CHAPTER III

RESEARCH METHODOLOGY

A. The Research Design

The design of this research was quasi experimental design. According to Cohen (2007: 34), quasi experimental is a reasearch design having some but not the entire characteristic of true experiment. The type of quasi experimental design of this research is nonequivalent control group design.

There were two classes in this research; control and experimental classes. The treatment given to experimental class was Buddy Reading Strategy. The treatment given to control class was without Buddy Reading Strategy. There were pre-test and post-test for both classes.

In brief, this research is design in the following table (Craswell, 2012: 326):

Table III. 1
Research Design

Class	Pre-test	Treatment	Post-test
Experimental	O_1	X	O_2
Control	O_1	-	O_2

Note:

O_1 : pre- test to experiment class and control class

T2 : Post-test to experiment class and control class

X : Receiving treatment, that is using Buddy Reading strategy

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B. The Time and Location of the Research

The research was conducted at As-Shofa Islamic Junior High School Pekanbaru is one of Islamic Junior high school in Pekanbaru, which is located in Tuanku Tambusai street. In addition, the time of the research was conducted from March to April 2017.

C. The Subject and Object of the Research

The subject of this research was at seventh grade students at As-Shofa Islamic Junior High School Pekanbaru. The object of this research was using Buddy Reading Strategy toward reading comprehension

D. The Population and Sample of the Research

Population of this research was the seventh grade students of As-Shofa Islamic Junior High School Pekanbaru. The students were divided into 6 classes. The number of the seventh grade students of As-Shofa Islamic Junior High School was 164 students.

The population of 164 students was large enough to be taken as sample. Because all samples had the same characteristic, Cohen, Manion, and Morrison suggest that the writer can use Cluster Sampling. So, the writer selected two groups of students to be taken as samples.

Cluster sampling is used for two reasons, first, each member of the population under study has an equal chance of being selected and second, it is also used when the population is large and widely dispersed. (Cohen, Manion

and Morrison, 2007:110). The method involves selecting at random from a list of the population (a sampling frame) the required number of classes for the sample.

All of the samples had the same opportunity to be taken as the representatives of all samples. Furthermore because they were homogenous, the writer was randomly chose class VII.5 as an experimental group and class VII.1 as a control group. The number of the students in those classes was 48 students. So, 48 students were be representative enough to be sample of this research.

E. The Technique of Collecting Data

in this research, the researcher used test for collecting data. The test was divided into two parts, pre-test and post-test. The purpose of the research was to know the effect of using Buddy Reading Strategy on students' reading comprehension. So, pre-test was given before the treatment and post-test was given after the treatment. The treatment was about teaching the first year students by using Buddy Reading Strategy.

The test type was multiple choice, it was consisted of twenty items. Each item of the test was made based on indicators of reading comprehension and each indicator was tested by four questions.

F. The Validity and Reliability of the Test

1. Validity of the Test

Before the test was given to the sample of this research, the writer tried out the test item. The test given to the students was considered not to difficult or not to easy. According to Huges (2008:26), the purpose of the try out was to obtain validity and reliability of the test. The test is said to be valid if it measures accurately what is intended to measure. In this research the writer used content validity. A test is said to have content validity if its content constitutes a representative sample of the language skill, structure, etc, with which 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. The formula of item difficulty is as follows:

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

Where :

P   : Index of difficulty

B   : The number of correct answer

JS   : Students taking test

The standard level of difficulty used was < 0.30 and > 0.70. It means that the items are 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 (difficult) and over 0.70 (easy). Then, the proportion is represented by "p", whereas the

proportion incorrect is represented by "q". It can be seen from the following tables:

Table III. 2

The Students are Able to Find the Main Ideas

Variable	Find main idea of descriptive text				N
Item no.	1	6	11	16	
Correct	11	15	15	20	30
P	0.37	0.50	0.50	0.67	
Q	0.63	0.50	0.40	0.40	

Based on the table above, the proportion of correct answers for item number 1 shows the proportion of correct 0.37, item number 6 shows the proportion of correct 0.50, item number 11 shows the proportion of correct 0.50, and item number 16 shows the proportion of correct 0.67. Based on level of difficulty "p" < 0.30 and "q" > 0.70, it is pointed out that the items for finding main idea are accepted.

Table III. 3

The Students are Able to Find Factual Information

Variable	Find the factual information				N
Item no.	4	6	12	18	
Correct	18	13	16	10	30
P	0.60	0.57	0.53	0.33	
Q	0.40	0.43	0.47	0.67	

Based on the table above, the proportion of correct answers for item number 4 the proportion of correct 0.60, item number 6 shows the proportion shows of correct 0.57, item number 12 shows the proportion of correct 0.53, and item number 18 shows the proportion of correct 0.33. Based on level of difficulty "p" < 0.30 and "q" > 0.70, it is pointed out that the items for finding factual information are accepted.

Table III. 4

The Students are Able to Make The Inference from the text

Variable	Making the inference				N
Item no.	7	9	16	19	
Correct	12	15	18	13	30
P	0.40	0.50	0.60	0.63	
Q	0.60	0.50	0.40	0.37	

Based on the table above, the proportion of correct answer for item number 7 shows the proportion of correct 0.40, item number 9 shows the proportion of correct 0.50, item number 16 shows the proportion of correct 0.60, and item number 19 shows the proportion of correct 0.63. Based on the standard level of difficulty "p" <30 and "q" > 70, it is pointed out that the items for making inference are accepted.

Table III. 5

The Students are Able to Find out The Meaning of Vocabulary in the Text

Variable	Finding out the meaning of vocabulary in the text				N
Item no.	3	5	8	13	
Correct	14	20	11	13	30
P	0.43	0.67	0.37	0.43	
Q	0.57	0.33	0.63	0.57	

Based on the table above, the proportion of correct answer for item number 3 shows the proportion of correct 0.43, item number 5 shows the proportion of correct 0.67, item number 8 shows the proportion of correct 0.37 and item number 13 shows the proportion of correct 0.43. Based on the standard level of difficulty "p" <30 and "q" > 70, it is pointed out that the items for finding out meaning of vocabulary in the text are accepted.

Table III. 6

The Students are Able to Identify the Reference

Variable	Identify reference				N
Item no.	2	10	15	20	
Correct	15	19	14	13	30
P	0.50	0.63	0.47	0.67	
Q	0.50	0.37	0.53	0.33	

Based on the table above, the proportion of correct answer for item number 2 shows the proportion of correct 0.50, item number 10 shows the proportion of correct 0.63, item number 15 shows the proportion of correct 0.47 and item number 20 shows the proportion of correct 0.67. Based on the standard level of difficulty "p" <30 and "q" > 70, it is pointed out that the items for identifying events are accepted.

2. **Reliability of the Test**

A test must first be reliable as measuring instrument. Reliability is a necessary characteristic of any good test. Heaton explains that realibility is of primary importance in the use of both public achievement and proficiency test and classroom test, (Heaton, 1998:162).

The reliability coefficients for good classroom comprehension test were expected 0.00 and closed 1.0. heaton states that, the reliability of the test is considered as follows:

0.00-0.20 = reability is low

0.21-0.40 = reliability is sufficient

0.41-0.70 = reliability is high

0.71-1.0 = reliability is very high

To obtain the reliability of the test given, the writer used kr-20 formula as follows: (Sugiyono, 2007:359)

KR 20: $r11 = \frac{k}{(k-1)}\left\{\frac{st^2 - \sum pq}{st^2}\right\}$

Where:

k : number of items in the instrument

P : proportion of students who answered the item correctly

Q : proportion of student who answered the item wrong (1-pi)

$\sum pq$: the multiplication result between p and q

St^2 : total variance

Firstly, the writer calculated the total variance:

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

Where:

n : number of respondents

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

$$= 3498 - \frac{(306)^2}{30}$$

$$= 3498 - \frac{93636}{30}$$

$$= 3498 - 3121,2$$

$$= 367,8$$

$$s_{t^2} = \frac{367,8}{30}$$

$$= 12,3$$

$$ri = \frac{k}{(k-1)}\left\{\frac{s_{t^2} - \sum piqi}{s_{t^2}}\right\}$$

$$ri = \frac{20}{(20-1)}\left\{\frac{12,3 - 4.77}{12,3}\right\}$$

$$ri = \frac{20}{19}\left\{\frac{7,53}{12,3}\right\}$$

$$ri = 1,05 \times 0,61$$

$$ri = 0.64$$

Based on the result above, it can also be stated that the reliability was high.

F. The Technique of Data Analysis

In analyzing the students' reading comprehension, the writer used the standard of English lesson in As-Shofa Islamic Junior High School Pekanbaru. for those who got score > 85, they passed the standard (SKL), while those got score < 85 they didn't pass the standard (SKL).

1. Normality Test

Before analyzing the data by using t-test formula, the writer 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.16 version.

Analysis:

If the probability > 0.05 Ho was accepted

If the probability < 0.05 Ho was rejected

a. Post-Test Experimental

Table III. 7
Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Posttest_Exp	24	82.50	8.209	70	95

Based on the table above, the mean was 82.50, the minimum was 70, the maximum was 95 and the standard deviation was 8.209.

Table III. 8

One-Sample Kolmogorov-Smirnov Test

		Posttest_Exp
N		24
Normal Parameters[a]	Mean	82.50
	Std. Deviation	8.209
Most Extreme Differences	Absolute	.161
	Positive	.111
	Negative	.161
Kolmogorov-Smirnov Z		.790
Asymp. Sig. (2-tailed)		.560

a. Test distribution is Normal.

Based on the output SPSS above, the test of normality shows: Sig

or p was 0.560> 0.05. It means H_o was accepted or the data were normal.

b. Post-Test Control

Table III. 9

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Posttest_con	24	69.17	7.173	55	80

Based on the table above, the mean was 69.17, the minimum was

55, the maximum was 80 and the standard deviation was 7.173.

Table III. 10
One-Sample Kolmogorov-Smirnov Test

		Posttest_Cont
N		24
Normal Parameters[a]	Mean	69.17
	Std. Deviation	7.173
Most Extreme Differences	Absolute	.167
	Positive	.136
	Negative	-.167
Kolmogorov-Smirnov Z		.818
Asymp. Sig. (2-tailed)		.515

a. Test distribution is Normal.

Based on the output SPSS above, the test of normality shows: Sig or p was 0.515> 0.05. It means Ho was accepted or the data were normal.

2. Data Analysis

In analyzing the data, the writer used scores of pre-test and post-test of experimental and control groups. This score was analyzed statistically, both descriptive and inferential statistic.

To find out whether or not there is a significant effect between two or more variables was analyzed by using independent sample t-test, (Hartono, 2010:117). Gay 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, (Gay, 2002:484). Independent sample t-test was used to find out the results of the first and second hypotheses. They were as follows:

a. To find out whether there is no significant effect of using Buddy Reading Strategy toward reading comprehension of the first year students at As-Shofa Islamic Junior High School Pekanbaru.

b. To find out whether there is a significant effect of using Buddy Reading Strategy toward reading comprehension of the first year students at As-Shofa Islamic Junior High School Pekanbaru.

In this research, the data were analyzed by using SPSS 16.0 Version

The T-table was employed to see whether or not there is a significant difference among the mean of the score of both experimental and control classes. Statistical hypothesis:

1. $H_0 = t_0 <$ t-table

2. $H_a = t_0 >$ t-table