CHAPTER III

THE RESEARCH METHOD

A. The Research Design

This research consisted of two variables, they were Independent variable that referred to the using the Ask to Think-Tel Why strategy (variable x) and Dependent variable referred to reading comprehension (variable y). This research was an experimental research, it is supported by John W. Creswell that explains "In experimental research, we test an idea (practice or procedure) to determine whether it influences an outcome or dependent variable"[1]. In conducting this research, the writer used two classes. The first class was used as control class which was taught by using the Ask to Think-Tel Why strategy. In this research, the writer used control – group design. In this design, a popular approach to quasi experiment,was focused on Nonequivalent Control Group Design. Both of groups took a pretest and posttest, and only experiment group took the treatment. In working with such intact nonequivalent groups, the nonequivalent control group design,is shown below.[2]

Experimental Group   O_____X_____O

Control Group   O_____O

O = Test

X = treatment by using the Ask to Think-Tel Why strategy

B.The Time and the Location of the Research

The research location was at SMP N 1 Salo. The research was conducted from March to April 2013.

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[1]Creswell, John W. *Educational Research:planning, conducting, and evaluating quantitative and qualitative research.* New Jersey:pearson educational international.2008.p.299
[2]Bruce W Tuckman. *Educational Research*.p.141

C.The Subject and the Object of the Research

The subject of the research was the second year students of SMP N1Salo 2012/2013. The object of the research was the effect of using the Ask to Think- Tel Why strategy towards reading comprehension in descriptive text.

D.The Population and the Sample of the Research

The population in this research was the second year students at SMP N 1 Salo. It had four classes. Norman wallen and Jack R Fraenkel stated that if the amount subject is then less 100, it is better to take all the population and if the amount of the subject is more than 100, it is better to take sample about 50% of the population.[3] Based on the limitation of the research, the writerused two classes as samples of this research by using cluster random sampling. Cluster sampling randomly select groups, not individuals.[4] It is done by selecting group (not individual) because all members of selected group have similar characteristics.[5] the writer took VIII 1 as an experimental class and VIII 2 as control class.

E.The Technique of Collecting Data

To obtain the data needed in this research, the writer used a test. The writer used pre-test and post-test to experiment class in order to know the effect of using the Ask to Think- Tel Why strategy towards reading comprehension in descriptive text at the second year students at SMP N 1 Salo. The type of the test was multiple choices thatrequires the student to select a correct answer out of number options.

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[3]Norman wallen and Jack R Fraenkel. *Educational Research: A Guide to the Process* (New jersey)
[4]L.R Gay and Peter AirasianL. R. Gay and Peter Air asian. *Educational Research Competencies for Analysis and Application. Six Ed*. (New Jersey: Prentice-Hall, 2000).p. 129
[5]ibid.p.52

Pre-test was given before treatment and post-test was given after doing treatment. Post-test was done twice. Test was used to find out how is the students' reading comprehension. Type of the test was multiple choice tests that consisted of 20 items. Every multiple choice item consisted of four answers (a,b,c,d). The reading test wasto measure students' reading comprehension.

F. Validity and Reliability

1.Validity Test

Every test, whether it is short, informal classroom test or a public examination should be as valid as the test constructor can make it.Before the test was given to the sample of this research, the test was tried out to 33 students of VIII 4 class. The purpose of try out was to obtain validity and reliability of the test. The test is said to be valid if it measures what it was intended to measure.It was determined by finding the difficulty level of each item. The formula of item difficulty is as follows:[6]

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

Where

      P   : Index of difficulty or facility value

      B   : the number of correct answers

      JS   : the number of examinees or students

The standard level of difficulty used is >0.30 and <0.70[7]**.** It means that an item is accepted if the level of difficulty is between 0.30-0.70 and it 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

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[6]Suharsimi Arikunto., Op. Cit. p. 208
[7]Ibid. p. 210

answer is represented by "p", whereas the proportion of incorrect answer is represented by "q".

The calculation of item difficulty can be seen from the following table:

Table III.1
The Students are Able to Identify main idea

Variable	Identify main idea				Number of Student
Item No.	1	6	11	16	
Correct	22	17	16	23	33
P	0.67	0.52	0.48	0.70	
Q	0.33	0.48	0.52	0.30	

Based on the table, the item numbers of question for Identifying main idea are 1, 6, 11, and 16. It shows that the proportion of correct answer for Identifying main idea of test item number 1 is 0.67, the proportion of correct answer for test item number 6 is 0.52, the proportion of correct answer for test item number 11 is 0.48 and the proportion of correct answer for test item number 16 is 0.70. The average correct answer of Identifying main idea is 0.59. Then, based on the standard level of difficulty, all items for Identifying main idea or "P" is >0.30 and <0.70. So, the items of Identifying main idea are accepted.

Table III.2
The Students are Able to find out the meaning of vocabulary

Variable	find out the meaning of vocabulary				Number of Student
Item No.	2	7	12	17	
Correct	21	18	19	19	33
P	0.64	0.55	0.58	0.58	
Q	0.36	0.45	0.42	0.42	

Based on the table, the item numbers of question for finding out the meaning of vocabulary are 2, 7, 12, and 17. It shows that the proportion of correct answer for finding out the meaning of vocabularyof test item number 2 is 0.64, the proportion of correct answer for test item number 7 is 0.55, the proportion of correct answer for test item number 12 is 0.58 and the proportion of correct answer for test item number 17 is 0.58. The average correct answer of finding out the meaning of vocabulary is 0,58. Then, based on the standard level of difficulty, all items for finding out the meaning of vocabulary or "P" is >0.30 and <0.70. So, the items of finding out the meaning of vocabulary are accepted.

Table III.3
The Students are Able to Identify the information

Variable	Identifying the information				Number of Student
Item No.	3	8	13	18	
Correct	18	22	21	17	33
P	0.55	0.67	0.64	0.52	
Q	0.45	0.33	0.36	0.48	

Based on the table, the item numbers of question for Identifying the information are 3, 8, 13, and 18. It shows that the proportion of correct answer for Identifying the information of test item number 3 is 0.55, the proportion of correct answer for test item number 8 is 0.67, the proportion of correct answer for test item number 13 is 0.64 and the proportion of correct answer for test item number 18 is 0.52. The average correct answer of Identifying the information is 0.59. Then, based on the standard level of difficulty, all items for Identifying the information or "P" is >0.30 and <0.70. So, the items of Identifying the information are accepted.

Table III. 4
The Students are Able to Identify Reference

Variable	Identifying Reference				Number of Student
Item No.	4	9	14	19	
Correct	21	20	22	23	33
P	0.64	0.61	0.67	0.70	
Q	0.36	0.39	0.33	0.30	

Based on the table, the item numbers of question for Identifying Reference are 4, 9, 14, and 19. It shows that the proportion of correct answer for Identifying Reference of test item number 4 is 0.64, the proportion of correct answer for test item number 9 is 0.61, the proportion of correct answer for test item number 14 is 0.67 and the proportion of correct answer for test item number 19 is 0.70. The average correct answer of Identifying Reference is 0.65. Then, based on the standard level of difficulty, all items for Identifying Reference or "P" is >0.30 and <0.70. So, the items of Identifying Reference are accepted.

Table III. 5
The Students are Able to Make Inference

Variable	Making Inference	Number of Student

Item No.	5	10	15	20	
Correct	23	19	19	23	33
P	0.70	0.58	0.58	0.70	
Q	0.30	0.42	0.42	0.30	

Based on the table, the item numbers of question for Making Inference are 5, 10, 15, and 20. It shows that the proportion of correct answer for Making Inference of test item number 5 is 0.70, the proportion of correct answer for test item number 10 is 0.58, the proportion of correct answer for test item number 15 is 0.58 and the proportion of correct answer for test item number 20 is 0.70. The average correct answer of Making Inference is 0.64. Then, based on the standard level of difficulty, all items for Making Inference or "P" is >0.30 and <0.70. So, the items of Making Inference are accepted.

2.Reliability

Reliability is a necessary requirement of good test. Shohamy says that reliability refers to the extent to which the test is consistent in its score and it gives us an indication of how accurate the test scores are.[8] It is clear that reliability is used to measure the quality of the test scores and the consistency of the test. The writer used the Kuder Richardson 20 (K-R 20) formula to calculate the reliability of the test.[9]

$$r_{11} = \left(\frac{k}{k-1} \right) \left(\frac{Vt - \Sigma pq}{Vt} \right)$$

Where:

r_{11} :Instrument reliability

k : Number of items

[8]Elana Shohamy., *Op. Cit.* p. 70
[9]Suharsimi Arikunto, *Prosedur Penelitian: Suatu Pendekatan Praktik.* (Jakarta:PT. RinekaCipta, 2006), p.188

V_t: Variance total (the square of Standard Deviation)

p : The proportion of the students who are correct in answering an item divided with the total

number of the students

q : The proportion of the students who are incorrect in answering an item divided with the total

number of students.

The data can be seen at **Appendix 4**

Based on the data the writer got;

$$r_{11} = \left(\frac{20}{20-1}\right)\left(\frac{102.75 - 4.67}{102.75}\right)$$

k = 20

$$r_{11} = \left(\frac{20}{19}\right)\left(\frac{98.08}{102.75}\right)$$

V_t= 102.75

$$r_{11} = (1.05)(0.95)$$

pq = 4.67

$$r_{11} = 0.998$$

To know whether the test is reliable or not, the value of r_{11} must be consulted with r product

moment. The value of r_{11} must be higher than r table. From the calculation above the value of r_{11} is

0.998. Then the rt 5% grade of significance is 0.325. While rt 1% grade of significance is 0.418.

So, it can be concluded that 0.325<0.998>0.418. On the other hand, the instrument is reliable

because the value of r_{11} is higher than rt.

G.The Technique of Data Analysis

In order to know the effect of using the Ask to Think- Tel Why strategy towards reading

comprehension in descriptive text, the writer used the data from pre-test and post-test score

analyzed by using SPSS 20 Software and using T-Test formula in Hartono as follows:[10]

$$to = \frac{M_x - M_y}{\sqrt{\left(\frac{SD_x}{\sqrt{N-1}}\right)^2 + \left(\frac{SD_y}{\sqrt{N-1}}\right)^2}}$$

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[10]Hartono. *Statistik Untuk Penelitian. (Yogyakarta: Pustaka Pelajar, 2008).* p. 208

Where:

to : The value of t – obtained

Mx : Means score of experimental sample

My : Mean score of control sample

SDx: Standard deviation of experimental class

SDy: Standard deviation of control class

N: Number of students

The t-table is confronted to see whether there is a significant effect between the mean score of both experimental and control or not. The t-obtained value is consulted with the value of t-table at the degree of freedom (df) = $(N_1+N_2) - 2$. Then to know whether H_a and H_o is rejected or accepted, the hypotheses are statistically formulated as follows:

H_a: $t_o >$ t-table

H_o: $t_o <$ t-table

H_a is accepted if $t_o >$ t- table or there is any significant effect of using the Ask to Think- Tel Why strategy towards students' reading comprehension in Descriptive text.

H_o is accepted if $t_o <$ t – table or there is no significant effect of the Ask to Think- Tel Why strategy towards students' reading comprehension in Descriptive text.