

## **CHAPTER III**

### **RESEARCH METHODOLOGY**

This study is aimed at investigating the implementation of cooperative learning in enhancing students' critical reading. The benefits and challenges in the implementation of cooperative learning in teaching critical reading will also be investigated. Based on the purposes of the study, this chapter covers research design, site and participants, techniques in collecting the data, and techniques in analyzing the data.

#### **3.1 Research Design**

As mentioned previously, the purposes of this study are to examine the implementation of cooperative learning in enhancing vocational school students' critical reading and identify the benefits and challenges in the implementation of cooperative learning in teaching critical reading. This study was conducted in an eleventh grade classroom of English in a vocational school in Cimahi, West Java. In accordance with the purposes and the setting of the study, the present study can be categorized into a qualitative study that applies a case study. First, like a case study, this study is carried out to investigate one particular instance of education (Merriam, 1988; Nunan, 1992) or "small scale, a single case (Stake, 1985, as cited in Emilia, 2008, p.191; Creswell, 2009, p.13). The second characteristic which accords with the important aspect of case study, as Yin (2003, p. 83) suggests, is that this research employs "multiple sources of evidence" to increase the validity of the study. More specifically, this study is also characterized as an observational case study as this study uses participant observation as data collecting technique and focuses on "a particular place in the organization (a classroom)" (Bogdan & Biklen, 1992).

This research design is considered appropriate to gain an in-depth understanding of the topic of the study. Based on Alwasilah's classification of research design (2000, p.151), this research can be characterized as a qualitative study because in this study the researcher described the characteristics of a

specific phenomenon which is cooperative learning. By using this design, this study was expected to be able to find out, define and analyze the topic of the study.

### **3.2 Research Site and Participants**

The research is undertaken in a state vocational school in Cimahi, West Java. This research site is chosen for the reason that the researcher has easy accessibility to the research site and further it is expected to gain higher feasibility of the study. Regarding the choice of the level of the research site, secondary level, it seems appropriate because the students will already have basic critical thinking skills from the perspective that they have more conceptual thinking than young learners do.

The participants of this study are 33 eleventh graders of a classroom of English. Most of the students had learned English for more than three years with the assumption that in such a time, they are assumed have sufficient background knowledge which is beneficial for their reading (Alderson, 2000) to read a text with their English critically. The students were given treatment of three types of cooperative learning model in eight sessions and their critical reading was examined from critical reading tasks and their response to the teacher's questions. For the sake of confidentiality, the students' names in this study were pseudonymous.

### **3.3 Data Collection Techniques**

Triangulation technique by means of classroom observation, questionnaire, in-depth interview with participants, and students' learning journals are employed for collecting the data in this study. Interview and observation are regarded as commonly used methods in qualitative research (Paltridge & Starfield, 2007). By combining the instruments (triangulation), the risk of obtaining limited data will be minimized and the validity of result will be increased (Alwasilah, 2000; Cohen, Manion & Morrison, 2007).

### 3.3.1 Classroom Observation

Classroom observation was employed to gain data about the process of cooperative learning implementation in the classroom. The observation closely observes and intends to have better understanding of what is going on during the implementation of cooperative learning and to assure that the five principles of cooperative learning are conducted. Moreover, the development of students' critical thinking in reading activity is also observed.

The classroom observation are conducted for eight sessions in the classroom in which the researcher acted as “teacher as researcher” (Stake, 1995, p. 91 as cited in Emilia, 2005) and participant observer (Creswell, 2001) where she involved in planning the teaching programs, preparing reading texts, implement the procedures of the programs and evaluate them.

In this study, a structured observation in which certain categories to observe have been determined beforehand is employed to provide a more specific focus of data collection (Nunan, 1992). The categories include the principles of cooperative learning and procedures of teaching critical reading. The observation sheet for cooperative learning principles is adapted from Kern, Moore & Akillioglu (2007). It contains five cooperative learning basic elements namely positive interdependence, individual accountability, social skills, promotive face-to-face interaction, and group processing. In the meantime, the observation sheet for teaching critical reading is adapted from instructional procedures in teaching critical reading from Wallace (1992) which includes pre-reading, while reading, and post-reading.

In conducting the observation, the classroom instructions were videotaped and observation sheet was also provided. The videotaping aims to ease the researcher in analyzing the data. The observation sheet is useful to note important things occurred in the classroom instruction. To validate the data from observation, there is another observer who observes the classroom instruction (Yin, 2003; Cohen, Manion & Morrison, 2007). Moreover, through classroom observation, the researcher could see unspeakable point of view that could not be

obtained through interview (Alwasilah, 2011) for example how the students respond to the instruction given by the teacher.

The time schedule of classroom observation is described below.

**Table 3.1**  
**Classroom observation, focus of the lessons and methods**

No	Date	Focus/ Lessons	Methods
1.	21 <sup>st</sup> April 2015	Preliminary study: Observing the teaching and learning process	Field Notes
2.	27 <sup>th</sup> April 2015	Pretest	
3.	28 <sup>th</sup> April 2015	Introducing critical thinking to students. Lesson 1: “Poverty in Indonesia”	Video/ Field Notes
4.	4 <sup>th</sup> May 2015	Lesson 1 continued	Video/ Field Notes
5.	5 <sup>th</sup> May 2015	Lesson 2: “Environmental Pollution”	Video/ Field Notes
6.	11 <sup>th</sup> May 2015	Lesson 2 continued	Video/ Field Notes
7.	12 <sup>th</sup> May 2015	Lesson 3: “Online National Examination”	Video/ Field Notes
8.	18 <sup>th</sup> May 2015	Lesson 3: Continued	Video/ Field Notes
9.	19 <sup>th</sup> May 2015	Review all materials	Video/ Field Notes
10.	25 <sup>th</sup> May 2015	Posttest	

### 3.3.2 Questionnaire

In this study, close-ended questionnaire was used. The close-ended questionnaire was intended to find out the students’ point of view regarding the benefits and challenges of cooperative learning. This closed-ended questionnaire items provided the ready-made response options to be chosen (Nunan, 1992). The items of the questionnaire were made based on literature about cooperative learning. The questionnaire used four-rating scales of Likert scale. The students

were asked to tick the column whether they are ‘strongly agree’, ‘agree’, ‘disagree’, and ‘strongly disagree’. In the questionnaire, among 25 statements, 16 of them were about the benefits of cooperative learning and 6 of the items were about challenges of cooperative learning. The questionnaires was written in Bahasa Indonesia and distributed at the end of the lesson.

### **3.3.3 Interview**

In this study, interview was employed to elicit students’ opinions about the effects of cooperative learning on their critical reading and the challenges in cooperative learning in their perspectives. Interview was conducted at the end of the teaching program. An interview which involves semi-structured questions is employed to gain deeper data. Nunan (1992, p. 149) lists the advantages of using this type of questioned such as providing the interviewee control over the course of the interview. Furthermore, it also gives the interviewer a great deal of flexibility. Therefore, in the interview process, the specific questions were prepared in advance; follow up questions were also included depending on the respondents’ responses in the interview. Interview guidelines were used when interviewing (see appendix). It consisted of some questions that are related to the advantages of cooperative learning for their learning and critical reading as well as the challenges faced by the students in cooperative learning groups. The total number of respondents was nine students who are purposely chosen from different level of proficiency (low, middle and high achievers). The interview was conducted in Bahasa Indonesia so that the researcher is able to gain rich information from the respondents. Other purpose of the interview is to validate data from classroom observation and questionnaires.

### **3.3.4 Written Tests**

This study also involved the written test which was administered to see whether cooperative learning techniques can develop students’ critical thinking in reading. It was also used to measure students’ critical thinking improvement in general. There are three four kinds of tests: pre-test, two written tests during the

teaching process and post test. The pre-test was given at the beginning of the meeting to diagnose students' critical reading before the teaching and learning process was conducted. Two written tests were given during the teaching and learning process in the classroom. It was intended to know students' criticality development. At the end of the teaching program, post test was also given to find out whether the students' critical reading had been developed by the teaching of cooperative learning techniques.

### **3.4 Data Analysis**

In this section, data analyses are discussed. The analyses include the data collection techniques employed namely classroom observation, students' written tests, questionnaire, and interview. The analysis of the data obtained from each instrument is described as follows.

#### **3.4.1. Data from Classroom Observation**

Data from classroom observation were analyzed descriptively. The analysis was commenced by making transcription of classroom interactions. Then, the transcriptions were read repeatedly. During the reading process, the researcher employed coding activity by matching the data with the research questions. Data from observation were analyzed to validate the data from questionnaires regarding students' critical reading.

The categorization and interpretation data were based on theories presented in chapter two. Regarding cooperative learning techniques, the observation was focused on the key elements of cooperative learning (Johnson & Johnson, 1984; Johnson & Johnson, 2009a; Johnson & Johnson, 1999; Kagan & Kagan, 2009; Gillies, 2003). The observation sheet for cooperative learning principles is adapted from Kern, Moore & Akillioglu (2007). It contains five cooperative learning basic elements namely positive interdependence, individual accountability, social skills, promotive face-to-face interaction, and group processing. In the meantime, the observation sheet for teaching critical reading is

adapted from instructional procedures in teaching critical reading from Wallace (1992) which includes pre-reading, while reading, and post-reading.

Table 3.2  
Observation Sheet

No	Elements of Cooperative Learning	Comments
1.	Positive Interdependence: (all students help and encourage each other in learning and achieve the group goals)	
2.	Individual Accountability: (Everyone participating and making contribution to the groupwork)	
3.	Group Processing: (Giving pupils time and procedures to analyze how well groups are functioning)	
4.	Small-group and interpersonal skills building appropriate communication Leadership Decision making Conflict management skill	
5.	Face-to-face promotive interaction: (Students actively involved in the discussion and promote each other's learning)	
6.	How the teacher delivered the learning of critical reading -Pre-reading a) By previewing or brainstorming which aims to activate students' existing knowledge? b) By predicting the content of a text which intends to help the reader draw on background knowledge? c) By asking questions related to the topic which aims to make students involved in the classroom discussion?  - While-reading (encourage students to be active and reflective)  - Post-reading a) giving questions which followed a text? b) summarizing and synthesizing what have been learned from the text?	

### **3.4.2 Data from Questionnaires**

The analysis of close-ended questionnaires was conducted in several steps. The first step was identifying the data from students' point of regarding benefits and challenges of cooperative learning. This was done by identifying students' answer in the questionnaire given. The second step was categorizing students' answer based on theories of cooperative learning.

Analyzing the results of questionnaire was conducted by categorizing and calculating students' answers into percentage to see their points of view toward the implementation of cooperative learning and its effect on students' speaking skill.

### **3.4.3 Data from Interview**

The data from interview were analyzed through several steps. Firstly, recorded data were transcribed. In transcribing the data, the participants' names were replaced with pseudonyms (Silverman, 1993). Afterwards, inappropriate or non relevant data were reduced (Creswell, 2008). Then, the data were categorized into categories which become the main concern of this study (Creswell, 2008) namely students' point of view regarding how cooperative learning assists them in learning critical thinking and the benefit and challenges during the implementation of cooperative learning.

### **3.4.4 Data from Students' Written Test**

The results of students' written test in pre test test, post test as well as written test in the teaching learning process were analyzed by using critical reading rubric published by CRHS which categorizes the analysis of question answer into three reading main parts: comprehension, interpretation and evaluation. The analysis was supported by relevant theories of critical thinking in the literature review. The test was aimed to check students' development of critical thinking in reading.

To check the improvement of the score on students' written test, SPSS v.21 software was utilized by analyzing the result of the pretest and posttest. It

was to statistically analyze the difference of means among data through paired t-test. Since there was one group, paired or matched t-test was chosen (Hatch & Farhady, 1982). It was also considered appropriate because the data were interval and were assumed to have normal distribution since the participants were more than 30 students (Hatch & Farhady, 1982, p. 98).

### **3.5 Validity**

The main threat to validity in this study is the assessment of students' reading tasks to analyze their critical reading skills because the researcher became the rater. However, this threat can be minimized by asking other raters to analyze students' writing. In this study, two other raters also analyzed the students' writing. In regards to the validity of data and result of the research, triangulation of data collection techniques by means of classroom observation, questionnaire, interview, and students' written tests were employed. As indicated before, by combining the triangulated instruments, the risk of obtaining limited data will be minimized and the validity of result will be increased (Alwasilah, 2000). The classroom activities were also recorded to ensure the validity of the data from classroom observation. To ensure the validity of the data from the interview, the researcher sent back the result of the interview in the form of transcription of the interview to the participant to avoid the bias made by the researcher.

### **3.6 Concluding remarks**

This chapter has outlined the methodology of this study. It elaborated the research design, research site and participants, data collection techniques including classroom observations, questionnaires, interview, and students' written tests, data analysis as well as the validity of the study.