

## **CHAPTER IV**

### **ANALYSIS AND RESEARCH FINDING**

#### **A. The Description of Data**

The purpose of this research is to measure the effectiveness of the use of contextual teaching and learning methods to teach reading comprehension in MTs At-Thosari Kalirejo, Ungaran Timur. This research used quantitative methods conducted from 21<sup>st</sup> February up to 28<sup>th</sup> March 2011. After conducting the research, he got the data of research finding that is obtained by using the test of the experiment class and control class after conducting different treatment of learning process in both classes.

The implementation of this study was divided in two classes, namely the experiment class (VIII A) and the control class (VIII B). Before the activities were conducted, the writer determines the materials and lesson plan of learning. Learning in the experiment class was conducted by contextual teaching and learning, while in the control class using non contextual teaching and learning.

Test was given before and after the students follow the learning process that was provided by the writer. After the data were collected, the writer analyzed them to prove the truth of the hypothesis that had been formulated. However, before the analysis was done, first the writer scored the results of the test that had been given to the students. The question that was given to students consists of 25 questions of reading test.

Before analyze the data, first the writer knew the data from the beginning of control class and experiments class that is taken from the pre-test score. After the control class and the experiment class conducted the learning processes, then both classes were given a post test to obtain the data that will be analyzed.

The steps of this research are as follows:

1. Prepare stage
  - a. Analysis questions validity

Validity test is used to determine the success of the test items. The questions that are not deserve to be scrapped and not to be used. The items that are feasible, it means the item is to present material that is chosen for comparison. The test is carried out test of validity, reliability, analysis about the difficulty level, and the calculation point about the proper use and improper use.

Based on the calculation results obtained results about the validity of the items which are listed in table 2.1 below.

Tabel 2.1. Percentage of exercise validity

No	Criteria	Question Number	Total ( $\Sigma$ )
1	Valid	1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 21, 22, 25	20
2	Invalid	17, 20, 22, 23, 24	5

See more calculations in appendix 3

- b. Analysis questions reliability

Having done validity test, then performed reliability testing on those instruments<sup>1</sup>. Reliability test used to determine the level of consistency in answers to the instrument. A good instrument accurately has consistent answers to the instrument whenever it is presented. Based on the calculation point about the reliability coefficient obtained by  $r_{11} = 0,4615$  and  $r_{table} = 0.2973$ . Because  $r_{11} = 0,4615 > r_{table} = 0.2973$ , it can be concluded that the instrument can be trusted to be used as a data collection tool. Calculation of reliability tests can be seen in Appendix 3.

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<sup>1</sup> Sudjana, Nana, *Penilaian Hasil Proses Belajar Mengajar*, (Bandung: PT. Remaja Rosdakarya, 1995), p.16

c. Analysis degree of test difficulty

Test questions difficulty level is used to determine the level of difficulty associated with problems that will test the participant's level of understanding of the matter. Based on calculations about the point about the difficulty level is obtained that the question of the criteria:

- a) Very difficult : -
- b) Difficult : -
- c) Medium : 21`
- d) Easy : 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 24, 25.
- e) Very easy : -

For more details can be found in Appendix 3

d. Analysis Degree of question distinctive

Based on the calculation results obtained by distinguishing about that item about the criteria:

- a) Very bad : 17, 22, 23
- b) Bad : 1, 2, 8, 9, 10, 12, 20, 21, 24, 25
- c) Enough : 3, 4, 5, 6,7, 11, 13, 14, 15, 16, 18, 19
- d) Good : -
- e) Excellent : -

For more details about the distinguishing features can be seen in Appendix 3.

From the 25 questions that tested the experimental class of eighth grade A. 20 obtained a valid question. Before the matter to the samples tested a valid question and then look for the suitable and not suitable to be used with table 2.2 calculated as follows:

Table 2.2. Percentage Point Problem Decent Use and Improper Use

No	Criteria	Question number	Total ( $\Sigma$ )
1	Dump	1, 2, 5, 8, 9, 10, 12, 17, 20, 21, 22, 23, 24, 25	14
2	Use	3, 4, 6, 7, 11, 13, 14, 15, 16, 18, 19	11

From 20 valid questions, it was 11 questions selected to be used and 14 questions selected to be dumped.

## 2. Implementation stage

The writer conducted field research. The writer held this research by teaching learning process that was done at two classes that are VIII B as control class and VIII A as experiment class. And the writer got the data from pre-test and post test. The pre-test was given before the lesson began and the post-test was given after the lesson finished.

The result of data analysis can be described as follows:

### a. The experiment class using contextual teaching learning (CTL)

The result of pre-test is gained with range score between 55 and 78 and the mean score is 65.75. Meanwhile in the post-test, the range score is between 62 and 93 and the mean score is 74.6.

The result of data analysis, both data calculation and raw scores, can be described as follows:

Table 2.3 The score of pre-test and post-test of experiment class

No	Sample	Pre test	Post test	Gained score
1	E-1	56	64	8
2	E-2	60	85	25
3	E-3	70	62	-8
4	E-4	75	77	2
5	E-5	67	68	1
6	E-6	70	70	0

7	E-7	72	70	-2
8	E-8	60	68	8
9	E-9	62	93	31
10	E-10	66	64	-2
11	E-11	78	86	8
12	E-12	64	68	4
13	E-13	61	70	9
14	E-14	64	72	8
15	E-15	55	80	25
16	E-16	70	74	4
17	E-17	65	90	25
18	E-18	65	75	10
19	E-19	69	80	11
20	E-20	66	76	10
		$\sum x=1315$	$\sum x^2=1492$	$\sum X=177$
		$M_x=65.75$	$M_{x^2}=74.6$	$M_X=8.85$

b. The control class using non CTL

The result of pre-test is gained with range score between 48 and 73 and the mean score is 61.1. Meanwhile, the result of pre-test is gained with range score between 55 and 80 and the mean score is 67.35.

The result of data analysis, both data calculation and raw scores, can be described as follows:

Table 2.4, The score of pre-test and post-test of control class

No	Sample	Pre test	Post test	Gained
1	C-1	61	68	7
2	C-2	52	65	13
3	C-3	60	72	12
4	C-4	60	64	4

5	C-5	59	70	11
6	C-6	62	64	2
7	C-7	56	76	20
8	C-8	73	80	7
9	C-9	65	67	2
10	C-10	63	66	3
11	C-11	67	75	8
12	C-12	57	60	3
13	C-13	50	59	9
14	C-14	72	65	-7
15	C-15	61	64	3
16	C-16	68	75	7
17	C-17	54	55	1
18	C-18	48	59	11
19	C-19	66	73	7
20	C-20	68	70	2
		$\sum y=1222$	$\sum y^2=1347$	$\sum Y=125$
		$M\sum y=61.1$	$M\sum y^2=67.35$	$M\sum Y=6.25$

## B. The Analysis of Data

After writing the comparison between the score of experiment and the control class, the writer calculates the deviation and square deviation for two classes as follows:

Table 2.5. The comparison of scores of each student in experiment class and control class

No	X	Y	x	Y	$x^2$	$y^2$
1	8	7	-0.85	0.75	0.7225	0.5625
2	25	13	16.15	6.75	260.8225	45.5625
3	-8	12	-16.85	5.75	283.9225	33.0625

4	2	4	-6.85	-2.25	46.9225	5.0625
5	1	11	-7.85	4.75	61.6225	22.5625
6	0	2	-8.85	-4.25	78.3225	18.0625
7	-2	20	-10.85	13.75	117.7225	189.0625
8	8	7	-0.85	0.75	0.7225	0.5625
9	31	2	22.15	-4.25	490.6225	18.0625
10	-2	3	-10.85	-3.25	117.7225	10.5625
11	8	8	-0.85	1.75	0.7225	3.0625
12	4	3	-4.85	-3.25	23.5225	10.5625
13	9	9	0.15	2.75	0.0225	7.5625
14	8	-7	-0.85	-13.25	0.7225	175.5625
15	25	3	16.15	-3.25	260.8225	10.5625
16	4	7	-4.85	0.75	23.5225	0.5625
17	25	1	16.15	-5.25	260.8225	27.5625
18	10	11	1.15	4.75	1.3225	22.5625
19	11	7	2.15	0.75	4.6225	0.5625
20	10	2	1.15	-4.25	1.3225	18.0625
	$\sum X=177$	$\sum Y=125$	$\sum X=0$	$\sum Y=0$	$\sum X^2=$ 2036.55	$\sum Y^2=$ 619.75
	$MX=8.85$	$MY=6.25$				

From the table at the page above, the writer has got the result of  $\sum X=177$ ,  $\sum Y=125$ ,  $\sum x^2=2036.55$  and  $\sum y^2=619.75$ , while each  $NX$  and  $NY$  is 20. Then, the writer found out the mean score of variable  $X$  and  $Y$  as follows;  $MX=8.85$  and  $MY=6.25$ . After getting  $MX$ ,  $MY$ ,  $\sum x^2$ ,  $\sum y^2$ ,  $NX$  and  $NY$ , the writer calculated them based on the steps of the t-test formula as follows:

$$a. \quad t_0 = \frac{Mx - My}{\sqrt{\frac{(\sum x^2 + \sum y^2) \cdot (Nx + Ny)}{Nx + Ny - 2} - (Nx \cdot Ny)}}$$

$$t_0 = \frac{14,60 - 6,8}{\sqrt{\frac{(2036.55 + 619.75) \cdot (20+20)}{20+20-2} \cdot (20 \cdot 20)}}$$

$$t_0 = \frac{7,8}{\sqrt{\frac{1058,812 \cdot 40}{38} \cdot 400}}$$

$$t_0 = \frac{7,8}{\sqrt{6,9902}}$$

$$t_0 = \frac{7,8}{2,56}$$

$$t_0 = 3,0469$$

$$= 3,05$$

b.  $df = N_1 + N_2 - 2$   
 $= 20 + 20 - 2$   
 $= 38$

There is no degree of freedom from 38, so the writer uses the closer df and it is 40.

- c. In degree of significance 5 % (see appendix) from 40 in  $t_t = 2.021$   
 In degree of significance 1 % (see appendix) from 40 in  $t_t = 2.704$
- d. The writer compared  $t_0$  to  $t_{table}$  that if  $t_0 > t_{table}$  it means that  $H_0$  is rejected and  $H_a$  is accepted, but when  $t_0 < t_{table}$  it means that  $H_0$  is accepted and  $H_a$  is rejected
- to:  $tt = 3.05 > 2.021$  in degree of significance 5%
- to:  $tt = 3.05 > 2.704$  in degree of significance 1%

### C. The Test of Hypotheses

This research is to answer the question about the significance different between teaching reading using Contextual Teaching Learning and teaching reading using non CTL method.

To get the answer of question, the writer should propose alternative hypothesis ( $H_a$ ) and null hypothesis ( $H_0$ ) as below:



Ha= There is a significant difference between the students' reading scores taught by Contextual Teaching Learning and taught by non CTL.

Ho = There is no significant difference between the students' reading scores taught by Contextual Teaching Learning and taught by non CTL Method.

The criteria of hypothesis presentation states that: If  $t_o > t_t$ , Ha is accepted and Ho rejected; and If  $t_o < t_t$ , it Ha is rejected and Ho is accepted.

From the result of the statistic calculation indicates that the value of  $t_o$  is 3.05 and the value of degree of freedom (df) was 38. In this research, the writer used the degree of significance of 5% and 1%. The writer used  $df = 40$  for there is no  $df$  for 38. Meanwhile, the degree of significance of 5 % is 2.021 and for 1% is 2.704.

After obtaining  $t_o$ , the writer compared it with each values of the degree of significance, the result is  $t_o: t_t = 3.05 > 2.021$  in degree of significance 5% and  $t_o: t_t = 4.05 > 2.704$  in degree of significance 1%.

Since  $t_o$  score is bigger than  $t_t$ , it means that alternative hypothesis (Ha) of research is accepted and the null hypothesis (Ho) is rejected. In another words, it means that there is a significant difference between the students' reading scores taught by Contextual Teaching Learning Method and taught by non CTL Method.