CHAPTER III

METHODOLOGY

This chapter describes the methodology applied in the study. The explanation and the chronicles are as follow: statements of the problem, research design, hypothesis, clarification of term, data collection, procedures of the study and data analysis of the study.

3.1 Statements of the Problem

This study mainly attempt to find out the effectiveness of series of pictures in teaching recount text in junior high school. Therefore, this research proposed two research questions as follows:

1. Is the use of series of picture effective in teaching recount text?

2. What are students' perceptions toward the use of series of pictures in teaching recount text in improving their writing ability?

3.2 Research Design

This study used quasi-experimental design, specifically the nonequivalent control group design. There were two groups taken; experimental group and control group. The experimental group received series of pictures in teaching

writing as its treatment; while the control group did not receive treatment. Furthermore, pre-test and post-test were given to the experimental and control group. The experimental design is described as follow:

Group	Pre-test	Treatment	Post-test
A	O1	X	O2
B	O3	-	O4

AO1 : pre-test for experimental group

AO2 : post-test for experimental group

AX : treatment for experimental group

BO3 : pre-test for control group

BO4 : post-test for control group

(Sugiyono, 2011)

This study has some parts which are called variables. Moreover, there are two variables, namely independent variable and dependent variable. Sugiyono (2011) states that independent variable is a variable that influences the dependent variable. Meanwhile on the other hand, dependent variable is a variable which is influenced by the independent variable. In this study, the use of series of pictures is the independent variable and students' writing ability is the dependent variable.

3.3 Hypothesis

Regarding Coolidge (2000) hypotheses are stated as follows:

Ho : $\mu 1 = \mu 2$ = there is no significant difference between the two population's means.

Ha : $\mu 1 \neq \mu 2$ = there is significant difference between the two population's means.

Specifically, this study was aimed at accepting the alternative hypothesis (Ha) namely there is significant difference in mean adjustment level between those who receive treatment by using series of pictures and those who are not.

The hypothesis is stated as follow:

Ha: $\mu 1 \neq \mu 2$ = there is significant difference between the two population's means.

(Coolidge, 2000)

3.4 Clarification of Terms

In order to avoid misinterpretation of the terms, it is needed to clarify each term. Some terms as follow:

1. Series of Pictures

   Series of pictures is the two dimensional image which illustrates people, places, or objects is an opaque still picture (Gerlach and Ely, 1980).

2. Recount Text

   Recount text is a text that is used to retell for the purpose of informing or entertaining (Gerot and Wignell, 1994). Recount text contains some elements, such as social function, generic structure, and lexicon grammatical features.

3. Ability

   Ability is a talent, skill or power to do something (Oxford Learner's Pocket Dictionary, 1991).

3.5 Data Collection

3.5.1 Population and Sample

This study was conducted in a junior high school in Bandung. According to Arikunto (2002) population is a whole research subject. The population in this study was eighth graders in a junior high school in Bandung.

Moreover, Coolidge (2000) states that sample is a smaller group of scores selected from the population scores. In this study the sample were two classes; they were 8A as the experimental group and 8C as the control group. The selection of the sample was not chosen randomly, since the purposive technique was applied in this study.

3.5.2 Research Instruments

According to Sugiyono (2011), instrument is a tool that is used to measure the data. In addition, Sugiyono (2011) states that in the quantitative study, the quality of the instrument can be determined the validity and reliability of the instrument, whereas the quality of gathering the data in line with the appropriate technique used. In quantitative research, instrument can be a test, interview, observation and questionnaire (Arikunto, 2002).

In this study, there were three instruments that used in collecting the data; pre-test, post-test, and questionnaire. First, Pre-test was applied to identify the students' ability in both groups; experimental group and control group before giving the treatment. Second, Post-test was done to know whether the series of pictures improve the students' ability in writing recount text or not. Post-test was held in the end of the research and after several treatments in experimental group. It was given to the both groups either. The last, questionnaire was administered to know students' responses toward the use of series of pictures during the teaching learning process. The questionnaire was given after getting the data from pre-test and post-test.

3.6 Procedures of the Study

3.6.1 Administering Try out-test

The try-out test was conducted to measure the validity and reliability of the instrument and to know whether or not the instruments are appropriate for the experimental and control group. In this study, the try-out test was held to the students in class 8B.

The test was in written form which includes three topics complemented by its series of pictures. The students were asked to write a recount text based on the topic chosen by them. In addition, the scoring rubric proposed by Brown (2004) which consists of four criteria was used. The criteria which are being assessed in this test are: content, vocabulary, generic structures, and language features.

3.6.2 Administering Pre-test

As the first step of the study, pre-test was given in the beginning before the treatment. It was performed to both groups; experimental and control group. This activity was done to measure the students' ability in writing recount text. Besides that, it was also done to investigate whether or not the students from both groups were equal in this skill and had same ability before receiving the treatment.

3.6.3 Conducting Treatment

Treatment was employed six times to the experimental group. The experimental group received treatment twice a week. This group was taught writing recount text by using series of pictures as the media during the treatment.

On the other hand, the control group was taught by using traditional method. There were four procedures during the teaching and learning activities in experimental group. Firstly, the teacher asked the students to make a group of four and then distributed an example of recount text complemented by its series of pictures to each group. Secondly, the teacher gave a general view of recount text, such as the definition of recount text, the purpose, and the generic structure. Thirdly, the students were ordered to discuss about the pictures which is given by the teacher. Lately, the students were asked to write another recount text based on another series of pictures given by the teacher.

Treatments were applied in the experimental group through series of pictures. The topics were including a happy birthday, leisure time, vocation, horrible experience, my little brother, and flight for the first time. Treatment schedule are shown as follow:

Table. 3.1 Time Schedule of Research

No	Experimental Group		Control Group	
	Date	**Material**	**Date**	**Material**
1	September 21st, 2011	Pre-test	September 21st, 2011	Pre-test
2	September 28th, 2011	Treatment 1 Introduction of recount text	September 28th, 2011	Treatment 1 Introduction of recount text
3	October 5th, 2011	Treatment 2 Introduction of series of pictures	October 5th, 2011	Treatment 2 Introduction of series of pictures
4	October 6th, 2011	Treatment 3 Social function of recount text	October 6th, 2011	Treatment 3 Social function of recount text
5	October 19th, 2011	Treatment 4 Generic structure of recount text	October 19th, 2011	Treatment 4 Generic structure of recount text
6	October 20th 2011	Treatment 5 Language features of	October 20th, 2011	Treatment 5 Language features of

		recount text		recount text
7	October 26th, 2011	Treatment 6 Language features and structure of recount text (review of the previous meeting)	October 26th, 2011	Treatment 6 Language features and structure of recount text (review of the previous meeting)
8	October 27th, 2011	Post test Administering questionnaire	October 27th, 2011	Post test Administering questionnaire

3.6.4 Administering Post-test

The post-test was conducted if the whole treatments had been given. This activity was aimed at finding out the differences between students' score of both groups after the treatment. Furthermore, the form of posttest was almost similar to the pre-test.

3.6.5 Administering Questionnaire

Questionnaire was employed after conducting pre-test and post-test. It was given to the experimental group to investigate their responses toward the use of series of picture. The close ended questionnaire was used in this research.

In arranging the closed-ended questionnaire, the writer used *Likert Scale* and the students were asked to choose one of the options. This scale was used to determine people attitude, perception, and opinion. The options have the following scale:

Table. 3.2 Scores of Questionnaire Response

Category of Response	Strongly Agree (4)	Agree (3)	Disagree (2)	Strongly Disagree (1)

This form of questionnaire consists of 12 statements with the framework as follow:

Table. 3.3 The framework of the questionnaires for the students

No	Aspects	Basic Theory	Item Number	Total
1	Response to the implementation of using series of pictures	Sudjana and Rivai (2009)	1,2,3	3
2	Response to the importance of learning recount text using series of pictures.	Byrne (1995)	4,5,6,7,8,9	6
3	Response to the lesson content given in learning recount text using series of pictures.	Wright (1994:2) & Hornby (1973, cited in Maulida 2008)	10	1

4	Response to the role of the teacher in teaching and learning recount text using series of pictures.	Sudjana and Rivai (2009) & Wright (1994:17)	11,12	2
Total				12

3.7 Data Analysis

3.7.1 Scoring Technique

To acquire valid scores that define students' writing ability, there were scores and criteria which were settled to give brief explanation for every score given in assessing students' writing ability. Thus, the research adopts the rubric proposed by Brown (2004). The criteria are involving content, vocabulary, generic structure, and language features.

Moreover the details of the rating scale are shown in the following table:

Table. 3.4 Scoring Aspects

Aspect	Score	Criteria
Content	1	The content is not indeed relevant with the topic at all
	2	There many confusing things; many contents are not relevant with the topics so that the meaning can not be easily comprehended
	3	The contents that is not relevant still exist but it is understandable and it is not too bad
	4	There are several words that are used irrelevantly but do not influence the intended meaning much
	5	The topic and the content are very relevant

Vocabulary	1	Poor and irrelevant words; they do not fit the sentences meaning related to the topic and the situation given
	2	There are still lots of words used in appropriately
	3	The words have already been related with the topic and situation; however, they do not have any variation yet
	4	The words are generally relevant with the situation and have enough variation, but sometimes there are inappropriate words, which do not change the meaning of the sentence
	5	The words used are selected and have variations; they are relevant with the situation and condition so the meaning makes sense
Generic Structure	1	The generic structure of the content is very bad and if often does not consist of orientation and resolution
	2	So many disorderliness are found in the content of the writing, but don't make the reader confused yet
	3	The generic structure of the writing is not either too good nor too bad
	4	The generic structure of the writing is not in good, but this is actually not too principle
	5	Every part of the writing is in good order, either in orientation, complication or resolution
Language Features	1	There are many irrelevant uses of descriptive languages, many errors in using verbs, tense and linking words
	2	There are some irrelevant uses of descriptive languages, some errors in using verb, tense and linking words
	3	There are a little bit irrelevant but do not change the whole meaning. Generally, it is still accepted
	4	Generally accurate; the use of descriptive languages, verb, tense, and linking words
	5	No errors on the use of descriptive languages, verb, tense, and linking words

3.7.2 Data Analysis on Try-out Test

Try-out test was investigated to check the validity and reliability of the instrument. Hatch and Farhady (1982) defines validity as the extent to which the results of the procedure serve the use for which they were intended. In calculating the validity value, the result of students' writing test on try out was calculated by using Pearson Product Moment. The formula is as follow:

$$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{(N\sum X^2 - (\sum X)^2)(N\sum Y^2 - (\sum Y)^2)}}$$

(Arikunto, 2002)

Additionally, to know the scale of validity result of the instrument, the final result was confirmed to the criteria of the coefficient correlation. The table is as follows:

Table. 3.5 The Criteria of the Coefficient Correlation

Coefficient Interval	Interpretation
0.00 – 0.199	Very low
0.20 – 0.399	Low
0.40 – 0.599	Fair
0.60 – 0.799	High
0.80 – 1.000	Very High

(Sugiyono, 2011)

After calculating the validity valeu, we also have to calculatet the reliability value from the instrument. Reliability can be defined as the extent to which a test produces consistent results when administered under similar conditions (Hatch and Farhady, 1982). The Spearman-Brown formula was used to compute the data.

The formula is as follows:

$$r_{II} = \frac{2 \times r_{xy}}{1 + r_{xy}}$$

(Arikunto, 2002)

The criteria of the discrimination index of reliability are described in following table:

Table. 3.6 The Criteria of Discrimination Index of Reliability

Coefficient Interval	Interpretation
r ≤ 0.20	Very low
0.20 r ≤ 0.40	Low
0.40 r ≤ 0.70	Fair
0.70 r ≤ 0.90	High
0.90 r ≤ 1.00	Very High

(Guilford: 1956, cited in Widaningsih 2009)

3.7.3 Data Analysis on Pre-test and Post-test

Pre-test and post-test were given to both group; experimental group and control group. The data analysis of pre-test and post-test was employed exactly the same steps as in the try-out data analysis. In addition, the data was calculated by using SPSS 16.

To find out the effectiveness of series of pictures in improving students' ability in writing recount text, the independent *t-test* formula was used in this study. Coolidge (2000) states that there are some specific assumptions that has to be fulfilled in using independent *t-test* appropriately. Firstly, in each group, the participants have to be different. Second, the scores are normally distributed in each group. Third, the variances of two groups' scores are equal.

The calculation covers normality test, homogeneity test, and independent t-test. The details procedures were as follows:

3.7.3.1 Normality distribution Test

The statistical calculation of normality test used Kolmogorov-Smornov test by following three steps below:

1) Setting the level of significance (*p*) at 0.05 and establishing the hypothesis as follows :

   Ho : the scores of the experimental and the control group are normally distributed.

Ha : the scores of the experimental and control group are not normally distributed.

2) Analyzing the normality distribution with Kolmogorov-Smirnov test
3) Comparing the Asymp.sig with the level of significance (*p*). If the asymp.sig is higher than the level of significance (0.05), the null hypothesis is not rejected, while the alternative hypothesis is rejected. It means the score are normally distributed.

3.7.3.2 Homogeneity of Variance

According to Coolidge (2000), variance homogeneity test was conducted to find our whether the two groups in independent t-test are equal or approximately equal. The homogeneity of variance test used Levene test in SPSS program. The steps are described as follows:

1) Setting the level of significance (*p*) at 0.05 and establishing the hypothesis as follows:

   Ho : the variances of the experimental and the control group are homogenous.

   Ha : the variances of the experimental and the control group are homogenous.

2) Analyzing the homogeneity of variance by using Levene test in SPSS
3) Comparing the Asymp.sig with the level of significance (*p*) for testing the hypothesis. If the asymp.sig is more than the level of significance (0.05),

the null hypothesis is not rejected, while the alternative hypothesis is rejected. It means the score are homogenous.

3.7.3.3 Independent t-test

Independent t-test was used to see whether there is a significant difference between the experimental and control groups' means. The procedures of testing the independent t-test were as follows:

1) Setting the level of significance (*p*) at 0.05 and establishing the hypothesis as follows:

   Ho : there are no differences between students' score of experimental and control group.

   Ha : there are differences between students' score of experimental and control group.

2) Analyzing the independent test by using SPSS 16.0
3) Comparing the Asymp.sig with the level of significance (*p*) for testing the hypothesis. If the asymp.sig is more than the level of significance (0.05), it can be concluded that there is no significant difference between the means of these two samples; on the other hand, the null hypothesis is accepted.

3.7.4 The Calculation of Effect Size

Effect size was used to find out the effect size in the independent t-test of the research. Furthermore, calculation of the effect size is important to be administered to determine the effect of the influence of independent variable upon the dependent variable (Coolidge, 2000). The formula is:

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

Where:

r : effect size

t : t observe from the calculation of independent t-test

df :degree of freedom

(Coolidge, 2000)

After the value of effect size was calculated, the score was matched with the following scale:

Table 3.7 Effect Size Value

Effect Size	r Value
Small	0.100
Medium	0.243
Large	0.371

(Coolidge, 2000)

3.8 Data Analysis on Questionnaires

In this study, questionnaires were aimed at investigating the students' responses on the use of series of pictures in teaching recount text in improving their writing ability.

The data gained from questionnaires were calculated by using the following formula

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

(Harris, 2010)

Where :

P = percentage

fo = frequency observed

n = the number of sample