## CHAPTER III

## RESEARCH METHODOLOGY

## A. Design of the Research

The design of this research was quasi-experimental research. John W. Creswell (2012: 309) states that quasi-experiments include assignment, but not random assignment of participants to groups. This is because the experimenter cannot artificiallycreate groups for the experiment which consists of two variables. The first variable was jumbled summary strategy as independent variable and the second was students' ability in writing recount text as dependent variable. So, the design of this research can be illustrated as follows :

## Table III. 1 <br> The Research Design

Pre - and Posttest Design

| Select Control Group | Pre-test | No Treatment | Post-test |
| :--- | :---: | :--- | :---: |
| Select Experimental | Pre-test | Experimental | Post-test |
| group |  | Treatment |  |

## B. The Location and The time of The Research

The research was conducted to the second year at State Senior High School 11 Pekanbaru. This research was conducted from March to May 2016. The study of experimental class was conducted for eight meetings in
which one meeting as pre-test, six meetings as treatment and one meeting as post-test. Then, the study of control class was conducted in two meetings in which one meeting as pre-test and one meeting as post-test.

## C. The Subject and the Object of Research

## 1. The subject of the research

The subject of the research was the second year students of Senior High School 11 Pekanbaru in 2015-2016 academic year.

## 2. The object of the research

The object of the research was the effect of using jumbled summary strategy on students' ability in writing recount text.

## D. The Population and the sample of the Research

## 1. Population

The population of this research is the second year students of State Senior High School 11 Pekanbaru. The total population of this research was 125 students from five classes. They were two classes for science class (IPA) and three classes for social class (IPS). The specification of the population can be seen on the table below:

Table III. 2
The Population of the Research

| No | Classes | Population |  | Total |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Male | Female |  |
| 1 | XI IPA 1 | 12 | 13 | 25 |
| 2 | XI IPA 2 | 14 | 11 | 25 |
| 3 | XI IPS 1 | 10 | 15 | 25 |
| 4 | XI IPS 2 | 13 | 12 | 25 |
| 5 | XI IPS 3 | 11 | 14 | 25 |
|  | Total | $\mathbf{6 0}$ | $\mathbf{6 5}$ | $\mathbf{1 2 5}$ |

## 2. Sample

In this research, the researcher used cluster random sampling to take a sample. According to Freankle et.al, (2012:96) the selection of group or clusters, of subjects rather than individuals is known as cluster random sampling. The researcher considered that this sampling technique appropriate with the design of the research.

The researcher wrote down number 1 to 5 on small piece of paper. Number 1 was for XI IPA 1, 2 for XI IPA2, 3 for XI IPS 1, 4 for XI IPS 2, and 5 for XI IPS 3. Then, the small piece of paper was placed in a box and well mixed, and a sample of the required size was selected. And the last, the writer got class XI IPA 1 and XI IPS 3 as a sample. Thus, class XI IPA1 as experimental class and class XI IPS 3 as control class. The total number of the sample was 50 students, in which 25 students from XI IPA 1 and 25 students from XI IPS 3. That's way the researcher used this technique to take a sample in this research. The specification of the sample can be seen on the table below:

Table III. 3 Sample of the Research

| No | Classes | Population |  | Total |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Male | Female |  |
| 1 | XI IPA 1 | 12 | 13 | 25 |
| 2 | XI IPS 3 | 11 | 14 | 25 |
|  | Total | $\mathbf{2 3}$ | $\mathbf{2 3}$ | $\mathbf{5 0}$ |

## 3. Technique of the Data Collection

In order to get the data which were needed to support this research, the researcher used the technique as follows:

## a. Observation

Observation was used to collect the data about the implementation of using Jumbled Summary strategy in teaching writing. Besides, it was used to know whether this method had been applied as well as procedures or not. In this case, the researcher used observation checklist and asked one of the English teachers at State Senior High School 11 Pekanbaru as an observer.

Table III. 4
Observation Checklist about the Implementation of Using Jumbled Summary Strategy

| No | Indicator | Yes | No |
| :---: | :---: | :---: | :---: |
| 1 | Teacher explains the lesson material to the students that will be studied. | $\checkmark$ |  |
| 2 | The teacher presents a selection of randomly ordered vocabulary words or phrases in recount text to each students. | $\checkmark$ |  |
| 3 | Teacher asks the students to assemble them in a logical order by the generic structure. | $\checkmark$ |  |
| 4 | Teacher asks the students to make connections based on their understanding into the lesson. | $\checkmark$ |  |
| 5 | The students' start to write down a recount text based on their jumbled summary. | $\checkmark$ |  |
| 6 | Teacher allows the students to do their task independently. | $\checkmark$ |  |
| 7 | Teacher concludes the materials. | $\checkmark$ |  |
| $\square$ | Total | 7 |  |

## b. Test

In this research, the researcher used test to collect data. The test was used to find out the students' ability in writing recount text. The data of this research were the score of the students' writing ability obtained by using composition test. The test was given twice to the sample in both experimental class and control class, the first test was pre-test and the second test was post-test. Pre-test was done before teaching by using jumbled summary strategy and post-test was done to know the influence and the effect of using jumbled summary strategy to get data about students writing ability.

Furthermore, in order to assess the score of students' writing ability, the researcher used the assessment aspects of writing recount text based on the assessment of English teacher at State Senior High School 11 Pekanbaru. The assessment can be described as follows:

Table III. 5
Assessment Aspects of Writing
Recount Text

| No | Aspects Assessed |  | Score |  |  |  |
| :---: | :--- | :--- | :--- | :--- | :--- | :---: |
|  |  | $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{4}$ |  |
| 1 | Content |  |  |  |  |  |
| 2 | Organization <br> a. Orientation <br> b. Events <br> c. Re-orientation |  |  |  |  |  |
| 3 | Vocabulary | Grammatical Features <br> a. Action Verb <br> b. Temporal Connectives <br> a. Past Tense |  |  |  |  |
| 5 | Spelling and Punctuation <br> Total |  |  |  |  |  |
| Maximum Score |  |  |  |  |  |  |

Explanation of score:
1 = incompetent
2 = competent enough
3 = competent
$4=$ very competent

$$
\text { final score }=\frac{\text { total score }}{\text { maximum score }} \times 80
$$

The assessment above shows that the writing result was evaluated by using five components and each component had score or level. Each component had 20 as highest score and the total of the components was 100. In this research, the researcher took 80 as the highest score.

Next, the students' score of writing ability in recount text would be classified by using the scoring rubric for writing ability based on the
minimum of passing grade score (KKM) at State Senior High School 11 Pekanbaru.

Table III. 6
Classification of Students' Score

| No | The Score Level | Category |
| :---: | :---: | :---: |
| 1 | $85-100$ | Very Good |
| 2 | $66-79$ | Good |
| 3 | $56-65$ | Enough |
| 4 | $40-55$ | Less |
| 5 | $30-39$ | Fail |

(Arikunto, 2008: 245)

Based on the table above, the students who were got score $\geq 75$ they passed the minimum of passing grade score (KKM), while the students got $<75$, they did not pass the minimum of passing grade score (KKM).

## c. Validity of the Test

According to Heaton, stated that: "The validity of the test is the extent to which it measures what it is supposed to measure and nothing else. Every test, wheter it is a short, informal classroom test or a public examination, should be as valid as the constructor can make it. The test must aim to provide a true measure of the particular skill which is intended to measure".

Pertaining to Scarvia B. Anderson in Arikunto (2008:65) a test is valid if it measures what it purpose to measure. Thus, validity is a crucial
feature of any test. If a test does not have high validity, it does not allow users to make the interpretation desired, it should not be used. Furthermore, Gay (2000:162) states that there are three kinds of validity. They are content validity,criterion-related validity, and construct validity. In this research, the researcher used content validity. Regarding to Sugiyono (2014:353) content validity is a kind of test that is used to measure achievement and the effect of treatment or program. It means that to measure the students' achievement, the test must be created based on the material that they had learned.

Gay (2000:168) stated there is no formula used to calculate the content validity and there is no way how to express it quantitatively. So it means content validity was tests were given based on material they had learned. The material of the test was taken from the textbook used by the second year students at State Senior High School 11Pekanbaru.

## d. Reliability of the Test

The reliability of a test concerns with its precision as a measuring instrument. Pertaining to Richards and Richard (2010:495) reliability is a measure of the degree to which a test gives consistent results. It is also supported by Brown (2003:20) who defined that a reliable test is a test which is consistent and dependable. It means that, a test is said to be reliable if it gives the same results when it is given on different occasions or when it is used by different people.

According to Creswell (2012:160), there are five types of reliability. They are test-retest reliability, alternate forms reliability, alternate forms and test retest reliability, inter-rater reliability and internal consistency reliability. In this research, the researcher used inter-rater reliability. It means that, the score of the test was evaluated by more than one people. In this research, the students' writing ability was evaluated by two raters.

Next, the researcher used Pearson Product Moment formula by using SPSS 16.0 version to obtain the correlation between scores from rater 1 and rater 2 . Then, to know the level of the correlation, the $\mathrm{r}_{\mathrm{o}}$ is process through Spearman-Brown Prophecy formula explained by Grant Hening (1987:83):
$\mathrm{r}_{\mathrm{tt}}=\frac{n r_{A, B}}{1+(n-1) r_{A, B}}$
Where,
$\mathrm{r}_{\mathrm{tt}}=$ inter-rater reliability
$\mathrm{n}=$ the number of raters whose combined estimates of the final mark
$\mathrm{r}_{\mathrm{A} \cdot \mathrm{B}}=$ the correlation between raters, or the average correlation among all raters if there are more than two

Then, the researcher used the categories of reliability that can be seen from the following table:

Table III. 7
The Categories of Reliability

| No | Reliability | Level of Reliability |
| :---: | :---: | :---: |
| 1 | $>0.90$ | Very highly reliable |
| 2 | $0.80-0.90$ | Highly reliable |
| 3 | $0.70-0.79$ | Reliable |
| 4 | $0.60-0.69$ | Marginally/minimally reliable |
| 5 | $<0.60$ | Unacceptably low reliability |

Cohen (2007:506)
Then, in analyzing the reliability of the test, the researcher used the pre-test scores in experimental class of rater 1 and rater 2 by using SPSS 16.0 version.

Table III. 8
The Table Correlation

|  |  | pretestrater1 | pretestrater2 |
| :--- | :--- | ---: | ---: |
| rater1 | Pearson Correlation | 1 | $.583^{* *}$ |
|  | Sig. (2-tailed) |  | .002 |
|  | N | 25 | 25 |
| rater2 | Pearson Correlation | $.583^{* * *}$ | 1 |
|  | Sig. (2-tailed) | .002 |  |
|  | N | 25 | 25 |

**. Correlation is significant at the 0.01 level ( 2 -tailed).

From the output above, it can be seen that $\mathrm{r}_{\mathrm{o}}\left(\mathrm{r}_{\text {obtained }}\right)$ is 0.583 will be correlated to $r_{t}\left(r_{\text {table })}\right.$. It is necessary to find the df (degree of freedom).

$$
\begin{aligned}
& \mathrm{df}=\mathrm{N}-\mathrm{nr} \\
& \mathrm{df}: \text { degree of freedom } \\
& \mathrm{N}: \text { Number of cases } \\
& \mathrm{nr}: \text { number of correlated variable } \\
& \mathrm{df}=25-2=23
\end{aligned}
$$

The researcher took $\mathrm{df}=23$ to be correlated either at level $5 \%$ or $1 \%$. At level $5 \%, r_{\text {table }}$ is 0,369 ; while at level $1 \% r_{\text {table }}$ is 0,505 . Thus, the $r$ obtained is obtained higher than $\mathrm{r}_{\text {table }}$, either at level $5 \%$ or $1 \%$. So the researcher concluded that there was a significant correlation between score given by rater 1 and score given by rater 2 . In the other words, the writing test was reliable.

Moreover, it was calculated by using Spearman-Brown Prophecy Formula as follows:

$$
\begin{aligned}
& \mathrm{r}_{\mathrm{tt}}=\frac{n r_{A, B}}{1+(n-1) r_{A, B}} \\
& \mathrm{r}_{\mathrm{tt}}=\frac{2(0.583)}{1+(2-1) 0.583} \\
& \mathrm{r}_{\mathrm{tt}}=\frac{1.166}{1.583} \\
& \mathrm{r}_{\mathrm{tt}}=0.736
\end{aligned}
$$

Based on the data obtained above, the researcher concluded that the inter-rater reliability in this research was 0.736 categorized as reliable.

## F. Technique of the Data Analysis

## 1. Normality of the Data

Before analyzing the data by using T-test formula, the researcher had to find out the normality test of the data. In this research, the researcher used lilliefors through SPSS. 16 version. In analyzing the normality of the data, the researcher used students' post-test score of experimental class and control class.

Analysis:
If the probability $>0.05 \mathrm{H}_{0}$ was accepted
If the probability $<0.05 \mathrm{H}_{0}$ was rejected
Test of normality in pre-requisite test was used to find out whether the data of experimental class and control class which had been collected from the pre-test and post-test score from the writer came from normal distribution or not.

The result computation of normality through SPSS. 16 can be seen in the following table:

Table III. 9
Test of Normality

|  |  | Kolmogorov-Smirnov $^{\text {a }}$ |  |  | Shapiro-Wilk |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | postcont | Statistic | df | Sig. | Statistic | df | Sig. |
| Post-test | 1.00 | .164 | 25 | .082 | .957 | 25 | .353 |
| experimental class <br> and control class | 2.00 | .172 | 25 | .055 | .943 | 25 | .175 |

a. Lilliefors Significance Correction

According to Priyatno (2012:36) If the "Sig" column of either test is higher than 0.05 , the data are normally distributed. From the table IV. 15 above, the significance value of post-test experimental and control class were 0.082 and 0.055 . Because of $s i g>0.05(0.082>0.05)$ and $(0.055>$ 0.05 ), the initial data experimental and control class was normally distributed.

## 2. Homogeneity of the Data

According to Siregar (2013:167), the purpose of homogeneity test is to know whether the object of the research has the same variance or not. The method used in this test was comparing the biggest variance with the smallest one.In analyzing the homogeneity of the data, the researcher used students' pre-test scores of experimental class and control class.

Test of homogeneity was done to know whether the sample in the researcher came from population that had same variance or not. In this research, the homogeneity of the test was measured for pre-test scores of experimental class and control class through SPSS. 16.0 version. The result computation of homogeneity through SPSS.16.0 version can be seen in the following table:

Table III. 10
Test of Homogeneity of Variances

|  |  | Levene <br> Statistic | df1 | df2 | Sig. |
| :--- | :--- | ---: | ---: | ---: | ---: |
| Pre Test <br> Experimental Class <br> and Control Class | Based on Mean | 1.021 | 1 | 48 | .317 |
|  | Based on Median | 1.031 | 1 | 48 | .315 |
|  | Based on Median and <br> with adjusted df | 1.031 | 1 | 42.753 | .316 |
|  | Based on trimmed mean | 1.161 | 1 | 48 | .287 |

Based on the table above, test of homogeneity of variances, the value of significance was 0.317 . This value showed that value of $\operatorname{sig}>\alpha=$ $0.317>0.05$, it can be concluded that both classes had similar variants or homogenous.

## 3. Analysis Data

In analyzing the data, the researcher used students' post-test score in experimental and control classes. This score was analyzed statistically. In this research the researcher used these formulas:
a) Independent Sample T-test

Hartono (2009: 208) said that to find out whether there is a significant difference between two or more variables or not that can be analyzed by using independent sample $t$-test. Independent sample $t$-test was used to know whether there is a significant difference onstudents' writing ability in recount text taught by using and without using Jumbled Summary strategy.

In this research, the data were analyzed by using SPSS 16.0 Version. The T-table was employed to see whether there is a
significant difference or not among the mean scores both of experimental and control class. Statistical hypothesis:

1. $\mathrm{H}_{0}=\mathrm{t}_{0}<\mathrm{t}$-table
2. $\mathrm{H}_{\mathrm{a}}=\mathrm{t}_{0}>\mathrm{t}$-table
b) Effect Size

According to Pallant (2005:199) effect size is the strength of the difference between groups or the influence of independent variable. There are a number of different effect size statistics, the most commonly used being eta squared. Eta squared can range from 0 to 1 and represents the proportion of variance in the dependent variable that is explained by the independent (group) variable. The formula for eta squared is as follows: Pallant (2005:208)

Eta squared ${ }^{2}=\frac{\mathrm{t}^{2}}{\mathrm{t} 2+(\mathrm{N} 1+\mathrm{N} 2-2)}$
Where :
$\mathrm{t}^{2}=$ to
$\mathrm{N}_{1}=$ Number of students

