.1) since it would be employed to decide the follow up activity before going to the teaching program phase. The findings of the diagnostic texts were discussed briefly in section 4.2.1 of Chapter IV. Meanwhile, the major data collection including the students' texts, students' activities and talk recordings, and interviews with students were analyzed after the study. The data analysis will be discussed below.

3.5.1. Data from students' writing texts

3.5.1.1. Diagnostic writing texts

As indicated in section 4.2.1 of the teaching program, the diagnostic writing was intended for preconditioning the study and to get a preview of the students' language capacity. Therefore, analysis was prioritized on some writing aspects consisting of the text organization, coherence, and the linguistic features comprising the use of modal verbs, passive structures, transitions, present tense, and concord or agreement. The result of this analysis was directly discussed in Chapter IV section 4.2.1.

3.5.1.2. Collaborative writing texts

Data from the students' texts were analyzed to find the elements of CT, CT dispositions, as well as the students' ability in employing the language features of the Discussion text as stated in section 3.4.1. Analysis was carried out in four stages. *First*, the texts were collected and analyzed in terms of CT elements, CT dispositions, language features, and CT standards as presented in Appendix 6a. *Second*, three of the texts of which the topics were closer to their real lives were selected as the sample texts that would be presented and discussed in Chapter V. *Third*, three of the texts were presented and discussed as shown in Chapter V. *Fourth*, the data analysis was triangulated with the data from the interview and some completed with the students' talk recording.

Concerning the issues raised, the titles of the texts chosen were :

- 1) Should Students Wear Uniforms? (Group #1)

- 2) Should the First Voters Abstain in the Election? (Group #2)
- 3) Should Corby be Released? (Group #3)
- 4) Should Facebook be Banned from Social Media? (Group #4)
- 5) Do Academic Scores Determine Student's Quality? (Group #5)
- 6) Do Street Vendors Need to be Relocated? (Group #6)
- 7) Should *Yuk Keep Smile* Program be Banned? (Group #7)

As stated in section 3.4.1., the titles were derived from the issues which were close to the students' real lives (Moon, 2008). However, considering both the researcher's and students' adequacy of background knowledge in the topic areas as well as the limited space, only three of them chosen to be analyzed, i.e. titles no 1), 6), and 7). The first title was raised as the students' response to some parents and students' complaints about uniforms in some schools. The second title emerged to respond to the Red Zone policy imposed around their school, and the third came up as their concern with an entertainment TV program which was inviting a heated controversy at the time.

Specifically, in relation to the first research question, following Emilia (2010) and Reichenbach (2001), the CT elements analyzed included the *issue, arguments, facts and opinions*. In order to obtain a comprehensive result that represented the students' CT, in analysing the students' texts, the CT elements were represented in activities indicating the process of thinking and writing, and then related to the CT dispositions. It was conducted based on the literature review stating that CT abilities and dispositions are integratedly applied in the process of deciding what to believe or do (Ennis 1985, 1993, 1996) and that people are considered critical thinkers only if they can show both the ability and disposition in their lives (Paul and Elder, 2010). All the activities and indicators of CT are elaborated on pp. 15 – 23 of Chapter II as well as in Appendix 6a.

The texts were put into the table following the order of the schematic structure of the Discussion text namely *issue, argument for, argument against, conclusion and recommendation* (see Chapter II section 2.3.2). The texts were identified to find the statements and indicators of CT. Then, the statements were analyzed to find the CT elements and then related to the CT disposition category

as indicated in Appendix 6a. The elements were also measured by Paul's intellectual standards of reasoning including *clarity, accuracy, relevance, sufficiency, and logic* (Paul and Elder, 2006; Elder, 2007). After each part of the schematic structure was analyzed, a conclusion to each section was offered. To obtain a comprehensive picture of the CT elements emerging in the texts, the results were presented in the chart of The Summary of Text Analysis of CT Elements (see Appendix 6b).

Meanwhile, to monitor the students' language development as a part of the teaching program, the texts were analyzed based on the linguistic features of the Discussion genre in the aspects of *active and passive structures, logical conjunctive relation, types of process, and modal verbs*. These features were considered familiar to the students since they had been taught in the previous grades so that the students were not distracted with 'new grammar'. As Whitaker (n.d) underlies, they were expected to focus on their main task i.e. writing and used their prior knowledge appropriately to create meaningful writing and to help develop their CT which was also the students' needs as well as the goal of the teaching program. This was also relevant to Emilia (2010:46) discussing Met (1988) that in working with the students of EFL, the teaching program planning must consider the students' understanding, prior knowledge, capacities, and their needs in developing their critical literacy skills.

In analyzing the texts, the findings were triangulated with the data from interviews as presented in Chapter V.

3.5.2. Data from classroom observation

Data analysis from classroom observation was focused on students' activities in the writing process and the talks in each group discussion. These data were used to answer the second research question posed in Chapter I, i.e. how collaborative writing helps develop students' CT.

The analysis was carried out in four stages. *First*, the data from students' talk recordings were transcribed verbatim (Appendix 7a). The video recordings and observer's fieldnote were also read. *Second*, the data from the recordings were identified to find the activities and utterances indicating CT. Both the activities and utterances were categorized into CT dispositions as pointed out in Chapter II

p. 23. The CT dispositions were coded with CT1 – CT9. To obtain a comprehensive picture, the data from classroom observation and students' talks during the discussion were displayed in the same chart as seen in Appendix 7c. *Third*, the data were interpreted, presented and discussed in Chapter V. The data, were also presented in Chapter IV (the Teaching Program) since they also involved and represented the teaching and learning process, yet they were not discussed in detail. In presenting and discussing the data, the students' names were represented by the symbol of *S*, *S1*, *S2*, *S3*, *S4* or *Ss* for all the students in the group, and *T* for the teacher. Fourth, the data were triangulated with the data from interview.

3.5.3. Data from interview with students

As addressed in section 3.5.3, the analysis of the data from interview was used to check the accuracy of the analysis of the two major data obtained from students' writing texts and classroom observation. Thus, the result was employed to complete the answers to both research questions.

In this study, the interview analysis was conducted after the research ended. The analysis was carried out in three steps. *First*, the recorded interviews were transcribed verbatim as presented in Appendix 8b. However, due to the time constraint, the data were not “sent back” (Kvale, 1996:189) to the students interviewed to confirm what they had said and meant (Taft, 1989 in Emilia, 2005:86). *Second*, the answers were listed and arranged based on the interviewees' level of proficiency. Following Emilia (2005:86), the result was presented in the form of condensed body of information as indicated in Appendix 8c. *Third*, the answers were analyzed and categorized into the CT dispositions and related to the stages of the teaching program. *Fourth*, the data were used to triangulate the data findings from classroom observation in the teaching program and students' writing texts. In presenting the interview analysis, the interviewees' names were replaced with pseudonyms (Emilia, 2010; Emilia, 2005 citing Silverman, 1993).

3.6. Concluding remark

This chapter has provided the information about the research methodology including the research design, setting, and participants of the study. It also

discusses the data collection techniques and data analysis which mainly comprises students' writing texts, students' talks in group discussions, and interview. The following chapter will present and discuss how the teaching program is implemented. Findings during its implementation are also presented and discussed in each phase.