

CHAPTER III

RESEARCH METHODOLOGY

A. The Research design

This research was an experimental research, which was intended to find out the effect of using Coop – Dis – Q strategy on reading comprehension of narrative text of the second year students at Islamic Senior Boarding School Al-Kaustar Pekanbaru. . According to Cresswell, “experiment is you test an idea (or practice procedure) to determine whether it influences an outcome or dependent variable”.¹ This research used only two groups as the sample. This research was between groups design which applied pre-test and post-test design approach to quasi-experimental design. The writer assigned intact groups the experimental and control treatments, administered a pretest to both groups, conducted experimental treatment activities with the experimental group only, and then administered a posttest to assess the differences between the two groups. The following figure is the chart of the design that the researcher did.²

¹ Jhon. W. Cresswell. *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*. (USA: Pearson Merill Prentice Hall, 2008), p. 299.

² *Ibid.*, p. 314.

Table III.1
Non Equivalent Design

Select Control Group	Pretest	No Treatment	Posttest
Select Experimental Group	Pretest	Experimental Treatment	Posttest

B. The Location and the Time of the Research

This research was conducted at Islamic Senior Boarding School Al-Kaustar Pekanbaru, which was on April 2014 up to May 2014.

C. The Subject and the Object of the Research

The subject of this research was the second year students at Islamic Senior Boarding School Al- Kaustar Pekanbaru. And the object of this research was the using of Coop – Dis - Q strategy on reading comprehension.

D. The Population and Sample of the Research

The population of this research was the second year students at Islamic Senior Boarding School Al- Kaustar Pekanbaru in 2014 academic year. They were consisted of 123 students. It was divided into four classes namely XI A=30, XI B=30, XI C=32, XI D=31 8. In this research, the writer used quasi-experimental research; the writer took two classes only. They were XI A class that consisted of 30 students as experimental group, XI B class that consisted of 30 students as control group. So, the total of sample was 60 students.

In determining sample of this research, the researcher used cluster random sampling because the population was large. To decide which one the population that would be taken as sample, the sample was taken based on the population that was specified. The specification of the population can be seen on the table below

:

Table III.2

**Total Population at the Second Year Students
of Islamic Senior Boarding School Al- Kaustar Pekanbaru**

No	Class	Sample
1	XI A	30
2	XI B	30
3	XI C	32
4	XI D	31
TOTAL		123

The spesification of the sample can be seen on the table below:

Table III. 3

**Total Sample at the Second Year
Students State Junior High School 23 Pekanbaru**

No	Classes	Sample		Total
		Female	Male	
1	XI A	-	30	30
2	XI B	-	30	30
Total Sample				60

E. The Technique of the Data Collection

In collecting the data for this research, the writer applied the techniques by the test. The kinds of the test were be given to the students as follows:

1. Test

In this test, students were required to answer the questions based on the text given. The test used was multiple choice, a multiple-choice test item is usually set out in such a way that the candidate is required to select the answer from a number of given options, only one of which is correct³. This test consisted of 25 questions and should be answered by the students.

1. Procedure of collecting data experimental group:

a) Pre-Test

The pre-test was carried out to determine the ability of students as the sample. Item used for pre-test consisted of 25 items. The test consisted of five texts. One text consisted of five questions. In this case, the teacher taught both classes by using conventional strategy or classical procedure.

b) Treatment (applying strategy)

The treatment for this research was using Coop – Dis – Q Strategy in teaching reading comprehension. This strategy was applied for

³J.Weir,CyriI.*Communicative Language Testing*. University of Reading (Prentice Hall InternationalLTD,1996), P.43.

experiment class only, while control class was taught by using conventional strategy.

c) Post-Test

The post-test was administered for both classes and analyzed, used as final data for this research.

2. Procedures of collecting data for control group

a. Pre-test

The goals, items, and procedures of the test for control group were the same as those conducted for experimental group; the difference was only on the time.

b. No treatment

c. Post-test

Post-test was also given to control group and the result was analyzed and used as final data for this research.

Then, the score test and reading comprehension of narrative test are classified in this table below:

Table III.3
The Classification of Students' Score

No	Classification	Score
1	Excellent	80 - 100
2	Good	61 - 79
3	Fair	41 - 60

4	Poor	21 - 40
5	Very Poor	0 - 20

F. The Validity and Reliability of the Test

1. Test Blueprint

For further information about the instruction of the text, the writer showed the blueprint of both tests as follows:

Table III.4
The Blueprint of the Test

Number	Indicator of Items	Number of items	Items number
1	Identify main idea	5 items	1,6,11,16,21
2	Find the meaning of unfamiliar vocabulary	5 items	2,7,12,17,22
3	Identify information	5 items	3,8,13,18,23
4	Identify word references	5 items	4,9,14,19,24
5	Identify generic structure	5 items	5,10,15,20,25

2. Validity

Before the tests were given to the sample, both of tests had been tried out to 30 students at the second year. 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. Item of difficulty was determined as the proportion of correct responses. The formula for item of difficulty is as follows:⁴

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

Where :

P : index of difficulty or facility value

B : the number of correct answers

JS : the number of examinees or students taking the test

The difficulty level of an item shows how easy or difficult a particular item in the test. The items that do not reach the standard level of difficulty are excluded from the test, and they are changed with the new items that are appropriate.

The standard level of difficulty used is <0, 30 and >0, 70.⁵ It means that the item test that 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 (difficult) and

⁴Suharsimi Arikunto. *Dasar-dasar Evaluasi Pendidikan*. (Jakarta: PT. Rineka Cipta,2009) p. 245

⁵ *Ibid.* p. 210

over 0.70 (easy). Then, the proportion correct is represented by “p”, whereas the proportion incorrect is represented by “q”.

Table III.5
Identify Main Idea in Reading Narrative Text

Variable	Identify Main Idea on Narrative Text					N
Item no	1	6	11	16	21	30
Correct	17	17	15	15	16	
P	0.56	0.56	0.50	0.50	0.53	
Q	0.44	0.44	0.50	0.50	0.47	

Based on the table III.5, the proportion of correct answer for item number 1 shows the proportion of correct 0.56, item number 6 shows the proportion of correct 0.56, item number 11 shows the proportion of correct 0.50, item number 16 show the proportion of correct 0.50. Item number 21 show 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 difficulty level of each item number for identifying the main idea of reading text are accepted.

Table III.6
Identify the Meaning of Vocabulary

Variable	Identify the meaning of vocabulary					N
Item no	2	7	12	17	22	30
Correct	14	14	17	15	15	
P	0.46	0.46	0.56	0.50	0.50	
Q	0.54	0.54	0.44	0.50	0.40	

Based on the table III.6, the proportion of correct answer for item number 2 shows the proportion of correct 0.46, item number 7 shows the proportion of correct 0.46, item number 12 shows the proportion of correct 0.56, item number 17 shows the proportion of correct 0.50. Number 22 shows the proportion of correct 0.50. Based on the standard level of difficulty “p” <0.30 and >0.70 . It is pointed out that item difficulty level of each item number for finding the meaning of vocabulary is accepted.

Table III.7
Identify the Information from Text

Variable	Identify information from text					N
Item no	3	8	13	18	23	30
Correct	18	18	15	16	17	
P	0.60	0.60	0.50	0.53	0.56	
Q	0.40	0.40	0.50	0.47	0.44	

Based on the table III.7, the proportion of correct answer for item number 3 shows the proportion of correct 0.60, item number 8 shows the proportion of correct 0.60, Item number 13 shows the proportion of correct 0.50, item number 18 shows the proportion of correct 0.53. Number 23 shows the proportion of correct 0.56. Based on the standard level of difficulty “p” <0.30 and >0.70 , it is pointed out that item difficulty level of each items number for identifying the information is accepted.

Table III.8
Identify the Word Reference

Variable	Identify the word reference					N
Item no	4	9	14	19	24	30
Correct	15	16	17	15	14	
P	0.50	0.53	0.56	0.50	0.46	
Q	0.50	0.47	0.44	0.50	0.54	

Based on the table III.8, the proportion of correct answer for item number 4 shows the proportion of correct 0.50, item number 9 shows the proportion of correct 0.53, item number 14 shows the proportion of correct 0.56, item number 19 shows the proportion of correct 0.50, number 24 shows the proportion of correct 0.46. Based on the standard level of difficulty “p” <0.30 and >0.70 . It is pointed out that item difficulty level of each item number for identifying word reference is accepted.

Table III.9
The Students are able to Identify the generic structure
of Reading Text

Variable	Identify the generic structure of Reading Text					N
Item no	5	10	15	20	25	30
Correct	14	16	14	14	14	
P	0.46	0.53	0.46	0.46	0.46	
Q	0.54	0.47	0.54	0.54	0.54	

Based on the table III.9, the proportion of correct answer for item number 5 shows the proportion of correct 0.46, item number 10 shows the proportion of correct 0.53, item number 15 shows the proportion of correct 0.46, item number 20 shows the proportion of correct 0.46. Number 25 shows the proportion of correct 0.46. Based on the standard level of difficulty “p” <0.30 and >0.70. It is pointed out that item difficulty level of each items number for identifying the generic structure text is accepted.

3. Reliability

According to H. Douglas Brown⁶, that reliability has to do with accuracy of measurement. This kind of accuracy was reflected in obtaining similar results when measurement was repeated on different occasions or with different instruments or by different persons. The characteristic of reliability was sometimes termed consistency. Meaning that, it can be said that the test was reliable when an examinee's results were consistent on repeated measurement.

To obtain the reliability of the test, it must be known the Mean and Standard Deviation of test. Validity in general refers to appropriateness of a given test or any of its component parts as measure of what it was purposed to measure. It means the test was valid to the extent that was measured what it was supposed to measure.

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

⁶H. Douglas Brown. *Language Assessment: Principles and Classroom Practices*. (New York: Pearson Education Inc. 2003). p. 19-27

4. 0.71 – 1.0 = Reliability is very high⁷

To obtain the reliability of the test given, the researcher used the formula as follows⁸:

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

Where:

n : number of items on the instrument

Pi : proportion of subjects who answered the item correctly

Q : proportion of subject who answered the item wrong (1-Pi)

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

S² : total variance

Furthermore, to obtain the reliability of the test given, the data should be looked for first and then analyzed manually by the formula of statistic above (see the appendix to know the process of finding data). The data that were needed had been found after being calculated. They are as follows:

$$N = 25$$

$$M = 52,66$$

$$S = 4.64$$

⁷ J.B. Heaton, *Writing English Language Test.* (Cambridge: Cambridge University Press, 1988). p. 164

⁸ Sugiyono. *Statistik untuk Penelitian.* Bandung: Alfabeta. 2007. p. 359

In calculating by reliability test. The researcher used the formula as follows⁹:

KR 20:

$$\begin{aligned}
 r_i &= \frac{n}{(n-1)} \frac{s^2 - \sum pq}{s^2} \\
 &= \frac{25}{25-1} \frac{4.64^2 - 6.09}{4.64^2} \\
 &= 1.04 \frac{21.52 - 6.09}{21.52} \\
 &= 1.04 \frac{15.43}{21.52} \\
 &= 1.04 (0.717) \\
 &= 0.745
 \end{aligned}$$

Then, the score obtained (0.745) comparing to the r product moment at the 5% significant is 0.444 and the 1% significant is 0.561. whereas the N is 25. Thus, it can read $0.444 < 0.745 > 0.561$. This means the test of reading comprehension is reliable. Based on the result above, it also can be stated that the reliability was **high**.

⁹ Sugiyono. *Statistik untuk Penelitian*. (Bandung: Alfabeta, 2007). P. 359

F. The Technique of Analyzing Data

In order to find out whether or not there was a significant difference between using Coop – Dis - Q Strategy and conventional strategy on student' reading comprehension, the data were analyzed statistically. In analyzing the data, the writer used score of the experimental and control classes. The data were analyzed by using the statistical method. In this research, the researcher used “T” test in SPSS program.

Statistically the hypotheses were:

Ha: $t_o > t\text{-table}$

Ho: $t_o < t\text{-table}$

Ha was accepted if $t_o > t\text{-table}$ or there was a significant difference of using Coop – Dis - Q Strategy on reading comprehension of narrative text of the second year students at Islamic Senior High School Al-Kautsar Pekanbaru.

Ho was rejected if $t_o < t\text{-table}$ or there was no significant difference of using Coop – Dis - Q Strategy on reading comprehension of narrative text of the second year students at Islamic Senior High School Al-Kautsar Pekanbaru.