CHAPTER III

METHOD OF THE STUDY

3.1 Research Approach

The study was conducted in a quantitative method. Sugiyono (2008) pointed out that this method is also called *positivistic* method because the development of this method is based on positivism. It is characterized as concrete/empiric, objective, countable, rational, and systematic. This method is called quantitative method because the research data contain the numerical data and are analyzed using statistical test.

Based on McMillan (2008), nonequivalent-group pretest-posttest design is often used when subjects are available in existing, or "intact," group such as classes. This design is often referred to as a quasi-experimental design (some contend that all experiments without random assignment are quasi-experimental) because it closely approximates the most desirable experimental design and is commonly used in education research.
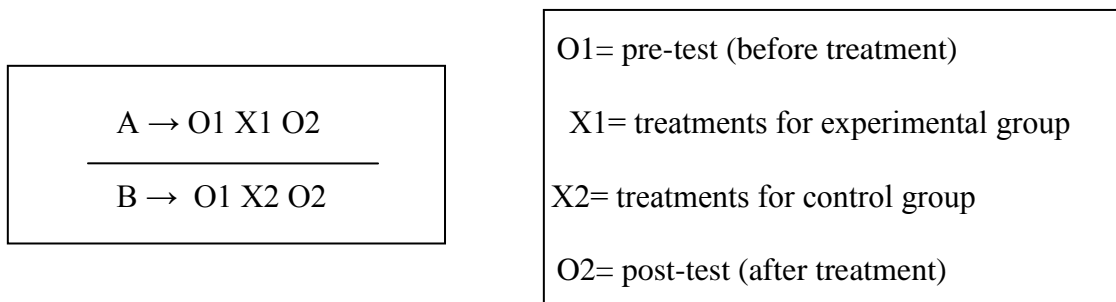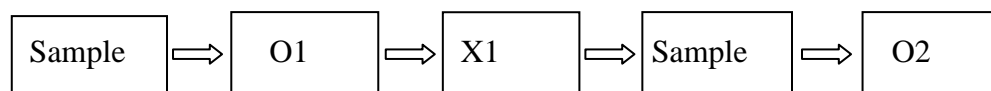
The design is described as follows:

$$A \rightarrow O1\ X1\ O2$$
$$\overline{\phantom{\rule{3cm}{0ex}}}$$
$$B \rightarrow\ O1\ X2\ O2$$

O1= pre-test (before treatment)

X1= treatments for experimental group
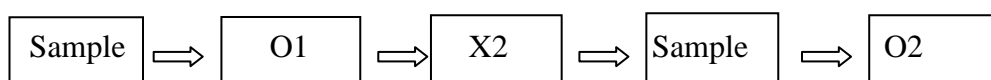
X2= treatments for control group

O2= post-test (after treatment)

Figure 1. *Nonequivalent-group pretest-posttest design*

The design is further developed as follows:

For experimental group

| Sample | $\Rightarrow$ | O1 | $\Rightarrow$ | X1 | $\Rightarrow$ | Sample | $\Rightarrow$ | O2 |

For control group

| Sample | $\Rightarrow$ | O1 | $\Rightarrow$ | X2 | $\Rightarrow$ | Sample | $\Rightarrow$ | O2 |

In that diagram, there are two groups of subjects (A and B). One group (A) takes the pretest (O1), receives the treatments (X1), and then takes the posttest (O2); the other group B takes the pretest (O1), receives treatments (X2) and then takes posttest (O2). In this diagram, group B is considered a "control" group because it receives different treatments (X2). In this case, experimental group is XI IPS 3 while the control group is XI IPS 2. XI IPS 3 was taught with explicit grammar teaching but for XI IPS 2 was taught with implicit grammar teaching.

Particular sample was tested in the pre-test which consisted of past continuous tense, simple past tense, action and linking verbs questions. The students were asked to answer all the questions which have multiple-choice, fill-in-the blank, and true false questions. After several treatments, the sample was then tested in post-test with similar question like pre-test to examine the effectiveness of the method.

3.2 Research Variable

According to Muijs (2004), Variables are any characteristic of the unit we are interested in and want to collect. The name variable refers to the fact that this data will differ between units. There are two variables, *independent variable* and *dependent variable.* Independent variable is a stimulus variable or a variable which influences other variables while dependent variable is a variable which gives reactions or responds if it is connected with independent variables (Sarwono:2009, p. 16-17). This study has two variables: explicit and implicit grammar instruction (independent variable) and students' post-test score (dependent variable) because explicit grammar teaching as the treatment will affect to students' post-test score. Automatically, post-test score is regarded as dependent variable.

3.3 Population and Sample

Population is generalization area consisting objects/subjects with certain quality and characteristics determined by the researcher. Sample is part of quantity and characteristics of the population (Sugiyono, 2008). The sample is from a very specific group and the extent to which these findings generalize to other populations needs to be examined (Muijs, 2004). The population of this study is eleventh grade social classes of SMA N 1 Mejayan in Caruban, Madiun (consisting of three classes, XI IPS 1, XI IPS 2 and XI IPS 3), and the sample is the students XI IPS 2 and XI IPS 3 of SMA N 1 Mejayan Caruban. XI IPS 1 was not taken as sample because it did not share same English teacher with the others.

Different teachers might become confounding variable because the style, personality, and knowledge of each teacher is confounded with the teaching approach and will affect to the dependent variable if it is good because the method or the teacher.

The participants were twenty-seven students of XI IPS 2 (11 boys and 16 girls) and twenty-nine students of XI IPS 3 (11 boys and 18 girls) grade of SMA N 1 Mejayan, Caruban. The participants were not selected randomly because they were in classrooms. The number of participants is all the students in the classrooms, fifty-six students. Based on statistics convention, when the amount of participants is more than half of total sample in the classroom, the data is still reliable (Bachman, 2004). Most of the students are originally from Madiun Regency. Participants were selected because of several reasons. First, the participants, not being 100% homogenous, share same regularities, have the same English teacher, most of them did not take English courses outside school day, and they are EFLs. Second, the writer was one of the alumni of that SMA that enables this study easier to be conducted more easily if it were than conducted in other schools and it needed no big effort to negotiate to ask permission and collect the data from that school.

3.4 Technique of Data Collection

In this study, all of procedures were done by the writer and the English teacher of XI IPS 2 and XI IPS 3 was only as the supervisor of the writer. The

treatment was done completely by the writer as the substitute English teacher for the English subject and the writer was only allowed to observe those classes.

3.4.1 Procedures

Since the study was conducted in a public school, SMA N 1 Mejayan, Caruban, Kab. Madiun and took place in a formal class, the writer cooperated with the teacher to conduct this study so that the students considered the research important and the writer could obtain natural data. The first step was giving the pre-test to the students. The questions of pre-test were about past continuous tense, simple past tense; action and linking verbs which consisted of 15 multiple choice exercises and10 fill-in-the blank for past continuous tense and simple past tense while for action and linking verbs, it consisted of 5 multiple choice questions, 15 true false questions, and 5 combining word questions. The materials were based on the materials in textbook to be taught in the meeting next. In every chapter, there was focus on grammar session. And before it was given to students, the writer discussed with the teacher about the level of the questions. The teacher became the one who would take decision whether it was too difficult for them or not. The students' tests were scored as the first tabulation of data.

The treatment was done after pre-test in the next meeting. The writer taught XI IPS 3 using explicit teaching of grammar while XI IPS 2 using implicit teaching of grammar and before ending the chapter, she gave practices such as quizzes and assignments to apply what they had. Past continuous tense, simple past tense, action and linking became the grammar points that the writer had to

teach because they were based on the teacher's syllabus. It took eight meetings for 2 chapters, 90 minutes in every meeting. For XI IPS 3, after explaining the target grammar, the writer provided the learners L2 data or exercises, and asked them to derive an explicit rule from the data in order to know how far the students understood it. The writer provided an extensive practice of specific grammar using variety of exercises. The exercises were like fill-in-the blank and asking the students to presentation about the grammars. The focus in this study was on learning grammar on the curriculum or textbook. The failures of their grammar were on irregular verbs and not knowing the changes. Therefore, the writer gave the students of XI IPS 3 irregular verbs list to help them understand it. For XI IPS 2, since the writer taught the students with implicit teaching grammar, it used some implicit grammar teaching activities from Sargent (2009).

After finishing the treatments, the sample was given a post-test. The questions were similar with the pre-test. It was done to avoid familiarity of questions and to see the changes of scores or to measure their ability in grammar and to get the changes before and after experiment.

Briefly, the data were collected based on these sequences:

1. Giving the pre-test to the sample

2. Scoring the students' works

3. Giving the treatment

4. Giving the post-test

5. Scoring the pos-test

3.5 Technique of Data Analysis

This study was conducted as a *deductive research*, starting from hypothesis that the use of explicit grammar teaching influences the students' grammar ability and theories concerning the topics are followed by evidence to support or to refute the hypothesis or theories (Nunan, 2001).

The analysis started from the tabulation of data in a form of students' mark. The data (writing marks) then were compared to guide the researcher for further analysis for supporting or refuting the hypothesis that has already made. The statistical test was also conducted to examine the data and to guarantee the validity of the result. In short, the analysis of the data was based on these sequences:

1. Collecting the score of the students writing either pre-test or post-test.
2. Analyzing the data through statistical test, t-Test, using SPSS 16.0 to support or reject the hypothesis.

According to Sarwono (2009: 125), t-test is a statistical test to measure whether or not the average score of two groups is statistically different from the other. This study particularly used t-test for independent samples as this study attempts to examine the effectiveness of certain instrument applied in different and unrelated groups.

Before this was tested using T-test, it needed to be tested Levene's test for F test which was needed to measure whether the assumption of both groups is same or not with the hypothesis below:

$H_0 = \sigma_1^2 = \sigma_2^2$ vs $H_1 = \sigma_1^2 \neq \sigma_2^2$

Where: σ_1^2 = variance of group 1

σ_1^2 = variance of group 2

After that, it used T-test independent sample to test the mean or compare the mean of XI IPS3 and XI IPS2.

$$t_{\text{independent sample}} = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\left(\dfrac{SS_1 + SS_2}{n_1 + n_2 - 2}\right)\left(\dfrac{1}{n_1} + \dfrac{1}{n_2}\right)}}$$

.

Where:

$\overline{X}_1 - \overline{X}_2$ is the difference between the means of two (independent) samples, or the

difference between group means;

$SS_1 = \sum (X - \overline{X})^2$ for group 1;

$SS_2 = \sum (X - \overline{X})^2$ for group 2;

$n_1 =$ sample size for group 1;

$n_2 =$ sample size for group2;

$df = n_1 + n_2 - 2$; (Weaver, 2010, p.19)

3.6 Coding and Scoring

Since the pretest and the post test consisted of multiple choice, fill-in-blank and true or false question, it is clear to score them as the questions had definite answers. Therefore, there was no ambiguity to give the score. And to

score the test, it only needed to calculate all the right answers and multiply them by two since the number of question is 50.

The minimum standard of score in SMA N 1 Mejayan for English subjects is 75. Therefore, the writer took 75 as the upper limit because when students got under 75 then they had to take a remedy test to pass the subject. And the intervals of pre-test and post test are different because it based they were on formula that is (C) = (the highest score - the lowest score) / the number of group. The classes were divided into five classes that were very bad, bad, good, very good, and excellent. It was only to categorize the students based on their scores.