## CHAPTER III RESEARCH METHODOLOGY

## A. Research Design

The design of this research has experimental research. According to Gay and Peter Airasian, (2000, p.367) experimental research is "the only type of the research that can test hypotheses to establish cause-and-effect relationship". The method used was quasi-experimental research. According to Muijs, (2004, p.26) quasi-experimental designs are meant to approximate as closely as possible the advantages of true experimental designs where the problems mentioned above occur. Donald (1966, p.47) Research design that is used in this research is Non Equivalent Experimental, which is involves two groups (experimental and control groups), both of them are given a pre-test and post-test in which both groups do not have pre-experimental sampling equivalent. Before doing the experiment, the students were given the pre-test. The experimental group got treatment and the control group did not get the treatment. After the treatment, a post-test was given to the students. The model of research design can be illustrated as follows:

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

| Group | Pre-test | Treatment | Post-test |
| :---: | :---: | :---: | :---: |
| Experimental | $\mathbf{O}_{1}$ | $\mathbf{X}$ | $\mathbf{O}_{2}$ |
| Control | $\mathbf{O}_{3}$ | $\emptyset$ | $\mathbf{O}_{4}$ |

Where:
$\mathbf{O}_{1}=$ Pre-test for experimental and control group.
$\mathbf{O}_{2}=$ Post-test for experimental and control class.
03 = Pre-test for experimental and control group.
$\mathbf{O}_{4}=$ Post-test for experimental and control group.
X = Treatment by using Making Preview Maps Strategy.
Ø = Treatment without using Making Preview Maps Strategy.

## B. Location and the time of the Research

The research was conducted at State Senior high school 1 Kamparthat is located at Air Tiris. Kampar Regency. This research was conducted from, May 2016 until June 2016.

## C. Subject and Object of the Research

## 1. Subject of the Research

The subject of this research was the eleventh grade students at State Junior High School 1 Kampar Regency in the academic year 2015/ 2016.

## 2. Object of the Research

The object of this research was the effect of using 3-2-1 Strategy on students' reading comprehension of report text. at State Junior High School 1 Kampar Regency.

## D. Population and Sample of the Research

The population of this researchwas the elevanthgrad of Senior High School 1 Kampar. They consisted of 8 classes, the total population of Senior High School 1 Kampar was 265 students. The detail of the population of this research is as follows:

TABLE IIII. 2
Population of the Research

| No | Class | Number of Students |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 2 MIPA 1 | 34 |  |  |  |
| 2 | 2 MIPA 2 | 33 |  |  |  |
| 3 | 2 MIPA 3 | 30 |  |  |  |
| 4 | 2 MIPA 4 | 30 |  |  |  |
| 5 | 2 IPS 1 | 33 |  |  |  |
| 6 | 2 IPS 2 | 32 |  |  |  |
| 7 | 2 IPS 3 | 33 |  |  |  |
| 8 | 2 IPS 4 | 35 |  |  |  |
|  |  |  |  | Total Population | 265 |

(Source: Document of Senior High School 1 Kampar academic year 2015/ 2016)

Based on the design of the research above, the population in this school was large enough to be taken all as a sample of the research. Furthermore because they were homogenous or because all samples had the same characteristic, the writer used cluster random sampling to choose the classes as sample. According to Gay and Airasian, (2000, p.123) random sampling is the process of selecting a sample in such a way that all individuals in the defined population have an equal and independent chance of being selected for the sample. Gay and Airasian, (2000, p.29) Cluster sampling randomly select the groups, not individuals.

In this research, the writer took two of eight classes as the samples by using lottery. It means that the writer wrote down 8 classes of the second year students at SMAN 1 Kampar in a small piece paper for each class. Then, the writer coiled up the papers into small roll and took only two small rolls. As the result, the experimental class was 2 MIPA4, while the control class was 2 MIPA3. The students involved in this research were 30 students for each class. The detail of the sample of this research is as follows:

## TABLE III. 3 <br> Sample of the Research

| No | Class | Student |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :--- |
|  |  | Male | Female | Total | Group |
| 1 | 2 MIPA 3 | 12 | 18 | 30 | Control |
| 2 | 2 MIPA 4 | 9 | 21 | 30 | Experiment |
| Total Sample |  |  |  | $\mathbf{6 0}$ |  |

## E. Technique of Collecting Data.

In this research, the writer used test to collect the data; pre-test and post-test to the students. The writer used multiple choices technique that would be designed by using for choosing and the respondent would choose one the correct answer. There are 25 questions that should be done by the students in 60 minutes. The test was started by giving try out in order to find validity, reliability of the test.

The test was divided into two tests:
a. Pre-test was given to the students before treatment of the strategy to both of the class experimental class and control class. This test was used to measure basic reading comprehension in Report text.
b. Post-test was given after doing the treatment of the strategy to the experimental class and control class which will have not been given to the students whether it was make difference or not in reading comprehension Report text.

## F. The validity and Reliability of the test

## 1. Test Blueprint

For further information about the instruction of the text, the writer shows the blueprint of both tests as follows:

| Number | Indicator of Items | Number of <br> Items | Items <br> Number |
| :---: | :--- | :---: | :---: |
| 1 | Finding factual information in Report text | 5 | $2,7,11,19,21$ |
| 2 | Identify Main Idea in Report tex | 5 | $1,6,12,16,23$ |
| 3 | Locating Meaning of vocabulary in Report text | 5 | $3,8,13,17,22$ |
| 4 | Identify Reference in Report text | 5 | $4,9,14,18,24$ |
| 5 | Making Inference in Report text | 5 | $5,10,15,20,25$ |

Finally, the pre-test and post-test of the experimental class were compared to the pre-test and post-test of control class. According to Suharsimi Arikunto (2009:245),there are some categories to evaluate the students' comprehension in reading text. The students' score can be seen from the table below:

Table III. 5
Classification of Students'Score

| The Score of Reading <br> ComprehensionLevel | Categories |
| :---: | :---: |
| $80-100$ | Very good |
| $66-79$ | Good |
| $56-65$ | Enough |
| $40-55$ | Less |
| $30-39$ | Fail |

## 2. Validity

Every test, whether it is short, informal classroom test or a public examination should be as valid as the test constructor can make it. The test must aim at providing a true measure of the particular skill in which it is intended to measure.

Before the test was given to the sample of this research, the test was tried out to the students of the second year. The purpose of try out was to obtain validity and reliability of the test. Pertaining Hughes (2003, p.19) the test is said to be valid it measures accurately what it is intended to measures. It was determined by finding the difficulty level of each item.

Based on the definition above, to measure the test was valid or not, the writer used content validity. In term of content validity, Brown (2003) stated that if refers to the content of the test provide samples about the subject matter are being meansure. It's means that we haveto design the tests based on the meterial that they had learnd, thus, the writer concluded that this research belonged to the content validity in consideration of the tests reflected to what the studens had learned the content of curriculum. In order words, test was given based on material that they had learned concerning five components of indicatores in reading comprehension on report text, besed on the syllabus of the eleventh grade at State Senior High School 1 Kampar Regency can be seen as follows:

1. Identifying find out factual information in report text.
2. Identifying main idea in report text
3. Identifying locate the meaning of vocabulary in context on report text.
4. Identifying references in report text.
5. Identifying make inference in report text.

The formula above was used to find out easy or difficult items test that the writer gave to the respondents. The items that did not reach the standard level of difficulty were excluded from the test and they were replaced by the new appropriate items.

The standard level of difficulty is $<0,30$ and $>0,70$. It means that the item test that was acceted if the level of difficulty was between 0.30 0.70 and it was rejected if the level of difficulty is under 0.30 , assumed difficult question and over 0.70 , assumed as easy question. Then, the proportion correct was represented by "P", whereas the proportion incorrect is represented by "Q", it can be seen in the following tables:

Table III. 6
The Students' Ability to Identify Factual Information On Report Text

| Variable | Identify Factual Information On Report Text |  |  |  |  | N |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Item no. | 2 | 7 | 11 | 19 | 21 |  |
| Correct | 17 | 18 | 16 | 18 | 13 |  |
| P | 0.57 | 0.6 | 0.53 | 0.6 | 0.43 |  |
| Q | 0.43 | 0.4 | 0.47 | 0.4 | 0.57 |  |

Based on the table III. 6 the proportion of correct answer for item number 2 shows the proportion of correct 0.57 , item number 7 shows the proportion of correct 0.6 , item number 11 shows the proportion of correct 0.53 , item number 19 shows the proportion of correct 0.6 , item number 21 shows the proportion of correct 0.43 . Based on the standard level of difficulty " p " $<0.30$ and $>0.70$, it is pointed out that item difficulties in average of each items number for identifying factual information on report text are accepted.

Table III. 7
The Students' Ability to Identify Main Idea In Report Text

| Variable | Identify Main Idea In Report Text |  |  |  |  | $\mathbf{N}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Item no. | 1 | 6 | 12 | 16 | 23 |  |
| Correct | 18 | 18 | 17 | 16 | 17 |  |
| P | 0.6 | 0.6 | 0.57 | 0.53 | 0.57 |  |
| Q | 0.4 | 0.4 | 0.43 | 0.47 | 0.43 |  |

Based on the table III.7the proportion of correct answer for item number 1 shows the proportion of correct 0.6 , item number 6 shows the proportion of correct 0.6 , item number 12 showsthe proportion of correct 0.57 , item number 16 shows the proportion of correct 0.53 , item number 23 shows the proportion of correct 0.57 . Based on the standard level of difficulty " p " $<0.30$ and $>0.70$, it is pointed out that item difficulties in average of each items number for finding out the main idea are accepted.

Table III. 8
The Students' Ability To Identify Locating Meaning of Vocabulary In Report Text

| Variable | Identify Locating Meaning of Vocabulary <br> In Report Text |  |  |  |  | $\mathbf{N}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Item no. | 3 | 8 | 13 | 17 | 22 | 30 |
| Correct | 13 | 15 | 16 | 16 | 17 |  |
| P | 0.43 | 0.5 | 0.53 | 0.53 | 0.57 |  |
| Q | 0.57 | 0.5 | 0.47 | 0.47 | 0.43 |  |

Based on the table III.8the proportion of correct answer for item number 3 shows the proportion of correct 0.43 , item number 8 shows the proportion of correct 0.5 , item number 13 showsthe proportion of correct 0.53 , item number 17 shows the proportion of correct 0.53 , item number 22 shows the proportion of correct 0.57 . Based on the standard level of difficulty " p " $<0.30$ and $>0.70$, it is pointed out that item difficulties in average of each items number for finding out the main idea are accepted.

Table III. 9
The Students' Ability To Identify Reference In Report Text

| Variable | Identify Reference In Report Text |  |  |  |  | N |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Item no. | 4 | 9 | 14 | 18 | 24 |  |
| Correct | 17 | 15 | 16 | 18 | 15 |  |
| P | 0.57 | 0.5 | 0.53 | 0.6 | 0.5 |  |
| Q | 0.43 | 0.5 | 0.47 | 0.4 | 0.5 |  |

Based on the table III. 9 the proportion of correct answer for item number 4 shows the proportion of correct 0.57 , item number 9 shows the proportion of correct 0.5 , item number 14 showsthe proportion of correct 0.53 , item number 18 shows the proportion of correct 0.6 , item number 24 shows the proportion of correct 0.5 . Based on the standard level of difficulty " p " $<0.30$ and $>0.70$, it is pointed out that item difficulties in average of each items number for finding out the main idea are accepted.

Table III. 10
The Students' Ability To Identify Making Inreference In Report Text

| Variable | Identify Making Inreference In Report Text |  |  |  |  | N |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Item no. | 5 | 10 | 15 | 20 | 25 |  |
| Correct | 13 | 17 | 16 | 18 | 17 |  |
| P | 0.43 | 0.57 | 0.53 | 0.6 | 0.57 |  |
| Q | 0.57 | 0.43 | 0.47 | 0.4 | 0.43 |  |

Based on the table III.10the proportion of correct answer for item number 5 shows the proportion of correct 0.43 , item number 10 shows the proportion of correct 0.57 , item number 15 shows the proportion of correct 0.53 , item number 20 shows the proportion of correct 0.6 , item number 25 shows the proportion of correct 0.57 . Based on the standard level of difficulty " p " $<0.30$ and $>0.70$, it is pointed out that item difficulties in average of each items number for finding out the main idea are accepted.

Table III. 11
The Standard Validity of the Test

| No. | The Standard Validity $\left(\mathbf{r}_{\mathrm{xy}}\right)$ | Category / Status |
| :---: | :---: | :---: |
| 1 | $0.00-<0.20$ | Very Low |
| 2 | $\geq 0.20-<0.40$ | Low |
| 3 | $\geq 0.40-<0.70$ | Fair |
| 4 | $\geq 0.70-<0.90$ | High |
| 5 | $\geq 0.90-\geq 1.00$ | Very High |

## 3. Reliability

According to H. Douglas Brown (2003, p.19), that reliability has to do with accuracy of measurement. This kind of accuracy will be reflected in obtaining similar results when measurement will be repeated on different occasions or with different instruments or by different persons. The characteristic of reliability will be sometimes termed consistency. Meaning that, we can say the test was reliable when an examinee's results were consistent on repeated measurement.

To obtain the reliability of the test, it must be known the Mean and Standard Deviation of test. Validity in general refers to appropriateness of a given test or any of its component parts as measure of what it was purposed to measure. It means the test will be valid to the extent that was measured what it will be supposed to measure.

The reliability is a criterion that can judge the quality of the test. Reliability is a necessary characteristic of any good test. Heaton (1988:159) explains that reliability is primary importance in the use of both public achievement and proficiency test and classroom test. Scott and Steven (2005: 279) say that Reliability is usually measured with four techniques: (a). test - retest reliability, (b). equivalent form reliability, (c). internal consistency, and (d). interrater reliability.

There are some factors affecting the reliability of a test, they are:
a. The extent of the sample of material of material selecting for testing.
b. The administration of the test, clearly this is an important factor in deciding reliability.

Then, Tinambunan in Dian Mujarokhim (2011:37) stated that the reliability for good classroom achievement tests are expected to exceed 0.0 and closed 1.00 . He state that reliability of test is considered as follows:

1. $0.00-0.20$ : Reliability
2. 0.21-0.40 : Reliability is sufficient
3. $0.41-0.70$ : Reliability is high
4. $0.71-1.00:$ Reliability is very high

## G. Technique of Data Analysis

In analyzing that data, the writer was used the statistical calculation of independent sample T-test formula. The independent sample T-test was be used to find out the significant difference of students' reading comprehension by using 3-2-1 strategy.

The data was be analyzed by used SPSS 16. In order to find out the result of the students who are taught by using and without using 3-2-1 strategy. In order to get magnitude the effect size of the two variables (post test scores of experimental and control group).

Statistically the hypothesis is:
$\mathrm{H}_{\mathrm{a}}: \mathrm{t}_{\mathrm{o}}>\mathrm{t}$-table
$\mathrm{H}_{\mathrm{o}}$ : $\mathrm{t}_{0}<\mathrm{t}$-table
a. $\mathrm{Ho}_{1}$ is accepted if $\mathrm{t}_{0}<\mathrm{t}$-table, there is no significant difference of students' reading comprehension by using and without using 3-2-1 strategy at State Senior High School 1 Kampar, Regency.
b. $\mathrm{Ha}_{1}$ is accepted if $\mathrm{t}_{0}>\mathrm{t}$-table, there is a significant difference of students' reading comprehension taught by using and without using 3-2-1 strategy at State Senior High School 1 Kampar, Regency .
c. $\mathrm{Ho}_{2}$ is accepted if $\mathrm{t}_{\mathrm{o}}<\mathrm{t}$-table, there is no significant effect of teaching English using 3-2-1 strategy on students' reading comprehension at State Senior High School 1 Kampar, Regency.
d. $\mathrm{Ha}_{2}$ is accepted if $\mathrm{t}_{0}>\mathrm{t}$-table, there is a significant effect of teaching English using 3-2-1 strategy on students' reading comprehension at State Senior High School 1 Kamapar, Regency.

