CHAPTER III
RESEARCH METHOD

3.1   Research Design

This research is kind of quantitative research, which is a research that focuses on the hypothetical testing. Data that is used must be measurable and would provide conclusions that could be generalized. The characteristic of the research is causal since it will examine the influence between independent variables toward dependent variables. The data that is used in this research is secondary data which data is derived from the recording of companies which are related with the topic of research.

The writer conducted an experimental study in which the method chosen is quantitative. Reichardt and Cook (1979, p.232) stated that quantitative is obtrusive and controlled, objective, generalizable, outcome oriented, and assumes the existence of 'facts' which are somehow external to and independent of the observer or researcher. There are two types of experimental research designs, which are true experiment and quasi experiment (Mackey & Gass, 2005). True experiment is followed up on random sampling while quasi experiment is an act without randomizing the sampling.

For the research design of her study, the writer used a quasi experimental study, namely non-equivalent groups pretest and posttest only, since the samples were not really randomized. The writer only randomized the

techniques used in two classes, by using games or without games in teaching simple present tense. Group A was the control group while group B was the experimental group. They had the same material, teacher, and tests. The pretest and posttest were administered to two groups. The teaching simple present tense without games was given to the control group and the treatment was given to the experimental group.

The research design used for this study can be described in the following table:

GROUPS	PRE-TEST	TREATMENT	POST-TEST
A	√	X1	√
B	√	X2	√

A   : Control Group

B   : Experimental Group

X1   : Teaching without games

X2   : Teaching with games

3.2   The Research Variables

Variable is anything which does not remain constant including language proficiency, aptitude, motivation, and so on (Nunan, 1992). Independent variable is characteristics that are manipulated by the experimenter in order to explain the relationship to everything that occurs which is observed. In this study, the independent variable is games used to teach the simple present tense.

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A dependent variable is a variable being influenced or changed by the independent variable. In this study, the independent variable is students' achievement in the English simple present tense.

3.3 Population and sample

For this study, the writer used the fifth grade of SDN Tenggilis Mejoyo jalan Raya Prapen Indah. The writer took two classes available at SDN Tenggilis Mejoyo. The participants were sixty three of fifth grade of SDN Tenggilis Mejoyo Surabaya, specifically V-A (18 boys and 15 girls) and V-B (14 boys and 16 girls). Some of the students took the English course every Thursday after school, but some of them learned English with their parents at home.

3.4 Tests and Treatment

The writer prepared the first step of providing the pre-test to both groups which consisted of 25 grammar questions of simple present tense about multiple choice questions and fill in the correct form. After that, the writer gave different treatment to both groups. The meetings were set in 4 times that consisted of pre-test, two times treatments, and post-test. The English lesson was taught once a week for about 45 minutes. The schedule of two group was the same, on Monday, V-A at 7 a.m. while V-B at 8 a.m.

After conducting a pre-test, the writer started to provide different treatments. In the experimental group, the writer used the first game, namely "In

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Common" game. The writer gave instruction about how to play this game then, the teacher asked to the students to give a question to a student who sit beside her or him and find the same activity that they did by using simple present tense. If the students did not understand about the instruction, the writer helped them to translate the words into Indonesian. After that, the students were asked to begin the games with the simple present tense. The second game was "Human Bingo". The teacher distributed pictures which had a statement in every column and the students were asked by the teacher to make a sentence in simple present tense to a student who sit beside or in front of him or her and they also wrote down the answer of the questions on the column sheet which had been provided. If the first student who got a four names in a row or filled in the four corners and said Bingo then he or she won. Some of the students felt enthusiastic in this game, but there were also a few students who had less intention to this game because they had doubt to speak in English.

In the control group, the writer gave some exercises about simple present tense by using traditional way in explaining the tenses. The exercises were written in a paper then the students wrote down on their own paper and taught them orally.

When the treatments completed, the writer provided a post-test. The post-test had similar questions as those in the pre-test. The writer also consulted with her thesis advisor to make sure that the test was really measured on what to

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test. Then, giving the scores of the two groups from pre-test and post-test and tabulating the score obtained from the student's mark.

3.5 Procedure of Data Collection

The writer conducts several steps in collecting the research data. The data collection procedure can be stated as follows:

1. The writer gather the students of Class V-A and V-B during school recess

2. Announce about the pre-test and distribute multiple choice questions to the students

3. Explain about the rules in answering the questions and give 15 minutes to answer the item question

4. Repeat the steps 1-3 to the Class V-A to Class V-B

5. The writer also gives games to the students of Class V-A to Class V-B in order to master in simple present tense

6. After that the writer gives post-test to evaluate the students' achievements.

7. Collect the answer sheets from the students

8. Classify the answers based on the variables used

9. The data that have been collected is calculated by using SPSS program

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10. The result of SPSS 15.0 data calculation is being interpreted

3.6 Techniques of Data Analysis

The object of this research is SDN Tenggilis Mejoyo Surabaya by reviewing the effect of using games to increase the students' achievement in learning the Simple Present Tense. To get the finding of this study, a statistical analysis using the dependent t-test: Paired Two Sample for Mean was employed to compare the pre-test and post-test taken on the same group of subjects.

The finding is the difference between the mean of the pre-test and post-test scores, and to see if there is any significant effect after doing the treatments. Then, the data was counted by statistical test, the dependent t-test. The dependent T-test can be used when two samples are not independent of one another or are dependent on one another (http://www.mnstate.edu/wasson/ed602excelss11.htm). The steps of analyze data were as follows:

1. A statistical hypothesis was formulated:

   Ho : $\mu_1 = \mu_2$, meaning that students before the treatment do not give positive effects on the post test's scoring which were provided.

   Ha : $\mu_1 \neq \mu_2$, meaning that students after the treatment give positive effects on the post test's scoring which were given.

2. The level of significance of the test or the alpha level was determined, that is 5% or 0.05 with two- tailed test which means one of the means is either greater or less than the other mean. A two-tailed test is used when we predict

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the direction of the difference in advance (e.g one mean will be larger than the other) (Anthony, 1998 in http://mathforum.org/library/drmath/view/52765.html). The level of significance / alphe level (Probability) was chosen 0,05 because it is the usual default value.

3. The degrees of freedom for the statistical test were determined

For independent t-test : $df = n1 + n2 - 2 = 14 + 14 = 28 - 2 = 26$

For dependent t-test : $df = n - 1 = 14 - 1 = 13$

4. The criteria to accept or reject the Ho were determined, that is

Ho is rejected if observed t / t calculation is $\geq t_t$

Ho is accepted if observed t / t calculation is $\leq t_t$ where t_t is the t-critical two tail

In this study, the writer also counted the data by using SPSS 15.0 then analyzed it with the dependent t-test. After counting the data, the writer interpreted the data and made conclusion. In short, the steps of data analysis are as follows:

1. Classifying and calculating the data score by using T-test

2. Counting the data by using SSPS 15.0

3. Analyzing the data by dependent sample test

4. Interpreting the finding

5. Making conclusion.

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Data collection, particularly of secondary data is performed by quoted directly or archive/files that contained company's data related with the research and it has been processed systematically to be used as device or tool of problems proofed in research.

So, to examine the data intensely, the writer used t-test: Paired Two Sample for Means which is used when two samples are not independent of one another or are dependent on one another (http://www.mnstate.edu/wasson/ed602excelss11.htm). The formula used to calculate the dependent t-Test: Paired Two Sample for Means (the t-observed) (ibid) is:

$$t = \frac{\sum D}{\sqrt{\dfrac{n\sum D^2 - \left(\sum D\right)^2}{n-1}}}$$

Where D is the difference between pairs of scores,

$$D = X_2 - X_1$$

and

the degrees of freedom for the dependent-t test is

$$df = n - 1$$

and

n is the number pairs of subjects in the study

The mean score of the pretest and posttest of control group and experimental group was put into the t-test formula to assure the statistical analysis of both groups.

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