

CHAPTER III

RESEARCH METHODOLOGY

This chapter presents the methodology that be used in conducting the study. This chapter provides the research design, data collection technique, data analysis technique and clarification of terms.

3.1 Research Design

The design in the study was quantitative method in the form of quasi-experimental method. The design was chosen because the study does not include the use of random assignment. As suggested by Nunan (1992), it is feasible to conduct the study by arranging the students into different groups or classes. It is in line with Best (1981: 72) who says that in quasi-experimental design, the randomized of assignment for the control group and the experimental group has not been applied. The design is often used in classroom experiments when the experimental and the control group are arranged naturally and similarly as intact classes.

As stated by Best (1981: 73), the formulas of the design as shown as follow:

Table 3.1 Quasi-experimental Diagram

Groups	Pre-test	Treatment	Post-test
Experimental	O1	X	O2
Control	O3	C	O4

- O1 : Pre-test for experimental group
- O2 : Post-test for experimental group
- O3 : Pre-test for control group
- O4 : Post-test for control group
- X : Treatments
- C : Control

According to Best (1981: 59), variables is a condition or characteristic that be manipulated, controlled, observed by the researcher. The variables of research can be defined to two categories, independent variable and dependent variable. The independent variable is a variable which is expected to influence the other variable – in this study was the use of video. While, dependent variable is a variable which is changed, appear or disappear by the independent variable – in this study was students' writing skill.

Hypotheses is defined as a formal statement or prediction about expected relationship between the two variables which be tested by the experiments (Best, 1981). Moreover, all of experiments begin with null hypotheses. The null hypotheses (H₀) indicate that there is no relationship between the two variables (Collidge, 2000). Therefore, in this study the null hypotheses is there is no significant difference between the result of students' post-test score in the experimental group and students' post-test score in the control group, which indicates that there was no relationship between the use of video and students' writing skills. While, the alternative

hypotheses (H_a) indicate the opposite of the null hypotheses, there is relationship between the two variables. In this study, the alternative hypotheses were there is significant difference between the result of students' post-test score in the experimental group and the result of students' post-test in the control group, which indicates that there was relationship between the two variables.

3.2 Data Collection

3.2.1 Population and Sample

Population is any group of individuals that have characteristics which interest to the researcher (Best, 1981) while samples are a small proportion of population which be selected and analyzed. The population of the study was first grade of one of senior high school in Bandung and the samples were two classes. The first class was X-9 which was selected as the experimental group and was treated by using video, while the other class X-7 which was selected as the control group and was treated by conventional method. Each of group consists of 30 students.

3.2.2 Research Instruments

According to Fraenkel and Wallen (1990), instruments are tools that used to gather data. The data were gathered to answer the research questions of this study. There are three kinds of instruments that were used to collect the data of this study; they are pre-test, post-test, and interview. The pre-test was conducted before the treatments to both of experimental and the control group. The pre-test was held to

find out students' initial ability in writing procedural text and to make sure that the initial ability of the two groups are not different significantly. On the other hand, the post-test was held after the treatments to both of groups. The test was conducted to measure whether or not the writing skill of the two groups change after the treatment and also to measure whether there is any significant differences on the post-test result between the experimental and the control group. After the post-test, interview was also conducted to several students in the experimental groups to find out their perception about the use of video in the writing class.

The pre-test and post-test that were used in this study was in the form of composition writing test. The test was in the form of composition writing text because it was in the form of written illustration of a situation which contained an instruction. The test contained a demand for students to write a procedural text in the form of recipe. (See Appendix B for the instruments).

Interview as the additional instruments in this study was only conducted in the experimental group. Interviews consist of some open-ended questions in order to explore students' perceptions and opinions about the use of video in writing class which were conducted to several students of the group. (See Appendix B for the interview schedule).

3.2.3 Research Procedure

3.2.3.1 Organizing Teaching Procedures

There were two steps in organizing teaching procedure. The first step was preparing appropriate teaching materials that were be used in the treatments. There were 3 videos shown in this study. Those video categorized into 2 types: recipes and instructions in doing something. Videos were selected based on senior high school curriculum. In addition, the videos also contained things that were familiar to the students. (See Appendix A for the teaching materials).

The next step was organizing lesson plan as teaching procedure in teaching writing procedural text for both of the experimental and control group whereas the experimental group was taught by using video while the control group was taught by conventional media. There were some lesson plans to implement during the treatment sessions. Those lesson plans were designed for six meetings, excluded the allocation for pre-test and post-test sessions. (See Appendix A for the detail of the lesson plans).

3.2.3.2 Organizing Research Instruments

Organizing the research instruments included creating pre-test and post-test then formulating questions for the interview schedule. (See Appendix B)

3.2.3.3 Testing the Validity of Pre-test and Post-test through Pilot Test

The validity of pre-test and post-test was examined by pilot-test to check whether or not the test items have face validity and content validity. To test the

validities, the test item was pilot-tested to one class of first grade students in the same school with the subject of this study. Firstly, several students of the class were asked to read the instruction of the test item to check whether the test was clear and understandable or not. It was conducted to examine the face validity. Then, the students were asked to take the test. After that, the students' writings were examined to find out whether the test items perform the particular language skill as expectation of the test. The step was conducted to examine the content validity.

3.2.3.4 The Teaching Phases in Both Experimental and Control Group

There are several teaching phases that were conducted in this study. The phases were preliminary phase which was consisted of pre-test, conducting the treatments which were held in 3 sessions and were conducted in six meetings, and the post-test which was held after the treatment.

Administering of pre-test was conducted in the preliminary phase. The pre-test was conducted before the treatment to the both of the group was held. It was conducted to check students' initial ability in writing procedural text and also to make sure that both of groups have equal ability (Nunan, 1992).

In conducting the treatment, the teaching processes were held in both experimental group and control group (Nunan, 1992). The treatment of using video was only conducted in the experimental group while the control group was treated by using conventional method. Although the treatments that were given to the groups were different but material and the context of learning were similar.

Generally, the teaching processes in teaching procedural text writing using video was adapted from Harmer (2001) and Walker (1994), who suggest about viewing techniques as techniques of teaching writing using video. The following is the general outline of processes that was used in the treatment in both experimental and control group which were implemented in two sessions. (See Appendix A for the complete lesson plans)

The first teaching process in the experimental group was watching the video in a fast-forward viewing technique (Harmer, 2001). In this technique, the teachers played the video in fast-forward mode, so the students watched the video in a great speed (Harmer, 2001). When the video was over, the teachers asked students what the video talked about (Harmer, 2001). In the control group, the students were shown pictures or realias that were related to the topic of the text. Then, they were asked about the topic that was related to the text.

The second teaching process in the experimental group was watching video in a normal viewing technique (Walker, 1994). In this technique, the students were allowed to watch the video completely without pausing (Walker, 1994). Then, they were asked to identify the information, vocabularies, language features and generic structure of the text that were presented in the video. The students were allowed to watch the video repeatedly to get the information well (repeated viewing technique, as suggested by Walker, 1994). In the control group, the students were given a text. Then, they were asked to read the text. The students were asked to read the text. After features and generic structure of the text.

The third teaching process in the both of the group was asking the students to work in group. In the experimental group, the students watched the video in a repeated viewing technique (Walker, 1994). After that, the groups were asked to write a procedural text based on the topic of video. In the control group, the groups were also asked to write a procedural text based on the topic.

After the treatment was done, the post-test was conducted. It was conducted to investigate the effectiveness of the use of video in writing procedural text.

3.2.3.5 Conducting Interview

The interviews were conducted to find out students' perception towards the use of video in teaching writing procedural text. Several questions were posed to twelve students' of the experimental group which were divided into three groups (purposive sampling, as suggested by Best, 1981): students who gained the highest score of post-test, students who gained the lowest score of post-test and students in the middle score.

3.3 Data Analysis

3.3.1 Scoring Rubric

Since the main data that were analyzed in this study were in the form of writing, the scoring rubrics for writing was used to rate the students' composition work. ESL Composition Profile cited in Jacob et.al (1981, in Weigle, 2002) was used as the scoring rubrics. According to the scale, the students' composition works are

rated by five aspects of writing. The aspects are contents, organization, vocabulary, language use and mechanics. The scale also provides the range of score and the criterion of each aspect.

The ESL Composition Profile was used because it is a kind of analytic writing scoring scale. The analytic scale was chosen because it provides more detailed information about students' skill. Furthermore, it is appropriate to rates L2 writers' writing skill because they have developed skill that should be rated in different aspects (Weigle, 2002). (See Appendix B for the detail of the scoring rubric)

3.3.2 Analyzing Data on the Pre-test and Post-test Scores

The next step after conducting pre-test of the experimental and control group was analyzing data on the pre-test score. The scores analyzed by using independent t-test. The focus of the t test is to determine whether or not there is significant difference between the mean of the control group and the experimental group.

According to Coolidge (2000), there are some assumptions of the independent t-test that must be found in order to use the t-test appropriately. For conducting independent t-test both of experimental and control group's scores should be approximately normally distributed and equal in terms of homogeneity of variance.

In order to analyze the normality distribution of a set of data, Kolmogorov-Smirnov in SPSS 17 for windows was used in this study. The steps for analyzing it were stating hypotheses and alpha level, analyzing the groups' score using

Kolmogrov-Smirnov formula and interpreting the output data. For stating hypotheses, the alpha level is at 0.05 (two-tailed) and the hypotheses are as follows:

H₀ = the score of the control group and the experimental group are normally distributed

H_a = the score of the control group and the experimental group are not normally distributed.

For interpreting the output data, if the result is non significant ($p < 0.05$) it tells us that the distribution of the sample is significantly difference from the normal distribution. If the result is significant ($p > 0.05$) the distribution of the sample is not significantly different from the normal distribution.

In order to analyze the homogeneity of variance, Levene formula in SPSS 17 for windows was used. The first step for analyzing it is stating the hypotheses and the alpha level at 0.05 (two-tailed), the hypotheses are as follows:

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

H_a = the variance of the control group and the experimental group are not homogenous

The next step was interpreting the output data, if the significant value is more than the level of significant ($p > 0.05$) the null hypotheses is accepted, the variance of the control group and the experimental group are homogenous. While if the significant value is lower than the level of significant ($p < 0.05$) the null hypothesis is

rejected, the variance of the control group and the experimental group are not homogenous.

For conducting independent group t test, there are three steps, first stating the hypotheses and the alpha level at 0.05 (two tailed), the hypotheses are as follows:

H₀ = there is no significant difference between the results of pre-test of the two groups

H_a = there is significant difference between the results of pre-test of the two groups.

The next step is analyzing the group's score by using independent t test in SPSS 17 for windows to find the t-value. Then the next step is comparing significant value of the test with the level of significance (0.05), if the significant value is equal or greater than the level of significance, the null hypothesis is accepted and the two groups are not significantly different. While if the significant value is lower than the level of significance, the null hypothesis is rejected that means the two groups are significantly different.

3.3.3 Analyzing Data on the Interview

In order to analyze the interview results, the interview were transcribed. The transcription then was labeled and identified based on the correspondents' answer. Then the transcription was used to answer the research problem. (See Appendix E for the interview transcript)

3.4 Clarification of Terms

In order to avoid misinterpretation of terms, this study clarifies and specifies each terms as follows:

1. Procedural Text

Procedural text is a text which describes how something is accomplished through a sequence of actions and steps (Gerot and Wignel, 1994: 206).

2. Video

Based on an article found in <http://www.elook.org/dictionary/video.html>, video is a recording of both the video and audio components.

3. Teaching Writing Procedural Text

Teaching writing procedural text is an instruction that enables students to acquire writing skill especially in writing text which describes how to make something or how to do something in sequences.