

CHAPTER III RESEARCH METHOD

A. Method of the Research Design

The design of this research is an experimental design. According to Gay and Airaisian (2000:367), experimental research is “the only type of the research that can test hypothesis to establish cause and effects relationship. Meanwhile, Gay also states that in experimental research is testing an idea (practice or procedure) to determine whether it influences an outcome or dependent variable. The method used in this research was quasi-experimental design that is pre-test and post-test non-equivalent control group design. Quasi-experimental design have experimental group and control group. The researcher compared two groups as the sample that are have assigned in term of their posttest score. The groups were experimental class and control class.

In this research, there are two variables. The first is independent variable and the second is dependent variable. Independent variable (variable X) refers to Text to Self, to Text, to World Strategy and dependent variable (variable Y) refers to reading comprehension. Pre-test was given before treatment and post-test was given in the last of treatment. This research used two classes as a sample. One class was an experimental class taught by using Text to Self, to Text, to World Strategy and the other class was a control class that was not treated by using Text to Self, to Text, to World Strategy. The design can be illustrated in the following table:

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Table III.1.
Quasi-Experimental Research Design

Group	Pre-test	Treatment	Post-test
Experimental	X_1	T	X_2
Control	Y_1	Θ	Y_2

Where:

- X_1 = Pre-test in experimental class
 Y_1 = Pre-test in control class
 T = Treatment by using Clustering Technique
 Θ = No treatment
 X_2 = Post-test in experimental class
 Y_2 = Post-test in control class

B. Procedure of the Implementation Research

The procedure of this research covered the following steps. Firstly, Pre implementation step where the researcher wrote research proposal and joined the examination. Next, the researcher used cluster random sampling to define experimental group and control group as sample of the research. The research was done in two classes, experimental class and control class, as sample. Before giving the pre-test to the sample, the researcher gave tryout to VIII² in order to find out whether the test was valid and reliable. This try-out was given twice. The researcher analyzed score of the first try-out test; there are some invalid items on the try-out answer sheet. So, the researcher changed invalid items of try-out. Then, the researcher did another try-out again. After the try-out was all valid, the researcher administered the pre-test to the students in both classes by using valid try-out of students' reading comprehension.

Secondly, in implementing step, the researcher gave treatment 6 times in experimental class, the treatment was given in April 4th, April 5th, April 25th, April

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26th, may 9th, and 10th 2017. In giving treatment the researcher applied Text to Self, to Text, to World Strategy. While in control class, the researcher did not do treatment. The presentation of the strategy was done by the researcher.

Thirdly, in post implementation step, the researcher gave post test to experimental class and control class. Next, the researcher scored the result of the students' post test to find out if the data were normal and homogenous or not. The researcher analyzed students' post-test score with data normal and homogeneous distribution of experimental and control class in order to know the students' better score of reading comprehension taught by Text to Self, to Text, to World strategy and taught without Text to Self, to Text, to World strategy. Thus, the researcher made a calculation of the result from both of the post-tests score students' reading comprehension by using independent T-test formula on software computer program SPSS 17 Version, to know the significant difference between using and without using Text to Self, to Text, to World strategy on students' reading comprehension. Finally, the researcher reported the data result on chapter IV and the conclusion on chapter V.

C. Location and Time of the Research

This research was carried out at Junior High School 9 Pekanbaru. The research had been conducted from April to May 2017.

D. Subject and Object of the Research

The subject of this research was the Eight grade students of Junior High School 9 Pekanbaru. The object of the research was using Text to Self, to Text, to World Strategy and reading comprehension.

E. Population and Sample of the research

a. Population

Population is an aggregate or totally number of all objects, subjects or members that conform to a set of specification. The population of this research was the eighth grade students at Junior High School 9 Pekanbaru. The total number of population was 303 students divided into nine classes. There were nine classes (VIII¹, VIII², VIII³, VIII⁴, VIII⁵, VIII⁶, VIII⁷, VIII⁸, and VIII⁹). The total number of the students can be seen in the table below:

Table III.2.
The Total Population of the Eight Grade Students
at Junior High School 9 Pekanbaru 2016-2017

No	Class	Students
1	VIII 1	34
2	VIII 2	32
3	VIII 3	35
4	VIII 4	32
5	VIII 5	32
6	VIII 6	34
7	VIII 7	33
8	VIII 8	35
9	VIII 9	36
	Total	303

b. Sample

Sample is a subject of a population selected to participate in the study, it is a fraction of the whole selected to participate in the research project. The researcher used cluster random sample because the population was very large and each class had similar characteristic. The researcher adopted from Gay's opinion (2000: 129), he said that cluster random sample selects groups, not individuals. All members of selected group have characteristics and this technique is most useful when the population is very large or spread out over a wide.

The process of selecting the sample by using cluster random sampling is as follows: *first*, the researcher provided some small papers for the group. Since the population consisted of 9 groups or classes, so the small papers provided must be 9 small papers. *Second*, the researcher wrote the name of groups or classes, in each small paper then rolled them. *Third*, the researcher put them into a glass or box and shuffled them. Then, the researcher took twice the small paper to determine two groups (control and experimental group). Therefore, the researcher took two classes, VIII² class and VIII⁴ class, and the total sample was 64 students.

Table III.3.
The Sample of the Research

No	Group	Class	Number of Students
1	Experimental Class	VIII ²	32
2	Control Class	VIII ⁴	32
			64 Students

F. Technique of the Data Collection

Collecting data is the most important one in order to support the research. In this research, the researcher used reading test to collect data. The test was given twice, the first pre-test and the last post-test. According to Richards (2002: 346), multiple choices is a test item in which the test taker presents with a question along with four or five possible answers from which one must be selected. The researcher provided twenty five multiple choice questions, there are four choices a, b, c, and d, the answer was adapted from text and the book of the eight grade students at Junior High School 9 Pekanbaru. The questions were based on the indicators of reading narrative text comprehension and recount text comprehension. The indicators consisted of five indicators and each of which has five questions. It can be seen from the blue print try-out and pre-post test below:

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Table III.4.
Blue Print of Reading Comprehension (Try-out)

No	Indicator of items	Number of items	Items number
1.	The students are able to find out the main idea of the narrative and recount text	5	1, 6, 11, 16, and 21
2.	The students are able to classify part of the paragraph from the narrative and recount text	5	2, 7, 12, 17, and 22
3.	The students are able to make inference the text they read	5	3, 8, 13, 18, and 23
4.	The students are able to make a judgments of moral character information of the text	5	4, 9, 14, 19, and 24
5.	The students are able to identify emotional or reaction responses of the text	5	5, 10, 15, 20, and 25
Total Number of Items		25 Items	

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

No	Indicator of items	Number of items	Items number in Pre-test	Items number in Post test
1.	The students are able to find out the main idea of the narrative and recount text	5	1, 6, 11, 16, and 21	5, 10, 15, 20, and 25
2.	The students are able to classify part of the paragraph from the narrative and recount text	5	2, 7, 12, 17, and 22	4, 9, 14, 19, and 24
3.	The students are able to make inference the text they read	5	3, 8, 13, 18, and 23	3, 8, 13, 18, and 23
4.	The students are able to make a judgments of moral character information of the text	5	4, 9, 14, 19, and 24	2, 7, 12, 17, and 22
5.	The students are able to identify emotional or reaction responses of the text	5	5, 10, 15, 20, and 25	1, 6, 11, 16, and 21
Total Number of Items		25 Items		

In this research, the researcher collected the data from students' answer distribution. It was collected by recapitulating students' answer. In multiple choice test, there were highest and lowest score for type of answer. This scoring was done by standardizing the students, answer with the key answer. Thus, the researcher used simple codes to present the answer of test-taker. It was done by writing down score. Score 1 present correct answer chosen by students, and 0

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presents wrong answers. If students chose correct answers, the researcher noted 1. And if the students are answering with wrong answer, the researcher noted it with number 0. The final score was analyzed by using mean score formula, as follows:

$$G = \frac{GS}{HS} \times 100$$

Where:

G = Grade

G_S = Gotten Score

H_S = the Highest Score

$$G = \frac{GS}{HS} \times 100$$

$$G = \frac{25}{25} \times 100$$

G = 100 the Total score

After the students did the test and the students got total score, the researcher can be interpreted by using classification of students' score. If the students got lower than the classification score, the students were in failure in the test. the classification of students' scores can be seen below (Brown, 2004: 287):

Table III.6.
The Classification of Students' Score

The Score Level	Category
80-100	Very Good
66-79	Good
56-65	Enough
40-55	Less
30-39	Fail

G. The Validity and the Reliability of the Instrument

1. Validity

The tests used to measure the students' comprehension in reading should be valid and reliable. The test can be valid if it measures accurately whether the test

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is appropriate, meaningful, and useful (Hughes, 2003: 26-27). In this research, the researcher used construct validity to know the validity of reading comprehension test. The tests were given based on material that they had learned. In validity of instrument of the test, it can be seen from the difficulties of the test. It means the test is not too easy or not too difficult.

Before the tests were given to the sample of this research, the tests were tried out to 32 students of the eighth grade (class VIII 2). The purpose of the try out was to obtain validity and reliability of the tests. It was determined by finding the difficulty level of each item. The formula of item difficulty is as follows:

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

Where: FV : Index of difficulty
 R : The number of correct answer
 N : The number of students

According to Arikunto (2009: 245), the standard level of difficulty used is \square 0.30 and \square 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 below 0.30 (the item is too difficult) and over 0.70 (the item is too easy). The proportion of correct is represented by “p”, whereas the proportion of incorrect is represented by “q”. The calculation of item difficulty could be seen from following tables:

Table III.7.
Students are able to find out the Main Idea of Narrative and Recount Text

Variable	Identify the main idea of narrative and recount text					N
Item No	1	6	11	16	21	32
Correct Item	18	18	18	19	18	
P	0.56	0.56	0.56	0.59	0.56	
Q	0.44	0.44	0.44	0.41	0.44	

$$P = \frac{B}{JS}$$

$$Q = 1.00 - P$$

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Based on the table III.7. above, it can be seen the portion of correct answer. For item number 1 shows 0.56, item number 6 shows 0.56, item number 11 shows 0.56, item number 16 shows 0.59, item number 21 shows 0.56. 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 finding main idea of the text are accepted.

Table III.8.
Students are able to Classify the Type Text of Narrative and Recount Text

Variable	Classify the type text of narrative and recount text					N
Item No	2	7	12	17	22	32
Correct Item	18	18	19	18	18	
P	0.56	0.56	0.59	0.56	0.56	
Q	0.44	0.44	0.41	0.44	0.44	

$$P = \frac{B}{JS}$$

$$Q = 1.00 - P$$

Based on the table III.8. above, it can be seen the portion of correct answer. Item number 2 shows 0.56, item number 7 shows 0.56, item number 12 shows 0.59, item number 17 shows 0.56, item number 22 shows 0.56. 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 classifying the type text of the text are accepted.

Table III.9.
Students are able to Make the Inference of Narrative and Recount Text

Variable	Make the inference of narrative and recount text					N
Item No	3	8	13	18	23	32
Correct Item	18	18	18	18	18	
P	0.56	0.56	0.56	0.56	0.56	
Q	0.44	0.44	0.44	0.44	0.44	

$$P = \frac{B}{JS}$$

$$Q = 1.00 - P$$

Based on the table III.9. above, it can be seen the portion of correct answer. Item number 3 shows 0.56, item number 8 shows 0.56, item number 13 shows

0.56, item number 18 shows 0.56, item number 23 shows 0.56. 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 make inference of the text.

Table III.10.
Students are able to Identify the Judgment of Moral Character

Variable	Identify the judgment of moral character in narrative and recount text					N
Item No	4	19	14	19	24	32
Correct Item	18	18	18	18	18	
P	0.56	0.56	0.56	0.56	0.56	
Q	0.44	0.44	0.44	0.44	0.44	

$$P = \frac{B}{JS}$$

$$Q = 1.00 - P$$

Based on the table III.10. above, it shows the portion of correct answer. Item number 4 shows 0.56, item number 9 shows 0.56, item number 14 shows 0.56, item number 19 shows the proportion of correct 0.56, item number 24 shows 0.56. 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 judgement of the moral character of the text are accepted.

Table III.11.
Students are able to Identify Emotional/Reaction Response

Variable	Identify the emotional response of narrative and recount text					N
Item No	5	10	15	20	25	32
Correct Item	19	19	18	18	18	
P	0.59	0.59	0.56	0.56	0.56	
Q	0.41	0.41	0.44	0.44	0.44	

$$P = \frac{B}{JS}$$

$$Q = 1.00 - P$$

Based on the table III.11. above, it can be seen the portion of correct answer. Item number 5 shows 0.59, item number 10 shows 0.59, item number 15 shows 0.56, item number 20 shows 0.56, item number 25 shows 0.56. 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 emotional response of narrative and recount text are accepted.

2. Reliability

Reliability is a necessary characteristic of any good test. Heaton (1988: 16) explains that reliability is of primary importance in the use of public achievement, proficiency and classroom test. The mean and standard deviation of the test must be known for obtaining the reliability of the test. To know the reliability of the test, to obtain the reliability of the test, the researcherr used KR 20 formula (Sugiyono, 2008:186) as follows:

$$KR\ 20: r_i = \frac{n}{(n-1)} \left\{ \frac{S^2 - \sum pq}{S^2} \right\}$$

Where:

- n : number of items in the instrument
- p : proportion of subject who answered the item correctly
- q : proportion of subject who answered the item wrong (1-p)
- $\sum pq$: the multiplication result between p and q
- S : variance

The reliability of the test can be seen as follows:

Firstly, the researcher calculated the total variance:

$$S_t^2 = \frac{\sum X_t^2}{n}$$

Where:

- n : number of respondents

$$\begin{aligned} \sum X_t^2 &= \sum X_t^2 - \frac{(\sum X_t)^2}{n} \\ &= 6786 - \frac{(454)^2}{32} \\ &= 6786 - \frac{206116}{32} \\ &= 6786 - 6441.12 \end{aligned}$$

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$$\begin{aligned}
 &= 344.88 \\
 St^2 &= \frac{Xt^2}{n} \\
 &= \frac{344.88}{32} \\
 &= 10.7 \\
 r_i &= \frac{n}{(n-1)} \left\{ \frac{St^2 - \sum p_i q_i}{St^2} \right\} \\
 &= \frac{25}{(25-1)} \left\{ \frac{10.7 - 6.14}{10.4} \right\} \\
 &= \frac{25}{(24)} \left\{ \frac{4.56}{10.7} \right\} \\
 &= 1.041 (0.42) \\
 &= \mathbf{0.43}
 \end{aligned}$$

The reliability coefficients for good identified kinds of structure text and reading comprehension test were expected to exceed 0.0 and closed 1.00.

Arikunto (2011:218) added that reliability of the text 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

0.71-1.00 = Reliability is very high

From the data above, the reliability of the test r_{11} was 0.42. It can also be stated that the reliability was **high**. So, it can be analyzed that the instrument is **reliable**.

H. Technique of The data Analysis

In analyzing the data, the researcher used pre-test and post-test scores of the experimental and control classes, the data were analyzed statistically. In this research, the researcher used T-tests formula (independent sample t-test) and it was calculated by using software computer program SPSS 17 Version.

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1. Normality and Homogeneity 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 normality test of the data was analyzed by using Kolmogorov-Smirnov technique with SPSS 17 version.

Analysis:

H_a : population with normal distribution

H_o : population with not normal distribution

If the probability > 0.05 H_o was accepted

If the probability < 0.05 H_o was rejected

Furthermore, the researcher assessed the homogeneity of data by using SPSS 17 version. The analysis of the homogeneous test can be seen as follows:

Analysis:

H_a : population with homogeneous distribution

H_o : population with not homogeneous distribution

If the probability > 0.05 H_o was accepted

If the probability < 0.05 H_o was rejected

2. Analysis Data of Independent Sample T-test

In analyzing the data, the researcher used the score of pre-test and post-test of the students from both of experimental and control classes. In order to find out whether there was or not a significant difference of using text to self, to text, to world strategy on students' reading comprehension in recount and narrative text, the data were analyzed by using independent sample t-test formula. In taking the conclusion, the researcher concluded by comparing t-observe with t-table.

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Analysis:

H_0 : $t\text{-observed} < \text{Probability value}$

H_a : $t\text{-observed} > \text{Probability value}$

a. H_0 is accepted if $t_0 \leq$ probability value or it can be said that there is no significant effect of using Text to Self, to Text, to World Strategy on reading comprehension of the eight grade students at Junior High School 9 Pekanbaru.

b. H_a is accepted if $t_0 \geq$ probability value or it can be said that there is significant effect of using Text to Self, to Text, to World Strategy on reading comprehension of the eight grade students at Junior High School 9 Pekanbaru.

According to Pallant (2010:210), the guidelines for interpreting the value of Eta square formula are as follows:

**Table III.12.
Effect Size Guidelines**

0.01= Small Effect
0.06= Moderate Effect
0.14 = Large Effect

Where: t : value of t table

N_1 : number of students of first group

N_2 : number of students of second group