## CHAPTER III

## RESEARCH METHODOLOGY

## A. Research Design

This research was an experimental research. According to Creswell (2012:295), the experimental research is conducted when the researcher intends the possible cause and effect between independent variable (variable X) and dependent variable (variable Y). It consists of two variables, the first is the Point-Counterpoint Strategy as variable X and the second is the students' reading comprehension as variable Y. Because, the population of this research was large, the researcher used the quasiexperimental design. Creswell (2012:309) also states that quasi experimental design is in which the researcher assigns participants to groups but not randomly. In this research, quasi-experimental designs had experimental group and control group. There were two kinds of test; pretest and post-test. Pre-test was given before treatment and post-test was given in the last of treatment. The type of this research can be designed as follows (Cresswell, 2012:310), :

TABLE III. 1
The Research Design

| Group | Pre-test | Treatment | Post-test |
| :---: | :---: | :---: | :---: |
| Experimental | $\mathbf{X}_{1}$ | $\mathbf{T}$ | $\mathbf{Y}_{1}$ |
| Control | $\mathbf{X}_{2}$ | - | $\mathbf{Y}_{\mathbf{2}}$ |

Where:
$\mathbf{X}_{1} \quad=$ Pre-test of experimental group
$\mathbf{X}_{\mathbf{2}}$ = Pre-test of control group
$\mathbf{Y}_{1}=$ Post-test of experimental group
$\mathbf{Y}_{2}=$ Post-Test of control group
T = Treatment by using Point-Counterpoint Strategy.

## 1. Location and the time of the Research

The research was conducted at the eight grade students at SMP Negeri 10 Tapung Kampar Regency, Riau. This school is located on JL.Garuda Sakti KM 07 Kampar Regency. This research was done for 4 weeks, started from 25 April 2017 to 20 May 2017.

## 2. Subject and Object of the Research

The subject of this research was the eight grade students at SMP Negeri 10 Tapung Kampar Regency, while the object of this research was the effect of using Point-Counterpoint Strategy on students' reading comprehension at eight grade at SMP Negeri 10 Tapung Kampar Regency.

## 3. Population and Sample of the Research

## 1. Population of The Research

The population of this research was the eight grade students at SMP Negeri 10 Tapung in 2016/2017 academic year that is located at Kampar Regency. The total number of the eighth grade students of SMP Negeri 10 Tapung was 135 students. They were divided in to 6 classes.

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TABLE III. 2
Population of the Research

| No | Class | Number of Students |
| :---: | :--- | :---: |
| 1 | VIII A | 21 |
| 2 | VIII B | 21 |
| 3 | VIII C | 24 |
| 4 | VIII D | 24 |
| 5 | VIII E | 22 |
| 6 | VIII F | 23 |
| Total Population |  | 135 |

2. Sample of The Research

Sample is the amount of participants that is selected by the researcher to collect the data of research. According to Gay and Airasian (2010:123), cluster random sampling is the process of selecting a number of individuals for a study in such a way that they represent the larger group from which they were selected.

Cluster random sampling is most useful when the population is large on spread out over a wide geographic area. Based on the explanation above, to find the sample, the researcher used lottery by passing out small rolled paper marked by sequence name of the class. Then, after passing out the paper, the samples of this research were VIII.C as experimental class and VIII.D as control class. The sample of the research number was 48 students.

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TABLE III. 3 Sample of the Research

| No | Class | Student |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Male | Female | Total |
| 1 | VIII C | 13 | 11 | 24 |
| 2 | VIII D | 15 | 9 | 24 |
|  | Total Sample |  |  | 48 |

## 4. Technique of Collecting Data

In this research, the researcher used test to measure the students. The test was written test. The kind of test that the researcher used was multiple choices. The researcher used twenty (20) items to collect the data. Every multiple choice consisted of four answer options ( $a, b, c$ and $d$ ). Then, there were two tests that the researcher gave to the students as follows:

1. Pre-test

According to Creswell (2012:297), pre-test provides a measure on some attribute or characteristic that you assess for participants in an experiment before they receive a treatment.

Pre-test was given by the researcher to the students taught before using Point-Counterpoint strategy for experimental class and without using Point-Counterpoint strategy for control class. It was done at the first meeting.
2. Post-test

According to Creswell (2012:297), post-test is a measure on some attribute or characteristic that is assessed for participant in an experiment after the treatment

Post-test was given to the students after they were taught by using Point-counterpoint strategy for experimental class and without using Point-Counterpoint strategy for control class. It was used to know their reading comprehension of recount text by using Point-Counterpoint strategy.

TABLE III. 4
Blue Print of Reading Comprehension

| Number | Indicator of items | Number <br> of items | Items number |
| :---: | :--- | :---: | :---: |
| 1 | The students have an ability to <br> analyze the main ideas of the recount <br> text. | 4 | $1,6,11,16$, |
| 2 | The students have an ability to <br> identify the factual information of <br> the recount text | 4 | $2,7,12,17$, |
| 3 | The students have an ability to <br> identify the meaning of vocabulary <br> of the recount text | 4 | $3,8,13,18$, |
| 4 | The students have an ability to <br> identify the purpose of the recount <br> text. | 4 | $4,9,14,19$, |
| 5 | The students have an ability to <br> identify the generic structure of the <br> recount text. | 4 | $5,10,15,20$, |

After the students did the test, then the researcher took the total score from the result of the reading comprehension test. According to Arikunto (2009:245), the interpretation of the students' score is classified as follows:



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## 5. Validity and Reliability of the Test

## 1. Validity of the Test

According to Cohen (2007:105), validity is an important key to effective research. If a piece of research is invalid, then it is worthless. Validity is thus a requirement for a quantitative and qualitative /naturalistic research. Whilst earlier versions of validity were based on the view that it was essentially a demonstration that a particular instrument in fact measures what it purposes to measure. It means that to measure students' ability needs the validity.

Every test, whether it is a short, informal classroom test, or a public examination should be as valid as the test constructor can make it, the instrument of the test must aim at providing a true measure of the participation skill in which it is intended to measure. The instrument of the test is valid if the instrument used can measure the thing that will be measured. In this research, researcher used content validity to measure validity of the test before being given to the
students. Content validity is partly a matter of determining if the content that the instrument contains is an adequate sample of domain of content, it is supposed to represent. Content validity refers to the content and format of the instrument. How appropriate the content or format is. Thus, the writer gave the test based on the material that was studied by the students.

According to Hughes (1989:26), "a test said to be valid if it measures accurately what it is intended to measure: The purpose of try out was to obtain validity and reliability of the test. It was determined by finding the difficulty level of each item. Historically, validity was defined as the extent to which an instrument measured what it claimed to measure.

The test given to students was considered not too difficult or too easy, often showing the low reliability. Item difficulty was determined as the proportion of correct responses. This is held pertinent to the index difficulty; it was generally exppressed as the percentage of the students who answered the question correctly. According to Arikunto (2009:208), the formula of each item difficulty is as follows:

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

Note:
P: Index of difficulty of facility
B: the number of correct answer
JS: the number of examines or students



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The difficulty level of an item shows how easy or difficult a particular item in a test. The items that do not reach the standard level of difficulty are excluding from the test and they are changed with new items that are appropriate. The standard level of difficulty used is $<0.30$ and $>0.70$. It means that an item is accepted if the level of difficulty is between $0.30-0.70$, and it is rejected if the level of difficulty is less than 0.30 (the item is too difficult) and over than 0.70 (the item is too easy).

Table III. 6
The students'ability to identify the main idea of recount text

| Variable | Identifying the main idea |  |  |  | N |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Item no | 1 | 6 | 11 | 16 |  |
| Correct | 13 | 13 | 8 | 12 | 21 |
| P | 0.62 | 0.62 | 0.38 | 0.57 |  |
| Q | 0.38 | 0.38 | 0.62 | 0.43 |  |

Based on the table III.6, item number 1 shows the proportion of correct answer 0.62 , item number 6 shows the proportion of correct answer 0.62 , item number 11 shows the proportion of correct answer 0.38 . item number 16 shows the proportion of correct answer 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 item number for identifying the main idea are accepted.



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Table III. 7
The students'ability to identify factual information of recount text

| Variable | Identifying the factual information |  |  |  | N |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Item no | 2 | 7 | 12 | 17 |  |
| Correct | 11 | 14 | 7 | 12 | 21 |
| P | 0.52 | 0.67 | 0.33 | 0.57 |  |
| Q | 0.48 | 0.33 | 0.67 | 0.43 |  |

Based on the table III.7, item number 2 shows the proportion of correct answer 0.52 , item number 7 shows the proportion of correct answer 0.67 , item number 12 shows the proportion of correct answer 0.33 , item number 17 shows the proportion of correct answer 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 item number for factual information are accepted.

Table III. 8
The students'ability to identify meaning of vocabulary of recount text

| Variable | Identifying the meaning of word |  |  |  | N |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 3 | 8 | 13 | 18 |  |
| Correct | 12 | 14 | 10 | 12 | 21 |
| P | 0.57 | 0.67 | 0.48 | 0.57 |  |
| Q | 0.43 | 0.33 | 0.52 | 0.43 |  |

Based on the table III.8, item number 3 shows the proportion of correct answer 0.57 , item number 8 shows the proportion of correct answer 0.67 , item number 13 shows the proportion of correct answer 0.48 , item number 18 shows the proportion of correct answer 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 item number for identifying meaning of vocabulary are accepted.

Table III. 9
The students'ability to identify communicative purpose of recount text

|  | Identifying the communicative purpose |  |  |  | N |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Variable Item no | 4 | 9 | 14 | 19 |  |
| Correct | 12 | 8 | 8 | 8 | 21 |
| P | 0.57 | 0.38 | 0.38 | 0.38 |  |
| Q | 0.43 | 0.62 | 0.62 | 0.62 |  |

Based on the table III.9, item number 4 shows the proportion of correct answer 0.57, item number 9 shows the proportion of correct answer 0.38 , item number 14 shows the proportion of correct answer 0.38 , item number 19 shows the proportion of correct 0.38 . Based on the standard level of difficulty "p" $>0.30$ and $<0.70$, it is pointed out that item difficulties in average of each item number for identifying communicative purpose are accepted.

Table III. 10
The students'ability to identify generic structure of recount text

| Variable | Identifying the generic structure |  |  |  | N |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 5 | 10 | 15 | 20 |  |
| Correct | 14 | 14 | 11 | 12 | 21 |
| P | 0.67 | 0.67 | 0.52 | 0.57 |  |
| Q | 0.33 | 0.33 | 0.48 | 0.43 |  |

Based on the table III.10, item number 5 shows the proportion of correct answer 0.67, item number 10 shows the proportion of correct answer 0.67 , item number 15 shows the proportion of correct answer 0.52 , item number 20 shows the proportion of correct answer 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 item number for identifying generic structure are accepted.

## 2. Reliability

Reliability has to do with accuracy of measurement. This kind of accuracy is reflected in obtaining similar results when measurement is repeated on different occasions or with different instrument or by different persons.

Brown (2003:20) states that reliability has to do with accuracy of measurement. This kind of accuracy is reflected in obtaining similar result when measurement is repeated on different occasions or with different instrument of by different persons. The characteristic of reliability is sometimes termed consistently. It means that we can say the test is reliable when an examinee's results are consistent on repeated measurement or the reliability of a measuring instrument is the degree of consistency with which it measures whatever it is measuring.

According to Arikunto (2009:75), the following table is category of reliability test used in determining the level of reliability of the test.

Table III. 11
The Level of Reliability

| No. | Reliability | Level of Reliability |
| :---: | :---: | :---: |
| 1. | $0.0-0.200$ | Very Low |
| 2. | $0.21-0.400$ | Low |
| 3. | $0.41-0.600$ | Sufficient |
| 4. | $0.61-0.80$ | High |
| 5. | $0.81-1.00$ | Very High |

To obtain the reliability of the test given, the researcher used SPSS 23.00 to find out whether the test is reliable or not.

Table III. 12
Reliability Statistics

| Cronbach's <br> Alpha | N of Items |
| :---: | :---: |
| 0.638 | 2 |

From the table III. 12 above, it was found that the value of Cronbach's Alpha was 0.638 , from the level of reliability above, it can be said that reliability was accepted which was $0.61<0.638<0.80$ or higher than 0.61 and lower than 0.80 . it also can be stated that reliability was high.

## 6. The Homogeneity and Normality Test

## 1. The Homogeneity of the Test

Homogeneity test is a test to identify whether the objects of the research (there or more samples) have the same variance. The method



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used in homogeneity test is the biggest variant compared to smallest variance.

In this research, the researcher used SPSS 23 to assess the homogeneity of the data. The result of assessing the homogeneity can be seen as follows:

Table III. 13
Test of Homogeneity of Variances

| Statistic Levene | df1 | df2 | Sig. |
| :---: | :---: | :---: | :---: |
| 0.905 | 1 | 46 | 0.346 |

From the table, it is known that the value of significance (sig.) was 0.346 . Data are homogenous or variant when the value Sig. is higer than 0.05. Based on the table, it was clear that Sig. was higher than 0.05 which indicated the homogeneity of the data. The comparison can be stated as $0.346>0.05$.

## 2. Normality of the Test

Assessing normality of data is used to describe a symmetrical, bell shaped curve, which has the greatest frequency of score in the middle with smaller frequency towards the extremes. In this research, the researcher assessed the normality of data by using kolmogorovsmirnov test from SPSS (Statistical Product and Service Solutions) 23 version. The result of the test can be seen as follows:

Table III. 14

| Tests of Normality |  |  |  |
| :---: | :---: | :---: | :---: |
|  |  | Kolmogorov-Smirnov $^{\text {a }}$ |  |  |
| Post-test experiment | .166 | 24 | Sig. |
| Post-test control |  | Df | .088 |
|  | .171 | 24 | .068 |

a. Lilliefors Significance Correction

Based on the table above, it was obtained that the significance (Sig.) of post-test in experimental group was 0.08. Then, the significance (Sig.) of post-test in control group was 0.06 . The data of this research were normal. It was measured by using KolmogorovSmirnov table. It explains that the data are called normal if $>0.05$. So, the data gotten from this research were normal.

## 7. Technique of Data Analysis

In analyzing the data, the researcher used scorespost-test of experimental and control groups. This score was analyzed statistically. In this research, the researcher used these formulas:

## a. Independent sample t-test

According to Pallant (2010:239), an independent sample t-test was used when we want to compare the mean score on some continuous variable for two different groups of subject. Hartono (2015:177), said that to find out whether there is significant
difference or there is no significant difference between two or more variables can be analyzed by using Independent sample t-test. In this research, the researcher analyzed independent sample t-test by using SPSS 23 version.

The significant value was employed to see whether there is or not a significant difference among the mean scores both of experimental and control classes. Statistical hypothesis:
$\mathrm{H}_{\mathrm{a}}=$ sig. (2 tailed) $<0.05$
$\mathrm{H}_{0}=$ sig. $(2$ tailed $)>0.05$
$\mathrm{H}_{\mathrm{a}}$ is accepted if sig. (2 tailed) $<0.05$ or there is a significant difference between the students' reading comprehension of recount text taught by using and without using Point-Counterpoint strategy at SMP Negeri 10 Tapung.
$\mathrm{H}_{0}$ is accepted if sig. ( 2 tailed) $>0.05$ or there is no significant difference between the students' reading comprehension of recount text taught by using and without using Point-Counterpoint strategy at SMP Negeri 10 Tapung.

## b. Effect Size

After finding the difference, the researcher would find out the effect size of the phenomenon. Pallant (2010:242) stated that effect size statistics provides an indication of the megnitude of the differences between your groups (not just whether the difference could have occurred by chance).


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The effect size statistic used in this research was eta squared. This formula aims at looking the strengh (magnitude of the significant difference in the independent sample t -test analysis in order to categorize wether it will be large, moderate, and small magnitude). For t-test, SPSS does not provide eta squared values. The formula of eta squared is as follows:

$$
\eta^{2}=\frac{t^{2}}{t^{2}+\left(\mathrm{N}_{1}+\mathrm{N}_{2}-2\right)}
$$

Where:
$\eta^{2} \quad$ : Eta square
$t^{2} \quad: \mathrm{t}$ obtained $\left(\mathrm{t}_{\mathrm{o}}\right)$
$\mathrm{N} \quad$ : Number of students
In order to interprete eta squared values, the guideline quoted from Cohen (1988) in Julie Pallant (2010:243), can be read as follows:

Table III. 15
Interpretation of Eta Squared for Effect Size

| No | Value | Effect |
| :---: | :---: | :---: |
| 1. | 0.01 | Small Effect |
| 2. | 0.06 | Moderate Effect |
| 3. | 0.14 | Large Effect |

*Adapted from Cohen (1988)

