CHAPTER III

METHOD OF THE RESEARCH

A. Research Design

This research is a kind of experimental research. According to Johnson, in an experiment, the researcher's goal is to establish a cause-and-effect relationship between two phenomena.[1] Thus, Creswell states that experimental research is used when the writer wants to establish possible cause and effect between the independent and dependent variable.[2] Independent variables are variables selected by the researcher to determine their effect on or relationship with the dependent variable.[3] Meanwhile, dependent variable is to ask which variable is being measured to determine the effect of other variables on it.[4] The design of this research is a quasi experimental design. Quasi experiment is experimental situations in which the researcher assigns, but not randomly, participants to the groups because the experimenter cannot artificially create groups for the experiment.[5] The purpose of quasi-experimental research is to get information through some assumption from the true experiment which is impossible to control or manipulate the entire relevant variables. The research design was used is

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[1]Donna M. Johnson, *Approaches to Research in: Second Language Learning*, New York & London: University of Arizona, Longman, p. 165

[2]Jhon, W..Creswell. *Educational Research: Planning, Conducting, and evaluating Quantative and Qualitative Research.* New Jersey: Pearson Education, 2008, p. 299

[3]James Dean Brown, Understanding *Research in Second Language Learning: A teacher's guide to statistics and research design*, New York: Cambridge University Press, 1988. p.10

[4] Brown, Ibid

[5] *Ibid.*, p. 645

nonequivalent group pretest-posttest control group design.[6] It is aimed to search whether there is an effect or not of treatment which has been done to the experimental subject without random assignment.[7]

Furthermore, this research used two classes as sample and used pretest and posttest design approach in the quasi-experimental design. The first class functioned as experimental class (X) treated by using Round Table technique, and the second was control class (Y) which was treated without using Round Table technique. In the experimental class, the students were administrated by giving pre-test at the beginning of the teaching learning in order to know students' writing ability on report paragraphs. Then there was treatment in the middle. During treatment, the writer cooperated with the observer, and post-test at the end of the teaching learning process was to know the effect of using Round Table technique toward students' writing ability of report paragraphs. So, the design of this research can be illustrated as follows:

Table III.1

Research Design

Class	Pre-test	Treatment	Post-test
Experimental	T1	X	T2
Control	T1		T2

Note:

T1   : Pre-test for both experimental and control class

T2   : Post-test for both experimental and control class

.   X   : Receiving treatment, that is using Round Table

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[6] James H. McMillan, *Research in Education,* sixth edition, (New york: Pearson Education, Inc, 2006), p. 274

[7] Jhon W. Cresswell, *Op.cit* p. 314

: No treatment

Table III. 2

Variables of the Research

Variable X	Variable Y
Using Round Table technique	Students' writing report paragraphs ability

B. Time and Location of the Research

a. Time of the Research

This research was conducted for eight (8) meetings on August 2013.

b. Location of the Research

This research was conducted at State Senior High School 1 Rumbio Jaya in Kampar Regency.

C. Subject and Object of the Research

a. Subject of the Research

The subject of this research was the eleventh grade students of State Senior High School 1 Rumbio Jaya 2013/2014 academic year.

b. Object of the Research

The object of this research was using Round Table technique and writing ability in report paragraphs.

D. Population and Sample of the Research

a. Population

The population of this research was the eleventh grade students at state Senior High School 1 Rumbio Jaya in 2013-2014 academic years. The students were divided into 3 classes. The number of the eleventh grade students at State Senior High School 1 Rumbio Jaya was 78 students.

b. Sample

The population was large enough to be taken as sample. So, the writer selected two groups of students to be taken as samples. The writer took sample by using simple random sampling. The writer used this technique because the students were homogenous. According to Gay and Airasian, in simple random sampling, subjects are selected from the population, so that all members have the same probabilty of being choosen.[8] Because there were three classes of the eleventh grade, two classes as science program and 1 class as social program, the writer took two classes as the sample of this research. Class XI IPA 1 was an experimental class and XI IPA 2 was a control class. Those were as the sample of the research by number 50 students. The similar characteristics intended for both of classes are: the students were taught by the same teacher of English, the students had the same level, the students had the same program (science program), and the students had the same material about learning of writing.

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[8] L.R. Gay and Peter Airasian, *Educational Research Competencies for Analysis and Application, Sixth Edition*, (New Jersey: Prentice Hall, 2000), p. 120

Table III.3
Sample of the research

Experiment class XI IPA1		Control class XI IPA 2	
Male	Female	Male	Female
11	14	9	16
25		25	
Total: 50			

E. Technique of Data Collection

In this research, the writer used test (pre-test and post-test) for collecting data. The purpose of the research was to know students' ability in writing report paragraphs by using Round Table technique. The first test was pre-test given before treatment. In pre-test, the students wrote a report paragraphs based on the topic given in 40 minutes. After that, the writer began to do the treatment by using Round Table in teaching writing report paragraphs and gave an exercise of writing. At the last meeting, the writer gave post-test for the students.

The writer used classification to measure students' ability in writing report paragraphs taught by using Round Table technique and taught without Round Table technique. According to Arikunto, there were 5 components to categorize students' writing ability. Each component has 20 as the highest score and the total of the components are 100. In this research, the writer took 80 as the highest score. Then the score was interpreted in the following category: [9]

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[9] Suharsimi Arikunto. *Dasar-Dasar Evaluasi Pendidikan : Edisi Revisi.* (Jakarta: Bumi Aksara, 2009), p. 245

1. 80 – 100 = A (Very good)
2. 66 – 79 = B (Good)
3. 56 – 65 = C (Enough)
4. 40 – 55 = D (Less)
5. 30 – 39 = E (Bad)

The students' ability in writing report paragraphs was also measured by using ESL Composition Profile. The scoring guide can be described as follows :[10]

Table III.4
Assessment Aspects of Writing Report Paragraph

No	Aspect Assessed	The Highest Score
1.	Content	30
2.	Organization a. General Classification b. Descriptions c. Conclusion	20
3.	Vocabulary	20
4.	Grammatical Features	25
5.	Spelling & punctuation	5
	Total Score	
	Maximum Score	100

In the class, there were some procedures of collecting data:

a. Pre Test

Pre – Test was given by the writer before the students were taught by using Round Table technique for experimental class and without using Round Table technique (Three-Phase technique) for control class. It was used to know students' writing ability. It was done at the first meeting.

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[10] Jane B. Hughey. et.al. *Teaching ESL Composition: Principles and Techniques.* Rowley: Newbury House Publisher, Inc., 1983. p. 140

b. Treatments

The Treatment was Round Table technique for experimental class. Round Table technique was given after they were given pre-test.

c. Post – Test

Post – test was given to the students after they were taught by using Round Table technique for experimental class and without using Round Table technique (Three-Phase technique) for control class. It was used to know their writing ability after being taught by using Round Table technique.

F. Technique of Data Analysis

The technique of collecting data was using test. The data were analyzed by using statistical 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. In order to answer these research questions, writer analyzed the data by using 't' test formula through SPSS 16 version.

After calculating the t-test, to know whether the score was significant or not, the writer should know the distinction between t_o and t_{table}. It was necessary to obtain the degree of freedom (df) in order to get the t_{table}. The formula of degree of freedom is:

$df = (N_E + N_C) - nr$

Where:

df   = the degree of freedom

N_E = number of students from experiment class

N_C = number of students from control class

nr = number of variable

Finally, when the writer knew the result, the writer concluded that if $t_o <$ t_{table}, H_o is accepted. It means that there is no effect of Round Table technique toward writing ability of the eleventh grade students at State Senior High School 1 Rumbio Jaya. If $t_o > t_{table}$, H_a is accepted. It means that there is a significant effect of writing ability between students who are taught and those who are not taught by using Round Table technique of the eleventh grade at State Senior High School 1 Rumbio Jaya.

G. Validity and Reliability of the Test

a. Validity of the Test

Fraenkel and Norman said that the term validity used in research refer to the appropriate, meaningful, and usefulness of any inferences a researcher draws based on data obtained through the use of an instrument.[11] Furthermore, Gay states that there are three kinds of validity. They are content validity, criterion-related validity, and construct validity. In order to know the validity of writing ability test, the writer used content validity. Content validity is partly a matter of determining if the content that the instruments content is an adequate sample of the domain of content, it is supposed to represent.[12] Thus, the test was given based on the material studied by the students. The material of the test was taken from the textbook

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[11] Jack R. Fraenkel & Norman E. Wallen. *How to design and Evaluate Research in Education.* (6th ed,; Avenue of America, New York: McGraw-Hill Companies, Inc., 2006), p.44
[12] Jack R. Fraenkel & Norman E. Wallen, *op, cit.*, p. 153

used by the eleventh grade students of State Senior High School 1 Rumbio Jaya.

b. Reliability of the Test

Reliability is the degree to which a test consistently measure whatever it is measuring.[13] The testing of students' writing ability had to have reliability in order to get the same scores obtained when the tests done were more than once. There are five types of reliability: stability, equivalence, equivalence and stability, internal consistency, and rater agreement. In this research, the writer used the rater agreement type of reliability concerned with inter-rater reliability as the scores were given by two raters. Then, the intercorrelation of the raters is used in finding the reliability of the test.[14] The following table is the category of reliability test used in determining the level of reliability of the tests. [15]

Table III. 5

The level of Reliability

No	Reliability	Level of Reliability
1	0.0 – 0.20	Low
2	0.21 – 0.40	Sufficient
3	0.41 – 0.70	High
4	0.71 – 1.0	Very High

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[13] L.R. Gay and Peter Airisian, Educational Research Competencies for Analysis and Application, (New Jersey: Pearson Education,2000),p.169

[14] Grant Henning. *A Guide to Language Testing: Development, Evaluation, Research.* (Massachusetts: Newbury House Publishers, Cambridge, 1987), pp.82-83

[15] Zelly Putriani. *The Correlation between Reported Speech Mastery and Speaking Ability of the Second Year Students of SMKN 1 Pekanbaru.* (Pekanbaru: Unpublished Thesis, 2012), p. 35

Correlations

		rater1	rater2
rater1	Pearson Correlation	1	.785**
	Sig. (2-tailed)		.000
	N	50	50
rater2	Pearson Correlation	.785**	1
	Sig. (2-tailed)	.000	
	N	50	50

**. Correlation is significant at the 0.01 level (2-tailed).

From the output above, it can be seen that r_o ($r_{obtained}$) is 0.785 correlated to r_t (r_{table}). It is necessary to find the df (degree of freedom).

df = N – nr

df : degree of freedom

N : Number of cases

nr : number of correlated variable

df = 25 – 2 = 23

The writer took df= 23 to be correlated either at level 5% or 1%. At level 5%, r_{table} is 0.369; while at level 1% r_{table} is 0.505. Thus, the $r_{obtained}$ is obtained higher than r_{table}, either at level 5% or 1%. So the writer concluded that there is a significant correlation between score given by rater 1 and score given by rater 2. In other words, the writing test is reliable.

Then, to know the level of the correlation, the r_o is process through *Spearman-Brown Prophecy formula* as follows:[16]

$$r_{tt} = \frac{n r_{A,B}}{1+(n-1)r_{A,B}}$$

Where,

r_{tt} = inter-rater reliability

n = the number of raters whose combined estimates the final mark for the examines

$r_{A.B}$ = the correlation between raters, or the average correlation among all raters if there are more than two

Report Paragraphs Reliability

The Reliability of Writing Test	
$r_{tt} =$	$\dfrac{n r_{A,B}}{1 + n - 1\ r_{A,B}}$
$r_{tt} =$	$\dfrac{2\,(0.785)}{1 + 2 - 1\ 0.785}$
$r_{tt} =$	$\dfrac{1.57}{1 + 0.785}$
$r_{tt} =$	$\dfrac{1.57}{1.785}$
$r_{tt} =$	0.879
$r_{tt} =$	**0.88** *(very high)*

Based on the data obtained above, the writer concluded that the inter rater reliability in this research was 0.88 categorized into very high level.

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[16] Grant Henning, *A Guide to Language Testing; Development, Evaluation, and Research,* (Boston: Heinle&Heinle, 1987), p.85