

CHAPTER III
RESEARCH METHOD

A. Research Design

The type of this research is quasi experimental research. According to Gay and Airasian (2010) “experimental research is the only type of the research that can test hypotheses to establish cause and effect relationship” (p. 367). Then, Cresswell (2008) states that experiment is we test an idea (or practice or procedure) to determine whether it influences an outcome or dependent variable. (p. 295)

This research conducted by using pre-test and post-test. There were two variables in this research, the first is Paired Reading strategy as independent variable (x variable), the second is reading comprehension in narrative text as the dependent variable (y variable). There were two classes in this research; control and experimental classes. The treatment was given to experimental class by using Paired Reading strategy. The design can be seen in the following table:

Table 2
Table of Research Design

Group	Pre-test	Treatment	Post-test
Experimental	X1	T	Y1
Control	X2	-	Y2

Where: X1 : Pre-test in experimental group
 X2 : Pre-test in control group
 Y1 : Post-test in experimental group
 Y2 : Post-test in control group
 T : Treatment

B. Subject and Object of the Research

1. The subject of this research was the eleventh grade at Azzuhra Islamic School Pekanbaru.
2. The object of the research was the effect of using Paired Reading strategy on students' reading comprehension in narrative text at Azzuhra Islamic School Pekanbaru.

C. Location and Time of the Research

This research was done from Agustus to Oktober 2017 and the location of the research was at Azzuhra Islamic School Pekanbaru.

D. The Population and Sample of the Research

1. Population

The population of this research was the eleventh grade of Azzuhra Islamic School Pekanbaru that consist of 4 classes. There were 118 students of the eleventh grade Azzuhra Islamic School Pekanbaru. The specification of the population can be seen on the table below:

Table 3
The Total Population of the Eleventh Grade Students at Azzuhra Islamic School

No	Class	Population
1	XI IPA 1	30 students
2	XI IPA 2	30 students
3	XI IPS 1	28 students
4	XI IPS 2	30 students
	Total	118

2. Sample

Considering that this population of the research was very large, thus the writer should take some sample of the population of the research. In this research, the researcher used cluster random sampling technique. According to Gay and Airasian (2010) “cluster random sampling technique 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” (p. 123). Cluster random sampling technique is most useful when the populations are very large or spread out over a wide geographic area. So, the writer will use cluster random sampling in choosing the sample. Cluster random sampling selects groups, not individuals.

Based on the explanation above, to find out the sample, the researcher uses lottery by passing out small rolled paper marked by sequence name of the class, they are XI IPA¹, XI IPA², XI IPS¹, XI IPS². Then after passing out the paper, the samples of this research are XI IPA¹ as experiment class and XI

IPA² as control class. The specification of the sample can be seen on the table below:

Table III. 3
The Total Sample of the Eleventh Grade Students at Azzuhra Islamic School Pekanbaru

No.	Class	Number of Students
1.	XI IPA ¹	30
2.	XI IPA ²	30
	Total	60

E. The Technique of Collecting Data

The most important thing in this research is collecting the data that can determine the result of the research. In order to get the data which were needed to support this research, the researcher used the technique as follow:

1. Test

The data of variable Y in this research were collected by using tests (multiple choices test). Brown (2003) states that test by using multiple choices is practicality. (p.94) It is easy to administer and can be scored quickly. The test is used to know the score of students' reading comprehension. The score was clasified as follows (Arikunto, 2009, p. 245)

Table 5
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 researcher gave the try out when she was doing his preliminary study. The try out is in the form of written test. The test consists of 20 items in the form of multiple choice questions. The test used to measure basic students' reading comprehension.

b. Pre-test

The writer gave the pre-test to the students in the first meeting. The pretest is in written test form. The test consists of 20 questions in form of multiple choice. The writer gives a lot of question to the numbers of students individually and the students have to answer the question.

c. Post- Test

The last step, the writer gives the post-test after treatment had been done by teaching reading by using Paired Reading Strategy.

2. Validity And Reliability of The Test

Before giving the test to the sample of the research, the researcher should consider the validity and reliability both of the test. 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) "The test is said to be valid if it is measure accurately what is intended to measure. In this research, it is used to find out the difficult level or easy level of each items" (p. 106). In

this research the writer use content validity. Furthermore, Hughes (1989) said that a test is said to have content validity if its content constitutes 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. (p. 22)

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

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

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, p. 245).

The difficulty level of an item shows how easy or difficult a particular item in the test. The item that do not reach the standard level of difficulty will be excluded from the test and change with new item that is appropriate. The standard level of difficulty used is <0.30 and > 0.70,(Arikunto, 2009, p. 210). It means that the item test that will be accepted if the level of difficulty among 0.30- 0.70, and it will be rejected

if the level of difficulty is below 0.30 and over than 0.70. Then, the proportion correct will be represented by “p”, whereas the proportion incorrect will be represented by “q”. it can be seen in the following tables:

Table 6
Finding Meaning of Unfamiliar Word (Vocabulary) of The Text

Variable	Finding Meaning of Unfamiliar Word (Vocabulary) of The Text				N
	3	8	13	20	
Item no.	3	8	13	20	
Correct	19	19	10	12	28
P	0,68	0,68	0,36	0,43	
Q	0,32	0,32	0,64	0,57	

Based on the table above, it was obtained the proportion of correct answers for test item number 3 was 0.68, the proportion of correct answers for test item number 8 was 0.68, the proportion of correct answers for test item number 13 was 0.36, and the proportion of correct answers for test item number 20 was 0.43. Then, based on the standard level of difficulty, the item number 3, 8. 13 and 20 to find meaning of unfamiliar word of the text where “ p “ < 0.30 and > 0.70 were accepted.

Table 7
Identifying Topic of The Text

Variable	Identifying Topic of The Text				N
	1	6	11	16	
Item no.	1	6	11	16	
Correct	19	9	16	9	28
P	0,68	0,32	0,57	0,32	
Q	0,32	0,68	0,43	0,68	

Based on 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 0.32, the proportion of correct

answers for test item number 11 was 0.57, and the proportion of correct answers for test item number 16 was 0.32. Then, based on the standard level of difficulty, the item number 1, 6, 11 and 16 to identify topic of the text where “ $p < 0.30$ and > 0.70 ” were accepted.

Table 8
Identifying Generic Structure of The Text

Variable	Identifying Generic Structure of The Text				N
Item no.	2	7	12	19	
Correct	19	13	19	10	28
P	0,68	0,46	0,68	0,36	
Q	0,32	0,54	0,32	0,64	

Based on the table above, it was obtained the proportion of correct answers for test item number 2 was 0.68, the proportion of correct answers for test item number 7 was 0.46, the proportion of correct answers for test item number 12 was 0.68, and the proportion of correct answers for test item number 19 was 0.36. Then, based on the standard level of difficulty, the item number 2, 7, 12 and 19 to identify generic structure of the text where “ $p < 0.30$ and > 0.70 ” were accepted.

Table 9
Identifying Reference of The Text

Variable	Identifying Reference of The Text				N
Item no.	5	10	15	17	
Correct	10	16	17	15	28
P	0,36	0,57	0,61	0,54	
Q	0,64	0,43	0,39	0,46	

Based on the table above, it was obtained the proportion of correct answers for test item number 5 was 0.36, the proportion of correct

answers for test item number 10 was 0.57, the proportion of correct answers for test item number 15 was 0.61, and the proportion of correct answers for test item number 17 was 0.54. Then, based on the standard level of difficulty, the item number 5, 10, 15 and 17 to identify reference of the text where “ $p < 0.30$ and > 0.70 ” were accepted.

Table 10
Identifying Inference of The Text

Variable	identify the main idea of the text				N
Item no.	4	9	14	18	
Correct	14	19	15	17	28
P	0,5	0,68	0,54	0,61	
Q	0,5	0,32	0,46	0,39	

Based on the table above, it was obtained the proportion of correct answers for test item number 4 was 0.5, the proportion of correct answers for test item number 9 was 0.68, the proportion of correct answers for test item number 14 was 0.54, and the proportion of correct answers for test item number 18 was 0.61. Then, based on the standard level of difficulty, the item number 4, 9, 14 and 18 to identify generic structure of the text where “ $p < 0.30$ and > 0.70 ” 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 give 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 Ale (2016) “the reliability of test was considered as follows” (p. 53):

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

To obtain the reliability of the test, the writer use KR 20 formula (Sugiyono, 2008:186) as follows:

$$r_i = \left(\frac{K}{K-1} \right) \left(\frac{St^2 - \sum p_i q_i}{St^2} \right)$$

Where:

- r_i : Instrument reliability
 k : Number of items
 st^2 : Variance total (the square of standard deviation)
 p : The proportion of the students who are correct in answering an item divided with the total number of the students
 q : The proportion of the students who are incorrect in answering an item divided with the total number of the students
 $\sum p_i q_i$: The multiplication result between p and q

Firstly, the writer calculated the total variance:

$$St^2 = \frac{x^2}{n}$$

Where:

n : Number of respondents

$$x^2 = \sum xt^2 - \frac{(\sum xt)^2}{n}$$

$$= 3603 - \frac{(293)^2}{28}$$

$$= 3603 - \frac{85849}{28}$$

$$= 3603 - 3066,04$$

$$= 536,96$$

$$st^2 = \frac{x^2}{n}$$

$$st^2 = \frac{536,96}{28}$$

$$= 19,18$$

$$ri = \frac{k}{k-1} \left\{ \frac{S_{t^2} - \sum p_i q_i}{S_{t^2}} \right\}$$

$$ri = \frac{20}{(20-1)} \left\{ \frac{19,18 - 4,72}{19,18} \right\}$$

$$ri = \frac{20}{19} \left\{ \frac{14,46}{19,18} \right\}$$

$$ri = 1,05 \times 0,75$$

$$ri = 0,78$$

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 Independent Sample T-Test. According to Gay (2000) “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” (p. 488). Meanwhile, the researcher analyzed the collected data by using statistic software is SPSS Version 17. The result of the test analyzing would 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 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 asses the normality of data by using SPSS 17 version. According to priyatno (2012) if the “Sig” column of either test is higher than 0.05, the data are normal distributed. (p.36)

Analysis:

H_0 : population with normal distribution

H_a : population with not normal distribution

If the probability > 0.05 H_0 was accepted

If the probability < 0.05 H_0 was rejected

2. Homogeneity of the Data

According to Siregar (2013) “ the purpose of homogeneity test is to know whether the object of the research has the same variance or not. The method used in this test was comparing the biggest variance with the smallest one “ (p. 167)

3. Independent sample t-test

Hartono (2009) “said that to find out whether or not there is a significant difference between two or more variables that can be analyzed by using independent sample t-test” (p. 208). Gay (484) added that the t-test for independent sample is used to determine whether or not there is probably a significant difference between the means of two independent samples. Independent sample t-test was used to know whether there is a significant difference between students’ comprehension in reading narrative text taught by using and without using Paired Reading Strategy .

Styaningsi, (2009) said that the T-table of independent sample T-Test was employed to see whether or not there is a significant difference among the mean scores both of experimental and control class. (p. 127) Statistical hypothesis:

1. $H_0 = t_0 < t\text{-table}$

2. $H_a = t_0 > t\text{-table}$