

CHAPTER III

RESEARCH METHODOLOGY

This chapter describes the design of research methodology applied in the research. The explanations are as follow: research design, formulation of problems, hypothesis, and clarification of terms, data collection, research procedures, and data analysis.

3.1 Research Method

3.1.1 Research Design

This research, entitled “The Use of Peer Feedback in Improving Student’s Narrative Writing” is a quantitative research because it proposed to test a hypothesis then followed by collecting and analyzing numerical data. Sugiyono (2008:34) said that quantitative method is used when the study aims to test a hypothesis. Banner (2005) also said that quantitative research shows the implementation of numeric approach toward data collection and analysis.

Then, because this study investigated the use of peer feedback in improving students narrative text, experimental study was applied. Gay (1981) stated that experimental is a study that can test hypothesis concerning the causal relationship (Emzir, 2008).

There are there designs of experimental study, pre-experimental design, quasi experimental design, and true experimental design. Among these designs, true experimental is considered as the best design. However, because the sample of this study was not chosen randomly, quasi-experimental non-equivalent pre-test

post test design was applied. As Sugiyono (2008:107) said that quasi-experimental non-equivalent pre-test post design is used when the study wants to see the effect of a treatment where experimental and control group are not choose randomly.

There were two classes involved in the study, one class as experimental group and 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 peer feedback technique 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 the use of peer feedback technique. The-post-test was conducted in both classes however the questionnaire only in experimental group. The quasi experimental design in this research is described as follow:

O ₁	x	O ₂
O ₃		O ₄

- O₁= experimental group pre-test
- O₂= experimental group post-test
- O₃ = control group pre-test
- O₄ = control group post-test
- X =treatment

(Sugiyono, 2008)

3.1.2 Variable

The variables used are classified into dependent and independent variables:

1. The independent variable is peer feedback technique because this is the prominent method which is manipulated, and measured by researcher (Sukardi, 2008: 179).
2. The dependent variable is student's score that is observed and measured to determine the effect of independent variable (Sukardi, 2008: 179).

3.1.3 Population and Sample

The population of this study was the whole students of first grade in one senior high school in Cimahi. They are registered in academic year 2010/2011. The sample of this study was the 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 research, therefore, the research only took 35 students from each class as the sample. As a result, the total fixed numbers of the sample was 70 students. The sample was chosen based on the consideration that students in this level have enough experience in writing skill.

3.2 Formulation of Problems

This research is directed to answer the following questions:

- a. Does the use of peer feedback technique improve students' narrative writing?
- b. What are students' responses toward the use of peer feedback in teaching narrative text?

3.3 Hypothesis

Hypothesis is defined as tentative statement about the outcome of the research. Since the research attempt to investigate the effectiveness of peer feedback technique in improving students' narrative writing, the research determines hypothesis. The hypotheses are:

Ho: there is no significant difference between students' writing score in pre-test and post-test score; means the technique is no effective to improve writing skill.

H1: there is significant difference between students' writing in pre-test score and post-test score; means the technique is effective to improve writing skill.

3.4 Clarification of Terms

To simplify the process of designing and application the research and to avoid misunderstanding and misinterpretation, it is necessary to define the operational definition of term used in this research.

- *Effectiveness*, in this study refers to: the success of peer feedback technique in application on its content and method to the academic level, especially relates to the research.
- *Peer Feedback*, in this study refers to: working with someone of one's own age—usually someone in the same class—to help improve, revise and edit his or her writing related to writing contents, organizational patterns, grammatical structures and appropriate word choice Mi (2009:60).
- *Writing Mastery*, in this study refers to: Having complete knowledge and deep understanding on writing as a process to result a tool of interaction and communication written by the students with proper content,

organization, mechanic, and grammar which get by applying strategies such as peer feedback in finding easier way to achieve the students' writing comprehension.

3.5 Data Collection

The purpose of using instruments in this study was to elicit and to capture the whole relevant data. In acquiring the data, this study involved two instruments. The instruments used in this research were writing tasks and questionnaire.

3.5.1 Writing Tasks

In this study, writing tasks were used to measure students' ability in writing narrative text. It was employed to both groups. The tests consisted of five narrative texts including test for pre-and post-test. At the beginning, students were given a pre-test to collect the data about their initial ability in narrative writing before peer feedback technique was applied. In the last meeting, students were given post-test to measure students' ability in narrative writing after peer feedback technique was applied.

3.5.2 Questionnaire

Questionnaire was administered to attain the information about students' responses toward the use of peer feedback technique. The questionnaire was given only to experimental group after giving the post-test. The questionnaire contained ten statements related to students' responses toward teaching and learning process.

3.6 Research Procedures

3.6.1 Preparing the Lesson Plan

The lesson plan was designed to be implemented during treatment session. The lesson plans related to narrative text. Teacher designed lesson plan for five meetings. The first and last meeting were allocated to conduct the pre-test and post-test, while the rest three meetings were allocated to implement the treatment, using peer feedback in teaching narrative text.

3.6.2 Preparing the Material

The materials given were about narrative text taken from Gerrot, Linda and Peter Wignell, and narrative texts taken from some resources such as a story book and internet.

3.6.3 Administering Pilot Test

Before conducting the pre-test and post-test, the researcher examined the test whether it was appropriate or not. In this study, the researcher administered pilot test. The pilot test was given to eight students in similar level which were not included in the experimental and control group but have already learned narrative text. The pilot test was conducted on 27th April 2011 where the students were asked to compose a narrative text based on pictures given.

3.6.4 Pre-test

Pre-test was conducted to both groups as the first meeting. This test was purposed to obtain the data of the students' initial writing skill and to ascertain that the students from both group has same capability and the same English proficiency before they received treatment.

3.6.5 Treatment

After performing pre-test, the next step was given treatment for experimental group. The treatment was the implementation of peer feedback technique to assist students in writing narrative text. Time allocation for each meeting consists of two hours of instruction (one hour of instruction was forty five minutes). Time schedule of the research can be seen in the table.

Table 1.1
Time Schedule of Research

No.	Experimental Group		Control Group	
	Date	Material	Date	Material
	May 13 th , 2011	Pre-test	May 13 th , 2011	Pre-test
	May 19 th , 2011	writing text 1	May 20 th , 2011	writing text 1
	May 20 th , 2011	Peer feedback training and peer feedback 1	May 26 th , 2011	Writing text 2

	May 24 th , 2011	Writing text 2	May 27 th , 2011	Writing text 3
	May 26 th , 2011	Peer feedback 2	June 1 st , 2011	Post-test
	May 27 th , 2011	Writing text 3 and peer feedback 3		
	May 30 th , 2011	Post-test		

3.6.6 Post-test

The study conducted post-test at the end of the research. It aimed to measure the students' writing skill after the treatment. It was distributed to both experimental and control groups. This was intended to find the differences between students' score of both groups. The post-test was similar to the pre-test.

3.6.7 Questionnaire

Questionnaire was conducted only to the experimental group students after performing the post-test. Questionnaire was administered to attain the information about students' responses toward the use of peer feedback technique. It contained ten statements related to students' opinions of teaching and learning process.

3.7 Data Analysis

3.7.1 Scoring Sheet for Writing Analysis

Students' pieces of writing were analyzed using "Grade 3 Narrative Writing Score Guide" from Albert Education (2010). The scoring guide chosen as the criteria of scoring represents the basic aspect of writing. They are content, organization, sentence structure, vocabulary, and conventions.

However, in this study, the scoring focused on examining only in two aspects, they are organization and convention. The organization assesses the students' ability to introduce the beginning, establishes the connections and/or relationships between events, actions, details, and/or characters, and brings closure to the writing. Meanwhile, the convention assesses the extent to which the writer has control of end punctuation and capitalization, spelling, and clarity. Each aspect has 5 grades of range in assessing the students' works: those that meet the standard of excellence (5), those that approaches the standard of excellent (4), those that clearly meets the acceptable standard (3), those that do not clearly meet the acceptable standard (2), and those that are clearly below the acceptable standard (1).

3.7.2 Data Analysis in Pilot Test

The pilot test aimed to check the validity and reliability of the instrument. It was conducted before doing pre-test. If the respondents were able to write the given instruction it was concluded that instrument can be used as pre-test and post-test.

3.7.3 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.

3.7.3.1 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 by following four steps below:

1. Setting the hypothesis, H_0 = the score between experimental and control group is normally distributed
2. Setting the level of significance (p) at 0.05
3. Analyzing the normality distribution using Kolmogorov-Smirnov test
4. Comparing score between test result and level of significant value. If Asymp. Sig > 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.

3.7.3.2 Homogeneity of Variance

The homogeneity of variance test used Levene test in SPSS program. The steps are as follows:

1. Setting the hypothesis, H_0 =data between the two groups are homogeny
2. Setting the level of significance (p) at 0.05
3. Measuring the homogeneity variance using Levene's test
4. Comparing the result of Lavene's test and alpha level of significant

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.

3.7.3.3 Independent t-test

The independent t-test was used to analyze the difference between means of experimental and control group. In this research, the independent sample test was analyzed using computation with IBM SPSS Statistics 19.0. The steps are as follows:

1. Setting the hypothesis, H_0 = there is no significant difference between students' writing score in experimental and control groups.
2. Setting the level of significance (p) at 0.05 with two-tailed of significant.
3. Calculating t-test score using IBM SPSS Statistics 19.0.
4. Comparing t-obtained and t-critical. If t-obtained>t-critical, it means that the hypothesis is rejected, there is a significant difference between

two groups. In contrary, if $t\text{-obtained} < t\text{-critical}$, the hypothesis is not rejected; there is no significant difference between the two groups.

3.7.3.4 Paired-sample T-test

Paired t-test was used to find the differences between pre-test on post-test in each group. In this research, the independent sample test was analyzed using computation with IBM SPSS Statistics 19.0. The steps are as follows:

1. Setting the hypothesis, H_0 = there is no significant difference between students' writing score in pre-test and post-test score.
2. Setting the level of significance (p) at 0.05.
3. Calculating t-test score using IBM SPSS Statistics 19.0
4. Comparing t-obtained and t-critical. If $t\text{-obtained} > t\text{-critical}$, it means that the hypothesis is rejected, there is a significant difference between the scores before and after treatment. In contrary, if $t\text{-obtained} < t\text{-critical}$, the hypothesis is not rejected; there is no significant difference between treatment score before and after treatment.

3.7.3.5 Effect Size

The effect size computation is conducted to check the level of effect of treatment after t-test calculation by using IBM SPSS Statistics 19.0 from independent t-test of post-test. The effect size is used to determine how significant the impact of treatment to the experimental group's score. Effect size has positive correlation to its value, the larger effect size value, the larger impact of treatment (Coolidge, 2000). The formula of effect size is:

$$r = \sqrt{\frac{t^2}{t^2 + df}}$$

r: Effect size

t: Independent t-test value

df: Degree of freedom

Value of effect size is interpreted by the following scale:

Table 1.2
Scale of Effect Size

Effect Size	r value
Small	.100
Medium	.243
Large	.371

3.7.4 Data Analysis on Questionnaire

In the research, questionnaire aimed to clarify the information and elaborate the data concerning the research question about the students' responses toward the use of peer feedback technique in teaching and learning narrative text.

The data gained from questionnaire were classified into two major aspects. They are the students' responses toward writing subject and students' responses toward the use of peer feedback technique in writing narrative text. 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 follow:

$$P = \frac{F}{n} \times 100$$

P= percentage
 F= frequency
 n=the sum of the sample
 100=constant

(Sudjana, 1984: 49)

Figure 3.2 Formula of Percentage

The criteria of percentage categories are described as follow:

Table 1.3
 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

This chapter has presented the methodology of the research including research method, population and sample, data collection, research procedures, data analysis. Then, the findings and the discussions of the data collected will be explained in more detail in the next chapter.