

CHAPTER III

RESEARCH METHOD

A. Research Design

The type of this research is an experimental research. According to Gay and Airasian, an experimental research is “the only type of the research that can test hypothesis to establish cause- and- effects relationship”¹. Then, Cresswell states that experiment is you test an idea (or practice or procedure) to determine whether it influences the outcome or the dependent variable². The essential feature of experimental research is that investigators deliberate control and manipulate the condition which determines the events, in which they are interested, introducing and intervening and measuring the difference that it makes. So, in this research the writer practiced the rock around the clock strategy of the second year students at State Junior High School 3 Teluk Kuantan to determine whether it influences the students’ reading comprehension.

The design of this research was quasi-experimental design that involved two groups; a control group and an experimental group. The kind of quasi-experimental was Non-equivalent control group that consisted of pre-test, treatment, and post-test. The experimental group was treated by Rock Around The Clock Strategy while the

¹ L.R. Gay and Peter Airasian, *Educational Research Competencies for Analysis and Application. Six Ed.* (New Jersey: Prentice-hall, Inc, 2000). p.367

² Jhon. W. Cresswel, *Educational Research: Planning, conducting, and Evaluating Quantitative And Qualitative Research.*,(New Jersey: Pearson education, 2008), p.299

control group was treated as usual without using Rock Around The Clock Strategy. In this research, the writer taught the experimental class 8 meetings in 4 weeks; 2 meeting in a week. The design of this research is as follows:³

Table III.1
Nonequivalent Control Group Design

Group	Pre-test	Treatment	Post-test
Experimental Control	O ₁ O ₁	X -	O ₂ O ₂

Where:

O₁ : Pre-test for Experimental and Control Class

X : doing particular treatment

- : Without particular treatment

O₂ : Post-test for Experimental and Control Class

³ L.R. Gay and Peter Airasian, *Op.Cit.*, p..391.

B. Location and Time of the Research

The research was conducted at state Junior High School of 3 Teluk Kuantan, Kuantan Singingi. The time of the research was done from February to March 2014.

C. Subject and Object of the Research

The subject of the research was the second year students at Junior High School 3 Teluk Kuantan. The object of this research was the effect of using Rock Around The Clock strategy toward the students reading comprehension in narrative text.

D. The Population and Sample of the Research

The population of this research was the students of the second year at State Junior High School of 3 Teluk Kuantan in 2013-2014 academic years. It has three classes. The total number of population is 58 students.

Based on the limitation of the research, the writer took a sample by using cluster sampling technique. According to Gay et al, cluster sampling selects group not individuals.⁴ Therefore, the writer took two classes as a sample; class VIII B and class C. It was VIII B as an experimental class and VIII C as control class.

⁴ Ibid, p. 129

Table III.2**Total Population of Second Year Students at Junior High School 3 Teluk Kuantan**

No	Classes	Population		Total
		Female	Male	
1.	VIII A	10	10	20
2.	VIII B	11	8	19
3.	VIII C	11	8	19
Total Population				58

Table III.3**Total Sample of Second Year Students at Junior High School 3 Teluk Kuantan**

No	Classes	Sample		Total
		Female	Male	
1.	VIII B	11	8	19
2.	VIII C	11	8	19
Total Sample				38

E. Technique of Data Collection

In this research, the writer used test as instrument to collect data. The test was used to measure the students' reading comprehension on narrative text. The test was done twice; the first was pre-test given before treatment, and the second test was given after giving the treatment (for experimental class and no treatment for control class) intended to obtain students' reading comprehension of the second year at state junior high school 3 Teluk Kuantan. The test was multiple choices. After doing the test, the writer then looked the total score from the result of the test. The procedures of collecting data were as follows:

1. Procedures of collecting data for experimental group

a) Pre-test

The pre-test was carried out to determine the students' comprehension with their score.

b) Treatment

The treatment was conducted for experimental group/class by using Rock Around the Clock strategy applied for six meetings.

c) Post-test

After conducting the treatment, the post-test was administered and analyzed as final data of this research.

2. Procedures of collecting data for control group

a) Pre-test

The control class was given pre-test to know their reading comprehension. The test was the same as experimental class.

b) No treatment

In control class, the researcher did not give treatment to control class.

c) Post-test

The post-test was also given to control class the same as experimental class and the result was analyzed and used as final data for this research.

3. Validity of the Test

Validity refers to appropriateness of a given test or any of its component parts as a measure of what it is purpose to measure. It means that a test is valid if it measures what it purpose to measure. There are several types of validity; content validity, criterion-related validity and construct validity.⁵ All of them have different usage and function. Content validity is the degree to which a test measures intended content area. Criterion-related validity has two forms, concurrent and predictive. The method of determining validity is the same for each form but the time for relations between them differ. The last is construct validity. Construct validity is degree to which a test measures and intended hypothetical (from theory).

Based on the definitions above, to measure whether the test was valid in this research, the writer used content validity. In other word, tests were given based on material that they had learned and concerning five components:

- a. The students are able to find the main idea of the narrative text.
- b. The students are able to identify specific fact or detail of the text.
- c. The students are able to identify reference of the narrative text.
- d. The students are able to identify generic structure of narrative text.

⁵ Ibid., 162

- e. The students are able to identify language features of the narrative text.

Before the test given to the sample of this research, the writer tried out the test items. The test given to the students was considered not too difficult or not too easy. According to Arikunto the test is accepted if the degree of difficulty is between 0.30 – 0.70.⁶ It was determined by finding the difficulty level of each item. The formula for item difficulty is as follows:⁷

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

Where:

P : Index of difficulty

B : The number of correct answer

JS : the number of students

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

The standard level of difficulty used is < 0.30 and > 0.70 . It means that an item is accepted if the level of difficulty is between 0.30-0.70 and it

⁶ Suharsimi Arikunto, *Dasar-Dasar Evaluasi Pendidikan*, (Jakarta:PT. Rineka Cipta, 2009). p.245

⁷ Ibid.,p. 208.

is rejected if the level of difficulty is less than 0.30 (the item is too difficult) and over than 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 can be seen from the following table:

Table III. 4
Identification Main Idea on the Narrative Text

Variable	Identify main idea of the text				N
Item no	1	6	11	16	20
Correct	12	13	14	14	
P	0.60	0.65	0.70	0.70	
Q	0.40	0.35	0.30	0.30	

$$P = \frac{B}{J^s}$$

$$Q = 1.00 - P$$

The table III.5 above shows the portion of correct answer. For item number 1 shows the proportion of correct 0.60, item number 6 shows the proportion of correct 0.65, item number 11 shows the proportion of correct 0.70, item number 16 shows the proportion of correct 0.70. 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 for identifying main idea of narrative text were accepted.

Table III.5
Identification Specific Fact or Detail of the Text

Variable	Identifying Specific fact or Detail of the text				N
Item no	2	7	12	17	20
Correct	13	12	14	13	
P	0.65	0.60	0.70	0.65	
Q	0.35	0.40	0.30	0.30	

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

$$Q = 1.00 - P$$

The table III.6 above shows the portion of correct answer. For item number 2 shows the proportion of correct 0.65, item number 7 shows the proportion of correct 0.60, item number 12 shows the proportion of correct 0.70, item number 17 shows the proportion of correct 0.65. 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 for identifying specific fact or detail of the text were accepted.

Table III.6
Identification Reference of Narrative Text

Variable	Identify Reference of Narrative Text				N
Item no	3	9	13	18	20
Correct	14	14	14	13	
P	0.70	0.70	0.70	0.65	
Q	0.30	0.30	0.30	0.35	

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

$$Q = 1.00 - P$$

The table III.7 above shows the portion of correct answer. For item number 3 shows the proportion of correct 0.70, item number 8 shows the

proportion of correct 0.70, item number 13 shows the proportion of correct 0.70, item number 18 shows the proportion of correct 0.65, item number. 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 for identifying reference of the text were accepted.

Table III.7
Identification Generic Structure of Narrative Text

Variable	The identify Generic Structure of Narrative Text				N
Item no	4	8	14	19	20
Correct	13	12	13	12	
P	0.65	0.60	0.65	0.60	
Q	0.35	0.40	0.35	0.40	

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

$$Q = 1.00 - P$$

The table III.8 above shows the portion of correct answer. For item number 4 shows the proportion of correct 0.65, item number 9 shows the proportion of correct 0.60, item number 14 shows the proportion of correct 0.65, item number 19 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 for identifying the generic Structure of narrative text were accepted.

Table III.8
Identification Language Feature of the Narrative Text

Variable	Identify Language Feature of The Narrative Text				N
Item no	5	10	15	20	20
Correct	13	14	14	13	
P	0.65	0.70	0.70	0.65	
Q	0.35	0.30	0.30	0.35	

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

$$Q = 1,00 - P$$

The table III.9 above shows the portion of correct answer. For item number 5 shows the proportion of correct 0.65, item number 10 shows the proportion of correct 0.65, item number 14 shows the proportion of correct 0.70, item number 20 shows the proportion of correct 0.65. 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 for identifying language feature of narrative text were accepted.

Based on explanations above, all of pointed item difficulties of five components were accepted. The supervisor and teacher concluded that test was valid.

4. Reliability of the Test

Reliability is a measure of how consistent repeated measurements when being performed under comparable condition.⁸ A test is said to be reliable if it can produce stable or consistent scores although the test is administered at different times. Heaton explains that reliability is the accuracy of the result obtained by the instrument or measurement.⁹ To obtain the reliability of the test given, the researcher used the formula as follows:

$$KR20: \quad r_i = \frac{K}{(K-1)} \left\{ S^2 - \frac{\sum p_i q_i}{S^2} \right\}$$

Where:

K : number of items in the instrument

P : proportion of subjects who answered the item correctly

Q : proportion of subjects who answered the item with the wrong

$(1 - P_i) \sum \frac{p_i q_i}{S^2}$: The multiplication result between p and q

S^2 : Total variance

We must first calculate the total variance before:

$$S^2 = \frac{\sum X^2}{n}$$

⁸ Graeme Keith Porte, *Appraising Research in Second Language Learning: A Practical Approach to Critical Analysis of Quantitative Research*, (Amsterdam: John Benjamin Publishing, 2002) p. 243.

⁹ J. b Heaton, *Writing English Language Test* (New York: Cambridge University, 1988), p. 16.

N: number of respondents

$$X^2 = \sum Xt^2 - \left(\frac{\sum t}{n} \right)^2$$

$$X^2 = 3511 - \left(\frac{263}{20} \right)^2$$

$$X^2 = 3511 - \frac{69169}{20}$$

$$X^2 = 3511 - 3458.45$$

$$X^2 = 52.55$$

$$St^2 = \frac{X^2}{20}$$

$$St^2 = \frac{52.55}{20}$$

$$St^2 = 2.6275$$

$$r_i = \frac{20}{20-1} \left\{ \frac{2.6275 - 4.46}{2.6275} \right\}$$

$$r_i = 1.0526 \left\{ \frac{-1.8325}{2.6275} \right\}$$

$$r_i = 1.0526 \{-0.69743\}$$

$$r_i = 1.0526 \times -0.69743$$

$$r_i = -0.734211$$

The reliability coefficients for good identified kinds of 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
4. 0.71-1.0 = reliability is very high¹⁰

From Heaton level above, it can be said that reliability was accepted which was $0.71 < 0.73 < 1.0$ or higher than 0.71 and lower than 1.0. it also can be stated that **very high**.

F. Technique of Data Analysis

In this research , the data were analyzed by using statistical method. First, to analyze the students' score on reading comprehension, the writer used the category standard as follows:¹¹

Table III.9
The Classified 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

Second, in order find out whether or not there was a significant effect of using Rock Around The Clock strategy toward reading comprehension, the data were analyzed statistically. In analyzing the data, the writer used the post-test score

¹⁰ Ibid. 168

¹¹ Suharsimi Arikunto, *Op.Cit.*, p.245

of experimental and control groups. The data were analyzed by using T-test (independent sample T-test) and it was calculated by using software SPSS 16.0 version.

Third, to find out the significant difference of using Rock Around the Clock strategy toward reading comprehension, the writer used the paired samples t-test from the pre-test and post-test score in experimental class.

Statistically hypothesis:

$$H_0 = t_o < t \text{ table}$$

$$H_a = t_o > t \text{ table}$$

1. H_0 is rejected if $t_o < t \text{ table}$ or there is no significant difference on students' reading comprehension in narrative text between those are taught by using Rock Around The Clock strategy and without using Rock Around The Clock strategy of the second year at state Junior High School 3 Teluk Kuantan.
2. H_a is accepted if $t_o > t \text{-table}$ or There is no significant difference on students' reading comprehension in narrative text between those are taught by using Rock Around The Clock strategy and without using Rock Around The Clock strategy of the second year at state Junior High School 3 Teluk Kuantan.