# CHAPTER IV

# INVESTIGATION AND DISCUSSION

## A. Description of the Result Research

The research had been conducted since April 4th of 2011 to April 12th of 2011. This research had been carried through six steps. They involve try out tests, pre-test, twice times treatment and post test.

To find out the effectiveness of using team word-webbing, the researcher identified some result, they are: The score of students before treatment, the score of students after treatment, the differences between pre test and post test score of students and from the differences of students' atmosphere between the students who are taught by using team word-webbing and the students who are not taught by using team word -webbing in teaching and learning process, they are in teaching reading news item text, especially in MA Darul Amanah Sukorejo Kendal.

The researcher did an analysis of quantitative data. The data is obtained by giving test to the experimental class and control class after giving a different treatment both classes. The subjects of this research were divided into three classes. They are experimental class (XA), control class (XD) and try out class (XC).

Before the test was used an instrument to collect the data, it had been tried out first to the students in tryout class. The researcher prepared 35 items as the instrument of the test. From 35 test items of tryout, some items were chosen as the instrument of the test. The choosing of the instrument had been done by considering many categories, like: validity, reliability, discriminating power and degree of test difficulty. Test was given before and after the students follow the learning process that was provided by the researcher, this test was given for control and experimental class.

Before the activities were conducted, the researcher determined the materials and lesson plan of learning. The experiment class learn using

team word-webbing, while the control class without used team word-webbing.

After the data were collected, the researcher analyzed it. The first analysis was to get a good instrument for investigation. Try-out was conducted for students in the class C of the tenth year of MA Darul Amanah Sukorejo Kendal and the respondents were 20 students. The data or diagram analysis of try-out finding was in appendix.

## B. The Data Analysis and Test of Hypothesis

### 1. The Data Analysis

#### a. The Data Analysis of Try-out Finding

This discussion covers validity, reliability, level of difficulty and discriminating power.

**1) Validity of Instrument**

As mentioned in chapter III, validity refers to a measurement which shows validity of the instrument. In this study, item validity is used to know the index validity of the test. To know the validity of instrument, the researcher used the Pearson product moment formula to analyze each item.

It is obtained that from 35 test items; there are 30 test items which are valid and 5 test items which are invalid (3, 9, 17, 20, 33). They are to invalid with the reason the computation result of their r *xy* value (the correlation of score each item) is lower than their $r_{table}$ value.

The following is the example of item validity computation for item number 1 and for the other items would use the same formula.

N = 20 $\sum Y$= 473

$\sum XY$= 414 $\sum X$ 2= 15

$\sum X$= 15 $\sum Y$ 2= 13031

$$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{\{N\sum X^2 - (\sum X)^2\}\{N\sum Y^2 - (\sum Y)^2\}}}$$

$$r_{xy} = \frac{(20\times 414) - (15\times 473)}{\sqrt{\{20\times 15 - 15^2\}\{20\times 13.031 - 473^2\}}}$$

$$r_{xy} = \frac{(8280) - (7095)}{\sqrt{\{300 - 225\}\{260620 - 223729\}}}$$

$$r_{xy} = \frac{1185}{\sqrt{\{75\}\{36891\}}}$$

$$r_{xy} = \frac{1185}{\sqrt{2766825}}$$

$$r_{xy} = \frac{1185}{1663.37}$$

$$r_{xy} = 0.712$$

From the computation above, the result of computing validity of the item number 1 is 0.712. After that, the researcher consulted the result to the table of r Product Moment with the number of subject (N) = 20 and significance level 5% it is 0444. Since the result of the computation is lower than r in table, the index of validity of the item number 1 is considered to be invalid. The list of the validity of each item can be seen in appendix.

**2) Reliability of Instrument**

A good test must be valid and reliable. Besides the index of validity, Reliability refers to the consistency of test scores. Besides having high validity, a good test should have high reliability too.

Alpha formula is used to know reliability of test is K - R. 20

$$r_{11} = \left(\frac{n}{n-1}\right)\left(1 - \frac{\sum pq}{S^2}\right)$$

Calculation result of $r_{11}$ is compared with $r_{table}$ of product moment by 5% degree of significance. If $r_{11}$ is higher than $r_{table}$, the item of question is reliable.

$$p = \frac{propotition\ of\ students\ who\ give\ the\ right\ answer}{numbers\ of\ students} = \frac{15}{20} = 0.75$$

$$q = \frac{proposition\ of\ students\ who\ give\ the\ wrong\ answer}{numbers\ \ of\ students} = \frac{5}{20} = 0.25$$

$$\sum pq = 7{,}088$$

$$st^2 = \frac{\sum Y^2 - \frac{(\sum Y)^2}{N}}{N}$$

$$= \frac{13031 - \frac{475^2}{20}}{20}$$

$$= \frac{13031 - \frac{225725}{20}}{20}$$

$$= \frac{13031 - 11186.45}{20}$$

$$= \frac{1844.55}{20}$$

$$= 92.2275$$

From formula above, we can analyze;

$$r_{11} = \left(\frac{35}{35-1}\right)\left[1 - \frac{7.008}{92.2275}\right]$$

$$= (1{,}09)(1 - 0{,}00076)$$

$$= 1{,}022$$

From the computation above, it is found out that $r_{11}$ (the total of reliability test) is 1,022, whereas the number of subjects is 35 and the critical value for r-table with significance level 5% is 0.444. Thus, the value resulted from the computation is higher than its critical value. It could be concluded that the instrument used in this research is reliable.

**3) Degree of Test Difficulty**

The following is the computation of the degree of test difficulty for item number 1 and for the other items would use the formula.

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

P = $0{,}00 \leq p \leq 0{,}30$ Difficult question

P= $0{,}30 \leq p \leq 0{,}70$ Sufficient

P= $0{,}70 \leq p \leq 1{,}00$ Easy.

B=15

JS=20

$$P = \frac{15}{20}$$

$$= 0,75$$

It is proper to say that the index difficulty of the item number 1 above can be said as the easy category, because the calculation result of the item number 1 is in the interval 0.70<□*p* □<1.00. After computing 35 items of the try-out test, there are items are considered to be easy and items are sufficient. The whole computation result of difficulty level can be seen in appendix.

**4) The Discriminating Power**

As mentioned in chapter III, The discrimination power measures how well the test items arranged to identify the differences in the students' competence. To do this analysis, the number of try-out subjects was divided into two groups, upper and lower groups.

$$D = \frac{B_A}{J_A} - \frac{B_B}{J_B} = P_A - P_B$$

The criteria are:

D < 0.2 is poor.

0.2 < D ≤ 0.4 is fair.

0.4 < D ≤ 0.7 is good.

0.7 < D ≤ 1 is very good.

Example of number 1 of items:

$$B_A = 10 \quad J_A = 10$$

$$B_B = 5 \quad J_B = 10$$

$$P_A = \frac{B_A}{J_A} = \frac{10}{10} = 1$$

$$P_B = \frac{B_B}{J_B} = \frac{5}{10} = 0,5$$

$$D = P_A - P_B = 1 - 0,5 = 0,5$$

The following is the computation of the discriminating power for item number 1, and for other items would use the same formula. The obtained result states that D = 0.5 and after being consulted to the discriminating power category, it is found that the result is on the 0.40< D

≤ 0.7. Thus, the items number one is on the good level. The result of the discriminating power of each item could be seen appendix.

**2. The Data Analysis of Pre-request Test**

**a. The Data Analysis of Pre-test Scores of the Experimental Class and the Control Class**

**Table IV. 1**

The list of Pre-Test Score of The Experimental and Control Classes

| Control Class | | | Experiment Class | | |
|---|---|---|---|---|---|
| No | Code | Total Score | No | Code | Total Score |
| 1 | C-1 | 60 | 1 | E-1 | 71 |
| 2 | C-2 | 74 | 2 | E-2 | 65 |
| 3 | C-3 | 65 | 3 | E-3 | 80 |
| 4 | C-4 | 80 | 4 | E-4 | 80 |
| 5 | C-5 | 71 | 5 | E-5 | 77 |
| 6 | C-6 | 65 | 6 | E-6 | 62 |
| 7 | C-7 | 97 | 7 | E-7 | 71 |
| 8 | C-8 | 80 | 8 | E-8 | 77 |
| 9 | C-9 | 80 | 9 | E-9 | 71 |
| 10 | C-10 | 74 | 10 | E-10 | 74 |
| 11 | C-11 | 74 | 11 | E-11 | 65 |
| 12 | C-12 | 68 | 12 | E-12 | 77 |
| 13 | C-13 | 68 | 13 | E-13 | 74 |
| 14 | C-14 | 65 | 14 | E-14 | 60 |
| 15 | C-15 | 80 | 15 | E-15 | 74 |
| 16 | C-16 | 74 | 16 | E-16 | 74 |
| 17 | C-17 | 74 | 17 | E-17 | 68 |
| 18 | C-18 | 82 | 18 | E-18 | 77 |
| 19 | C-19 | 68 | 19 | E-19 | 62 |
| 20 | C-20 | 65 | 20 | E-20 | 74 |

| | | | | | |
|---|---|---|---|---|---|
| 21 | C-21 | 94 | 21 | E-21 | 68 |
| 22 | C-22 | 71 | 22 | E-22 | 77 |
| 23 | C-23 | 62 | 23 | E-23 | 62 |
| 24 | C-24 | 62 | 24 | E-24 | 68 |
| 25 | C-25 | 97 | 25 | E-25 | 62 |
| 26 | C-26 | 74 | 26 | E-26 | 68 |
| 27 | C-27 | 71 | 27 | E-27 | 74 |
| 28 | C-28 | 77 | 28 | E-28 | 65 |
| 29 | C-29 | 77 | 29 | E-29 | 71 |
| 30 | C-30 | 62 | 30 | E-30 | 74 |
| 31 | C-31 | 62 | 31 | E-31 | 62 |
| 32 | C-32 | 60 | 32 | E-32 | 65 |
| 33 | C-33 | 62 | 33 | E-33 | 71 |
| 34 | C-34 | 74 | 34 | E-34 | 97 |
| | | | 35 | E-35 | 80 |
| | | | 36 | E-36 | 65 |
| | | | 37 | E-37 | 74 |
| | | | 38 | E-38 | 62 |
| | | | 39 | E-39 | 77 |
| | | | 40 | E-40 | 74 |

**b. The Normality Pre-test of the Experimental Class**

The computations of normality use the computation in excel. The result is stated below:

**Table IV. 2**

Normality Test of Pre-test of Experimental Class

| Class Interval | $O_i$ | $x_i$ | $O_i.x_i$ | $\left(x_i - \bar{x}\right)^2$ | $O_i.\left(x_i - \bar{x}\right)^2$ |
|---|---|---|---|---|---|
| 60-65 | 12 | 62.5 | 750 | 65.61 | 787.32 |
| 66-71 | 9 | 68.5 | 616.5 | 4.41 | 39.69 |
| 72-77 | 15 | 74.5 | 1117.5 | 15.21 | 228.15 |
| 78-83 | 3 | 80.5 | 241.5 | 98.01 | 294.03 |

| | | | | | |
|---|---|---|---|---|---|
| 84-89 | 0 | 86.5 | 0 | 252.81 | 0 |
| 90-95 | 0 | 92.5 | 0 | 479.61 | 0 |
| 96-101 | 1 | 98.5 | 98.5 | 778.41 | 778.41 |
| $\sum$ | 40 | | 2824 | | 2127.6 |

| Limit Class | $\bar{X} - X$ | Z for the Limit Class | P(Zi) Opportunities for Z | Size Classes for Z | $E_i$ | $(O_i - E_i)^2$ | $\frac{(O_i - E_i)^2}{E_i}$ |
|---|---|---|---|---|---|---|---|
| 59.5 | -11.73 | -1.60 | 0.0548 | 0.1625 | 6.5016 | 30.2319 | 4.6499 |
| 65.5 | -5.72 | -0.78 | 0.2174 | 0.2976 | 11.9038 | 8.4320 | 0.7083 |
| 71.5 | 0.28 | 0.04 | 0.5150 | 0.2891 | 11.5631 | 11.8125 | 1.0216 |
| 77.5 | 6.28 | 0.86 | 0.8040 | 0.1490 | 5.9588 | 8.7542 | 1.4691 |
| 83.5 | 12.28 | 1.67 | 0.9530 | 0.0407 | 1.6265 | 2.6456 | 1.6265 |
| 89.5 | 18.28 | 2.49 | 0.9937 | 0.0059 | 0.2345 | 0.0550 | 0.2345 |
| 95.5 | 24.28 | 3.31 | 0.9995 | 0 | 0.0000 | 0 | 0.0000 |
| | | | | | | $\sum$ | 9.7100 |

With a = 5% and df = 7-1=6, from the chi-square distribution table, obtained $X_{table}$ = 11.08. Because $X^2_{count}$ is lower than $X^2_{table}$ (9.71<12.59159). So, the distribution list is normal

**c. The Normality Pre-test of the Control Class**

The computations of normality use the computation in excel. The result is stated below:

**Table IV. 3**

Normality Test of Pre-test of Control Class

| Class Interval | $O_i$ | $x_i$ | $O_i.x_i$ | $\left(X_i - \bar{X}\right)^2$ | $O_i.\left(x_i - \bar{x}\right)^2$ |
|---|---|---|---|---|---|
| 60-65 | 11 | 62.5 | 687.5 | 97.6609 | 1074.2699 |
| 66-71 | 6 | 68.5 | 411 | 15.07266 | 90.4359862 |
| 72-77 | 9 | 74.5 | 670.5 | 4.484429 | 40.3598616 |
| 78-83 | 5 | 80.5 | 402.5 | 65.89619 | 329.480969 |
| 84-89 | 0 | 86.5 | 0 | 199.308 | 0 |
| 90-95 | 1 | 92.5 | 92.5 | 404.7197 | 404.719723 |
| 96-101 | 2 | 98.5 | 197 | 682.1315 | 1364.26298 |
| $\sum$ | 34 | | 2461 | | 3303.52941 |

| | | | | | |
|---|---|---|---|---|---|

| Limit Class | $\bar{X} - X$ | Z for the Limit Class | P(Zi) Opportunities for Z | Size Classes for Z | $E_i$ | $(O_i - E_i)^2$ | $\frac{(O_i - E_i)^2}{E_i}$ |
|---|---|---|---|---|---|---|---|
| 59.5 | -13.12 | -1.33 | 0.0911 | 0.1435 | 4.8784 | 37.4738 | 7.6816 |
| 65.5 | -7.12 | -0.72 | 0.2346 | 0.2202 | 7.4866 | 2.2099 | 0.2952 |
| 71.5 | -1.12 | -0.11 | 0.4547 | 0.2355 | 8.0073 | 0.9854 | 0.1231 |
| 77.5 | 4.88 | 0.50 | 0.6903 | 0.1756 | 5.9690 | 0.9390 | 0.1573 |
| 83.5 | 10.88 | 1.11 | 0.8658 | 0.0912 | 3.1008 | 9.6152 | 3.1008 |
| 89.5 | 16.88 | 1.72 | 0.9570 | 0.0330 | 1.1223 | 0.0150 | 0.0133 |
| 95.5 | 22.88 | 2.33 | 0.9900 | 0 | 0.0000 | 1 | |
| | | | | | | $\sum$ | 11.3713 |

With a = 5% and df = 7-1=6, from the chi-square distribution table, obtained $X_{table}$ = 12.59159. Because $X^2_{count}$ is lower than $X^2_{table}$(11,3713<12.59159). So, the distribution list is normal.

**d. The Homogeneity of Initial Data in the Control Class and the Experimental Class**

Homogeneity test is used to find out whether the group is homogenous or not. The computations of homogeneity use the computation in excel. The result is stated below

Hypothesis

$H_0$ : $\sigma_1 = \sigma_2$

$H_{1:}$ $\sigma_1 \neq \sigma_2$

**Table IV. 4**

**Homogenity Table**

| Source Variant | Experiment Class | Control Class |
|---|---|---|
| Total | 2849 | 2469 |
| n | 40 | 34 |
| $\overline{X}$ | 71.23 | 72.62 |
| Variant ($s^2$) | 53.179 | 96.668 |
| Standard Deviation (s) | 7.329 | 9.832 |

| Sample | dk = $n_i$ - 1 | 1/dk | $S_i^2$ | Log $S_i^2$ | dk.Log $S_i^2$ | dk * $Si^2$ |
|---|---|---|---|---|---|---|
| Experiment | 39 | 0,026 | 53,179 | 1,726 | 67,304 | 2073,981 |
| Control | 33 | 0,030 | 96,668 | 1,985 | 65,514 | 3190,044 |
| Total | 72 | | | | 132,818 | 5264,025 |

$$S^2 = \frac{\sum (n_i - 1) Si^2}{\sum (n_i - 1)} =$$

$$= \frac{5264,025}{72} = 73,111$$

$$B = (Log S^2) \times \sum (n_i - 1)$$

=134, 21

$$x^2_{count} = (nln10)\{B - \sum(dk) log S_i^2$$

$$= 2,3 \times \{134,21 - 132,818\}$$

$$= 2,3 \times 1,389$$

$$= 3,194$$

From the calculation above, we get $x^2_{count} = 3,194$. With a = 5% and df = 2-1 = 1, obtained $x^2_{table} = 3,841$. Because $x^2_{count} = 3,194$ is lower than $x^2_{table} = 3,841$, (3,194<3,841). So, Ho is accepted and there is no difference of the pre test variant from both groups. It means that the variant of both groups is homogeny.

**e. The Average Similarity Test of Pre-Test of the Experimental and the Control Class**

The computations of average similarity use the computation in excel. The result is stated below:

**Table IV. 5**

**The Result Average of Pre Test Score**

$H_0$: $\mu_1 = \mu_2$

$H_1$: $\mu_1 \neq \mu_2$

$$t = \frac{\overline{x_1} - \overline{x_2}}{s\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} \qquad s = \sqrt{\frac{(n_1 - 1)s_1^{\,2} + (n_2 - 1)s_2^{\,2}}{n_1 + n_{2-2}}}$$

**criteria :**

Ho accepted if $-t_{(1-\frac{1}{2}\alpha)} < t < t_{(1-\frac{1}{2}\alpha)}$

with $\alpha = 5\%$ and dk$= n_1 + n_2 - 2 =$ 72

| Sample | | $s_i^2$ | n | s | t |
|---|---|---|---|---|---|
| Experiments | 71.23 | 53.719 | 40 | 8.3647 | -0.7124 |
| Control | 72.62 | 96.668 | 34 | | |

We get data**:**

$t_{count}$ = -0.7124

$t_{tabel}$ = 2.0000

So, $-t_{(0.975)(70)} < t < t_{(0.975)(70)}$

With α= 5% and df = 40+34 – 2 = 72, obtained *t table* = 2,000. Because *t count* is higher than *t table* (-0.7124> 2,000). From the result, it can be concluded that there is a difference in students' scores. The hypothesis is accepted.

**3. The Data Analysis of Post-request Test**

**a. The Data Analysis of Post-test Scores of the Experimental Class and the Control Class**

**Table IV. 6**

The list of Post-Test Score of The Experimental and Control Classes

| **No** | **Code** | **Total Scrore** | **No** | **Code** | **Total Score** |
|---|---|---|---|---|---|
| 1 | E-1 | 88 | 1 | C-1 | 77 |
| 2 | E-2 | 85 | 2 | C-2 | 80 |
| 3 | E-3 | 91 | 3 | C-3 | 77 |
| 4 | E-4 | 97 | 4 | C-4 | 80 |
| 5 | E-5 | 97 | 5 | C-5 | 77 |
| 6 | E-6 | 82 | 6 | C-6 | 74 |
| 7 | E-7 | 80 | 7 | C-7 | 100 |
| 8 | E-8 | 88 | 8 | C-8 | 71 |
| 9 | E-9 | 88 | 9 | C-9 | 80 |
| 10 | E-10 | 94 | 10 | C-10 | 85 |
| 11 | E-11 | 80 | 11 | C-11 | 85 |
| 12 | E-12 | 91 | 12 | C-12 | 74 |
| 13 | E-13 | 91 | 13 | C-13 | 85 |
| 14 | E-14 | 88 | 14 | C-14 | 80 |

| | | | | | |
|---|---|---|---|---|---|
| 15 | E-15 | 94 | 15 | C-15 | 74 |
| 16 | E-16 | 97 | 16 | C-16 | 88 |
| 17 | E-17 | 97 | 17 | C-17 | 82 |
| 18 | E-18 | 97 | 18 | C-18 | 74 |
| 19 | E-19 | 80 | 19 | C-19 | 85 |
| 20 | E-20 | 88 | 20 | C-20 | 80 |
| 21 | E-21 | 97 | 21 | C-21 | 100 |
| 22 | E-22 | 85 | 22 | C-22 | 80 |
| 23 | E-23 | 91 | 23 | C-23 | 65 |
| 24 | E-24 | 88 | 24 | C-24 | 80 |
| 25 | E-25 | 91 | 25 | C-25 | 100 |
| 26 | E-26 | 77 | 26 | C-26 | 85 |
| 27 | E-27 | 91 | 27 | C-27 | 85 |
| 28 | E-28 | 91 | 28 | C-28 | 82 |
| 29 | E-29 | 91 | 29 | C-29 | 82 |
| 30 | E-30 | 85 | 30 | C-30 | 74 |
| 31 | E-31 | 91 | 31 | C-31 | 74 |
| 32 | E-32 | 77 | 32 | C-32 | 82 |
| 33 | E-33 | 85 | 33 | C-33 | 77 |
| 34 | E-34 | 91 | 34 | C-34 | 77 |
| 35 | E-35 | 91 | | total | 2751 |
| 36 | E-36 | 80 | | average | 80,9117647 |
| 37 | E-37 | 91 | | | |
| 38 | E-38 | 88 | | | |
| 39 | E-39 | 91 | | | |
| 40 | E-40 | 91 | | | |
| | total | 3556 | | | |
| | average | 88,9 | | | |

**b. The Normality Post-test of the Experimental Class**

The computations of normality use the computation in excel. The result is stated below:

**Table IV. 7**

Normality Test of Post-test of Experimental Class

| Class Interval | $O_i$ | $x_i$ | $O_i.x_i$ | $\left(x_i - \bar{x}\right)^2$ | $O_i.\left(x_i - \bar{x}\right)^2$ |
|---|---|---|---|---|---|
| 77-79 | 2 | 78 | 156 | 104.04 | 208.08 |
| 80-82 | 5 | 81 | 405 | 51.84 | 259.2 |

| | | | | | |
|---|---|---|---|---|---|
| 83-85 | 4 | 84 | 336 | 17.64 | 70.56 |
| 86-88 | 7 | 87 | 609 | 1.44 | 10.08 |
| 89-91 | 14 | 90 | 1260 | 3.24 | 45.36 |
| 92-94 | 2 | 93 | 186 | 23.04 | 46.08 |
| 95-97 | 6 | 96 | 576 | 60.84 | 365.04 |
| $\sum$ | 40 | | 3528 | | 1004.4 |

| Limit Class | $X - \bar{X}$ | Z for the Limit Class | P(Zi) Opportunities for Z | Size Classes for Z | $E_i$ | $(O_i - E_i)^2$ | $\frac{(O_i - E_i)^2}{E_i}$ |
|---|---|---|---|---|---|---|---|
| 76.5 | -12.40 | -2.22 | 0.0134 | 0.0332 | 1.3265 | 0.4536 | 0.3420 |
| 79.5 | -9.40 | -1.68 | 0.0465 | 0.0799 | 3.1955 | 3.2562 | 1.0190 |
| 82.5 | -6.40 | -1.14 | 0.1264 | 0.1454 | 5.8140 | 3.2906 | 0.5660 |
| 85.5 | -3.40 | -0.61 | 0.2718 | 0.1998 | 7.9901 | 0.9803 | 0.1227 |
| 88.5 | -0.40 | -0.07 | 0.4715 | 0.2074 | 8.2946 | 32.5517 | 3.9244 |
| 91.5 | 2.60 | 0.46 | 0.6789 | 0.1626 | 6.5044 | 20.2899 | 3.1194 |
| 94.5 | 5.60 | 1.00 | 0.8415 | 0 | 0.0000 | 4 | 0.0000 |
| | | | | | | $\sum$ | 9.0935 |

With a = 5% and df = 7-1=6, from the chi-square distribution table, obtained $X_{table}$ = 11.08. Because $X^2_{count}$ is lower than $X^2_{table}$ (9.0935<12.59159). So, the distribution list is normal

**c. The Normality Post-test of the Control Class**

The computations of normality use the computation in excel. The result is stated below:

**Table IV. 8**

Normality Test of Post-test of Control Class

| Class Interval | $O_i$ | $x_i$ | $O_i.x_i$ | $\left(x_i - \bar{x}\right)^2$ | $O_i.\left(x_i - \bar{x}\right)^2$ |
|---|---|---|---|---|---|
| 65-70 | 1 | 67.5 | 67.5 | 175.173 | 175.173 |
| 71-76 | 7 | 73.5 | 514.5 | 52.34948 | 366.4464 |
| 77-82 | 16 | 79.5 | 1272 | 1.525952 | 24.41522 |
| 83-88 | 7 | 85.5 | 598.5 | 22.70242 | 158.917 |
| 89-94 | 0 | 91.5 | 0 | 115.8789 | 0 |
| 95-100 | 3 | 97.5 | 292.5 | 281.0554 | 843.1661 |
| 101-107 $\sum$ | 0 | 104 | 0 | 541.2465 | 0 |

| | | | | | |
|---|---|---|---|---|---|
| | 34 | | 2745 | | 1568.118 |

| Limit Class | $\bar{X} - X$ | Z for the Limit Class | P(Zi) Opportunities for Z | Size Classes for Z | $E_i$ | $(O_i - E_i)^2$ | $\frac{(O_i - E_i)^2}{E_i}$ |
|---|---|---|---|---|---|---|---|
| 64.5 | -16.41 | -2.12 | 0.0168 | 0.0720 | 2.4490 | 2.0995 | 0.8573 |
| 70.5 | -10.41 | -1.35 | 0.0888 | 0.1951 | 6.6336 | 0.1342 | 0.0202 |
| 76.5 | -4.41 | -0.57 | 0.2839 | 0.2975 | 10.1157 | 34.6249 | 3.4229 |
| 82.5 | 1.59 | 0.21 | 0.5815 | 0.2556 | 8.6904 | 2.8573 | 0.3288 |
| 88.5 | 7.59 | 0.98 | 0.8371 | 0.1237 | 4.2049 | 17.6815 | 4.2049 |
| 94.5 | 13.59 | 1.76 | 0.9607 | 0.0337 | 1.1445 | 3.4428 | 3.0081 |
| 100.5 | 19.59 | 2.54 | 0.9944 | 0 | 0.0000 | 9 | |
| | | | | | | $\sum$ | 11.8422 |

With a = 5% and df = 7-1=6, from the chi-square distribution table, obtained $X_{table}$ = 12.59159. Because $X^2_{count}$ is lower than $X^2_{table}$ (11, 8422<12.59159). So, the distribution list is normal.

**d. The Homogeneity of Initial Data in the Control Class and the Experimental Class**

Homogeneity test is used to find out whether the group is homogenous or not. The computations of homogeneity use the computation in excel. The result is stated below

Hypothesis

$H_0$ : $\sigma_1 = \sigma_2$

$H_{1:}$ $\sigma_1 \neq \sigma_2$

**Table IV. 9**

**Homogenity Table**

| Source variant | Exsperiment | Control |
|---|---|---|
| Total | 3556 | 2751 |
| n | 40 | 34 |
| $\overline{X}$ | 88.90 | 80.91 |
| Varians ($S^2$) | 31.323 | 59.659 |
| Standart deviasi (S) | 5.597 | 7.724 |

| Sample | dk = $n_i$ - 1 | 1/dk | $S_i^2$ | Log $S_i^2$ | dk.Log $S_i^2$ | dk * $Si^2$ |
|---|---|---|---|---|---|---|
| 1 | 39 | 0.026 | 31.323 | 1.496 | 58.339 | 1221.597 |
| 2 | 33 | 0.030 | 59.659 | 1.776 | 58.597 | 1968.747 |
| Total | 72 | | | | 116.936 | 3190.344 |

$$S^2 = \frac{\sum (n_i - 1) Si^2}{\sum (n_i - 1)} =$$

$$= \frac{3190,344}{72} = 44,310$$

$$B = (Log S^2) \times \sum (n_i - 1)$$

=118, 55

$$x^2_{count} = (\ln 10)\{B - \sum (dk) log S_i^2$$

$$= 2,3 \times \{118,55 - 116,936\}$$

$$= 2,3 \times 1,389$$

$$= 3,194$$

From the calculation above, we get $x^2_{count} = 3,194$ with α = 5% and df = 2-1 = 1, obtained $x^2_{table} = 3,841$. Because $x^2_{count} = 3,194$ is lower than $x^2_{table} = 3,841$, (3,194<3,841). So, Ho is accepted and there is no difference of the pre test variant from both groups. It means that the variant of both groups is homogeny.

**e. The Average Similarity Test of Post-Test of the Experimental and the Control Classes**

The computations of Average Similarity use the computation in excel. The result is stated below

Hypothesis:

$H_{0:}$ $\mu_1 = \mu_2$

$H_{1:}$ $\mu_1 \neq \mu_2$

$$t = \frac{\overline{x_1} - \overline{x_2}}{s\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} \qquad s = \sqrt{\frac{(n_1 - 1)s_1^{\,2} + (n_2 - 1)s_2^{\,2}}{n_1 + n_{2-2}}}$$

**criteria :**

Ho accepted if $-t_{(1-\frac{1}{2}\alpha)} < t < t_{(1-\frac{1}{2}\alpha)}$

with $\alpha = 5\%$ $x_i$ and dk$= n_1 + n_2 - 2$ = 72

**Table IV. 10**

**The Result Average of Post Test Score**

| Source Variant | Experiment | Control | $S^2$ | $S$ | t |
|---|---|---|---|---|---|
| Mean | 88.90 | 80.91 | 44.3102 | 6.6566 | 5.1446 |
| Variant | 31.3231 | 59.6586 | | | |
| s | 5.5967 | 7.7239 | | | |
| n | 40 | 34 | | | |

With α = 5% and df = 40+34 – 2 = 72, obtained $t_{table}$= 2,000. Because $t_{count}$ is higher than *t table* (5, 1446> 2,000). $H_0$ is not accepted and $H_1$ is accepted. It means that teaching reading using team word-webbing in increasing reading comprehension is better than using conventional method. From the result, it can be concluded that there is a difference in students' comprehension in news item text score between students taught using team word-webbing and those taught using non-team word-webbing.

**C. Observation Interpretation on Understanding Demonstrated by the Students**

The observation was carried out during the treatment focused on the students' comprehension in News Item Text. The concern was given by viewing the students' observable behavior appeared in class within teamwork phase. In this case, the researcher saw their activeness, through the questions pertaining to news item text.

Questioning, here, has many purposes in teaching reading news. Firstly, the question which was given to the students provided the teacher information about their understanding on news item during the research or treatment and enabled the teacher to measure their understanding through the answers they gave whether correct, incorrect or partially correct.

While during the teamwork, the observation result shown that it was about 60%-80% of students who gave explanation and answered the question on given material correctly and about less than 20% answered incorrectly to other students'. Observation showed that score of control class was 60% while experiment class was 80%. It showed that experiment class was higher than control class in class activity during the research is conducted. The score specification is in appendix.

## D. Discussion of Research Finding

This section discusses the research findings while include discussion and the advantages of the treatment; they are the use of team word-webbing in teaching reading news item text.

1. Discussion

Based on the finding of the research, it was found that the students who were taught by using team word-webbing have been improved in parts of reading comprehension than the students who were taught by using conventional method because the students who were taught by using team word-webbing can memorize parts of meaning word through webbing so that the students easily to absorb the material.

Based on the result of the pre-test before team word-webbing was implemented, the ability of students to comprehend the text was lower than after team word-webbing was implemented.

After getting treatment and post-test was conducted, it was found that there were significant differences between experimental group and control group where the post test score of experimental group was higher. The improvement of the students who taught using team word-webbing is higher than the improvement of students who taught without team word webbing. It can be seen the mean pre test score of control class was 70, 18, and in the post test was 80, 91 while the mean of pre test score of experimental class was 71, 23 and in the post test was 88, 9. It means that the most improvement is in experiment class.

The result of the data analysis showed that the strategy of using team word-webbing in teaching reading news item text seemed to be applicable for the tenth grade students of MA Darul Amanah. The strategy encouraged the students to be more active and motivated in teaching reading, especially in text type. And also can be used in teaching variety of language.

The testing hypothesis indicated that the experimental group was significant higher than the control group. The mean score of the experimental group was 88, 9 and the control group was 80, 91, and the differences between the two means were 8.00. The t-test score showed that $t_{count}$ is higher than $t_{table}$ (5.144 > 2.0000) with $\alpha = 5\%$.

There are differences the students atmosphere that were taught using team word-webbing between who were taught without team word-webbing, it can be seen in teaching learning process, they are as follow:

a. In the experimental class

   When the teacher taught using team word-webbing, it makes the students more interested in learn. In teaching and learning process the students more enjoy and relax, so they can free express their idea in the classroom. When the teacher asked students to comprehend the text, most of them can comprehend it by showing the webbing, when teacher gave them assignment; the students did it with fun.

b. In the control class

   When the teacher using conventional method, just explain the material and gave them assignment, the student's attention not focused on the lesson. Students get bored; it makes them difficult to absorb the material. Students are also lazy when teacher gave them some assignments. And the last they cannot improve their comprehension about news item.

Based on the statement above, it is proven that there was a significant different achievement between the students who were taught by

using team word-webbing as a medium of teaching reading news item and the students who were taught by using conventional method.

2. The advantages of the treatment

Here the researcher showed some factors that might influence the result of the experiment. The factors were the advantages in using team word-webbing in teaching reading comprehension. Team word-webbing have some positive influences in teaching parts of speech. There are some reasons why using team word-webbing are effective in teaching and learning English, especially in teaching reading .They are as follows:

a. Team Word-Webbing teaches students to be less reliant on the teacher and more reliant on their own ability to think, to seek information to other source and to learn for other students
b. Team Word-Webbing encourages students to verbalize their ideas and to compare them with the ideas and feeling of other students
c. Help students to learn respect for one another's strengths and imitations and to accept these differences
d. Working in Team Word-Webbing teams help empower students to take greater responsibility for their own learning and for their learning of others
e. Team Word-Webbing is an effective strategy for having students achieve a wide range of academic and social outcomes including enhanced achievement, improved self esteem, positive interpersonal relationship with other students, improved time management skill, and positive attitudes toward school
f. Having students work together result in much more learning then occurs when students work alone, competitively, or individually
g. Team Word-Webbing can lead to students to being frustrated less often, getting confused less often, feeling more intellectually challenged, feeling more actively involved in learning and looking forward to class more often

h. The interaction that occurs during cooperative learning activity help to motivate students and stimulate their thinking, and view education as a life-long process rather than short-term training

In contrast, not all students have well in reading English, especially text type. Those are caused by some factors that influence the students in learning English. They are as follows:

a. The perception that English is the difficult lesson in school.
b. The perception that English is unused in daily conversation
c. A poor motivation from the students to learn English seriously
d. There is no big willingness to learn English
e. Conventional method that makes students feel boring

In this research, the researcher used the team word-webbing to increase students' reading comprehension in news item text. So, the research findings are only representative in that school. The researcher hopes that more researches will be done by the others to prove this method in learning and teaching English.

## E. Limitation of the Research

The researcher realizes that this research had not been done optimally. There were constraints and obstacles faced during the research process. Some limitations of this research are:

1. Relative short time of research makes this research could not be done maximum.
2. The research is limited at MA Darul Amanah Sukorejo Kendal. So that when the same research will be gone in other schools, it is still possible to get different result.
3. The implementation of the research process was less smooth; this was more due to lack of experience and knowledge of the researcher.

Considering all those limitations, there is a need to do more research about teaching reading text type. So, the more optimal result will be gained.