## CHAPTER III

## RESEARCH METHODOLOGY

## A. Method of the Research

In conducting this research, the researcher used the experimental research. It is to test an idea (or practice or procedure), to determine whether it influences an outcome or dependent variable (Creswell, 2012, P. 295). In this case, the researcher practiced Power Notes strategy to know whether it influenced dependent variable or not. Quasi-Experimental design was used in this research. The type used was non-equivalent control group design. It was used to know the significant difference of using Power Notes Strategy on students' reading comprehension of narrative text.

This research consisted of two variables. Independent variable ( X ) was Power Notes Strategy and dependent variable (Y) was students' reading comprehension of narrative text. The design from this research was using experimental class and control class, in which experiment class was given treatment by using Power Notes strategy, and control class was treated without using Power notes strategy. Both of classes provided with the same tests, those were pre-test and post-test. The scores were compared to determine the effect of the treatment. This research was conducted during 8 meetings.

When conducting this research, two classes of the first grade students at State Senior High School 12 Pekanbaru were participated. First class was experimental class treated by using Power Notes Strategy, and the second class was control class treated without using Power Notes Strategy. In brief, the research was designed in the following table:

## Table III. 1 Research Design

| Class | Pre-test | Treatment | Post-test |
| :--- | :---: | :---: | :---: |
| Experiment | $\mathrm{O}_{1}$ | $\mathbf{X}$ | $\mathbf{O}_{2}$ |
| Control | $\mathrm{O}_{3}$ |  | $\mathbf{O}_{4}$ |

Where:
$O_{1}$ : The students' reading comprehension before treatment of experimental class
$O_{2}$ : The students' reading comprehension after treatment of experimental class
$X \quad$ : Teaching reading by using Power Notes Strategy
$O_{3}$ : The students' reading comprehension before treatment of control class
$O_{4}$ : The students' reading comprehension after treatment of control class
After giving particular treatment to the experimental group by using
Power Notes Strategy, the scores between experimental and control groups were analyzed by statistical analysis. It aimed at knowing whether there was or not the significant effect of using Power Notes Strategy on students' reading comprehension of narrative text.

## B. Time and Location of the Research

The research was conducted from September to October 2016. The location of this research was at State Senior High School 12 Pekanbaru. It is located at street Garuda Sakti KM 3.

## C. Subject and Object of the Research

## 1. Subject of the Research

The subject of the research was the tenth grade students of State Senior High School 12 Pekanbaru in 2016/2017 academic year.

## 2. Object of the Research

The object of the research was the effect of using Power Notes strategy to improve students' reading comprehension of narrative text.

## D. Population and Sample

## 1. The population

The population of this research was the tenth grade students of State Senior High School 12 Pekanbaru in 2016/2017 academic year. There were ten classes. The total number of the tenth grade students of State Senior High School 12 Pekanbaru was 317 students.

Table III. 2
Total Population of the First Year Students at State Senior High School 12 Pekanbaru

| No. | Classes | Total Students |
| :---: | :---: | :---: |
| 1. | X IPA 1 | 31 |
| 2. | X IPA 2 | 30 |
| 3. | X IPA 3 | 32 |
| 4. | X IPA 4 | 30 |
| 5. | X IPA 5 | 30 |
| 6. | X IPS 1 | 32 |
| 7. | X IPS 2 | 34 |
| 8. | X IPS 3 | 33 |
| 9. | X IPS 4 | 32 |
| 10. | X IPS 5 | 33 |
|  | Total | 317 |

## 2. Sample of the Research

Since the number of total population was quite large, the researcher used cluster random selection, because the students were already formed into classes. Cluster random selection in procedure where
entire groups and not individuals are randomly selected (Gay and Airasian, 2010, P. 135).

In this research, the researcher took two classes from total population of ten. They were X IPA 4 and X IPA 5. Class X IPA 5 (30 students) was experimental group, and class X IPA 4 (30 students) was control group. So, the total of sample was 60 students.

The specification of the research sample can be seen in the table below:

Table III. 3
The Sample of the Research

| No. | Classes | Population |  | Total |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Male | Female |  |
| 1. | X IPA 4 | 12 | 18 | 30 |
| 2. | X IPA 5 | 15 | 15 | 30 |
| TOTAL |  |  | 60 |  |

## E. Technique of Data Collection

To collect the data of variable Y , the researcher used tests. It was used to find the significant difference of using Power Notes strategy in improving students' reading comprehension of narrative text. The test was done by giving students a passage that contained narrative text and answered the questions. The kind of the test was multiple choices, in which Brown (2003, P. 194) said multiple choice is easy to administer and can be scored quickly. The test consisted of 25 items. Every item of the test was multiplied 4. Therefore, the total score is 100 if the students can answer all the items correctly.

The tests were pre-test and post-test in each group. The pre-test was given at the first meeting to measure students' reading comprehension of narrative text. And post-test was given at the last meeting to know students' reading comprehension after giving treatment.

Table III. 4 Blue Print of Test (try out)

| No. | Indicators | Questions Number |
| :---: | :--- | :---: |
| 1. | Identifying generic structure | $4,6,11,16,22$ |
| 2. | Identifying main idea | $5,7,13,18,25$ |
| 3. | Finding detail information | $1,10,12,17,24$ |
| 4. | Making inference from reading text | $3,9,14,19,21$ |
| 5. | Finding the meaning of vocabulary in context | $2,8,15,20,23$ |
| Total |  | 25 Items |

After the researcher had tried out the test, the researcher could make the pre and post-test by omitting the items invalid. The blue print of reading comprehension after the test was tried out could be seen in the table below:

Table III. 5
Blue Print of Reading Comprehension (Pre and Post-Test)

| No. | Indicators | Question <br> Number <br> (Pre-Test) | Question <br> Number <br> (Post-Test) |
| :---: | :--- | :--- | :---: |
| 1. | The students are able to identify <br> generic structure. | $4,6,11,16,22$ | $3,9,15,20,24$ |
| 2. | The students are able to identify <br> main idea. | $5,7,13,17,25$ | $5,6,14,16,25$ |
| 3. | The students are able to find detail <br> information. | $1,10,12,18,24$ | $2,10,12,19,23$ |
| 4. | The students are able to make <br> inference from reading text. | $3,9,14,19,21$ | $4,8,13,18,21$ |
| 5. | The students are able to find <br> vocabulary in context. | $2,8,15,20,23$ | $1,7,11,17,22$ |
|  | Total | 25 Items | 25 Items |

Then, the researcher gave the test twice, before and after the treatment intended to obtain the students' reading comprehension of the tenth grade studens at Senior High School 12 Pekanbaru.

## F. Validity and Reliability

## 1. 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 intended to measure. In the test, the researcher used content validity, in which it was used to measure the ability which should be measured (Hughes, 189, P. 26). In this case, the test should be only based on the material that students have learned.

The test given to the students should be balance. It means that the test is not too easy and is not too difficult. Item difficulty is determined as the proportion of correct responses. This is held pertinent to the index difficulty, in which it is generally expressed as the percentage of the students who answer the questions correctly. The formula for item difficulty is as follows:

It is calculated by using the formula:

$$
\mathrm{FV}=\frac{\mathrm{R}}{N}
$$

Where:
FV = Facility Value (Difficulty level)
R = the number of correct answers
$\mathrm{N} \quad=$ the number of students

The formula above was used to find out the difficulties of each item test that researcher gave to the respondents. The items that do not reach the standard level of difficulty are excluding from the test and they are changed with the new items that are appropriate. The items are accepted with facility values between 0.30 and 0.70 . It is rejected if the level of difficulty is below 0.30 (difficult) and over 0.70 (easy). Then, the proportion is represented by P , whereas the proportion incorrect is represented by Q .

Table III. 6
The Students’ Ability to Identify Generic Structure

| Variable | Identifying Generic Structure |  |  |  |  | $\mathbf{N}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Item No. | 4 | 6 | 11 | 16 | 22 |  |
| Correct | 17 | 13 | 14 | 13 | 15 | 30 |
| $\mathbf{P}$ | 0.57 | 0.43 | 0.47 | 0.43 | 0.50 |  |
| $\mathbf{Q}$ | 0.43 | 0.57 | 0.53 | 0.57 | 0.50 |  |

Based on the table III.6, it shows the proportion of correct answer. For item number 4 shows the proportion of correct 0.57 , item number 6 shows the proportion of correct 0.43 , item number 11 shows the proportion of correct 0.47 , item number 16 shows the proportion of correct 0.43 , and item number 22 shows the proportion of correct 0.50 ,. Based on the standard level of difficulty " p " $<0.30$ and $>0.70$, it was pointed out that item difficulties in average of each item number for identifying generic structure were accepted.

Table III. 7
Students' Ability to Identify Main Idea

| Variable | Identifying Main Idea |  |  |  |  | $\mathbf{N}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Item No. | 5 | 7 | 13 | 18 | 25 |  |
| Correct | 14 | 14 | 14 | 15 | 13 |  |
| $\mathbf{P}$ | 0.47 | 0.47 | 0.47 | 0.50 | 0.43 |  |
| $\mathbf{Q}$ | 0.53 | 0.53 | 0.53 | 0.50 | 0.57 |  |

Based on the table III.7, the proportion of correct answer for item number 5 shows the proportion of correct 0.47 , item number 7 shows the proportion of correct 0.47 , item number 13 shows the proportion of correct 0.47 , item number 18 shows the proportion of correct 0.50 , and item number 25 shows the proportion of correct 0.43 ,. Based on the standard level of difficulty " p " $<0.30$ and $>0.70$, it was pointed out that item difficulties in average of each item number for identifying language features were accepted.

Table III. 8
Students' Ability to Find Detail Information

| Variable | Finding Detail Information |  |  |  |  | N |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Item No. | 1 | 10 | 12 | 17 | 24 |  |
| Correct | 13 | 13 | 16 | 15 | 15 | 30 |
| P | 0.43 | 0.43 | 0.53 | 0.50 | 0.50 |  |
| Q | 0.57 | 0.57 | 0.47 | 0.50 | 0.50 |  |

Based on the table III.8, the proportion of correct answer for item number 1 shows the proportion of correct 0.43 , item number 10 shows the proportion of correct 0.43 , item number 12 shows the proportion of correct 0.53 , item number 17 shows the proportion of correct 0.50 , and item number 24 shows the proportion of correct 0.50 ,. Based on the standard level of difficulty " p " $<0.30$ and $>0.70$, it was pointed out that item
difficulties in average of each item number for finding detail information were accepted.

Table III. 9
Students' Ability to Make Inference from Reading Text

| Variable | Making Inference |  |  |  |  | $\mathbf{N}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Item No. | 3 | 9 | 14 | 19 | 21 |  |
| Correct | 15 | 16 | 15 | 15 | 13 | 30 |
| P | 0.50 | 0.53 | 0.50 | 0.50 | 0.43 |  |
| Q | 0.50 | 0.47 | 0.50 | 0.50 | 0.57 |  |

Based on the table III.9, the proportion of correct answer for item number 3 shows the proportion of correct 0.50 , item number 9 shows the proportion of correct 0.53 , item number 14 shows the proportion of correct 0.50 , item number 19 shows the proportion of correct 0.50 , and item number 21 shows the proportion of correct 0.43 ,. Based on the standard level of difficulty " p " $<0.30$ and $>0.70$, it was pointed out that item difficulties in average of each item number for making inference were accepted.

Table III. 10
Students' Ability to Find the Meaning of Vocabulary

| Variable | Finding The Meaning of Vocabulary |  |  |  |  | $\mathbf{N}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Item No. | 2 | 8 | 15 | 20 | 23 |  |
| Correct | 13 | 13 | 13 | 13 | 15 | 30 |
| P | 0.43 | 0.43 | 0.43 | 0.43 | 0.50 |  |
| Q | 0.57 | 0.57 | 0.57 | 0.57 | 0.50 |  |

Based on the table III.10, the proportion of correct answer for item number 2 shows the proportion of correct 0.43 , item number 8 shows the proportion of correct 0.43 , item number 15 shows the proportion of correct 0.43 , item number 20 shows the proportion of correct 0.43 , and item
number 23 shows the proportion of correct 0.50 ,. Based on the standard level of difficulty " p " $<0.30$ and $>0.70$, it was pointed out that item difficulties in average of each item number for finding the meaning of vocabulary were accepted.

## 2. Reliability

A test must first be reliable as measuring instrument. Reliability is a necessary characteristic of any good test. A test first must be reliable as a measuring instrument (Heaton, 1990, P. 162). Thus, the test of students' reading comprehension of narrative text should obtain the similar result of scores when the test is done more than once.

Heaton (1990) cited in Aulia (2016, P.38) states that the reliability of test is considered as follows:

| $0.00-0.20$ | : Reliability is low |
| :--- | :--- |
| $0.21-0.40$ | $:$ Reliability is sufficient |
| $0.41-0.70$ | : Reliability is high |
| $0.71-1.0$ | $:$ Reliability is very high |

Table III. 11 Case Processing Summary of Reliability

|  |  | N | $\%$ |
| :--- | :--- | ---: | ---: |
| Cases | Valid | 30 | 100.0 |
|  | Excluded $^{\mathrm{a}}$ | 0 | .0 |
|  | Total | 30 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

## Table III. 12 Reliability Statistics

| Cronbach's <br> Alpha | N of Items |
| ---: | ---: |
| .960 | 2 |

Based on the result above, 0.960 can be concluded that the reliability was very high.

## G. Technique of Data Analysis

## 1. Normality and Homogenity of the Test

Before analyzing the data by using t -test formula, the researcher had to find out the normality test of the data. The normal distribution of the data was computed by using SPSS 16 version. Sofyan S, (2013) states that the Kolmogrov-Smirnovtest is typically used to ensure that the data are normally distributed. The SPSS result for Kolmogrov-Smirnovtest would be interpreted as follows:
$p$-value (Sig.) $>0.05=$ the data are in normal distribution
$p$-value (Sig.) $<0.05=$ the data are not in normal distribution
Then, the researcher also had to find out the homogenity of the test. To analyze the homogenity was by comparing sig. In based on trimmed mean with 0.05 .

Analysis:
Sig.> 0.05 the data are homogenous
Sig. $<0.05$ the data are not homogenous

## 2. Analysis Data of Independent Sample T-test

In order to find out whether there is a significant effect on students' reading comprehension of narrative text between those who are taught by using Power Notes strategy and those who are taught without using Power Notes strategy, the researcher used post-test score of experimental class and control class, and the data were analyzed statistically. The data were analyzed by using T-test (independent sample t-test) and it was calculated by using software SPSS 16.0 version. The significant value was employed to see whether there is a significant effect of using Power Notes strategy on students' reading comprehension of narrative text.

The test consisted of 25 items and the score of each number was 4 . The category score in reading comprehension of narrative text could be classified as follows:

Table III. 13
The scale of Students' Reading Comprehension of Narrative Text

| No. | Categories | Score |
| :---: | :---: | :---: |
| 1 | Very Good | $80-100$ |
| 2 | Good | $66-79$ |
| 3 | Enough | $56-65$ |
| 4 | Less | $40-45$ |
| 5 | Fail | $30-39$ |

(Arikunto, 2012, P. 245)

Statistically the hypotheses were:
$\mathrm{H}_{\mathrm{a}}=\mathrm{t}_{\mathrm{o}}>\mathrm{t}$-table
$\mathrm{H}_{\mathrm{o}}=\mathrm{t}_{\mathrm{o}}<\mathrm{t}$-table

The researcher concludes that:

1. Ha is accepted if: $t_{0}>t$-table It means there is a significant effect on students' reading comprehension of narrative text between those who are taught by using Power Notes strategy and those who are taught without using Power Notes strategy.
2. Ho is accepted if: $t_{0}<t$-table It means there is no significant effect on students' reading comprehension of narrative text between those who are taught by using Power Notes strategy and those who are taught without using Power Notes strategy.
