CHAPTER III

RESEARCH METODOLOGY

This chapter discusses research methodology. Furthermore, this chapter consists of research design, population and sample, research instruments, research procedures, and data analysis.

3.1 Research Design

The aim of the research is to find out whether or not teaching using sequences of pictures is effective in improving student's writing ability and to find out students' responses toward the use of sequences of picture in teaching narrative text. Therefore, the research design used in the research is quasi experimental with pre test and post test design.

Quasi experimental design is employed by considering the feasibility of the research conducted. This design is most frequently used because it is not feasible to use random assignment. Since the randomization is impractical, this design is typically easier to set up than true experimental design. In addition, this design is practical compromises between true experimentation and the nature of human language behavior which will be investigated (Hatch and Farhady, 1982:24). Due to the most complicated of human behaviors, language learning and language behavior, by using this design the researcher control as many variables as the researcher can. For example in this research, the students who have the high intelligent and low intelligent in learning English were controlled

and excluded in the research in order to not to influence the internal validity of the research.

Moreover, there are two variables of the research, namely independent variable and dependent variable. In the research, independent variable is sequences of pictures used to teach narrative text. Since it is the major variable, it is selected, manipulated, and measured by the researcher. On the other hand, the dependent variable is students' narrative writing score.

Quasi experimental with pre test and post test design is conducted. The design is represented below:

G1	T1	X	T2
G2	T1		T2

(Hatch and Farhady, 1982:22)

Where: G1: experimental group

G2: control group

T1: pre test

T2: post test

X: treatment

The formula above shows that both of the groups are given pre test and post test, yet, the use of sequences of pictures as a treatment is only administered in experimental group. The purpose is to find out whether the students who are given the treatment by using sequences of pictures could achieve a higher score than the students who are given the different treatment.

3.2 Population and Sample

As described in chapter one, population selected for the research was eight classes of eighth grader in a State Junior High School in Bandung. The characteristics of the population were Indonesian native students; the age was around 13 years old; the English teacher had English educational background.

Samples that represent those characteristics were selected by using purposive sampling. Moreover, the samples selection was also based on the consideration of the suitable time in the school. Afterward, among the eight classes, the samples selected were class VIII C and VIII D.

3.3 Research Instruments

To collect the data for the research, two kinds of instrument were utilized. Each of the instruments was important to answer the problem stated in the research; pre test and post test (written test), and interview.

A pre test was implemented in two groups in order to find the students' ability in writing narrative text before the treatments. Pre test was also implemented to measure the normality and homogeneity of the scores from both of the groups. Through this instrument, the students were assigned to write narrative story based on sequences of picture. The pictorial story for the test was *Nirmala and Oki Story* from *Bobo* Magazine, by assuming the pictorial story is well-known and familiar for them

A post test was given to measure student's progress on their writing ability after they received the treatments. The post test was administered to both

of the groups (experimental and control group) at the end of the research. This post test was conducted to find out whether there was difference between experimental and control group as a result of the treatments given. Through this instrument, the students were also assigned to write narrative story based on sequences of picture. The pictorial story for the test was *Nirmala and Oki Story* from *Bobo* Magazine. The title of *Nirmala and Oki Story* in post test was different from pre test.

The interview was also served as the research instrument. It was distributed to experimental group in the end of the treatments to investigate deeper information toward students' responses. The students' responses are about the advantages and obstacles confronted by the students during using sequences of pictures in narrative writing. The interview guidelines are divided into three main aspects. The first aspect is the improvements of students' writing skills; they are in terms of breeding ideas and developing ideas, organizing ideas, style of writing and enriching vocabulary. Secondly, the advantages of using sequences of pictures in learning process are in terms of creating fun learning, increasing motivation, and improving creativity. At last, the obstacles of using sequences of pictures in writing narrative text are in terms of less comprehension of the pictures, lack of vocabulary and less awareness of sentence construction.

3.4 Research Procedures

In the research, sequences of pictures were used as treatments for experimental group. Meanwhile, the different treatments were used to teach narrative text in control group. Due to the limited the time, the research was conducted in six meetings include pre test, treatments, and post test. There are several steps employed in the research.

The first step was organizing teaching procedures. In preparing the teaching procedures, there were three phases: (1) preparing sequences of pictures as learning aids and teaching materials related to narrative text for the teaching learning process; (2) organizing teaching procedures for treatments in experimental group; (3) organizing teaching procedures in control group. In addition, the researcher also managed teaching procedures by considering time allotment, students' condition, and availability of facility.

The second step was developing the research instruments. As, explained before, the research instruments used in the research included pre test and post test (written test), and interview. The preparation of developing the instruments was conducted in two phases. Firstly, the written tests were arranged and consulted with English teacher in the school. The consultation was to find out teacher opinion whether or not the instrument appropriate for the students. Secondly, the interview guidelines were organized to get deeper information toward students' responses that are about the advantages and obstacles confronted by the students during using sequences of pictures in narrative writing. The design was developed based on theories as described in chapter two.

The third step was administering pilot test. The pilot test was administered to find out whether or not the test items have face and content validity (the students comprehend the instruction given and the writing test is suitable for the students). The written test was tested to some students of the similar grade to the class outside the sample of the research. At first, five students were asked to read the instruction contained in the test item, in order to find out whether or not the instruction was understandable and clear enough. This was conducted to examine the face validity of the test item. Then, because the instruction was found to be clear, the students were asked to do the test. After that, the students' work in the test were examined, to find out whether or not some works had performed the particular language skills and areas expected in the test. In addition, this was undertaken to examine the content validity of the test item.

The fourth step was administering pre test. As aforementioned above, pre test was performed by using written test. All of the students in two groups were requested to compose a narrative text based on sequences of pictures and instruction given. Afterward, it would be assessed by two raters, and the score obtained would be the pre test data.

The fifth step was giving treatments. After performing pre test, the treatments were conducted in experimental group. In conducting the treatments, sequences of pictures were used in teaching narrative text. The treatments were conducted in four meetings.

The sixth step was administering post test. Post test was administered in form of written test was completely conducted in experimental and control

group. The score of post test would be used as the final comparison to see whether or not the difference emerged between students' writing achievement in experimental and control group.

The seventh step was conducting interview. The interview was administered to the students in experimental group after post test performed in that group to find out the students' responses toward the use of sequences of pictures. Furthermore, the result from the interview was used to answer the second questions of the research. The interviewees were twelve students who were selected purposively.

The eighth step was analyzing and interpreting data. After the data through post test and interview were obtained, the analysis and interpretation would be completed by the theories of sequences of pictures proposed by Bowen (1982). The last step of the research procedures was drawing conclusions based on discussions of the data gained and proposing some suggestions.

3.5 Data Analysis

There are several steps in analyzing the data of the research. The data collected through pre test and post test were analyzed by using writing assessment and analyzed statistically by using t-test in SPSS 16.0 covering normality test, homogeneity test, independent t-test and calculation of effect size. While, the data collected through interview were classified. Each section is presented in detail as follows

3.5.1 Scoring System

In the assessments of students' ability in writing, the clear criteria assessment is needed in order to obtain valid score that represents students' ability in writing. To fulfill this need, the researcher adopted the rubric of Georgia Writing Assessment (see appendix A). The criteria assessed in this rubric is covering ideas, organization, writing style, and writing convention. The point of each criterion is in range 1 up to 5; therefore, the maximum raw score is 20.

The sample assessment below may show clearly how to assess students' ability in writing using the rubric of Georgia Writing Assessment. The criteria assessed in this sample is covering ideas, organization, writing style, and writing convention.

Topic: You have been named President of the United States for one day. Write a story about what happens during your day as President

Name : Student A

There, I saw a folder. In the folder, there were some bills that were waiting to become laws. I got to see if they can become laws! I got to make the rules.

After that, I went to the lobby, I saw lots of visitors! They asked for my autograph. Then, I got to make a speech. It was awesome! Next, I decided to help the poor. I also wanted to put an end to war. I found out that I could if I try really hard. I even got to watch movies that weren't even out.

That was the most fun that I ever had! I never wanted that day to end. I learned a lot of new things. I met so many new people. I ate a lot of new food. I even took a ride in my jet. That was my adventure of when I become president of the United States of America for one day and it was great! I'm sure that you can too if you try.

Ideas Score: 4

The writer's controlling idea (A Day as President) is well developed and addressed the assigned task. Supporting ideas (going to White House and exploring the rooms, making a speech, ending the war, watching movies) are relevant to the topic and the assigned genre. Most of the events of the story are developed with specific examples and details that address reader concerns (the writer tells the reader what happened and describes her thoughts and feeling along the way). Some events near the end, however, are undeveloped (ending the war, watching movies). Although some details could have been more fully elaborated, the overall experience of being President for a day is well developed. The writer is consistently focused on the assigned topic and narrative purpose.

Organization Score: 4

The overall organizational strategy (beginning, middle, end) is appropriate to the writer's ideas and the assigned genre. The beginning sets the stage for the writer's story ("a group of men came running down and told me that I got elected for president!"). Events are sequenced in a chronological manner across parts of the paper, and related ideas are group together. The ending sums up the writer's experience and addresses the reader. Varied transitions link ideas and facilitate the chronological sequence of events ("On a sunny day, ""When I went down," "When I got,"" After the snack," "After that," "Next")

Style Score: 4

The writer demonstrates consistent control of the components of Style. Language and tone are consistent with a narrative about being President for a day. The writer demonstrates awareness of the audience in all parts of the paper ("Do you know what happened when I became president?" "I'm sure that you can too, if you try"). Word choice is consistently engaging ("I couldn't believe my eyes," "guess what I saw," "my private room," "awesome"). Sentences vary in length and structure. The writer's enthusiastic voice is clear and consistent.

Convention Score: 5

The writer demonstrates a full command of the components of Conventions. Simple, complex, and compound sentences are demonstrated. Subjects and verbs agree, and word forms are correct. Correct usage and mechanics are demonstrated in a variety of contexts (punctuation of dialogue, commas after introductory clause, variety of subjects and verbs). While there are minor errors in Conventions ("servents"), they are infrequent and do not interfere with meaning.

The total score of Student A is 4 + 4 + 4+ 5 = 17

$$\frac{17}{20} \times 100 = 85$$

3.5.2 Normal Distribution Test

The statistical calculation of normality test used One-Sample Kolmogorov-Smirnov by following three steps below:

1) Setting the level of significance (ρ) at 0.05 and establishing the hypotheses as follows:

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

   H1: the variances of experimental and control group are not normally distributed.

2) Analyzing the normality distribution with One-Sample Kolmogorov-Smirnov test.

3) Comparing the asymp.sig with the level of significance (ρ) to test the hypothesis. If the asymp.sig > 0.05, the null hypothesis is not rejected and the distribution of data is normal. Hence, if the asymp.sig < 0.05, the null hypothesis is rejected and it means the data is not normally distributed.

3.5.3 Homogeneity of Variance

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

1) Setting the level of significance (ρ) at 0.05 and establishing the hypotheses as follows:

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

H1: the variances of the experimental and the control group are not homogenous.

2) Analyzing the homogeneity of variance by using Levene test.

3) Comparing the asymp.sig with the level of significance to test the

4) Hypothesis. If the asymp.sig $>$ 0.05, the null hypothesis is not rejected and it suggests that the variances of data are homogenous. However, if the asymp.sig $<$ 0.05, the null hypothesis is rejected and it clarifies that the variances are significantly different.

3.5.4 Independent t-Test

After revealing the result of normality and homogeneity test, the next statistical computation namely independent t-test is conducted. Those are the procedures to follow in calculating the independent t-test of pre test and post test data:

1) Setting the level of significance (ρ) at 0.05 and establishing the null hypothesis for the pre test and post test data analysis. The hypothesis is stated as bellow:

Ho: there is no significant difference between the means in experimental and control group.

H1: there is significant difference between the means in experimental and control group.

2) Analyzing the independent t-test by using SPSS 16.0.

3) Comparing the t *obt* and t *crit* at ρ = 0.05 and *df* = 48 to examine the hypothesis. If the t *obt* > t *crit*, the null hypothesis is rejected and it clarifies that there is difference of means between experimental and control group. However, if the t *obt* < t *crit*, the null hypothesis is not rejected and it declares that there is no difference of means between experimental and control group.

3.5.5 Calculation of Effect Size

Calculation of effect size carries out after acquiring the result of independent t-test on post test scores. It intends to measure in what extend the effect of independent variable on dependent variable (Coolidge, 2000). It is calculated manually without the assistance of SPSS. The formula for calculating the effect size is as follow.

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

The *t* refers to the *t* value obtained from the independent t-test calculation on post-test data. Afterward, the *df is* the amount of samples minus by 2 (*df* = N-2). After obtaining the *r* value, hence it is analyzed by using the following scale:

Effect size	Small	Medium	Large
r value	.001	.243	.371

Table 3.1 Effect Size Scale

3.5.6 Analyzing Interview Results

The data gained from interview were classified into some major answers. Those were the advantages of using sequences of pictures toward students' writing skill; the advantages of using sequences of pictures in learning process; and the obstacles were met by them when using sequences of pictures.

After gaining the data, the interview results were presented in graph to show visually the comparison among each student's response to draw the conclusion. Afterward, the next chapter will explore the findings and discussions of the research.