CHAPTER III

RESEARCH METHODOLOGY

This chapter covers the methodology applied in this study including the formulations of the problem, research designs, hypothesis, data collection, data analysis, and clarification of key terms.

1.1 Formulations of the Problems

This study attempt to answer the following questions:

a. Does the implementation of Collaborative Strategic Reading lead to significantly better reading comprehension?

b. What are students' responses towards the implementation of Collaborative Strategic Reading?

1.2 Research Design

This study is a quantitative research and was conducted using quasi experimental as the research design. The quasi-experimental design was used because the purpose of the study is to test the effects of CSR on students' reading comprehension. According to Gal et.al (2002:365) the experiment is the most powerful quantitative research method for establishing cause-and-effect relationships between two or more variables.

There are two designs belong to quasi-experimental designs; static-group comparison design and non-equivalent control-group design. This study applied

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the non-equivalent control-group design. In this design, research participants are not randomly assigned to the experimental and control groups, and both groups take a pretest and a posttest (Gall, Gall & Borg, 2002:402)

There were two classes involved in the study, one class as experimental group and the other as control group. At the beginning, a pre-test was conducted to both groups. After that, students were given the several treatment sections where Collaborative Strategic Reading (CSR) was only applied to experimental group. At the end of the treatment, post-test and questionnaire were applied to find out students' final score and responses toward Collaborative Strategic Reading (CSR). The-post-test was conducted in both classes however the questionnaire only in experimental group. The quasi experimental design in this study is described as follows:

$$O \qquad X \qquad O$$
$$O \qquad\qquad O$$
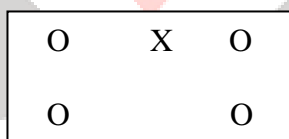
X : Experimental Treatment

O : Observation, either a pretest or posttest

(Gall, Gall & Borg, 2002)

1.2.1 Variable

There were two variables involved in this study. The independent variable is the prominent method which is manipulated, and measured by researcher. The dependent variable is student's score that is observed and measured to determine the effect of independent variable (Sukardi, 2008: 179). The independent variable

in the study is Collaborative Strategic Reading (CSR). And the dependent variable is Student' score on reading comprehension test.

1.2.2 Population and Sample

The population of this study was the students of one SMAN in East Bandung. They are registered in academic year 2010/2011. The sample for this study was students from two selected classes. The first class is the experimental group and the second class is the control group. Each class consists of 40 students. However, to anticipate the absence of the sample of the study, therefore, the study only took 35 students from each class as the sample. As a result, the total fixed numbers of the sample were 70 students. The sample was chosen based on the consideration that students at this level have enough experience in reading skill.

1.3 Hypothesis

This study attempts to investigate the effects of Collaborative Strategic Reading on students' reading comprehension. It begins with determining Null Hypothesis (H_0) stated that there is no difference between experimental class and control class in mean adjustment level (Kranzler and Moursund, 1999). In statistical notation,

$$H_0: \mu_{experimental} = \mu_{control}$$

It means that there is no difference in mean adjustment level of test scores between students who are taught reading by using Collaborative Strategic Reading

(CSR) with those who are not. If the hypothesis is rejected, it can be concluded that the experiment works.

1.4 Clarification of Terms

1. *Collaborative Strategic Reading (CSR)* refers to one type of strategy proposed by Klingner and Vaughn designed to improve learners' strategic reading abilities through small group discussion.

2. *Reading Comprehension*, in this study refers to students' score in a reading comprehension test that involve information taken from a text.

1.5 Data Collection

The data collected were the scores obtained from pre-test and post-test, from the questionnaire filled by the participants, and from the interview conducted. The data of this study were taken from students of selected classes at one SMAN in East Bandung who become the sample of this study. In acquiring the data, this study utilized three instruments. The instruments were used in this study are reading comprehension tests, questionnaire and interview.

1.5.1 Reading Comprehension Test

In this study, reading comprehension test was used to measure the students' comprehension in reading English text. The test consisted of fifteen multiple-choice questions related to a text. Multiple-choice is used because it is most suitable for assessing learning outcomes at the recall and comprehension

levels (Purnawan, 2010). At the beginning, students were given a pre-test to collect the data about their ability in comprehending an English text before the CSR applied in the classroom. In last meeting, students were given post-test to measure students' reading comprehension after the strategy has been applied.

1.5.2 Questionnaire

Questionnaire was used to obtain the information about students' responses toward Collaborative Strategic Reading. The questionnaire contains fifteen closed questions related to students' opinions of teaching and learning process. The selection-type items of the questionnaire used in this study is *likert scale*.

1.5.3 Interview

Interview was used to get more elaboration about students' perception toward Collaborative Strategic Reading. The interview was conducted in open-ended question that consist of four questions related to students' opinions of teaching and learning process.

1.6 Research Procedures

Procedures applied in this study covered the following steps: preparing the lesson plan, preparing the teaching material, administering pilot test, administering pre-test, adapting the treatment (the application of *Collaborative Strategic Reading*) for experimental group, administering post-test and administering questionnaires.

1.6.1 Preparing the Lesson Plan

There were some lesson plans designed to be implemented during treatment sessions. The entire lesson plans were focused on reading for the language aspects. The lesson plans were designed for, at least, seven meetings. The first and last meetings were allocated to conduct the pre-test and post-test, while the rest five meetings were allocated to implement the treatment, Collaborative Strategic Reading (CSR).

1.6.2 Preparing the Materials

Teaching materials in this study included several texts taken from various English textbooks for senior high school (*SMA*) and internet.

1.6.3 Administering Pilot Test

One of the instruments of the study is reading comprehension test. The test was pilot-tested to students from different class out of the samples. However, the class will be was still in the same grade as the experimental and control group. The test consisted of twenty questions related to a text. The pilot test was administered to analyze the validity and reliability of the test.

1.6.4 Pre-Test

Pre-test was given both to experimental group and control group. It is conducted to ensure that both control group and experimental group had relatively

equal ability in reading comprehension. The items used in the pre-test were used after being analyzed while pilot-testing.

1.6.5 Treatments

Treatment session began after the pre-test was done. The treatment in this study refers to the application of Collaborative Strategic Reading as reading strategy in the classroom. For reading classes, the experimental group was taught by using Collaborative Strategic Reading as the reading strategy while control group used conventional strategy (individually read and answer questions from a text) in reading class. The treatment was given to experimental group in six sessions. The following table presents the time schedule of the study.

Table 3.1

Time Schedule

No	Experimental Group		Control Group	
	Date	Material	Date	Material
1	10 Januari 2012	Pre-test	10 Januari 2012	Pre-test
2	12 Januari 2012	Text 1 Why do Hawks hunt Chicks?	14 Januari 2012	Text 1 Why do Hawks hunt Chicks?
3	17 Januari 2012	Text 2 The Farmers and The Beet	18 Januari 2012	Text 2 The Farmers and The Beet
4	19 Januari 2012	Text 3 The Legend of Mount Wayang	21 Januari 2012	Text 3 The Legend of Mount Wayang
5	24 Januari 2012	Text 4 Commercials on TV	25 Januari 2012	Text 4 Commercials on TV
6	26 Januari 2012	Text 5 Why Should We Wear a Helmet when	28 Januari 2012	Text 5 Why Should We Wear a Helmet

		Motorcycling		when Motorcycling
7	31 Januari 2012	Text 6 Should Government Censor Materials on The World Wide Web	1 Februari 2012	Text 6 Should Government Censor Materials on The World Wide Web
8	2 Februari 2012	Post-test, administering questionnaire and interview	4 Februari 2012	Post-test

1.6.6 Post-Test

At the end of the treatment, the post-test was conducted to both experimental and control group. Post-test was given to find out whether there are any difference between experimental and control group as the results of the treatment.

1.6.7 Questionnaire

The questionnaire was given to the experimental group at the end of the treatment. The selection-type items of the questionnaire used in this study is *likert scale*. It is distributed to find out students' responses towards the implication of Collaborative Strategic Reading (CSR) as reading strategy.

1.6.8 Interview

Interview was used to get more elaboration about students' perception toward Collaborative Strategic Reading. The interview was conducted in open-

ended question that consist of four questions related to students' opinions of teaching and learning process. The interviewees were nine students who consisted of 3 high achievers, 3 moderate achievers, and 3 low achievers.

1.7 Data Analysis

After collecting the data, it will be analyzed through several steps, including scoring technique, data analysis on the pilot test, data analysis on pre-test and post-test and data analysis on the questionnaire.

1.7.1 Scoring Technique

Since this study employed multiple choice test as an instrument, according to Arikunto (2006), there are two types of formulas that can be used to process the multiple choice item; formula with punishment and formula with no punishment. This study used the second one; the formula with no punishment. The formula is stated as follows:

$$S = R$$

In which S is score and R is right.

1.7.2 Data Analysis on the Pilot Test

The purpose of pilot test was to analyze the validity and reliability of the test. The analysis of the test items was conducted by several steps as follows:

calculating the validity and reliability of the test, and determining the difficulty index of each item. The analyses were computed using Anates.

1.8 Data Analysis on Pre-test and Post-test

Pre-test and post-test were given to both experimental and control groups in the same procedures. A hypothesis was started with the alpha level at 0.05. The data gathered through pre-test and post-test were computed one by one using *IBM SPSS Statistics 19.0 for Windows*.

Three steps were accomplished covering normality test, homogeneity variance, and independent t-test. The details of statistical procedures were as follows.

1.8.1   Normal Distribution Test

Normal distribution test was calculated before t-test. It aimed to investigate whether or not the distribution of pre-test and post-test scores in groups were normally distributed. The statistical calculation of normality test used Kolmogorov-Smirnov. If the result > 0.05, the null hypothesis is not rejected which means the sample score is normally distributed. In contrast, if Asymp. Sig<0.05, the hypothesis is rejected which means the score is not normal.

1.8.2 Homogeneity of Variance

Variance homogeneity test was conducted to ensure that the two groups tested in Independent t-test were equal or approximately equal (Collidge, 2000). The homogeneity of variance test used Levene test in SPSS program. If Asymp. Sig.<0.05, the null hypothesis is rejected which means the two groups are not equal. In contrary, if Asymp. Sig>0.05, the hypothesis is not rejected which means variance data of two groups are equal or the data are homogenous.

1.8.3 Independent t-test

The independent t-test was used to analyze the difference between means of the two group under comparison (Kranzler and Moursund, 1999;90). In this study, the independent sample test was analyzed using computation with *IBM SPSS Statistics 19.0*. If t-obtained < t-critical, the hypothesis is not rejected; there is no significant difference between the two groups. In contrary, t-obtained>t-critical, it means that the hypothesis is rejected, there is a significant difference between two groups. Furthermore, Kranzler and Moursund (1999;91) state that since the difference between them is the experimental treatment, it is reasonable to conclude that the treatment is responsible for the differences.

1.8.4 Data Analysis on Questionnaire

In this study, questionnaire aimed to clarify the information and elaborate the data concerning the research question about the students' responses toward the use of Collaborative Strategic Reading (CSR) as reading strategy.

The data gained from questionnaire were analyzed according to *likert scale* rating form. The participants were asked to choose between five choices (strongly agree, agree, uncertain, disagree, and strongly disagree) that best represent how they feel about a statement. On some items, strongly agree will indicate a positive attitude and scored 5. On other items, a strongly disagree will indicate a positive attitude and scored 5. Then, data from questionnaire were analyzed based on the frequency students' answers. The result will be calculated and interpreted into percentage. The formula of percentage used is as follows:

$$P = \frac{Fo}{n} \text{x } 100\%$$

In which:

P   = Percentage of each question
o   = Frequency of answer (total respondent who answer the item)
n   = Total Respondents

The criteria of percentage categories are described as follows:

Table 3.2
Criteria of Percentage of Respondent

Percentage of Respondent	Criteria
1- 25%	Small number of students
26-49%	Nearly half of students
50%	Half of students

51-75%	More than half of students
76-99%	Almost all of students
100%	All of students

(Sudjana, 1984: 49)

1.8.5 Data Analysis on Interview

The data obtained from questionnaire were analyzed by transcribing the data. The researcher pointed out the important parts which were related to the research question. Furthermore, to justify the answer, related literature were presented.