## CHAPTER III

## METHOD OF THE STUDY

## A. Design of the Study

This research was conducted as an experimental study. An experimental study is defined as a situation in which one observes the relationship between two variables by deliberately producing a change in one and looking to see whether this alteration produces a change in the other). ${ }^{1}$ Sugiyono added that experimental study is a research method used to investigate the affect of certain treatment toward that on controlled condition. Because of that, there is a treatment and control group on this study. ${ }^{2}$

The subjects of this research were divided into two groups: experimental class, which were taught using card game and control class, which were taught without using card game but by using conventional method or lecturing method.

In this study, the approach used was quantitative approach because the data that was gained were numeric and was analyzed by using statistical computation. The kind of this experimental is True Experimental Design in form of Pretest-Posttest Control Group Design. Here, there are two groups which have been chosen randomly. Both groups are given pretest to know the first condition whether there is a significant difference of competence level, proficiency level between the sample or not. The pretest result is said be good if there is no significant difference between both groups. It means that the sample of experimental and control group has same or equal condition of competence level and proficiency level. After being gives a pretest, the experimental group is given a certain treatment while the control one is not.

[^0]Here, the treatment refers to the teaching by means of card game. ${ }^{3}$ The design of experimental research can be figured out as follows:

| R | $\mathrm{O}_{1}$ | X | $\mathrm{O}_{2}$ |
| :---: | :---: | :---: | :---: |
| R | $\mathrm{O}_{3}$ |  | $\mathrm{O}_{4}$ |

In which: $\mathrm{O}_{1}=$ Pretest value of experimental group.
$\mathrm{O}_{2} \quad=$ Posttest value of experimental group.
$\mathrm{O}_{3}=$ Pretest value of control group.
$\mathrm{O}_{4} \quad=$ Posttest value of control group.
$\mathrm{X}=$ Treatment.
R = Random sample.

## B. Setting of the Study

The research was conducted at MTs Darul Ulum Purwogondo Kalinyamatan Jepara. Moreover, it was conducted from first of April 2010 to third of Mei 2010.

## C. Variable of the Study

Variable is the object of research or something that becomes the concern point of research. ${ }^{4}$ In this study, there are two variables, Independent Variable (x) and Dependent Variable (y).

Independent Variable (x) is variable that influences or causes the change or emergence of the dependent variable. ${ }^{5}$ Then, independent variable in this research is the use of card game in teaching Simple Present Tense with the indicator that students are able to identify and understand the topic.

Moreover, Dependent Variable (y) is variable that was affected or that be the result because of the existence of the independent variable. ${ }^{6}$ Dependent

[^1]variable in this study is the students' understanding on Simple Present Tense test. However, the indicator is the students' achievement score on posttest.

## D. Subject of the Study

1. Population

Population is the whole subject of research. ${ }^{7}$ Population of this research or the subject of the research is the first year students of MTs Darul Ulum Purwogondo Kalinyamatan Jepara in academic year 2009/2010. The selection of first year based on the syllabus or curriculum of Junior High School that discuss Simple Present Tense which is learned on first grade. The first year Students of MTs Darul Ulum Kalinyamatan Jepara is divided into eight classes. There are 38 students in each class. The total number of the population is 304 students.
2. Sample.

Arikunto states that sample represents a part of research population. ${ }^{8}$ Sample is taking of a part population using certain procedure. So that can be expected to represent the population. Two classes were taken as the sample of this research. The class that got learning by using card game was as experimental class. Then, the class that got learning method without using card game but through conventional method or lecturing method was as control class. In addition, the sample in this research is class VII H was as experimental class and VII F was as control class.
3. Technique of Sampling.

Sampling is the process done to choose and take sample correctly from population so that the sample can be used as valid representative to the population. ${ }^{9}$ The researcher chooses the sample because the subject of population is too general and need to be limited. That is the first year

[^2]students who have not learnt Simple Present Tense. And this was done after paying attention to the characteristics of participants who got material based on the same curriculum, in the same level of class.

In this research, the sample was taken by using Cluster Random Sampling because the respondents are more than 100 because the respondents that are less than 100 , it is better to take them all as sample. ${ }^{10}$ Therefore, the selection of the sample did not by selecting the individual of each person but by selecting a group of individual person, which is placed certain class. The researcher took the procedure called the lottery method. ${ }^{11}$ Each group of the population was presented by small piece of paper. The small piece of paper was placed in a box and mixed, and a paper that was drop out from the box was selected becomes the sample. The steps to choose the sample were as follows:
a. The researcher took a box.
b. The researcher wrote down the names of each class in small pieces of paper.
c. Rolling the small pieces paper
d. Putting all the rolling paper into a box then mixed.
e. Dropping a sheet of paper from the box.

## E. Technique of Data Collection

Technique of data collection represents to the ways that can be used by researcher to collect the data so that the information needed can be provided. The way that was used to collect the data was:

1. Test.

Test is a measurement tool that consists of questions, command, and clues for the testee to get the respond based on the command. ${ }^{12}$ Then Riduwan said that test refers to a set of questions or exercises that is used

[^3]to measure competence, knowledge, intelligence, and competence or talent which is possessed by individual or group to collect data. ${ }^{13}$ The type of the test in this research is objective test. Objective tests are divided into transformation, completion, combination, addition, rearrangement, matching, correct and incorrect (true/false) and multiple-choice item. ${ }^{14}$ The researcher used multiple-choice item form. The choice of the test type is based on the consideration that multiple-choice item test are:
a. Easy in scoring.
b. Easy in computing and determining the reliability of the test.
c. More practical for the students in answering.

In this research, the researcher used pre test and posttest to control and experimental class. It was used in order to obtained the score achievement of students. Before the test had been given, the test item was tried out first to other class besides experimental and control class to know the validity, reliability, difficulty level, discriminating power of each items. Then some items were selected as pre test. Pre-test was given to the experimental and control class in same way before the treatment was run. It means that it had been given before the teacher give a treatment to experimental class that taught Simple Present Tense by using card game and control group that is taught by lecturing method. Furthermore, after treatments were done, post-test was given in experimental and control class in order to get the data whether there is a different average score between both of class or not. In addition, the result of the data tabulation is used to prove the research hypothesis.

## F. Instrument of the Test

The instrument of the study refers to a tool for researcher in collecting the data needed. The quality of the research instrument determines

[^4]the quality of the data that is collected. However, the instrument of this study was as follow:

1. Test

The instrument of this study consists of some multiple-choice items. Before the test was used as an instrument to collect the data on the sample class, it had been tried out first to the student in try out class to know the validity, reliability, difficulty level and the discrimination power of each item. The selection of test items had been done by considering the analysis result of try out instrument. From 40 items of try out test, some items were eliminated, some were chosen as the instrument of the test that would be used to measure the students' ability in learning Simple Present Tense. The procedures that were done in determining the instrument of test are as follows:
a. The Validity Analysis

The validity is a measurement that shows the validity level of the instrument and related to condition of how far the test has measured what supposed to be measured. According to Arikunto, a test considered valid if it can measures what purposed to be measured. ${ }^{15}$ The validity of an item using Product - Moment Correlation formula: ${ }^{16}$

$$
r_{x y}=\frac{N \cdot \sum X Y-\left(\sum X\right) \cdot\left(\sum Y\right)}{\sqrt{\left\{N \cdot \sum X^{2}-\left(\sum X^{2}\right)\right\} \cdot\left\{N \cdot \sum Y^{2}-\left(\sum Y^{2}\right)\right\}}}
$$

Note:

$$
\begin{aligned}
& r_{x y}=\text { The correlation coefficient between } X \text { and } Y \text { variable } \\
& \mathrm{N}=\text { The number of testee. } \\
& \sum \mathrm{X}=\text { The number of each item score. } \\
& \sum \mathrm{Y}=\text { The number of total score } \\
& \sum \mathrm{XY}=\text { the number of mlultiple result of } \mathrm{X} \text { and } \mathrm{Y}
\end{aligned}
$$

[^5]Calculation result of $r_{x y}$ is compared with $r_{\text {table }}$ of product moment by $5 \%$ degree of significance. If $r_{x y}$ is higher than $r_{\text {table }}$, the item is valid.

Based on the result of validity computation, it was obtained that from 40 test items, there are 29 test items which are valid and 11 test items which are invalid with the reason the computation result of their $r_{x y}$ value (the correlation of score each item) is lower than their $r_{\text {abte }}$ value.

Table 3.1
The Computation Result of Item Validity Analysis

| No | Criteria | $r_{\text {table }}$ | Item No. | Amount | Percentage <br> $(\%)$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Valid | 0,338 | $1,2,3,5,6,8,9,11$, <br> $12,14,15,16,17,18$, <br> $19,21,22,23,26,27$, <br> $28,30,32,33,38,40$. | 29 | 72,5 |
|  | Invalid | 0,338 | $4,7,10,13,20,24,25$, <br> $29,31,34,35,36,37$, <br> 39. | 11 | 27,5 |

The list of the validity of each item can be seen in appendix 9 .
The following is the example of the validity computation of item number 1 and for the other items would use the same formula.

$$
\begin{array}{lll}
\mathrm{N} & =34 & \sum Y=757 \\
\sum X Y & =568 & \sum X^{2}=23 \\
\sum X & =23 & \sum Y^{2}=18651 \\
r_{x y}=\frac{N \cdot \Sigma X Y-\Sigma(X) \cdot \Sigma(Y)}{\sqrt{\left\{N \cdot \Sigma X^{2}-(\Sigma X)^{2}\right\} \cdot\left\{N \cdot \Sigma Y^{2}-(\Sigma Y)^{2}\right\}}} \\
r_{x y}=\frac{34 \cdot(568)-23 \cdot(757)}{\sqrt{\left\{34 \cdot(23)-(23)^{2}\right\} \cdot\left\{34 \cdot(18651)-(757)^{2}\right\}}} \\
r_{x y}=\frac{19,312-17,411}{\sqrt{(782-529) \cdot(634,134-573,089)}}
\end{array}
$$

$r_{x y}=\frac{1901}{\sqrt{(253) \cdot(61085)}}$
$r_{x y}=\frac{1901}{\sqrt{15,454505}}$
$r_{x y}=\frac{1901}{3931,22}$
$r_{x y}=0,4835$
From the computation above, the result of computing validity of the item number 1 was 0,4835 . After that, the researcher consulted the result to the table of $r$ Product Moment with the number of subject (N) $=34$ and significance level $5 \%$ it is 0,338 . Since the result of the computation is higher than $r$ in table, the index of validity of the item number 1 is considered to be valid.
b. The Reliability Analysis

Reliability means consistency. ${ }^{17}$ Reliability refers to the consistency of test scores. Besides having high validity, a good test should have high reliability too. The formula is used to know reliability of test is KR-20 (Kuder Richardson). ${ }^{18}$
$r_{11}=\left(\frac{n}{n-1}\right)\left(\frac{S-\sum p q}{S^{2}}\right)$
Where:
$r_{11}$ : The reliability coefficient of items
$n \quad:$ The number of item in the test
$P \quad:$ The proportion of students who give the right answer
$q$ : The proportion of students who give the wrong answer
$S^{2}$ : The standard deviation of the test.

[^6]Calculation result of $r_{11}$ is compared with $r_{\text {table }}$ of product moment by $5 \%$ degree of significance. If $r_{11}$ is higher than $r_{\text {table }}$, the test question is reliable.

The following is the reliability computation of test. Before computing the reliability, the researcher had to compute Varian $\left(S^{2}\right)$ with the formula below:

\[

\]

$S^{2}=108,119375$
The computation of the Varian ( $\mathrm{S}^{2}$ ) was 108,119. After finding the Varian $\left(\mathrm{S}^{2}\right)$, it was computed the reliability of the test as follows:

$$
\begin{aligned}
& \mathrm{r}_{11}=\left(\frac{\mathrm{n}}{\mathrm{n}-1}\right) \cdot\left(\frac{\mathrm{S}^{2}-\Sigma \mathrm{pq}}{\mathrm{~S}^{2}}\right) \\
& \mathrm{r}_{11}=\left(\frac{40}{40-1}\right) \cdot\left(\frac{108,119-6,612}{108,119}\right) \\
& \mathrm{r}_{11}=\left(\frac{40}{39}\right) \cdot\left(\frac{101,507}{108,119}\right) \\
& r_{11}=1,0256 \times 0,9388
\end{aligned}
$$

$$
r_{11}=0,963
$$

From the computation above, it was found that $r_{11}$ (the total of reliability test) is 0,963 , whereas the number of subjects is 40 and the critical value for $r_{\text {table }}$ with significance level $5 \%$ is 0,312 . Thus, the $r_{11}$ was higher than $r_{\text {table }}$. Therefore, it could be concluded that the instrument used in this research was reliable. The whole computation result can be seen on appendix 9 .
c. The Difficulty Level Analysis.

A good question is a question that is not difficult and not easy. Formula for the item difficulty level is as follow: ${ }^{19}$
$P=\frac{B}{J S}$
Where:
$P \quad:$ The difficulty's index
$B$ : The Number of students who has right answer
$J S:$ The number of students
However, the criteria used are as follow: ${ }^{20}$
$0,00 \leq p \leq 0,30 \quad$ : Difficult question
$0,30 \leq p \leq 0,70 \quad$ : Medium
$0,70 \leq p \leq 1,00 \quad$ : Easy.
The following was the computation of the difficulty level for item number 1 and for the other items would use the same formula.
$B=14+9=23 \quad J S=34$
$P=\frac{B}{J S}$
$P=\frac{23}{34}$

[^7]$$
P=0,676
$$

It is proper to say that the index difficulty of the item number 1 above can be categorized as the medium category, because the calculation result of the item number 1 was in the interval $0,30 \leq p \leq 0,70$.

From 40 items of try out test, there were14 items that were categorized into easy, 16 items were medium and 10 items were difficult.

Table 3.2
The Computation Result of Items Difficulty Level

| No | Criteria | Item No. | Amount | Percentage <br> $(\%)$ |
| :---: | :--- | :---: | :---: | :---: |
| 1 | Easy | $2,4,6,9,11,12,16,20$, <br> $21,22,26,29,35,39$. | 14 | 35 |
| 2 | Medium | $1,3,5,8,14,17,18,19$, <br> $23,27,28,30,32,34,38$, <br> 40. | 16 | 40 |
| 3 | Difficult | $7,10,13,15,24,25,31$, <br> $33,36,37$. | 10 | 25 |

The whole computation result can be seen in appendix 9 .
d. The Discriminating Power Analysis.

The discriminating power refers to the test ability in differentiating or grouping the students who are clever (high ability) and stupid (low ability). So, it is used to know how accurate the question can differentiate the higher subject and lower subject. In doing this analysis, the number of try-out subjects (students) was divided into two groups, upper and lower group. The formula for discriminating power is Split Half: ${ }^{21}$
$D=\frac{B_{A}}{J_{A}}-\frac{B_{B}}{J_{B}}=P_{A}-P_{B}$

[^8]Note:
$D$ : The degree of question distinctive.
$J_{A}$ : The number of students the upper group.
$J_{B}$ : The number of students in the lower group.
$B_{A}$ : The number of students in upper group who answered correctly.
$B_{B}$ : The number of students in lower group who answered correctly.
$P A=\frac{B_{A}}{J_{A}}$ : The proportion of students in upper group that give correct answer.
$P B=\frac{B_{B}}{J_{B}}$ : The proportion of students in lower group that give correct answered.

The criteria are:
$0,00 \leq p \leq 0,20 \quad$ : Poor
$0,20 \leq p \leq 0,40 \quad$ : Sufficient
$0,40 \leq p \leq 0,70 \quad:$ Good
$0,70 \leq p \leq 1,00 \quad$ : Very Good

The following is the computation of the discriminating power of item number 1 and for other items would use the same formula.
D = Discriminating Power
BB $=9$
BA $=14$
$\mathrm{JB}=17$
$\mathrm{JA}=17$
$\mathrm{D}=\frac{B A}{J A}-\frac{B B}{J B}$
$\mathrm{D}=\frac{14}{20}-\frac{9}{17}$
$\mathrm{D}=\frac{14}{17}-\frac{9}{17}$
D $=0,29$

So, the item number 1 was categorized into sufficient, because the calculation result of the item number 1 was in the interval $0,20 \leq \mathrm{D}$ $\leq 0,40$. After computing 40 items of try -out test, there were 7 items considered to be very good, 7 items were good, 13 items were sufficient, 6 items were poor and 7 items were very poor.

Table 3.3
The Result Computation of Discriminating Power of Items

| No. | Criteria | Item No. | Amount | Percentage <br> $(\%)$ |
| :---: | :---: | :---: | :---: | :---: |
| 1 | Very Poor | $10,13,24,31,35,36,39$. | 7 | 17,5 |
| 2 | Poor | $4,7,20,25,29,37$ | 6 | 15 |
| 3 | Sufficient | $1,2,5,6,9,12,15,16$, <br> $21,22,26,30,32$ | 13 | 13 |
| 4 | Good | $11,17,27,33,34,38$, <br> 40. | 7 | 7 |
| 5 | Very Good | $3,7,14,18,19,23,28$. | 7 | 7 |

The whole computations result can be seen appendix 9 .
Based on the analysis of validity, reliability, difficulty level, and discriminating power of try out test, finally 26 items were accepted. They are number $1,2,3,5,6,8,9,11,12,14,15,16,17,18,19,21,22,23,26$, $27,28,30,32,33,38$, and 40.

## G. Technique of Data Analysis

## 1. Pre Test Analysis

The researcher needs to examine the normality and homogeneity test of the data before determines the statistical analysis technique used.
a. Normality Test

Normality test is used to know the normality of the data that is going to be analyzed whether both groups have normal distribution or
not. The normality test with Chi-square is done to find out is there any difference proportion of subject, object, etc. Systematically Chi-square test is as follows:

1) Arranging the data and determining the maximum and minimum score.
2) Determining the range ( R ); the largest data reduced the smallest data.
3) Determining the number of class interval ( K ) with formula:
$K=1+(3,3) \log n$.
4) Determining the length of the class interval ( P ), using the formula:

$$
\mathrm{P}=\frac{\text { range }}{\text { number of class }}
$$

5) Making a frequency distribution table.
6) Determining the class limitation (bk) of each class interval.
7) Calculating the average $\mathrm{Xi}(\bar{X})$, with the formula:

$$
\bar{X}=\frac{\sum f_{i} x_{i}}{\sum f_{i}}
$$

8) Calculating variants, with the formula:

$$
s^{2}=\frac{n \cdot \Sigma f i \cdot x i^{2}-(\Sigma f i \cdot x i)^{2}}{n(n-1)}
$$

9) Calculating the value of $Z$, with the formula:
$\mathrm{Z}=\frac{x-\bar{x}}{s}$
$x=$ limit of class.
$\bar{x}=$ Average .
$s=$ Standard deviation. ${ }^{22}$
10) Defining the wide area of each interval
11) Calculating the frequency expository $\left(\mathrm{E}_{\mathrm{i}}\right)$, with formula:
$\mathrm{E}_{\mathrm{i}}=$ wide area multiple with the $n$ number of sample

[^9]12) Making a list of the frequency of observation $\left(\mathrm{O}_{\mathrm{i}}\right)$, with the frequency expository as follows:

| Class <br> Interval | Bk <br> (limitation <br> of class) | Z <br> value | Probabilities <br> of Z | LD <br> (Wide <br> Area) | $\mathrm{E}_{\mathrm{i}}$ | $\frac{O i-E i}{E i}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |

13) Calculating the Chi-Square ( $\chi^{2}$ ), with the formula:
$\chi^{2}=\sum_{i=1}^{k} \frac{\left(O_{i}-E_{i}\right)^{2}}{E_{i}}$
Note:
$\chi^{2}=$ Chi Square Value.
$\mathrm{O}_{\mathrm{i}}=$ Frequency of observation result.
$\mathrm{E}_{\mathrm{i}}=$ Frequency that hoped.
$K=$ The number of the class interval.
14) Determining $\mathrm{df}=\mathrm{k}-3$ (degree of freedom), where k is the number of class intervals and $\alpha=5 \%$.
15) Determining the $\chi^{2}$ table value.
16) Determining the distribution normality with test criteria:

If $\chi_{\text {count }}^{2}>\chi_{\text {table, }}^{2}$, the data is not normal distribution and the other way if the $\chi^{2}$ count $<\chi^{2}$ table, the data is normal distribution. ${ }^{23}$
b. Homogeneity Test

Homogeneity test is used to know the assumption that the sample or experiment and control class that are taken from population have same condition (homogenous) by investigating whether the both samples have same variant or not in which as consideration in determining statistical that would be used in testing the hypothesis. ${ }^{24}$ The formula used is Barlett Test, the procedures are as follows. ${ }^{25}$

1) Make the table of Barlett test as shown below.
[^10]Table 3.4

## The Values Needed to Barlett test.

$$
\mathrm{H}_{\mathrm{o}}: \sigma_{1}^{2}=\sigma_{2}^{2}
$$

| Sample | Dk | $1 / \mathrm{dk}$ | $s_{i}{ }^{2}$ | $\log . s_{i}{ }^{2}$ | $(\mathrm{dk}) \cdot \log s_{i}{ }^{2}$ |
| :--- | :---: | :---: | :--- | :--- | :---: |
| Group1 | $n_{1}-1$ | $1 /\left(n_{1}-1\right)$ | $s_{1}{ }^{2}$ | $\log s_{1}{ }^{2}$ | $\left(n_{1}-1\right) \log s_{1}{ }^{2}$ |
| Group2 | $n_{2}-1$ | $1 /\left(n_{2}-1\right)$ | $s_{2}{ }^{2}$ | $\log s_{2}{ }^{2}$ | $\left(n_{2}-1\right) \log s_{2}{ }^{2}$ |
| K | $n_{k}-1$ | $1 /\left(n_{k}-1\right)$ | $s_{k}{ }^{2}$ | $\log s_{k}{ }^{2}$ | $\left(n_{k}-1\right) \log s_{k}{ }^{2}$ |
| Sum | $\sum\left(n_{i}-1\right)$ | $\sum 1 /\left(n_{i}-1\right)$ |  |  | $\sum\left(n_{i}-1\right) \log s_{i}{ }^{2}$ |

2) Test the uniting variance and the whole sample.

$$
s^{2}=\sum\left(n_{i}-1\right) s_{i}{ }^{2} / \sum\left(n_{i}-1\right)
$$

3) Compute the unit of B using formula $\mathrm{B}=\left(\log s_{i}{ }^{2}\right) \sum\left(n_{i}-1\right)$.
4) Compute $\chi^{2}$ using formula $\chi^{2}=(\operatorname{In} 10)\left\{\mathrm{B}-\sum\left(n_{i}-1\right) \log s_{i}{ }^{2}\right\}$.

Consult the computation result to the table by comparing $\chi^{2}$ count with $\chi^{2}{ }_{\text {table }}$ by the chance of $(1-x)$ and by degrees of freedom of $\mathrm{df}=(\mathrm{k}-1)$. if $\chi^{2}{ }_{\text {count }}<\chi^{2}$ table , it means that the distribution of data is homogenous
c. The Hypothesis Test

The hypothesis test is used to examine the average whether experiment group and control group have been decided having significant different average or not. ${ }^{26}$ To analyze the research data used t-test formula to test the hypothesis below:
$\mathrm{H}_{\mathrm{o}}=\bar{X}_{1}=\bar{X}_{2}$
$\mathrm{H}_{\mathrm{a}}=\bar{X}_{1} \neq \bar{X}_{2}$
Note:
$\bar{X}_{1}=$ Average data of experiment group.
$\bar{X}_{2}=$ Average data of control group

[^11]Moreover, t-test is the formula that used to prove the hypothesis as follows:

1) If $\sigma_{1}{ }^{2}=\sigma_{2}^{2}$ (has same variant), the formula is:

$$
\begin{aligned}
& \mathrm{t}=\frac{\overline{\mathrm{X}}_{1}-\overline{\mathrm{X}_{2}}}{\mathrm{~S} \sqrt{\frac{1}{\mathrm{n}_{1}}+\frac{1}{\mathrm{n}_{2}}}} \\
& \text { With } \quad S=\sqrt{\frac{\left(n_{1}-1\right) S_{1}^{2}+\left(n_{2}-1\right) S_{2}^{2}}{n_{1}+n_{2}-2}}
\end{aligned}
$$

2) If $=\sigma_{1}{ }^{2} \neq \sigma_{2}{ }^{2}$ (has no same variant) the formula is:

$$
\mathrm{t}=\frac{\bar{X}_{1}-\bar{X}_{2}}{\sqrt{\frac{\mathrm{~S}_{1}^{2}}{N_{1}}}+\frac{\mathrm{S}_{2}^{2}}{N_{2}}}
$$

Note:
$\bar{X}_{1} \quad$ : The mean score of the experimental group.
$\bar{X}_{2} \quad$ : The mean of the control group.
$\mathrm{n}_{1} \quad$ : The number of experiment group.
$\mathrm{n}_{2} \quad$ : The number of control group.
$\mathrm{S}_{1}{ }^{2} \quad$ : The standard deviation of experiment group.
$\mathrm{S}_{2}{ }^{2} \quad$ : The standard deviation of control groups.
Testing criteria that apply $\mathrm{H}_{\mathrm{o}}$ is accepted if $t_{\text {count }}<t_{\text {table }}$ with determinate $\mathrm{df}=\left(\mathrm{n}_{1}+\mathrm{n}_{2}-2\right)$ and the significant $\alpha=5 \%(1-\alpha) .{ }^{27}$

## 2. Post Test Analysis

a. Normality Test

Steps normality second step is the same as the normality test on the initial data.
b. Homogeneity Test

Steps homogeneity second step is the same as the homogeneity test on the initial data.

[^12]c. Hypothesis Test

In testing the hypothesis used $t$ - test are follows:
$\mathrm{H}_{\mathrm{o}}=\bar{X}_{1}=\bar{X}_{2}$.
$\mathrm{H}_{\mathrm{a}}=\bar{X}_{1} \neq \bar{X}_{2}$.
$\bar{X}_{1}=$ Average data of experiment group.
$\bar{X}_{2}=$ Average data of control group.

1) If $\sigma_{1}{ }^{2}=\sigma_{2}{ }^{2}$ (has same variant), the formula is:
$t=\frac{\bar{X}_{1}-\overline{X_{2}}}{S \sqrt{\frac{1}{n_{1}}+\frac{1}{n_{2}}}}$
With $S=\sqrt{\frac{\left(n_{1}-1\right) S_{1}^{2}+\left(n_{2}-1\right) S_{2}{ }^{2}}{n_{1}+n_{2}-2}}$
2) If $=\sigma_{1}{ }^{2} \neq \sigma_{2}{ }^{2}$ (has no same variant) the formula is:
$\mathrm{t}=\frac{{\overline{X_{1}}}^{-}-{\overline{X_{2}}}_{2}}{\sqrt{\frac{S_{1}^{2}}{N_{1}}}+\frac{\mathrm{S}_{2}^{2}}{N_{2}}}$
Note:
$\bar{X}_{1}$ : The mean score of the experimental group
$\bar{X}_{2}$ : The mean of the control group
$\mathrm{n}_{1}$ : The number of experiment group
$\mathrm{n}_{2}$ : The number of control group
$\mathrm{S}_{1}{ }^{2}$ : The standard deviation of experiment group
$\mathrm{S}_{2}{ }^{2}$ : The standard deviation of control group.
Testing criteria that apply Ho is accepted if $t_{\text {count }}>t_{\text {table }}$ with determine $\mathrm{df}=\left(n_{1}+n_{2}-2\right)$ and $\alpha=5 \%$ with opportunities $(1-\alpha) .{ }^{28}$
[^13]
## H. Research Procedure

In collecting data, there are some steps was taken by the researcher, they are as follows:

1. Preliminary visit (meet the administration officer)

The researcher visited the school to get information about teacher and students as participants. The researcher asked the administration officer to get the information.
2. Contact the headmaster

The researcher asked permission to the headmaster of MTs Darul Ulum Purwogondo Kalinyamatan Jepara.
3. Contact the English teacher

After getting permission from the headmaster, the researcher met the English teacher for asking her help and guidance for the researcher conducted research.
4. Give try out test

The try out test has been conducted before treatment was done. It has been held on Monday, 5 April 2010
5. Give pre test

The researcher gave the pre test to experiment and control class. The pre test was conducted on Saturday, 17 April 2010 for experiment class and for control class.
6. Give the treatment

The activities of the experiment class were started on Sunday, 18 April 2010 and Saturday, 24 April 2010. The experiment class was given the treatment by using card game as a media in teaching Simple Present Tense. The control class only gave a verbal explanation without using card game as a media in teaching Simple Present Tense.
7. Give post test

The post test was conducted after treatment for twice, it was given to test their understanding on Simple Present Tense. It was held on Sunday, 25 April 2010.

However, the procedure of the study can be seen on the following table:

Table 3.5
Research Procedure

| No | Task | Preparation | Date |
| :---: | :---: | :---: | :---: |
| 1. | Preliminary visit (meet the administration officer) |  | Thursday, 1 April 2010 |
| 2. | Contact the Headmaster | Research permission letter | Friday, 2 April 2010 |
| 3. | Contact the English teacher | - | Sunday, 4 April 2010 |
| 4. | Try out test | Try out test worksheet | Monday, 5 April 2010 |
| 5. | Give pre-test | Pre test worksheet (both experiment and control class) | Saturday, 17 April 2010. |
| 6 | Give treatment | Lesson plan, handbook, worksheet, teaching materials. | Experiment: <br> - Sunday, 18 April 2010. <br> - Saturday, 24 April 2010. <br> Control: <br> - Sunday, 18 April 2010. <br> - Saturday, 24 April 2010. |
| 7. | Give post test | Post test worksheet | Sunday, 25 April 2010 |


[^0]:    ${ }^{1}$ Rodgers and Brown, Doing Second Language Research, (Cambridge: Oxford Press 2002), p. 211.
    ${ }^{2}$ Sugiyono, Metode Penelitian Kuantitaif, Kualitatif Dan $R \& D$, (Bandung: Alfa Beta, 2009), p. 72.

[^1]:    ${ }^{3}$ Ibid., p. 76.
    ${ }^{4}$ Suharsimi Arikunto, Prosedur Penelitian: Suatu Pendekatan Praktik, (Jakarta: PT Rineka Cipta, 2006), $13^{\text {th }}$ Ed., p. 118.
    ${ }^{5}$ Sugiyono, Statistika Untuk Penelitian, (Bandung: CV. Alfabeta, 2006), p. 3
    ${ }^{6}$ Suharsimi Arikunto, op.cit., p. 118

[^2]:    ${ }^{7}$ Ibid., p. 130.
    ${ }^{8}$ Ibid., p. 131
    ${ }^{9}$ Sugiarto, et. al., Teknik Sampling, (Jakarta: PT Gramedia Pustaka Utama, 2003), $2^{\text {nd }}$ Ed., p. 4.

[^3]:    ${ }^{10}$ Suharsimi Arikunto, op.cit., p. 134.
    ${ }^{11}$ Sugiarto, op.cit.
    ${ }^{12}$ M. Chabib Thoha, Teknik Evaluasi Pendidikan (Jakarta: PT Raja Grafindo Persada, 2001), p. 43.

[^4]:    ${ }^{13}$ Riduwan, Skala Pengukuran Variabel-Variabel Penelitian, (Bandung: Alfabeta, 2009), p. 30
    ${ }^{14}$ J.B Heaton, Writing English Language Tests, (London: Longman, 1975), p. 12-13.

[^5]:    ${ }^{15}$ Suharsimi Arikunto, Dasar-Dasar Evaluasi Pendidikan, (Jakarta: Bumi Aksara, 2002) $7^{\text {th }}$ Ed, p. 65.
    ${ }^{16}$ Ibid., p. 78.

[^6]:    ${ }^{17}$ J.B. Heaton, Op Cit, P. 155.
    ${ }^{18}$ Suharsimi Arikunto, op cit., p. 100.

[^7]:    ${ }^{19}$ Ibid., p. 207-208.
    ${ }^{20}$ Ibid., p. 210.

[^8]:    ${ }^{21}$ Ibid., p. 213.

[^9]:    ${ }^{22}$ Sugiyono, op.cit., p. 71-72

[^10]:    ${ }^{23}$ Sudjana, Metode Statistika, (Bandung: Tarsito, 2002), p. 273.
    ${ }^{24}$ Suharsimi arikunto, op.cit.,p. 320-321
    ${ }^{25}$ Ibid., p. 262-263

[^11]:    ${ }^{26}$ Anas Sudijono, Pengantar Statistik Pendidikan (Jakarta: PT. Raja Grafindo Persada, 1995) $6^{\text {th }}$ Ed, p. 264.

[^12]:    ${ }^{27}$ Sudjana, op cit, p. 243.

[^13]:    ${ }^{28}$ Sudjana, op cit, p. 243.

