CHAPTER III

RESEARCH METHODOLOGY

This chapter discusses some aspects of the research methodology which has been briefly introduced in chapter I. It consists of research design, population and sample which are taken from SMAN 19 Bandung, data collection, instruments, time allocation, procedure of research, and procedure of data analysis.

3.1 Research Method

3.1.1 Research Design

This research employed a quantitative method because this research was purposed to test the hypothesis. According to Sugiyono (2008), quantitative method is used when the study is aimed to test a hypothesis. The purpose of this research was to find out the effectiveness of the use of series of pictures in improving students' recount writing. A quasi-experimental with non-equivalent pre-test and post-test design was applied. Hatch and Farhady (1982: 20) say, "The experimental group receive a treatment while the control group does not." Furthermore, they also say that by using a quasi-experimental design, many variables can be controlled and also it can limit the kinds of interpretation about cause effect relationship.

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There were two classes involved in this research: one class as experimental group and another class as control group. At the beginning, the students of both classes were given a pre-test. Then, they were given the several treatment sections where the use of series of pictures was only applied to experimental group. At the end of the treatment, a post-test and questionnaire were given to find out students' final score and responses toward the use of series of pictures. The post-test was conducted in both classes, but the questionnaire was only given to the experimental group. The formula of this design is shown as follows:

Table 1
Quasi-experimental Diagram

Groups	Pre-test	Treatment	Post-test
Experimental	T_1E	X	T_2E
Control	T_1C	-	T_2C

(Hatch & Farhady, 1982:22)

Where

T_1E : Pre-test for the experimental group

T_2E : Post-test for the experimental group

X   : The Treatments

T_1C : Pre-test for the control group

T_2C : Post-test for the control group

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3.1.2 Population

In this research, the population was the first grade students of SMAN 19 Bandung. The population was chosen because the recount text was taught in the first grade of senior high school.

3.1.3 Sample

In this research, two classes of first grade in SMAN 19 Bandung were taken as the sample. The first class (X-1) as the experimental group was given some treatments using series of pictures while the second class (X-2) as the control group was taught by a conventional method. Both of them have the same level in English proficiency and the same number of students.

3.2 Formulation of the Problems

This research was directed to answer the following questions:

1. Is there any significant difference between the group that used series of pictures and the group that did not use it in writing recount text?
2. What are students' responses to the use of series of pictures in writing recount text?

3.3 Hypothesis

Hypothesis is defined as a formal statement or prediction about expected the relationship between the two variables which are tested by the experiments

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(Best, 1981). However, the most common hypothesis in experimental study is null hypothesis which states that there is no difference between samples after receiving special treatments (Hatch & Farhady, 1982). Because the research tries to find out effectiveness involving cause-effect relationship, null hypothesis and alternative hypothesis usually exist (Coolidge, 2000; Kranzler & Moursund, 1999). Therefore, the hypotheses of this research were stated as follows:

- H0 : There is no significant difference between students' post-test score in the experimental group and students' post-test scores in the control group.
- HA: There is a significance difference between students' post-test score in the experimental group and students' post-test scores in the control group.

3.4 Clarification of Terms

To avoid misunderstanding, several terms were clarified as follows:

- *Series of Pictures*, in this research refers to: the two dimensional image which illustrates peple, places, or objects, is an opaque *still picture* (Gerlach & Ely, 1980:273). Furthermore, series of picture is pictures (in series) which shows participant(s) and sequence of events in a story which is used as a medium to immprove students' ability in writing recount text.

- *Recount Text*, in this research refers to: a piece of text that retells past event, usually in the order in which they happened. The purpose of the

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recount is to give audience a description of what occured and when it occured (Anderson & Anderson, 1997).

3.5 Data Collection

3.5.1 Research Instruments

According to Arikunto (1996:136), research instruments are the media used by researchers in collecting data. The data were collected to answer the research questions of this research. Three kinds of instruments were used to collect the data of this research. They were pre-test, post-test, and questionnaire. The pre-test was conducted before the treatment sections to both experimental and control group. Pre-test was held to investigate the students' initial ability in writing recount text and to make sure that the initial ability of the two groups was not significantly different. On the other hand, the post-test was held after the treatment sections were applied to both of groups. The test was conducted to measure whether or not the writing skill of the two groups changed after the treatment and also to measure whether there was any significant differences on students' post-test score between the experimental group and the control group. Questionnaire was also distributed after the post-test was held. The questionnaire was distributed to some students in the experimental group to investigate their perceptions to the use of series of pictures in teaching writing recount text.

The pre-test and post-test used in this research were in the form of writing test. The students were asked to make a recount text based on the given theme.

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The questionnaire as the additional instrument in this research was only given to the experimental group. There were 15 statements in the questionnaire about students' responses toward the use of series of pictures in teaching writing recount text. The statements were given in *Bahasa Indonesia* in order to help the students to express their thoughts and feeling more easily.

3.6 Research Procedures

3.6.1 Preparing the Lesson Plan

The lesson plan was designed to be implemented during the treatment sessions. The lesson plan was adapted from Brown (2001). The activities in the lesson plan were based on the Genre-Based Approach which includes building knowledge of the field, modeling of the text, joint construction of the text, and independent construction of the text.

3.6.2 Preparing the Material

The material about recount text was taken from Senior High School books, and some series of pictures were taken from the Internet.

3.6.3 Administering Pilot-test

Before conducting the pre-test and post-test, the pilot-test was examined to find out whether the instrument was appropriate or not. In this research, the pilot-

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test was given to the students in the similar level (class X-3) which was not included in the control group and experimental group but they had already learned recount text. In this test, the students are asked to write a recount text. and the topic was about their feast day experience.

3.6.4 Pre-test

Pre-test was conducted to both groups as the first step of the research. This test was aimed to obtain the data of students' initial writing skill and to ascertain that the students from both group had the same capabilities in English proficiency before receiving the treatments. In this test, the students are asked to write a recount text. and the topic was about their feast day experience. The material of the test was same with the pilot-test.

3.6.5 Treatment

The treatments were conducted in six meetings for each group. Time allocation for each meeting consisted of two sessions of instruction (one session of instruction is forty five minutes). In general, the activities in the six meetings were similar. The activities were adapted from the framework of teaching writing recount text based on model proposed by Derewianka (1990) and Brown (2000).

In the experimental group, first the teacher showed series of pictures and proposed several questions based on the series of pictures given. For example: look at this picture! Can you guess what is it?. Second, teacher gave explanation

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about what happen in the series of pictures and teacher also wrote a recount text which was related to series of pictures by discussing with the students and the students were asked to read the text again. Third, students were asked to answer some questions from the teacher. Four, teacher explained about the purpose of the recount text, generic structures and the language features of recount text. Fifth, teacher asked students to make a group consist of 4 people and then the teacher gave a series of pictures and a jumbled paragraph based on the series of pictures given, then students were asked to match the paragraph to suitable pictures and arranged the jumbled paragraph into a correct order. After that, the students were asked some questions by the teacher. Sixth, teacher and students discussed the correct answer for the exercise that had been answered by each group. Seventh, teacher gave a series of pictures to the students, and then the students were asked to construct a recount text individually based on series of pictures given.

In the control group, first the teacher showed a single picture and asked some questions based on the single picture given. For example, have you ever gone to the beach? what did you do?. Second, teacher gave explanation about what happened in the single picture and teacher also wrote a recount text which was related to single picture by discussing with the students. Third, students were asked to answer some questions from the teacher and then the students were asked to read the text again. Four, teacher explained about the purpose of the recount text, generic structures and the language features of recount text. Fifth, teacher asked students to make a group consist of 4 people and then the teacher gave a story in some jumbled pharaghraphs, then students were asked to arranged the

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jumbled paragraph into a correct order. After that, the students were asked some questions by the teacher. Sixth, teacher and students discussed the correct answer for the exercise that had been answered by each group. Seventh, teacher gave a single picture to the students, and then the students were asked to construct a recount text individually based on a single picture given.

3.6.6 Post-test

A post-test was conducted at the end of the research. It was conducted to measure students' writing skill after receiving the treatments. It was distributed to both experimental group and control group. This test was intended to investigate the differences between students' score of both groups. The material of the post-test was similar to the pre-test. In this test, the students are asked to write a recount text based on their holiday experience.

3.6.7 Questionnaire

The questionnaire was distributed to the experimental group in the end of the treatment. It was aimed to find out students' responses about the advantages of using series of pictures in teaching writing recount text. There were fifteen items in the questionnaire. Close ended questionnaire was used in this research. Nunan (1992) states that in close-ended questionnaire the range of possible responses is determined by the researcher for example Agree/Neutral/Disagree.

3.7 Data Analysis

3.7.1 Scoring Rubric

The scoring rubric used in this study was adapted from *The Analytic scale for rating composition tasks (Brown & Bailey, 1984:39-41 cited in Brown 2004).* The aspects of writing ability to be measured were the organization, content, grammar, mechanics and style (See Appendix 1). Brown (2004) classifies a scale of numbers to evaluate students writing work as follows:

Organization

20-18 = Excellent to good

17-15 = Good to adequate

14-12 = Adequate to fair

11-6   = Unacceptable-not

5-1   = Not High School-level work

Content

20-18 = Excellent to good

17-15 = Good to adequate

14-12 = Adequate to fair

11-6   = Unacceptable-not

5-1   = Not High School-level work

Grammar

20-18 = Excellent to good

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17-15 = Good to adequate

14-12 = Adequate to fair

11-6 = Unacceptable-not

5-1 = Not High School-level work

Mechanics

20-18 = Excellent to good

17-15 = Good to adequate

14-12 = Adequate to fair

11-6 = Unacceptable-not

5-1 = Not High School-level work

Style

20-18 = Excellent to good

17-15 = Good to adequate

14-12 = Adequate to fair

11-6 = Unacceptable-not

5-1 = Not High School-level work

3.7.2 Data Analysis in Pilot Test

The pilot test was aimed to check the validity and reliability of the instrument. It was conducted before doing the pre-test. If the respondents were

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able to write the given instruction, it could be concluded that the instrument could be used for 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 group and control group in the same procedures. A hypothesis was began with stating 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. There were three steps accomplished: covering normality test, homogeneity variance, and independent t-test. The details of statistical procedures were delivered as follows:

3.7.3.1 Normal Distribution Test

Normal distribution test was calculated before t-test. It was aimed to investigate whether or not the distribution of pre-test and post-test of both two groups were normally distributed. The statistical calculation of normality test used Kolmogorov-Smirnov test. First, the hypothesis was set, (H_0=the score between experimental and control group is normally distributed). Second, the level of significance (p) was set at 0.05. Third, the normality distribution was analyzed by using Kolmogorov-Smirnov test. Last, the score of test result was compared with the level of significant value. If probability (Asymp.Sig) >0.05, the null hypothesis is not rejected which means the sample score is normally distributed.

In contrast, if probability (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's test in SPSS program. First, the hypothesis was set, (H_0=data between the two groups are homogeneous). Second, the level of significance (p) was set at 0.05. Third, the homogeinity variance was measured by using Lavene's test. Last, the result of Lavene's test was compared with the alpha level of significant. If probability (Asymp.Sig) <0.05, the null hypothesis is rejected which means the two groups are not equal. In contrast, if probability (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 differences between two groups' means. In this research, the independent sample test was analyzed using computation with IBM SPSS Statistics 19.0. First, the hypothesis was set (H_0= there is no significant difference between students' writing score in experimental and control groups). Second, the level of significance (p) was set at 0.05 with two-tailed of significant. Third, the t-test score was calculated by using IBM SPSS Statistics 19.0. Last, t-obtained and t-critical was compared. 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 the two groups.

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3.7.3.4 Paired-sample t-test

Paired t-test was used to find the differences between pre-test and post-test in each sample in the group. In this research, the independent sample test was analyzed by using computation with IBM SPSS Statistics 19.0. First, the hypothesis was set (H_0= there is no significant difference between students' writing score in pre-test and post-test score). Second, the level of significance (p) was set at 0.05 with two-tailed of significant. Third, t-test score was calculated by using IBM SPSS Statistics 19.0. Last, t-obtained and t-critical was compared. If t-obtained > t-critical, it means that the hypothesis is rejected, there is a significant difference between the score before and after treatment. In contrast, if t-obtained < t-critical, the hypothesis is accepted, there is no significant difference between the score before and after treatment.

3.7.3.5 Effect Size

The effect size computation was 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 was used to determine how significant the impact of the treatment to the experimental group's score. Effect size has positive correlation to its value. The larger of effect size value, the larger impact of treatment (Coolidge, 2000). The formula of effect size is presented as follows:

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

r : Effect size

t : Independent t-test value

df : Degree of freedom

The value of effect size is interpreted by the following scale:

Table 2

The Scale of Effect Size Value

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

(Coolidge, 2000)

3.7.4 Data Analysis on Questionnaire

In this research, questionnaire was aimed to clarify the information and to elaborate the data concerning with the research question about the students' responses toward the use of series of pictures in teaching writing recount text. The

result from questionnaire was calculated using IBM SPSS Statistics 19.0 to find

out the frequencies and the percentage of the students' responses.