CHAPTER IV
RESEARCH FINDINGS AND ANALYSIS

A. Description of the Research

To find out the difference between the students who were taught using diary writing as a medium and the students who were not taught using diary writing in writing recount text in class VIII A and VIII B of SMP Nurul Islami Mijen Semarang, the writer did analysis of quantitative data. The data was obtained by giving test to the experimental class and control class after giving a different treatment of learning process in both classes.

The implementation of this research was divided into two classes. They were experimental class (VIII A) and control class (VIII B). Before the activities were conducted, the writer determined the materials and lesson plan of learning. Learning in the experimental class was conducted by adding treatment of diary writing as homework, while the control class using conventional method (without using diary writing).

Test was given before and after the students followed the learning process provided by the researcher. After the data was collected, the researcher analyzed it. The first data analysis is from the beginning of learning process in both control class and experimental class that is taken from the pre-test score. It is the normality test and homogeneity test. It is used to know that two groups are normal and have same variant. Another data analysis is from the ending of learning process in both control class and experimental class. It is used to prove the truth of hypothesis that has been formulated.

Before the analysis was done, the researcher scored the results of the test that had been given to the students. The assignment that was given to the students was writing their unforgetable experience. To measure the students' writing skill, the researcher presented the scores for each elements of writing test when after the pre test and post test done.

B. The Data Analysis and Hypothesis of Test

In analyzing the data, the writer scored each element of the students' writing that consists of organization, content, vocabulary, grammar and mechanic. Then the writer calculates the mean score and the total score of each element.

The result of the students' achievement in writing recount text:

1. Experimental Group
   a. Pre-Test
      a) Content

   $$Mxc = \frac{\sum \times c}{S\max} \times 100\%$$

   $$Mxc = \frac{465}{23(30)} \times 100\%$$

   $$Mxc = \frac{465}{690} \times 100\%$$

   $$Mxc = 67.39\%$$

   The calculation of mean content score is 67.39%. This means that the students' achievement in content is fair.

      b) Organization

   $$Mxo = \frac{\sum \times o}{S\max} \times 100\%$$

   $$Mxo = \frac{339}{23(20)} \times 100\%$$

   $$Mxo = \frac{339}{460} \times 100\%$$

   $$Mxo = 73.70\%$$

   The calculation of mean organization score is 73.70%. This means that the students' achievement in organization is fair.

c) Vocabulary

$$Mxv = \frac{\Sigma \times v}{S\max} \times 100\%$$

$$Mxv = \frac{341}{23(20)} \times 100\%$$

$$Mxv = \frac{341}{460} \times 100\%$$

$$Mxv = 74.13\%$$

The calculation of mean vocabulary score is 74.13%. This means that the students' achievement in vocabulary is fair.

d) Grammar

$$Mxg = \frac{\Sigma \times g}{S\max} \times 100\%$$

$$Mxg = \frac{399}{23(25)} \times 100\%$$

$$Mxg = \frac{399}{575} \times 100\%$$

$$Mxg = 69.39\%$$

The calculation of mean grammar score is 69.39%. This means that the students' achievement in grammar is fair.

e) Mechanic

$$Mxm = \frac{\Sigma \times m}{S\max} \times 100\%$$

$$Mxm = \frac{93}{23(5)} \times 100\%$$

$$Mxm = \frac{93}{115} \times 100\%$$

$$Mxm = 80.87\%$$

The calculation of mean mechanic score is 80.87%. This means that the students' achievement in mechanic is good.

f) Mean Total Score of Writing

$$Mxt = \frac{\sum \times t}{S\max} \times 100\%$$

$$Mxt = \frac{1637}{23(30+20+20+25+5)} \times 100\%$$

$$Mxt = \frac{1637}{23(100)} \times 100\%$$

$$Mxt = \frac{1637}{2300} \times 100\%$$

$$Mxt = 71.17\%$$

The calculation of pre-test score of experimental group is 71.17%. This means that the students' achievement in writing recount is fair.

b. Post-Test

a) Content

$$Mxc = \frac{\sum \times c}{S\max} \times 100\%$$

$$Mxc = \frac{556}{23(30)} \times 100\%$$

$$Mxc = \frac{556}{690} \times 100\%$$

$$Mxc = 80.58\%$$

The calculation of mean content score is 80.58%. This means that the students' achievement in content is good.

b) Organization

$$Mxo = \frac{\sum \times o}{S\max} \times 100\%$$

$$Mxo = \frac{395}{23(20)} \times 100\%$$

$$Mxo = \frac{395}{460} \times 100\%$$

$$Mxo = 85.87\%$$

The calculation of mean organization score is 85.87%. This means that the students' achievement in organization is excellent.

c) Vocabulary

$$Mxv = \frac{\sum \times v}{S \max} \times 100\%$$

$$Mxv = \frac{376}{23(20)} \times 100\%$$

$$Mxv = \frac{376}{460} \times 100\%$$

$$Mxv = 81.74\%$$

The calculation of mean vocabulary score is 81.74%. This means that the students' achievement in vocabulary is good.

d) Grammar

$$Mxg = \frac{\sum \times g}{S \max} \times 100\%$$

$$Mxg = \frac{433}{23(25)} \times 100\%$$

$$Mxg = \frac{433}{575} \times 100\%$$

$$Mxg = 75.30\%$$

The calculation of mean grammar score is 75.30%. This means that the students' achievement in grammar is good.

e) Mechanic

$$Mxm = \frac{\sum \times m}{S \max} \times 100\%$$

$$Mxm = \frac{100}{23(5)} \times 100\%$$

$$Mxm = \frac{100}{115} \times 100\%$$

$$Mxm = 86.96\%$$

The calculation of mean mechanic score is 86.96%. This means that the students' achievement in mechanic is excellent.

f) Mean total score of writing

$$Mxt = \frac{\Sigma \times t}{S\max} \times 100\%$$

$$Mxt = \frac{1863}{23(30+20+20+25+5)} \times 100\%$$

$$Mxt = \frac{1863}{23(100)} \times 100\%$$

$$Mxt = \frac{1863}{2300} \times 100\%$$

$$Mxt = 81\%$$

The calculation of post-test score of experimental group is 81%. This means that the students' achievement in writing recount is good.

2. Control Group

   a. Pre-Test

   To find out the mean of each element of writing, the writer used the formula that can be seen as below:

   a) Content

   $$Myc = \frac{\Sigma yc}{S\max} \times 100\%$$

   $$Myc = \frac{448}{22(30)} \times 100\%$$

   $$Myc = \frac{448}{660} \times 100\%$$

   $$Myc = 67.88\%$$

   The calculation of mean content score is 67.88%. This means that the students' achievement in content is fair.

   b) Organization

   $$Myo = \frac{\Sigma yo}{S\max} \times 100\%$$

$$Myo = \frac{331}{22(20)} \times 100\%$$

$$Myo = \frac{331}{440} \times 100\%$$

$$Myo = 75.23\%$$

The calculation of mean organization score is 75.23%. This means that the students' achievement in organization is good.

c) Vocabulary

$$Myv = \frac{\sum yv}{S\max} \times 100\%$$

$$Myv = \frac{330}{22(20)} \times 100\%$$

$$Myv = \frac{330}{440} \times 100\%$$

$$Myv = 75\%$$

The calculation of mean vocabulary score is 75%. This means that the students' achievement in vocabulary is good.

d) Grammar

$$Myg = \frac{\sum yg}{S\max} \times 100\%$$

$$Myg = \frac{364}{22(25)} \times 100\%$$

$$Myg = \frac{364}{550} \times 100\%$$

$$Myg = 66.18\%$$

The calculation of mean grammar score is 66.18%. This means that the students' achievement in grammar is fair.

e) Mechanic

$$Mym = \frac{\sum ym}{S\max} \times 100\%$$

$$Mym = \frac{83}{22(5)} \times 100\%$$

$$Mym = \frac{83}{110} \times 100\%$$

$$Mym = 75.45\%$$

The calculation of mean mechanic score is 75.45%. This means that the students' achievement in mechanic is good.

f) Mean total score of writing

$$Myt = \frac{\sum yt}{S\max} \times 100\%$$

$$Myt = \frac{1554}{24(30+20+20+25+5)} \times 100\%$$

$$Myt = \frac{1554}{22(100)} \times 100\%$$

$$Myt = \frac{1554}{2200} \times 100\%$$

$$Myt = 70.64\%$$

The calculation of pre-test score of control group is 70.64 %. This means that the students' achievement in writing recount is fair.

b. Post-Test

The result of the post-test are below:

a) Content

$$Myc = \frac{\sum yc}{S\max} \times 100\%$$

$$Myc = \frac{474}{22(30)} \times 100\%$$

$$Myc = \frac{474}{660} \times 100\%$$

$$Myc = 71.82\%$$

The calculation of mean content score is 71.82%. This means that the students' achievement in content is fair.

b) Organization

$$Myo = \frac{\sum xo}{S\max} \times 100\%$$

$$Myo = \frac{351}{22(20)} \times 100\%$$

$$Myo = \frac{351}{440} \times 100\%$$

$$Myo = 79.77\%$$

The calculation of mean organization score is 79.77%. This means that the students' achievement in organization is good.

c) Vocabulary

$$Myv = \frac{\sum \times v}{S\max} \times 100\%$$

$$Myv = \frac{339}{22(20)} \times 100\%$$

$$Myv = \frac{339}{440} \times 100\%$$

$$Myv = 77.05\%$$

The calculation of mean vocabulary score is 77.05%. This means that the students' achievement in vocabulary is good.

d) Grammar

$$Myg = \frac{\sum \times g}{S\max} \times 100\%$$

$$Myg = \frac{383}{22(25)} \times 100\%$$

$$Myg = \frac{383}{550} \times 100\%$$

$$Myg = 69.64\%$$

The calculation of mean grammar score is 69.64%. This means that the students' achievement in grammar is fair.

e) Mechanic

$$Mym = \frac{\sum \times m}{S\max} \times 100\%$$

$$Mym = \frac{88}{22(5)} \times 100\%$$

$$Mym = \frac{88}{110} \times 100\%$$

$$Mym = 80\%$$

The calculation of mean mechanic score is 80%. This means that the students' achievement in mechanic is good.

f) Mean total score of writing

$$Myt = \frac{\sum yt}{S\max} \times 100\%$$

$$Myt = \frac{1631}{22(30+20+20+25+5)} \times 100\%$$

$$Myt = \frac{1631}{22(100)} \times 100\%$$

$$Myt = \frac{1631}{2200} \times 100\%$$

$$Myt = 74.14\%$$

The calculation of post-test score of control group is 74.14%. This means that the students' achievement in writing recount is good.

Based on the calculation above, the writer determines the level of the students' achievement in writing recount text into the criterion as follow:

Table 4

Writing Score of Pre-test of the Experimental Class

No	Writing Element	N	Max Score	Total Score	Mean in percent	Criteria of writing mastery
1.	Content	23	30	465	67,39%	Fair
2.	Organization	23	20	339	73,70%	Fair
3.	Vocabulary	23	20	341	74,13%	Fair
4.	Grammar	23	25	399	69,39%	Fair
5.	Mechanic	23	5	93	80,87%	Good
		23	100	1637	71,17%	Fair

Table 5

Writing Score of Post-test of the Experimental Class

No	Writing Element	N	Max score	Total Score	Mean in percent	Criteria of writing mastery
1.	Content	23	30	556	80,58%	Good
2.	Organization	23	20	395	85,87%	Excellent
3.	Vocabulary	23	20	376	81,74%	Good
4.	Grammar	23	25	433	75,30%	Good
5.	Mechanic	23	5	100	86,96%	Excellent
		23	100	1863	81%	Good

The results of the percentage element mean score of writing which is accordance with the writing mastery criteria both pre-test and post-test in control class.

Table 6

Writing Score of Pre-test of the Control Class

No	Writing Element	N	Max score	Total Score	Mean in percent	Criteria of writing mastery
1.	Content	22	30	448	67,88%	Fair
2.	Organization	22	20	331	75,23%	Good
3.	Vocabulary	22	20	330	75%	Good
4.	Grammar	22	25	364	66,18%	Fair
5.	Mechanic	22	5	83	75,45%	Good
		22	100	1554	70,64%	Fair

Table 7

Writing Score of Post-test of the Control Class

No	Writing Element	N	Max score	Total Score	Mean in percent	Criteria of writing mastery
1.	Content	22	30	474	71,82%	Fair
2.	Organization	22	20	351	79,77%	Good
3.	Vocabulary	22	20	339	77,05%	Good
4.	Grammar	22	25	383	69,64%	Fair
5.	Mechanic	22	5	88	80%	Good
		22	100	1631	74,14%	Fair

Based on the result above, the percentage of students' score in the control class was different from the students in the experimental class. It proved that the use of diary writing in writing recount text is better that the use of conventional method. The experimental class got better score than the control one.

After determined the level of the students' achievement in writing recount text, the researcher analyzed the pre-test and post-test value of the experimental class and control class.

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

Table 8

The list of Pre-test Score of the Experimental and Control Classes

NO	Experimental Class			NO	Control Class		
	x_i	$(x_i - \bar{x})$	$(x_i - \bar{x})^2$		x_i	$(x_i - \bar{x})$	$(x_i - \bar{x})^2$
1	57	-14.17	200.79	1	85	14.36	206.21
2	68	-3.17	10.49	2	61	-9.46	92.93
3	76	4.83	23.33	3	69	-1.64	2.69
4	72	0.83	0.69	4	64	-6.64	44.09
5	59	-12.17	148.11	5	74	3.36	11.29
6	63	-8.17	66.75	6	67	-3.64	13.25
7	68	-3.17	10.49	7	62	-8.64	74.65
8	72	0.83	0.69	8	64	-6.64	44.09
9	55	-16.17	261.47	9	72	1.36	1.85
10	67	4.17	17.39	10	74	3.36	11.29
11	61	-10.17	103.43	11	80	9.36	87.61
12	74	2.83	8.01	12	67	-3.64	13.25
13	71	-0.17	0.03	13	88	17.36	301.37
14	65	-6.17	38.07	14	91	20.36	414.53
15	78	6.83	46.65	15	57	-13.64	186.05
16	75	3.83	14.67	16	72	1.36	1.85
17	72	0.83	0.69	17	56	-14.64	214.33
18	74	2.83	8.01	18	76	5.36	28.73
19	92	20.83	433.89	19	68	-2.64	6.97
20	81	9.83	96.63	20	72	1.36	1.85

21	82	10.83	117.29	21	73	2.36	5.57
22	87	15.83	250.59	22	62	-8.64	74.65
23	68	-3.17	10.49				
$\sum$	1637		1868.65	$\sum$	1554		1839.1
$\overline{x}$	71.17			$\overline{x}$	70.64		

1. **Searching for the normality of initial data in the experimental class**

   The normality test is used to know whether the data obtained is normally distributed or not. Based on the table above, the normality test:

   Hypothesis:

   Ha: The distribution list is normal.

   Ho: The distribution list is not normal

   Test of hypothesis:

   The formula is used:

   $$\chi^2 = \sum_{i=1}^{k} \frac{(O_i - E_i)^2}{E_i}$$

   The computation of normality test:

   N = 23

   Maximum score = 92

   Minimum score = 55

   Range = 92-55 = 37

   K / Number of class (K = 1+3,3log n) = 6

   Length of the class (i = r/K) = 6

   $\sum x = 1637$

   $\overline{x} = 71.17$

Table 9

Normality Pre test of the Experimental Class

Interval Class	x_i	f_i	$(x_i - \bar{x})$	$(x_i - \bar{x})^2$	$f_i(x_i - \bar{x})^2$
55 – 60	57.5	3	-13.67	186.87	560.61
61 – 66	63.5	3	-7.67	58.83	176.49
67 – 72	69.5	8	-1.67	2.79	22.32
73 – 78	75.5	5	4.33	18.75	93.75
79 – 84	81.5	2	10.33	106.71	213.42
85 – 92	88.5	2	17.33	300.33	600.66
		23			1667.25

$$S = \sqrt{\frac{\sum f_i(x_i - \bar{x})^2}{n-1}} = \sqrt{\frac{1667.25}{23-1}} = \sqrt{75.78}$$

$$= 8{,}71$$

Table 10

Normality Pre test of the Experimental Class

Class interval	Limit class	Z for the limit class	Opportu-nities Z	Size classes for Z	Oi	Ei	$\frac{(O_i - E_i)^2}{E_i}$
	54.5	-1.91	0.0281				
55 – 60				0,0812	3	1.87	0.63
	60.5	-1.23	0.1093				
61 – 66				0,1853	3	4.26	0.37
	66.5	-0.54	0.2946				
67 – 72				0,2350	8	5.41	1.24
	72.5	0.15	0.0596				
73 – 78				0,2399	5	5.52	0.05
	78.5	0.84	0.2995				

				0,1375	2	3.16	0.43
79 – 84							
	84.5	1.53	0.4370				
85 – 92				0,0559	2	1.29	0.39
	92.5	2.45	0.4929				
The result of computation Chi–Square							3.11

With $\alpha =$ 5% and dk = 6-3=3, from the chi-square distribution table, obtained χ^2_{table} = 7.82 Because χ^2_{count} is lower than χ^2_{table} (3.11<7.82). So, the distribution list is normal.

2. **Searching for the normality of initial data in the control class**

   Hypothesis:

   Ha: The distribution list is normal.

   Ho: The distribution list is not normal

   Test of hypothesis:

   The formula is used:

   $$\chi^2 = \sum_{i=1}^{k} \frac{(O_i - E_i)^2}{E_i}$$

   The computation of normality test:

   N = 22

   Maximum score = 91

   Minimum score = 56

   Range = 91-56 = 36

   K / Number of class (K = 1+3,3log n) = 6

   Length of the class (i = r/K) = 6

   $\sum x$ = 1554

   $\bar{x}$ = 70,64

Table 11

Normality Pre test of the Control Class

Interval Class	x_i	f_i	$(x_i - \bar{x})$	$(x_i - \bar{x})^2$	$f_i(x_i - \bar{x})^2$
56 – 61	58.5	3	-12.14	147.38	442.14
62 – 67	64.5	6	-6.14	37.70	226.2
68 – 73	70.5	6	-0.14	0.02	0.12
74 – 79	76.5	3	5.86	34.34	103.02
80 – 85	82.5	2	11.86	140.66	281.32
86 – 91	88.5	2	17.86	318.98	637.96
		22			1690.76

$$S = \sqrt{\frac{\sum f_i(x_i - \bar{x})^2}{n-1}} = \sqrt{\frac{1690.76}{22-1}} = \sqrt{80.51}$$

$$= 8,97$$

Table 12

Normality Pre test of the Control Class

Class interval	Limit class	Z for the limit class	Opportu-nities Z	Size classes for Z	Oi	Ei	$\dfrac{(O_i - E_i)^2}{E_i}$
	55.5	-1.69	0.0455				
56 – 61				0,1084	3	2.38	0.16
	61.5	-1.02	0.1539				
62 – 67				0,2093	6	4.60	0.43
	67.5	-0.35	0.3632				
68 – 73				0,2377	6	5.23	0.11
	73.5	0.32	0.1255				
74 – 79				0,2134	3	4.69	0.61
	79.5	0.99	0.3389				
80 – 85				0,1126	2	2.48	0.09

	85.5	1.66	0.4515				
86 – 91				0,0386	2	0.85	1.56
	91.5	2.33	0.4901				
The result of computation Chi–Square							2.96

With α = 5% and dk = 6-3=3, from the chi-square distribution table, obtained χ^2_{table} = 7.82. Because χ^2_{count} is lower than χ^2_{table} (2.96<7.82). So, the distribution list is normal.

3. **Searching for the homogeneity of the control class and the experimental class.**

    Homogeneity test is used to find out whether the group is homogenous or not.

    Hypothesis :

$$H_o : \sigma_1^2 = \sigma_2^2$$
$$H_A : \sigma_1^2 \neq \sigma_2^2$$

    Test of hypothesis:

    The formula is used:

$$F = \frac{Biggest \, variant}{smallest \, variant}$$

    The Data of the research:

$\sigma_1^2 = 84.94 \qquad n_1 = 23$

$\sigma_2^2 = 87.58 \qquad n_2 = 22$

$$\sigma_1^2 = \quad S_1^2 = \frac{\sum(x-\bar{x})^2}{n_1 - 1}$$

$$S_1^2 = \frac{1868.65}{23-1} = 84.94$$

$$\sigma_2^2 = \quad S_2^2 = \frac{\sum(x-\bar{x})^2}{n_2 - 1}$$

$$S_2^2 = \frac{1839.1}{22-1} = 87.58$$

Biggest variant (Bv) = 87.58

Smallest variant (Sv) = 84.94

Based on the formula, it is obtained:

$$F = \frac{Biggest \text{ var} iant}{smallest \text{ var} iant}$$

$$F = \frac{87.58}{84.94}$$

$$F = 1.03$$

With α = 5% and dk = (23-1 = 22) : (22-1 = 21), obtained F_{table} 2.11.

Because F_{count} is lower than F_{table} (1,03< 2.11). So, Ho is accepted and the two groups have same variant / homogeneous

4. **Searching for the average similarity of the initial data between the control and the experimental classes**

   To test the average similarity, data is analyzed using t-test.

   Hypothesis :

   H$_o$: $\mu_1 = \mu_2$

   H$_a$: $\mu_1 \neq \mu_2$

   Description:

   μ_1: average of experimental class

   μ_2: average of control class

   Based on the computation of the homogeneity test, the experimental class and control class have same variant. So, the t-test formula:

   $$t = \frac{\overline{x_1} - \overline{x_2}}{S\sqrt{\dfrac{1}{n_1} + \dfrac{1}{n_2}}}$$

   With:

   $$S = \sqrt{\frac{(n_1 - 1)S_1^{\,2} + (n_2 - 1)S_2^{\,2}}{n_1 + n_2 - 2}}$$

The data of the research:

$\overline{x_1} = 71.17$ $\overline{x_2} = 70.64$

$S_1^2 = 84.94$ $S_2^2 = 87.58$

$n_1 = 23$ $n_2 = 22$

$$S = \sqrt{\frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2}}$$

$$S = \sqrt{\frac{(23 - 1)84.94 + (22 - 1)87.58}{23 + 22 - 2}} = 9.29$$

So, the computation t-test:

$$t = \frac{\overline{x_1} - \overline{x_2}}{S\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} = \frac{71.17 - 70.64}{9.29\sqrt{0,0889}} = \frac{0.53}{2.77} = 0,19$$

With $\alpha = 5\%$ and dk = 23 + 22 − 2 = 43, obtained $t_{table} = 2, 02$. Because t_{count} is lower than t_{table} (0, 19 < 2, 02). So, Ho is accepted and there is no difference of the pre test average value from both groups.

b. **The End Phase Analysis**

Table 13

The List of Post-test Score of the Experimental and Control Classes

NO	Experimental Class			NO	Control Class		
	x_i	$(x_i - \overline{x})$	$(x_i - \overline{x})^2$		x_i	$(x_i - \overline{x})$	$(x_i - \overline{x})^2$
1	62	-19	361	1	92	17.86	318.98
2	78	-3	9	2	67	-7.14	50.98
3	93	12	144	3	76	1.86	3.46
4	72	-9	81	4	65	-9.14	83.54
5	66	-15	225	5	83	8.86	78.50

6	69	-12	144	6	70	-4.14	17.14
7	79	-2	4	7	71	-3.14	9.86
8	75	-6	36	8	70	-4.14	17.14
9	60	-21	441	9	74	-0.14	0.02
10	77	-4	16	10	72	-2.14	4.58
11	74	-7	49	11	81	6.86	47.06
12	87	6	36	12	70	-4.14	17.14
13	89	8	64	13	93	18.86	355.70
14	88	7	49	14	90	15.86	251.54
15	93	12	144	15	60	-14.14	199.94
16	74	-7	49	16	76	1.86	3.46
17	94	13	169	17	57	-17.14	293.78
18	82	1	1	18	77	2.86	8.18
19	96	15	225	19	70	-4.14	17.14
20	88	7	49	20	80	5.86	34.34
21	85	4	16	21	75	0.86	0.74
22	89	8	64	22	62	-12.14	147.38
23	93	12	144				
$\sum$	1863		2520	$\sum$	1631		1960.6
$\overline{x}$	81			$\overline{x}$	74.14		

1. **Searching for the normality of initial data in the experimental class**

     The normality test is used to know whether the data obtained is normally distributed or not. Based on the table above, the normality test:

Hypothesis:

Ha: The distribution list is normal.

Ho: The distribution list is not normal

Test of hypothesis:

The formula is used:

$$\chi^2 = \sum_{i=1}^{k} \frac{(O_i - E_i)^2}{E_i}$$

The computation of normality test:

N = 23

Maximum score = 96

Minimum score = 60

Range = 96-60 = 36

 K / Number of class (K = 1+3,3log n) = 6

Length of the class (i = r/K) = 6

$$\sum x = 1863$$

$$\bar{x} = 81$$

Table 14

Normality Post-test of the Experimental Class

Interval Class	x_i	f_i	$(x_i - \bar{x})$	$(x_i - \bar{x})^2$	$f_i(x_i - \bar{x})^2$
60 – 65	62.5	2	-18.5	342.25	684.5
66 – 71	68.5	2	-12.5	156.25	312.5
72 – 77	74.5	5	-6.5	42.25	211.25
78 – 83	80.5	3	-0.5	0.25	0.75
84 – 89	86.5	6	5.5	30.25	181.5
90 – 96	93	5	12.5	144	720
		23			2110.5

$$S = \sqrt{\frac{\sum f_i(x_i - \bar{x})^2}{n-1}} = \sqrt{\frac{2110.5}{23-1}} = \sqrt{95.93}$$

$$= 9.79$$

Table 15

Normality Post-test of the Experimental Class

Class interval	Limit class	Z for the limit class	Opportu-nities Z	Size classes for Z	Oi	Ei	$\frac{(O_i - E_i)^2}{E_i}$
	59.5	-2.20	0.0139				
60 – 65				0,0432	2	0.99	1.03
	65.5	-1.58	0.0571				
66 – 71				0,1089	2	2.50	0.10
	71.5	-0.97	0.1660				
72 – 77				0,1934	5	4.45	0.07
	77.5	-0.36	0.3594				
78 – 83				0,2568	3	5.91	1.43
	83.5	0.26	0.1026				
84 – 89				0,2052	6	4.72	0.35
	89.5	0.87	0.3078				
90 – 96				0,1351	5	3.11	1.15
	96.5	1.58	0.4429				
The result of computation Chi–Square							4.13

With $\alpha = 5\%$ and dk = 6-3=3, from the chi-square distribution table, obtained $\chi^2_{table} = 7.82$ Because χ^2_{count} is lower than χ^2_{table} (4.13<7.82). So, the distribution list is normal.

2. **Searching for the normality of initial data in the control class**

Hypothesis:

Ha: The distribution list is normal.

Ho: The distribution list is not normal

Test of hypothesis:

The formula is used:

$$\chi^2 = \sum_{i=1}^{k} \frac{(O_i - E_i)^2}{E_i}$$

The computation of normality test:

N = 22

Maximum score = 93

Minimum score = 57

Range = 93-57 = 36

K / Number of class (K = 1+3,3log n) = 6

Length of the class (i = r/K) = 6

$\sum x$ = 1631

$\bar{x}$ = 74.14

Table 16

Normality Post-test of the Control Class

Interval Class	x_i	f_i	$(x_i - \bar{x})$	$(x_i - \bar{x})^2$	$f_i(x_i - \bar{x})^2$
57– 62	59.5	3	-14.64	214.32	642.96
63 – 68	65.5	2	-8.64	74.65	149.3
69 – 74	71.5	7	-2.64	6.97	48.79
75 – 80	77.5	5	3.36	11.29	37.93
81 – 86	83.5	2	9.36	87.61	175.22
87 – 93	90	3	15.86	251.54	754.62
		22			1808.82

$$S = \sqrt{\frac{\sum f_i(x_i - \bar{x})^2}{n-1}} = \sqrt{\frac{1808.82}{22-1}} = \sqrt{86.13}$$

$$= 9.28$$

Table 17

Normality Post-test of the Control Class

Class interval	Limit class	Z for the limit class	Opportu-nities Z	Size classes for Z	Oi	Ei	$\dfrac{(O_i - E_i)^2}{E_i}$
	56.5	-1.90	0.0287				
57 – 62				0,0769	3	1.69	1.02
	62.5	-1.25	0.1056				
63 – 68				0,1653	2	3.64	0.74
	68.5	-0.61	0.2709				
69 – 74				0,2549	7	5.61	0.34
	74.5	0.04	0.0160				
75 – 80				0,2389	5	5.26	0.01
	80.5	0.69	0.2549				
81 – 86				0,1533	2	3.37	0.56
	86.5	1.33	0.4082				
87 – 93				0,0735	3	1.62	1.18
	93.5	2.09	0.4817				
The result of computation Chi–Square							3.85

With α = 5% and dk = 6-3=3, from the chi-square distribution table, obtained χ^2_{table} = 7.82. Because χ^2_{count} is lower than χ^2_{table} (3.85<7.82). So, the distribution list is normal.

3. **Searching for the homogeneity of the control class and the experimental class.**

Homogeneity test is used to find out whether the group is homogenous or not

Hypothesis :

$$H_o : \sigma_1^2 = \sigma_2^2$$
$$H_A : \sigma_1^2 \neq \sigma_2^2$$

Test of hypothesis:

The formula is used:

$$F = \frac{Biggest \, variant}{smallest \, variant}$$

The Data of the research:

$\sigma_1^2 = 114.55 \qquad n_1 = 23$

$\sigma_2^2 = 93.36 \qquad n_2 = 22$

$$\sigma_1^2 = \quad S_1^2 = \frac{\sum(x-\bar{x})^2}{n_1 - 1}$$

$$S_1^2 = \frac{2520}{23-1} = 114.55$$

$$\sigma_2^2 = \quad S_2^2 = \frac{\sum(x-\bar{x})^2}{n_2 - 1}$$

$$S_2^2 = \frac{1960.6}{22-1} = 93.36$$

Biggest variant (Bv) = 114.55

Smallest variant (Sv) = 93.36

Based on the formula, it is obtained:

$$F = \frac{Biggest \, variant}{smallest \, variant}$$

$$F = \frac{114.44}{93.36}$$

$$F = 1.23$$

With $\alpha = 5\%$ and dk = (23-1 = 22) : (22-1 = 21), obtained F_{table} 2.11.

Because F_{count} is lower than F_{table} (1,23< 2.11). So, Ho is accepted and the two groups have same variant / homogeneous

4. **Searching for the average similarity of the initial data between the control and the experimental classes**

To test the average similarity, data is analyzed using t-test.

Hypothesis :

H$_o$: $\mu_1 = \mu_2$

H$_a$: $\mu_1 \neq \mu_2$

Description:

μ_1: average of experimental class

μ_2: average of control class

Based on the computation of the homogeneity test, the experimental class and control class have same variant. So, the t-test formula:

$$t = \frac{\overline{x_1} - \overline{x_2}}{S\sqrt{\dfrac{1}{n_1} + \dfrac{1}{n_2}}}$$

With:

$$S = \sqrt{\frac{(n_1 - 1)S_1^{\,2} + (n_2 - 1)S_2^{\,2}}{n_1 + n_2 - 2}}$$

The data of the research:

$\overline{x_1} = 81.00$	$\overline{x_2} = 74.14$
$S_1^{\,2} = 114.55$	$S_2^{\,2} = 93.36$
$n_1 = 23$	$n_2 = 22$

$$S = \sqrt{\frac{(n_1 - 1)S_1^{\,2} + (n_2 - 1)S_2^{\,2}}{n_1 + n_2 - 2}}$$

$$S = \sqrt{\frac{(23 - 1)114.55 + (22 - 1)93.36}{23 + 22 - 2}} = 10.21$$

So, the computation t-test:

$$t = \frac{\overline{x_1} - \overline{x_2}}{S\sqrt{\dfrac{1}{n_1} + \dfrac{1}{n_2}}} = \frac{81.00 - 74.14}{10.21\sqrt{0,0889}} = \frac{6.86}{3.04} = 2,26$$

With $\alpha = 5\%$ and df = 23 + 22 − 2 = 43, obtained t_{table} = 2, 02. Because t_{count} is higher than t_{table} (2.26 > 2, 02).

From the result, it can be concluded that there is a difference result between the students who were taught by using diary writing and those were taught by using conventional method (recount text only) where the students who wrote diary got better scores. The hypothesis is accepted.

C. The Analysis of Interview

Beside test, the researcher also used interview as secondary data. Interview is dialogue between interviewer and interviewee. The writer will interviewed the students related to the writing class. The follow up of interview aimed at knowing how the use of diary writing was. So the writer got more information about students' responses. Here, the writer used semi-structured interview.

The writer took 12 students from total number of the experimental class as the interviewees. The writer used stratified sample where the subjects of interview were taken from group of students with high scores, medium scores, and low score. After grouping the students, the writer chose the sample randomly. 4 students were taken from each group.

The writer gave them six questions to be answered. Here was the result of the interview:

1. Question number 1 was, whether the students were interested in writing recount text. The result was 83.33% of students were interested in writing recount text and 16.67% of students were not interested. It can be concluded that most of them were interested in writing recount text.

2. Question number 2 was, whether the students found difficulties in writing recount text. The result was 41.67% of students felt difficult in mastering vocabulary, 25% of students felt difficult in mastering grammar, 25% of students felt difficult in mastering both vocabulary and grammar, and

8.33% of students did not find any difficulties in writing recount text. It can be concluded that most of them found difficulties in writing esspecially in mastering vocabulary.

3. Question number 3 was, whether the students enjoyed learning writing recount text by using diary writing. The result was 91.67% of students enjoyed learning writing recount text by using diary writing and 8.33% of students did not enjoy learning writing by using diary writing. It can be concluded that most of them enjoyed learning writing recount text by using diary writing.

4. Question number 4 was , whether diary writing helped the students learn writing recount text. The result was 41.67% of students said that writing in diary helped them become more fluent in writing recount text, 33.33% of students said that writing in diary helped them memorize vocabulary, 16.67% of students said that writing in diary helped them to understand grammar, and 8.33% of students said that writing in diary did not give any advantages for them. It can be concluded that diary writing helped most of them to learn writing recount text.

5. Question number 5 was, whether the students found difficulties in writing diary. The result was 33.33% of students were difficult in vocabulary mastery, 25% of students were difficult in mastering grammar, 25% of students were difficult in both vocabulary and grammar mastery, and 16.67% of students did not find any difficulties in writing diary. It can be concluded that most of students found difficulties in writing diary esspecially in vocabulary mastery.

6. Question number 6 was, whether it is important to continue writing diary in the next time. The result was 91.67% of students said that it is important to continue writing diary in the next time and 8.33% of students said that it is not important to continue writing diary in the next time. It can be concluded that most of students said that it is important to continue writing diary in the next time.

Based on the result of all the questions of interview, it can be concluded that the students enjoyed learning writing recount text by using diary writing. Writing diary made them more fluent in writing and improved their vocabulary and grammar mastery. Through writing diary, the students were easier to understand how to write a recount text because writing diary is a part of people's life. Writing diary which was done everyday becomes a habit for students that helped them improve their writing skill and reduce their errors. The students also agreed if treatment of diary writing would be continued in the next time.

D. Discussion of the Research Findings

This section discusses the research findings while include discussion, the advantages of the treatment, and the weakness of the use of diary writing in the teaching of writing recount text.

1. Discussion

Based on the finding of the research, it was found that the students who were taught by using diary writing have been improved in writing recount text than the students who were taught by using conventional method (recount text only) because the students who were taught by using diary writing felt freer when they wrote their own experiences. They did not worry in making any mistakes and they could share their experiences easily.

Although the strategy had been applied appropriately, the students' writing result was not satisfactory yet and they still did a few mistakes. This problem was due to the students' lack of experiences and exposure in english writing skill.

In other cases, the students still made mistakes in choosing appropriate words that were caused by inadequate knowledge of vocabulary. In this time, the researcher allowed them to share their difficulties with their friends or use dictionary to help them in choosing the

appropriate words. Sometimes, the researcher helped them if they got some difficulties and they got stuck with it.

Based on the result of the pre-test before the strategy of diary writing was implemented, the students faced many difficulties in writing. Their writing usually contained errors in grammar and less of fluency. The ideas were not clearly stated and the sentences were not well organized and difficult to understand and lack of vocabularies. Beside that, they often forgot using past form and seemed confused in distinguishing between regular and irregular verbs.

After getting diary writing treatment and post-test was conducted, it was found that there were significant differences between experimental group and control group where the score of experimental group was higher. Most of generic structures of experimental group were complete, fit in the use of past tense and the ideas were easier to understand. Their fluency in writing recount text was also better because they were used to write diary which is also written in a past tense form. However, there were still a few mistakes in making misspelling and some students still have problems of using past tense.

The improvement of the students' writing recount text might be caused by the habitual action in writing diary. The tense that is used in writing diary and recount text is similar, they used past tense form and same in organization. So, the students became more familiar.

The result of the data analysis showed that the strategy of using diary in teaching recount text seemed to be applicable for the eighth grade students of SMP Nurul Islami Semarang. The strategy encouraged the students to be more active and motivated in writing english text, especially writing recount text.

The testing hypothesis indicated that the experimental group was significant higher than the control group. The mean score of the experimental group was 81 and the control group was 74.14, and the

differences between the two means was 6.86. The t-test score showed that t_{count} is higher than t_{table} (2.26 > 2, 02) with $\alpha = 5\%$.

Based on the statement above, it is proven that there was a significant different achievement between the students who were taught by using diary writing as a medium of teaching writing recount text and the students who were taught by using conventional method or only recount text.

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 diary in the teaching of writing recount text. First, it could make the students more interested in writing. They would not feel under pressure in realizing of making mistakes. Second, they could be better in writing recount text because they were used to write stories in english. So the students could improve their skill, especially in producing recount text because of the similarity in the tense used. Third, writing diary became a habit for the students because they wrote diary everyday as long as the treatment was conducted. By practicing writing everyday, they became more fluent and reduced in making some errors in writing.

3. **The weakness of the use of diary writing in the teaching of writing recount text**

Diary writing also had some weakness. The weakness could be inferred in the result of the students' writing. They faced some difficulties in making complex sentences because they only accustomed to make simple past tense sentences. Sometimes the students less their notion in punctuation in writing story because they wrote in a free way.

E. **Limitation of the Research**

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

1. Relative short time of research makes this research could not be done maximally.

2. The research is limited at the 8th grade students of SMP Nurul Islami Semarang in the academic year of 2009/2010. So that when the same research will be done in other schools, it is still possible to get different result.

3. The implementation of the research process was less perfect; this was more due to lack experience and knowledge of the researcher.

Considering all those limitations, there is a need to do more research about teaching writing recount text by using diary writing. So, more optimal result will be gained.