## CHAPTER III <br> RESEARCH METHODOLOGY

## A. Method of the Research

This research was experimental research. According to Johana and others in Kumar Sight (2006:135) "Experiment is the proof of a hypothesis which seeks to make up two factors into a causal relationship through the study of contrasting situations which have been controlled in all factors the one of interest, the latter being either the hypothetical cause or the hypothetical effect." In addition, Creswell (2012:296) cites that experimental research is a quantitative research that requires the researcher to find out the significant effect between independent and dependent variable. The design of this research was pre-experimental design by using "one group pre- test and post- test design". Pre- Experimental design is also called One-Group Procedure, It consists of comparing the growth of a single group under two different sets of conditions-that is, of subjecting the group successively to an experimental and to a control factor for equivalent periods of time and then comparing the outcomes (Sight, 2006: 141). The writer applied the pre- and posttest design approach to this design. It was used to know if there was any significant effect of Drill Method on students' reading comprehension. Furthermore, Creswell (2012:298) mentions that the type of this research can be designed as follows:

## One- Group Pretest Posttest Design

| Group | Pre-test | Treatment | Post-test |
| :---: | :---: | :---: | :---: |
| Class | $\mathrm{O}_{1}$ | X | $\mathrm{O}_{2}$ |

Where:
X : Treatment
$\mathrm{O}_{1} \quad$ : Pre-test
$\mathrm{O}_{2}$ : Post-test

## B. Time and Location of Research

The research was conducted from March, 30 to May, 282016 of the tenth grade student at Darul Hikmah Islamic Boarding School Pekanbaru.

## C. The Subject And Object of the Research

## 1. The Subject of the Research

The subject of the research was the tenth grade students of Darul Hikmah Islamic Boarding School Pekanbaru, in the academic year of 2015/2016

## 2. The Object of the Research

The Object Of the research was Drill Method on students' reading comprehension in descriptive text.

## D. The Population and Sample of the Research

## 1. Population

The target of the population of this research was the tenth grade students at Darul Hikmah Islamic Boarding School Pekanbaru. They
consisted of seven classes, they were $\mathrm{X} 1, \mathrm{X} 2, \mathrm{X} 3, \mathrm{X} 4, \mathrm{X} 5, \mathrm{X} 6$, and X 7 . The number of the students was 198. The specification of the population can be seen on the table below:

Table III. 2
The Total Population of the Tenth Grade Students of Darul Hikmah Islamic Boarding School

| No | Class | Population |
| :---: | :---: | :---: |
| 1 | X1 | 28 students |
| 2 | X 2 | 29 students |
| 3 | X 3 | 28 students |
| 4 | X 4 | 25 students |
| 5 | X 5 | 27 students |
| 6 | X 6 | 25 students |
| 7 | Xotal | 25 students |
|  | $\mathbf{1 8 7}$ Students |  |

## 2. Sample

Considering the population of this research was large, thus, the writer should take the sample of the population of this research. Remembering the research design of this research was Pre -experimental design by using "one group pre- test and post-test design, so, in this research the writer took one class of the seven classes of the population. In this research, the writer used Purposive sampling, it was type of nonprobability sampling. Therefore, the writer took only one class from seven classes after doing observation because the school just gave one class as a
sample. The samples of this research were the students of $X^{1}$ which consisted of 28 students; all of them were female students.

Table III. 3
The Number of Sample of the Tenth Grade Students at Islamic Senior High School of Darel Hikmah Pekanbaru

| No | Class | Total |
| :---: | :---: | :---: |
| 1 | X 1 | 28 students |

## E. Technique of Data Collection

The most important thing in this research was collecting the data that could determine the result of the research. In order to get the data which were needed to support this research, the writer used the technique as follows:

1. Test

The data of variable Y in this research were collected by using tests (multiple choice test). Brown (2003: 194) states that test by using multiple choices is practicality. It is easy to administer and can be scored quickly. The test was used to know the score of students' reading comprehension. The score was classified as follows (Arikunto, 2009: 245)

Table III. 4
The Classification of Score

| NO | SCORES | CATEGORIES |
| :---: | :---: | :---: |
| 1 | $80-100$ | Very Good |
| 2 | $66-79$ | Good |
| 3 | $56-65$ | Enough |
| 4 | $40-55$ | Less |
| 5 | $0-39$ | Fail |

## a. Try out test

The writer gave the try out when she was doing his preliminary study. The try out was in the form of written test. The test consisted of 25 items in the form of multiple choice questions. The test was used to measure the basic students' reading comprehension.

## b. Pre-test

The writer gave the pre-test to the students in the first meeting. The pre-test was in written test form. The test consisted of 20 questions in form of multiple choice. The writer gave a lot of questions to the numbers of students individually and the students had to answer the question.
c. Post- Test

The last step, the writer gave the post-test after the treatment had been done by teaching reading by using Drill method.

## 2. Validity And Reliability Of The Test

Before giving the test to the sample of the research, the writer should consider the validity and reliability both of the tests. To obtain the validity and reliability of the test, the writer tried out the test to the students in try out form.

## a. Validity

According to Arthur Hugest (2003:06), "The test is said to be valid if it is measured accurately what is intended to measure. In this research, it is used to find out the difficult level or easy level of each
item. In this research, the writer used content validity. Furthermore, Hughes 1989:22) said that a test is said to have the content validity if its contents constitute a representative sample of the language skill, structure, etc, with which it is meant to be concerned. It means that the test given to the students was based on the material that they had learned. It was determined by finding the difficulty level of each item.

Item of difficulty was determining the proportion of correct responses. The formula of the item of difficulty as follows:

$$
P=\frac{B}{J S}
$$

Where:
P: Index of difficulty or facility value
B: The number of correct answers
JS: The number of examines or students taking the test (Arikunto, (2009:245).

The difficulty level of an item shows how easy or difficult a particular item in the test. The item that did not reach the standard level of difficulty was excluded from the test and changed with new item appropriate. The standard level of difficulty used is $<0.30$ and $>$ 0.70, (Arikunto, 2009: 210). It means that the item test that was accepted if the level of difficulty among $0.30-0.70$, and it was rejected if the level of difficulty was below 0.30 and over than 0.70 . Then, the proportion correct was represented by " p ", whereas the proportion incorrect will be represented by " $q$ ". It can be seen from the following tables:

Table III. 4
Identifying the main idea of the descriptive text

| Variable | identify the main idea of the text |  |  |  | N |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Item no. | 2 | 9 | 19 | 20 |  |
| Correct | 5 | 19 | 17 | 9 | 28 |
| P | 0.18 | 0.68 | 0.61 | 0.32 |  |
| Q | 0.82 | 0.32 | 0.39 | $\mathbf{0 . 6 8}$ |  |

Based on the table above, it was obtained the proportion of correct answers for test item number 2 was 0.18 , the proportion of correct answers for test item number 9 was 0.68 , the proportion of correct answers for test item number 19 was 0.61 , and the proportion of correct answers for test item number 20 was 0.32 . Then, based on the standard level of difficulty, the item number $2,9,19$, and 20 to identify the main idea of the text where " p " $<0.30$ and $>0.70$, it is pointed out that item number 2 was rejected because $<0.30$. And then the item number 9.19 , and 20 were accepted.

Table III. 5
Identifying the Generic Structure of the Text

| Variable | identify the generic structure of the text |  |  |  | N |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Item no. | 5 | 11 | 14 | 16 |  |  |
| Correct | 14 | 22 | 16 | 9 | 10 | 28 |
| P | 0.5 | 0.79 | 0.57 | 0.32 | 0.36 |  |
| Q | 0.5 | 0.21 | 0.43 | 0.68 | 0.64 |  |

From the table above, it was obtained the proportion of correct answers for test item number 5 was 0.5 , the proportion of correct answers for test item number 11 was 0.79 , the proportion of correct answers for test item number 14 was 0.57 , the proportion of correct
answers for test item number 16 was 0.32 , and the proportion of correct answers for test item number 24 was 0.36 . Based on the standard level of difficulty, the item number $5,11,14,16$, and 24 to identify the generic structure of the text where " p " $<0.30$ and $>0.70$, it is pointed out that item number 11 was rejected because $>0.70$. And then the item number 5, 14, 16 and 24 were accepted.

Table III. 6
Finding out the Specific Information of the Text

| Variable | Identify the main idea of the text |  |  |  |  | N |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Item no. | 3 | 7 | 8 | 12 | 23 |  |
| Correct | 19 | 9 | 13 | 21 | 17 | 28 |
| P | 0.68 | 0.32 | 0.46 | 0.75 | 0.61 | 28 |
| Q | 0.32 | 0.68 | 0.54 | 0.25 | 0.39 |  |

From the table above, it was obtained the proportion of correct answers for test item number 3 was 0.63 , the proportion of correct answers for test item number 7 was 0.32 , the proportion of correct answers for test item number 8 was 0.46 , the proportion of correct answers for test item number 12 was 0.75 and the proportion of correct answers for test item number 23 was 0.61 . So, based on the standard level of difficulty, the item number 3, 7, 8, 12, and 23 to find out the specific information of the text where " p " $<0.30$ and $>0.70$, it is pointed out that item number 12 was rejected because $>0.70$. And then the item number 3, 7,8 and 23 were accepted.

Table III. 7 Identifying language feature of the text

| Variable | Identify the main idea of the text |  |  |  |  |  | N |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Item no. | 4 | 10 | 13 | 17 | 21 | 25 | 28 |
| Correct | 16 | 19 | 16 | 6 | 15 | 12 |  |
| P | 0.57 | 0.68 | 0.57 | 0.21 | 0.54 | 0.43 |  |
| Q | 0.43 | 0.32 | 0.43 | 0.79 | 0.46 | 0.57 |  |

Based the table above, it was obtained the proportion of correct answers for test item number 4 was 0.57 , the proportion of correct answers for test item number 10 was 0.68 , the proportion of correct answers for test item number 13 was 0.57 , the proportion of correct answers for test item number 17 was 0.21 , the proportion of the correct answer for item test number 21 was 0.54 , and the proportion of correct answers for test item number 25 was 0.43 . So, based on the standard level of difficulty, the item number $4,10,13,17,21$ and 25 to identify the language feature of the text where " p " $<0.30$ and $>0.70$, it is pointed out that item number 17 was rejected because $<0.30$. And then the item number $4,10,13,21$ and 25 were accepted.

Table III. 8
Identifying reference of the text

| Variable | Identify the main idea of the text |  |  |  |  | $\mathbf{N}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Item no. | $\mathbf{1}$ | $\mathbf{6}$ | 15 | $\mathbf{1 8}$ | $\mathbf{2 2}$ |  |
| Correct | 19 | 10 | 19 | 15 | $\mathbf{2 1}$ | $\mathbf{2 8}$ |
| P | $\mathbf{0 . 6 8}$ | $\mathbf{0 . 3 6}$ | $\mathbf{0 . 6 8}$ | $\mathbf{0 . 5 4}$ | $\mathbf{0 . 7 5}$ |  |
| Q | $\mathbf{0 . 3 2}$ | $\mathbf{0 . 6 4}$ | $\mathbf{0 . 3 2}$ | $\mathbf{0 . 4 6}$ | $\mathbf{0 . 2 5}$ |  |

Based the table above, it was obtained the proportion of correct answers for test item number 1 was 0.68 , the proportion of correct answers for test item number 6 was 0.36 , the proportion of correct answers for test item number 15 was 0.68 , the proportion of correct answers for test item number 18 was 0.57 , and the proportion of correct answers for test item number 22 was 0.75 . So, based on the standard level of difficulty, the item number $1,6,15,18$ and 222 to identify the reference of the text where " p " $<0.30$ and $>0.70$, it is pointed out that item number 22 was rejected because > 0.70. And then, the item number $1,6,15$, and 18 were accepted.

## b. Reliability of the Test

Reliability is a necessary characteristic of a good test. Brown said that "a reliable test is consistent and dependable". It means that the test should be similar when the tester gives the same test to the same respondent on two different occasions or in the other word is consistent. The reliability coefficients for good reading comprehension test were accepted to exceed 0.0 and closed 1.00.

According to Timbunan in Evi (2016:51) stated that the reliability of the test was considered as follows:

1. $0.0-0.20 \quad:$ Reliability is low
2. $0.21-0.40 \quad:$ Reliability is sufficient
3. $0.41-0.70 \quad:$ Reliability is high
4. $0.71-1.0 \quad:$ Reliability is very high

$$
r_{i}=\left(\frac{K}{K-1}\right)\left(\frac{S t^{2}-\sum p i q i}{S t^{2}}\right)
$$

Where:
$r_{i} \quad$ : Instrument reliability
$k \quad:$ Number of items
$s t^{2} \quad$ : Variance total (the square of standard deviation)
$p \quad$ : The proportion of the students who are correct in answering an item divided with the total number of the students
$q \quad: \quad$ The proportion of the students who are incorrect in answering an item divided with the total number of the students
$\sum$ piqi : The multiplication result between p and q

Firstly, the writer calculated the total variance:

$$
S t^{2}=\frac{x^{2}}{n}
$$

Where:
$n$ : Number of respondents

$$
\begin{aligned}
x^{2} & =\sum x t^{2}-\frac{\left(\sum x t\right)^{2}}{n} \\
& =5544-\frac{(368)^{2}}{28} \\
& =5544-\frac{135424}{28} \\
& =5544-4836,6 \\
& =707,4
\end{aligned}
$$

$$
s t^{2}=\frac{x^{2}}{n}
$$

$$
s t^{2}=\frac{707,4}{28}
$$

$$
=25,3
$$

$$
\begin{aligned}
& r i=\frac{k}{k-1}\left\{\frac{S_{t^{2}}-\sum p_{i} q_{i}}{S_{t^{2}}}\right\} \\
& r i=\frac{25}{(25-1)}\left\{\frac{25,3-5,28}{25,3}\right\} \\
& r i=\frac{25}{24}\left\{\frac{20}{25.3}\right\} \\
& r i=1.04 x 0.79 \\
& r i=0.82
\end{aligned}
$$

Based on the result above, it can be stated that the reliability of the try out test was "Very High".

## F. Technique of Analyzing Data

In order to get students individual score, the writer analyzed the data by using T-test formula in form of Paired or Dependent Sample T-Test. According to Gay (2000: 488), Paired or dependent sample T- test is used to compare a single group's performance on a pre- test and post-test in experimental class. Meanwhile, the writer analyzed the collected data by using statistic software SPSS Version 20. The result of the test analysis could be seen in SPSS output.

## 1. Normality of the Data

Before analyzing the data by using t -test formula. The writer had to find out the normality test of the data. Assessing normality of data was used to describe a symmetrical, bell shaped curve, which had the greatest frequency of score in the middle with smaller frequency towards the extremes. In this research, the writer has assessed the normality of data by using Kolmogorov-Simonov test from SPSS 20 version. The Kolmogorov-

Smirnov test is typically used to assess univariate normality (Abell, 2009:121). The result of the test can be seen as follows:

Table III. 9
Test of Normality

| Group | Kolmogorov-Smirnov ${ }^{\text {a }}$ |  |  | Shapiro-Wilk |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Statistic | Df | Sig. | Statistic | df | Sig. |
| 1 Pre Test | ,128 | 28 | ,200 | ,929 | 28 | ,059 |
| 2 Post test | ,152 | 28 | ,094 | ,931 | 28 | ,065 |

${ }^{*}$. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

According to Siregar (2013: 167) if probability (Sig) > 0.05, Ho is accepted. It means that the data are normal distribution. If probability (Sig) $<0.05$, Ha is accepted. Means that the distribution of data are not normal. Analysis:
$\mathrm{H}_{0}$ : population with normal distribution
$\mathrm{H}_{\mathrm{a}}$ population with not normal distribution
If the probability > $0.05 \mathrm{H}_{0}$ was accepted
If the probability $<0.05 \mathrm{H}_{0}$ was rejected
From the table above, the significance value of pretest shows "sig was $0.200>0.05$ " and the significance value of post-test shows "sig was $0.094>0.05$. It means $\mathrm{H}_{\mathrm{O}}$ was accepted. It can be concluded that the test distribution is normal.

## 2. Effect Size

According to Pallant (2005:199) effect size is the strength of the difference between groups or the influence of the 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

$$
\ell=\frac{t^{2}}{t 2+(N 1+N 2-2)}
$$

Where :
そ = eta squared
$\mathrm{t}^{2}=\mathrm{t}$ o
$\mathrm{N}_{1}=$ Number of students

