

CHAPTER III

RESEARCH METHODOLOGY

A. The Research Design

The design of this research was pre-experimental design which used one group of pretest – posttest design. According to Nunan (1992, p. 41), the pre-experimental design may have pre and post-test, without a control group. In addition, Louis Cohen et al (2007, p. 282) stated Pre-experimental designs: the one group pretest-post-test design; the one group post-tests only design; the post-tests only non-equivalent design. In this research, there is one group to be gotten the sample, the group as an experimental group. This research is intended to find the effect that is given by the variable x on y.

The design of this research was pre experimental research which consisted of two variables, they were independent variable (x) that referred to the effect of question, reduce, read, review and dependent variable (y) that referred to the students' comprehension in narrative text.

The writer applied the pretest and posttest design approach to this research. Gay and Airasian (2000, p. 389), explain that the success of the treatment is determined by comparing pretest and posttest score.

In conducting the research, the writer used one class of the second grade at State Junior High School 14 Mandau as sample. In the first meeting, the writer gave the students pretest in order to know their reading comprehension of

narrative Text before using Question, Reduce, Read, and Review Strategy. Then, the students were given the treatment. At the end, they were given posttest, it measured students' reading comprehension after using Question, Reduce, Read, and Review Strategy.

According to Louis cohen et al (2005, p. 212), the one group pretest-post-test design can be represented as:

Table III.1
Research Design

Group	Pre-test	Treatment	Post-test
Class	<i>O1</i>	<i>X</i>	<i>O2</i>

Where:

X : Treatment

O1 : Pre-test

O2 : Post-test

B. Time and Location of the Research

This research was conducted from September to November 2016 at State Junior High School 14 Mandau.

C. Subject and Object of the Research

The subject of this research was the second grade students of State Junior High School 14 Mandau, while the object of this research was the students' reading comprehension by using question, reduce, read, and review strategy.

D. The Population and the Sample of the Research

Creswell (2012, p. 142) stated that a population is a group of individual who have the same characteristic. The population of this research was the second grade students of State Junior High School 14 Mandau. They consisted of two classes, VIII A and VIII B. The total number of population was 80 students.

Table III.2
The Population of the Second Grade
Students of State Junior High School 14 Mandau

No.	Class	Total
1.	VIII A	40
2.	VIII B	40
Total Population		80

The writer took one class for the samples because the writer used pre-experimental design that did not need control class. The writer choose sample by cluster random sampling. According to Cohen et al (2007, p.129) said that the reseacher can select a spesific number of schools and test all the students in those selected schools by cluster random sampling.

Table III.3

**The sample of the Second Grade
Students of State Junior High School 14 Mandau**

No.	Class	Total
1.	VIII A	40

E. The Technique of Collecting Data

In collecting data, the writer took data from pretest and posttest. According to Arikunto (2006, p. 223), the test is used to measure if there is an ability of the object of research (student). The type of the test was multiple choices. The writer gave 20 multiple choices intended to obtain students' reading comprehension of narrative text of the second grade at State Junior High School 14 Mandau. Pre-test was administered to the subject before applying question, reduce, read, and review strategy in teaching reading. Meanwhile post-test was administered after applying question, reduce, read, and review strategy in teaching reading.

Pretest and posttest contained the same test items. They were just different in time allocation. These pretest and posttest were taken by giving reading test. Students were given a text and the questions about the text. Then, the writer used these items as the pretest and posttest.

F. Validity, Reliability, and Normality of the Test

1. Validity

According to Brown (2003, p. 22), validity is the extent to which inferences made from assessment results are appropriate, meaningful, and useful in term of the purpose of the assessment. According to Cohen (2005, p. 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 both 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.

According to Hughes (2003, p. 26), a test is valid if it measures accurately what it is intended to measure. Therefore every test, whether it is a short, informal class room 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 will be measured. The writer did try out twice. The purpose of try out was to obtain validity and reliability of the test. 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.

According to Arikunto (2006, p. 208), the formula of each item difficulty is as follows

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

Note:

P: index of difficulty of facility

B: the number of correct answers

JS: the number of examiners of students

The standard level of difficulty used is > 0.30 and < 0.70 . It means that the item will be accepted if the level of difficulty is between 0.30-0.70 and it is not accepted if the level of difficulty is below 0.30 (difficulty) and over 0.70 (easy). Then, the proportion correct is represented by “p”, whereas the proportion incorrect is represented by “q”.

TABLE III.4
The students' ability to find out the main idea in narrative text

Variable	Ability to find out the main idea in narrative text				N
Item no.	1	6	11	16	40
Correct	18	19	18	15	
P	0.45	0.48	0.45	0.38	
Q	0.55	0.53	0.55	0.63	

Based on the table III.4. The proportion of correct answer for item number 1 shows the proportion of correct 0.45, item number 6 shows the proportion of correct 0.48, item number 11 shows the proportion of correct 0.45, item number 16 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 the main idea of narrative text is accepted.

TABLE III.5
The students’ ability to find out the supporting idea in narrative text.

Variable	Ability to find out the supporting idea in narrative text.				N
Item no.	2	7	12	17	40
Correct	16	19	18	21	
P	0.40	0.48	0.45	0.53	
Q	0.60	0.53	0.55	0.48	

Based on the table III.5. The proportion of correct answer for item number 2 shows the proportion of correct 0.40, item number 7 shows the proportion of correct 0.48, item number 12 shows the proportion of correct 0.45, item number 17 shows the proportion of correct 0.53. 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 supporting idea of narrative text is accepted.

TABLE III.6**The students' ability to find out the generic structure in narrative text.**

Variable	Ability to find out the generic structure in narrative text				N
Item no.	3	8	13	18	40
Correct	21	12	21	24	
P	0.53	0.30	0.53	0.60	
Q	0.48	0.70	0.48	0.40	

Based on the table III.6. The proportion of correct answer for item number 3 shows the proportion of correct 0.53, item number 8 shows the proportion of correct 0.30, item number 13 shows the proportion of correct 0.53, item number 18 shows the proportion of correct 0.60. 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 generic structure of narrative text is accepted.

TABLE III.7**The students' ability to find out the meaning of vocabularies in narrative text**

Variable	Ability to find out the meaning of vocabularies in narrative text				N
Item no.	4	9	14	19	40
Correct	20	22	21	17	
P	0.50	0.55	0.53	0.43	
Q	0.50	0.45	0.48	0.58	

Based on the table III.7. The proportion of correct answer for item number 4 shows the proportion of correct 0.50, item number 9 shows the proportion of correct 0.55, item number 14 shows the proportion of correct 0.53, item number 19 shows the proportion of correct 0.43. 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 meaning of vocabularies of narrative text is accepted.

TABLE III.8
The students’ ability to find out the locating reference in narrative text

Variable	Ability to find out locating reference in narrative text				N
Item no.	5	10	15	20	40
Correct	19	18	19	17	
P	0.48	0.45	0.48	0.43	
Q	0.53	0.55	0.53	0.58	

Based on the table III.8. The proportion of correct answer for item number 5 shows the proportion of correct 0.48, item number 10 shows the proportion of correct 0.45, item number 15 shows the proportion of correct 0.48, item number 20 shows the proportion of correct 0.43. 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 reference of narrative text is accepted.

2. Reliability

Brown (2003, p. 20), stated that reliable test is consistent and dependable. This kind of consistent is reflected in the obtaining of similar result when measurement is repeated on different occasions or with different instruments of by different persons. The characteristic of reliability is sometimes termed consistently. It means that 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. The reliability of the test was considered as follows:

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 given, the writer used SPSS 16.00 to find out whether the test was reliable or not.

Table III. 9
Case Processing Summary

		N	%
Cases	Valid	40	100.0
	Excluded ^a	0	.0
	Total	40	100.0

a. Listwise deletion based on all variables in the procedure.

Table III.10
Reliability Statistics

Cronbach's Alpha	N of Items
.945	2

From the table III.10 above, it can be seen that the value of Cronbach's Alpha is 0.945. From level above, it can be said that reliability was accepted which was $0.71 < 0.860 < 1.0$ or higher than 0.71 and lower than 1.0. It also can be stated that reliability is very high.

3. 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 writer assessed the normality of data by using kolmogorov smirnov test from SPSS 16 version. The result of the test can be seen as follows:

Table III. 11
One-Sample Kolmogorov-Smirnov Test

		pretest	posttest
N		40	40
Normal Parameters ^a	Mean	49.2500	65.8750
	Std. Deviation	1.49593E	9.79845
Most Extreme Differences	Absolute	.113	.151
	Positive	.080	.151
	Negative	-.113	-.149
Kolmogorov-Smirnov Z		.716	.953
Asymp. Sig. (2-tailed)		.685	.324
a. Test distribution is Normal.			

From the table III.11 above, the value (asymp.sig 2-tailed) in pretest and posttest are 0.685 and 0.324 higher than 0.05. It can be concluded that the test distribution is normal.

G. Blueprints of the test

Tabel III.12
The Blue Print of pretest

No	Indicators	Total Item	Items of Number
1	The students' ability to find out main idea in narrative text.	5 items	1, 6, 11, 16
2	The students' ability to find out the supporting idea in narrative text.	5 items	2, 7, 12, 17
3	The students' ability to find out the generic structure in narrative text.	5 items	3, 8, 13, 18
4	The students' ability to find out the meaning of vocabulary in narrative text.	5 items	4, 9, 14, 19
5	The Students' ability to find references of narrative text.	5 items	5, 10, 15, 20

Tabel III.13
The Blue Print of posttest

No	Indicators	Total Item	Items of Number
1	The Students' ability to find references of narrative text.	5 items	5, 10, 15, 20
2	The students' ability to find out the meaning of vocabulary in narrative text.	5 items	4, 9, 14, 19
3	The students' ability to find out the generic structure in narrative text.	5 items	3, 8, 13, 18
4	The students' ability to find out the supporting idea in narrative text.	5 items	2, 7, 12, 17
5	The students' ability to find out main idea in narrative text.	5 items	1, 6, 11, 16

H. Technique of data analysis

In this research, the data were analyzed by using statistical method. The writer used students' pre-test and post-test scores as the data of the research. The data were analyzed by using paired sample T-test (sample t-test) to know whether the result of the research is statistically significant, and the data were analyzed through SPSS 16 version. The test consisted of 20 items, and the score each number was 5. According to Arikunto (2013, p.281) the classification of the students' score can be seen below:

Table III. 14
The Score of Reading Comprehension

Score of Reading Comprehension	Category
80-100	Very good
66-79	Good
56-65	Enough
40-55	Less
30-39	Fail

Ari Kunto (2013, p. 281)

The T-table was employed to see whether or not there is a significant difference between the mean score of pretest and posttest. The t-obtained value was consulted with the value of t-table at the degree of freedom (df) = N-1.

Statistically hypotheses are:

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

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

H_a is accepted if $t_0 >$ probability value, it means that there is a significant effect of using question, reduce, read and review strategy on students' reading comprehension at State Junior High School 14 Mandau.

H_0 is accepted if $t_0 <$ probability value, it means that there is no a significant effect of using question, reduce, read and review strategy on students' reading comprehension at State Junior High School 14 Mandau.