CHAPTER III

RESEARCH METHODOLOGY

This chapter presents a discussion on the methodology employed in conducting this study. The description and account below involve: (1) Research Design, (2) Research Subject, (3) Research Instruments, (4) Research Procedures, and (5) Data Analysis.

3.1 Research Design

3.1.1 The Experimental Design

In conducting the research the writer applied the quantitative research design as research methodology. Quantitative method is a method that correlates with statistical analysis of the data, which is typically in numeric form (Creswell, 2012, p. 19).

Afterwards, because this study examined the effectiveness of peer feedback in improving students' narrative text, the quasi-experimental design was applied with the matching-only pretest-posttest control group designs. Essentially, the writer assigned intact groups the experimental and control treatments, administers a pretest to both groups, conducts the experimental treatment activities with the experimental group only in which using peer feedback technique as the treatment activity, and then administers a post test to assess the differences between two groups (Creswell, 2012, p. 310).

According to Fraenkel J. R. et al (2012), the design of quasi experimental that applied in this study can be describes as follows:

Treatment Group	M	O^1	X	O^2
Control Group	M	O^1	C	O^2

Notes : M = Matched subject

O^1 = Students' writing score in pre-test

O^2 = Students' writing score in post-test

X = Treatment using peer feedback technique

C = No treatment

3.1.2 The Variable

A variable is a characteristic of an individual or organization that can be measured by the researchers and also varies which has different value among different individuals or organizations (Creswell, 2012, p. 112). A common and useful way to think about the variables is to classify them as independent or dependent. Independent variables are those that the researcher chooses to study in order to assess their possible effect(s) on one or more other variables (Fraenkel, J. R. et al., 2012, p. 92).Those are presumed to affect other variables called dependent variables. In other words, dependent variables are those that dependent on or influenced by the independent variables. Accordance to the explanation above, this study also classified the variables into independent and dependent variables.

1. Independent variable chosen was peer feedback technique. Peer feedback technique became the treatment or manipulated variable.
2. Dependent variable in this study was students' narrative score. It became the outcome from independent variable.

3.2 Research Subject

3.2.1 Population

Fraenkel, J. R. et al (2012) stated that population is the group of interest as the destination that the researcher would like to generalize the result of the study (p. 92). They further explained that in educational research, the population is usually a group of persons (students, teachers, or other individuals) who posses certain characteristics and in some cases it can be defined as a group of classroom, schools, or even facilities (2012, p. 92). In line with Creswell (2012) who defined population as a group of individuals with same characteristics that can be identified by the researcher (p. 142). Considering that reason, the population of this study was the entire second grade in one senior high school in Bandung. They are enrolled in academic year 2013/2014.

The second grade students of senior high school in Bandung are taken as population since it is done to the fact that in curriculum 2006 narrative text is taught in the first grade of senior high school. It is also assumed that they have applied genre-base approach to English language teaching.

3.2.2 Sample

Sample is a subgroup of the target population and selected from the individuals who represent the whole population that the researcher plans to study for generalizing about the target population (Creswell, 2012, p. 142). Furthermore, Fraenkel, J. R. et al (2012) added that the smaller group of population called sample or the group on which information is obtained in the research study (p. 91). The sampling technique used in this study was cluster random sampling technique. They also elaborated that "the selection of groups, or clusters, of subjects rather than individuals known as cluster random sampling". Cluster sampling was applied

because there was difficulty in selecting the random sample of individuals due to the administrative of the school. In addition, they affirmed that the cluster random sampling can be used when it is difficult to select a random sample of individuals, besides, it is often easier to implement in school and also frequently less time-consuming (2012, p. 96).

Regarding to those explanations, this study took two classes randomly as sample. Each class consists of 32 students and researcher took 30 students as the sample for avoiding the absence of the students. The first class is the experimental group and the second class is the control group.

3.3 Research Instrument

In this study, there are some instruments that were used to collect the data. The device (such as a pencil and paper test, a questionnaire, or a rating scale) the researcher uses to collect data is called an instrument (Fraenkel, J. R. et al., 2012, p. 111). Therefore, the instruments used in this study were writing task and questionnaire. There are, writing tasks, in which to measure students' ability in writing narrative text. There were three narrative texts which include the test for both pre and post test. At the beginning, all the students were given the pre test to measure their initial ability in narrative writing before the peer feedback technique is applied. Then, questionnaire, it was distributed after conducting the post test to collect the information about students' responses toward the use of peer feedback technique in teaching narrative writing.

3.4 Research Procedure

The procedures of this study were gained by several steps that can be described as follow:

3.4.1   Preparing the lesson plan

The lesson plan was designed to be implemented during treatment session. The material included in designing the lesson plan was narrative text in which it was organized for six meetings. The first and the last meeting were allocated to conduct the pre-test and post-test, while the other four meetings were allocated to implement the treatment by using peer feedback technique.

3.4.2   Trying out the research instrument by conducting the pilot test

The pilot test was conducted before the pre test in order to examine the writing test as the instrument whether it is valid or not. The pilot test was given to six students in similar level which were not included in both experimental and control group. Students who involved in this pilot test were assumed that they have already learned narrative text.

3.4.3   Conducting the pretest

The pre test was conducted in both experimental and control groups as the first meeting. This test aims to gather the data of students' initial writing skill and to ascertain that both groups have similar capability in writing skill before they receive the treatment. As Creswell (2012) noted that pretest provides a measure on some attribute or characteristic that researcher assess for participants in an experiment before they receive the treatment (p. 297).

3.4.4. Conducting the treatment

After conducting the pre test, the treatment was given to the experimental group only. "In an experiment, the researcher physically manipulates with interventions in one or more condition so that individuals experience something different in the experimental conditions than in the control conditions" (Creswell, 2012, p. 301). The treatment is the implementation of peer feedback technique. Time allocation for each meeting consists of two hours instruction in which one hour instruction is forty minutes. Time schedule of the research can be seen in the table.

Table 3.1

Time schedule of the Research

Date	Experimental Group	Control Group
September 2nd, 2013	Pretest	Pretest
September 3rd, 2013	Writing text 1	Writing text 1
September 16th, 2013	Peer feedback training and peer feedback 1	Writing text 2
September 17th, 2013	Revised draft 1 and peer feedback 2	Writing text 2
September 23rd, 2013	Final draft	Posttest
September 30th, 2013	Posttest and Questionnaire	

3.4.5 Conducting post test

The next step is conducting the posttest which aimed to measure the students' achievement in writing skill after receiving the peer feedback technique. This post test was given to both experimental and control groups. This post test aimed to measure the differences of students' score between the experimental and control group. Creswell (2012) reaffirmed that after the treatment, the researcher could take another reading on the attribute or characteristic and a posttest is a measure on some attribute or characteristic that is assessed for participants in an experiment after a treatment (p. 297).

3.4.6 Administering questionnaire.

In questionnaire, the subjects respond to the questions by writing or, more commonly, by marking an answer sheet and it can be given to large numbers of people at the same time (Fraenkel et al., 2012, p. 125). The questionnaire was distributed for the experimental group only after performing the post test. This purposed to collect the information of students' responses toward the use of peer feedback technique in teaching narrative text.

3.5 Data Analysis

The data of this study were analyzed trough qualitative analysis. The data analysis were conducted to gain data in the form of writing performance test. Besides analyzing the data from the results of pretest and posttest, the writer also analyzed the data gathered from the questionnaire. The procedures of analyzing the data comprised several steps. First, the data collected from students' writing performance in pre- test and post-test were analyzed using "The ESL Composition Profile" (Jacobs et al.,

1981). The scoring guide chosen as the criteria of scoring represents the basic aspect of writing. They are content, organization, vocabulary, language use, and mechanics aspects. In this study the scoring only focuses on organization aspect. Second, the scores were calculated by applying the statistical analysis of t-test to determine how mean of pre-test is different from the post-test score. The significance of the test was analyzed by using computer programme of Statistical Product and Service Solution (SPSS).

After calculating the data from pretest and posttest, the data from questionnaire were analyzed. The data were analyzed based on the frequency students' answers. The result was calculated and interpreted into percentage.

3.5.1 Scoring Sheet for Writing Test

Students' writing texts were analyzed using "The ESL Composition Profile" (Jacobs et al., 1981). The scoring guide chosen as the criteria of scoring represents the basic aspect of writing. According to this scoring system, the appraisal towards students' composition work was based on five aspects of writing: content, organization, vocabulary, language use, and mechanics aspects. The score for each aspect ranges differently each other and it is classified into some criteria, such as (1) content- the score ranging from 30 (the highest score or excellent) to 13 (the lowest score or very poor), (2) organization-the score is ranging from 20 (excellent) to 7 (very poor), (3) vocabulary-the score is ranging from 20 (excellent) to 7 (very poor), (4) language use-the score is ranging from 25 (excellent) to 5 (very poor), and (5) mechanic-the score is ranging from 5 (excellent) to 2 (very poor). For more details, table 3.2 provides the scoring standard of ESL Composition Profile.

Table 3.2

The Scoring Standard of ESL Composition Profile

Aspect of Writing	Range	Score	Criterion
Organization	20-18	Excellent to very good	Fluent expression *ideas clearly stated/supported * Succinct * Well-organized * logical sequencing cohesive.
	17-14	Good to Average	Somewhat choppy * loosely organized but main ideas standout * Limited support * logical but incomplete sequencing
	13-10	Fair to Poor	Non-fluent * Ideas confused or disconnected

		* lacks logical sequencing and development
9-7	Very Poor	Does not communicate
		* No organization
		* or not enough to evaluate

Adopted from Jacob et al. (1981)

In this study, students' writing texts were analyzed specifically on the organization aspect. The organization aspect 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.

3.5.2 Pilot Test Data Analysis

In collecting the data, the researcher used a test as the research instrument. The test which was given before conducting the pretest named pilot test and it was given to six students in similar level which were not included in both experimental and control group. This test aimed to examine the validity and reliability of the instrument used in this study. It was conducted before doing pretest. If the students were able complete the test and write based on the given instruction then it can be concluded that the instrument can be used as pretest and posttest.

3.5.3 Pretest and Post test Data Analysis

The pretest and posttest were given in the same procedures to the experimental and control group. A hypothesis was started with alpha level at 0.05. The data collected from the pretest and posttest were computed using IBM SPSS

Statistics 22.0 for Windows. The result from the test in experimental group and control group were used to know the effectiveness of using peer feedback technique in improving students' narrative writing. It meant that the writer aimed to find a causative relationship between the independent variable and the dependent variable. In this study, the writer involved a large group of participants and randomly assigned them into either experimental group or control group in order to minimize unequal variances.

There are several conditions that need to be fulfilled in analyzing the result of the research. Those are the normality of data distribution, the homogeneity of the data and the calculation of t-test.

3.5.3.1 Normality of Distribution Test

Normal distribution test was calculated in purposed to investigate whether or not the distribution of pretest and posttest scores in groups were normally distributed. Shapiro-Wilk test formula in SPSS for Windows was used to analyze the normality of distributions. The steps are as follows:

1. Stating the hypothesis and setting the alpha level at 0.05 (two tailed test),

    $H0$ = the scores of the experimental group and the control group are normally distributed.

    $H1$ = the scores of the experimental group and control group are not normally distributed.

2. Analyzing the normality distribution using Shapiro-Wilk test formula in SPSS for Windows.

3. Comparing the Asymp Sig. (probability) with the level of significance to test the hypothesis. If the Asymp Sig. is more than the level significance (0.05), the null hypothesis is accepted; the score are normally distributed.

3.5.3.2 Variance Homogeneity Test

To examine whether or not the score of the research was homogeneous variance, the homogeneity of variance test was conducted. The statistical calculation of variance homogeneity test used ANOVA Lavene test formula in SPSS for Windows by following these steps:

1. Stating the hypothesis and setting the alpha level at 0.05 (two tailed test)

    H0 = the variance of the experimental group and the control group are homogenous.

    H1 = the variance of the experimental group and control group are not homogenous.

2. Analyzing the normality distribution using Lavene formula in SPSS for Windows.

3. Comparing the Asymp Sig. (probability) with the level of significance to test the hypothesis. If the Asymp Sig. is more than the level significance (0.05), the null hypothesis is accepted; the variance of the experimental and control group are homogenous.

3.5.3.3 T-test Calculation

In this study, the independent t-test in SPSS for Windows was used to investigate the difference between the means of experimental and control group. The procedures of the test are as follows:

1. Stating the hypothesis and setting alpha level at 0.05 (two tailed test)

    H0 = there is no significant difference between pretest mean for experimental group and control group.

H1 = there is significant difference between pretest mean for experimental group and control group.

2. Calculating t-test score using SPSS Statistics.

3. 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 contrast, if t-obtained < t-critical, the hypothesis is not rejected; there is no significant difference between two groups.

3.5.3.4 Paired sample T-test

Paired t-test was used to find the differences between pretest on posttest in each group. In this study, the paired sample t-test was analyzed using computation SPSS Statistics. The steps are as follows.

1. Stating the hypothesis and setting alpha level at 0.05 (two tailed test)

H0 = there is no significant difference between students' writing score in pretest and posttest score.

H1 = there is significant difference between students' writing score in pretest and posttest score.

2. Calculating t-test score using SPSS Statistics.

3. Comparing t-obtained and t-critical. If t-obtained>t-critical, it means that the hypothesis is rejected, there is a significant difference between the scores before and after treatment. In contrast, if t-obtained < t-critical, the hypothesis is not rejected; there is no significant difference between the score before and after treatment.

3.5.4 Data Analysis on Questionnaire

Questionnaire used in this study in order 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 collected from the questionnaire were classified into two major aspects. They are students' responses toward writing subject and students' responses toward the use of peer feedback technique in writing narrative text. The data from questionnaire were analyzed based on the frequency of students' answer. The result will be calculated and interpreted into percentage.

The formula of percentage used is as follow:

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

P = percentage

F = frequency

n = the sum of the sample

100 = constant

This chapter has presented the methodology of the research including research design, research subject, research instruments, research procedures, and data analysis. Then, the findings and the discussions of the data collected will be explained in more detail in the next chapter.