CHAPTER IV

RESEARCH FINDINGS AND DISCUSSION

This chapter contains with preparation of analysis data collected from the research. It also analyzed the result of the research as well as discussing the data analysis of research finding.

A. RESEARCH FINDINGS

This research was a experimental research on the use of picture series on students' writing of descriptive text. It aims to describe students' writing of descriptive text without using picture series and using picture series as special treatment, and find the significant influence of picture series on students' writing of descriptive text. Also, to find is there any influence of using picture series on students writing of descriptive text.

There were two data that was collected, score of students' writing of descriptive text without using picture series; and score of students' writing of descriptive text using picture series.The data of this variable was taken from the research which was conducted by writer.

1. Test of Homogeneity

The first analysis was homogeneity test of the sample. This analysis was meant to get the homogenous class of experimental class and control class. Homogeneity test was measured by comparing the obtained score of F_{count} and F_{table}.

Thus, if obtained value of F_{count} was lower than the F_{table} or equal, it could be said that the Ho was accepted. It meant those classes were homogeneous. The analysis of homogeneity test could be seen in the table below.

Table 4

Test of Homogeneity

Variant Sources	**Experimental Class**	**Control Class**
Sum	2440	2407
N	32	32
$\bar{x}$	75,31	74,94
Variants ($s^{2)}$	11,00	12,754
Standard Deviation (s)	3,32	3,571

By knowing the mean and the variance, the researcher was able to test the similarity of the two variant with the homogeneity test from the students' score between experimental class and control class. The computation of the test of homogeneity as follow:

$$F_{count} = \frac{BiggestVariance}{SmallestVariance}$$

$$F_{count} = \frac{12{,}754}{11{,}00}$$

$$F_{count} = 1.16$$

With significance 5% with df numerator (nb – 1 = 32 – 1 = 31) and df denominator (nk – 1 = 32 – 1 = 31), it was found F_{table} = 1.84. Because of $F_{count} = 1.16 \leq F_{table}$ = 1, 84, it could be concluded that both experimental class and control class were homogenous.

2. Analysis of Data

This activity was done from October 17^{th} 2016 until October 29^{th} 2016. In this stage, students were asked to conduct to write a short descriptive text with theme ‘My Family, or ‘My Classroom’.

Pre-test was held on the October 20^{th} 2016. Students in the experimental and control class were asked to write descriptive text without using picture series as guidance. This occasion was held after the students got an explanation about descriptive text and how to make it.

Then, post-test was on October 27^{th} 2016. Students in the experimental class were asked to write descriptive text using picture series as special treatment. The control class also asked to write a descriptive again, but without picture series as special treatment. Before they were asked to write, the writer explains how to write descriptive text and give brief explanation of the picture series.

1) Pre-test Analysis

a) Normality Test of Pre-test

Test of normality was used to find out whether data of experiment and control class which had been collected from the research from normal distribution or not. The result of computation of Chi-square (χ^2) then compared with Chi-square (χ^2) table by using significance of alpha 5%. If $\chi^2_{\text{count}} < \chi^2_{\text{table}}$, meant the data spread of research distributed normally.

From the post test of control class we got the data maximum score was 85, minimal score was 70, R = 15 with 6 classes and interval 3. From the computation of frequency distribution it was found the data below:

Table 5

Frequency Distribution of Pre-test Score in Control Class

Class	f_i	X_i	X_i^2	$f_i.X_i$	$f_i.X_i^2$
70 – 72	8	71	5041	568	40328
73 – 75	16	74	5476	1184	87616
76 – 78	1	77	5929	77	5929
79 – 81	1	80	6400	400	32000
82 – 84	5	83	6889	83	6889
85 – 87	1	84	7396	86	7396
Total	**32**	**471**	**37131**	**2398**	**180158**

$$\bar{X} = \frac{\Sigma fiXi}{\Sigma fi} = \frac{2398}{32} = 74{,}944$$

$$S^2 = \frac{n\Sigma fixi^2 - (\Sigma fixi)^2}{n\,(n-1)}$$

$$S^2 = 12.754$$

$$S = 3.571$$

Then, after counting the average score and standard deviation, the table of observation frequency was needed to measure score of Chi-square (χ^2).

Table 6:

Observation Frequency of Pre-test Score in Control Class

Class	Bk	Z_i	$P(Z_i)$	Luas Daerah	Ei	Oi	$\frac{(Oi-Ei)2}{Ei}$
	69.5	-1.52	-0.4361				
70 – 72				0.1835	5.9	8	0.7708
	72.5	-0.68	-0.2526				
73 – 75				0.3152	10.1	16	3.4681
	75.5	0.16	0.0626				
76 – 78				0.2782	8.9	1	7.0150
	78.5	1.00	0.3408				
79 – 81				0.1262	4.0	5	0.2295
	81.5	1.84	0.4670				
82 – 84				0.0293	0.9	1	0.0040
	84.5	2.68	0.4963				
85 – 87				0.0035	0.1	1	7.0798
	87.5	3.52	0.4998				
						χ^2	= 4.5373

From the table above, we know that Chi-square (χ^2) count was 6.4995 and the Chi-square (χ^2) table from 5% of significance with df 6 -3 = 3, it was found that χ^2_{table} was 7.82. So, because χ^2_{count} = 4.5373< χ^2_{table} = 7.82, it meant data of post test from control class distributed normally.

From the post test of experimental class we got the data highest score was 85, lowest score was 75, R = 10 with 6 classes and interval 3. From the computation of frequency distribution it was found the data below:

Table 7:

Frequency Distribution of Pre-test Score in Experimental Class

Class	f_i	X_i	X_i^2	$f_i.X_i$	$f_i.X_i^2$
70 – 72	4	71	5041	284	20164
73 – 75	17	74	5476	1258	93092
76 – 78	7	77	5929	539	41503
79 – 81	2	80	6400	160	12800
82 – 84	1	83	6889	83	6889
85 – 87	1	86	7396	86	7396
Total	**32**	**471**	**37131**	**2410**	**181844**

$$\bar{X} = \frac{\Sigma fiXi}{\Sigma fi} = \frac{2410}{32} = 75{,}31$$

$$S^2 = \frac{n\Sigma fixi^2 - (\Sigma fixi)^2}{n\ (n-1)}$$

S^2 = 11.00

$S = 3.32$

Table 8:

Observation Frequency of Pre-test Score in Experimental Class

Class	Bk	Z_i	$P(Z_i)$	Luas Daerah	Ei	Oi	$\frac{(Oi-Ei)^2}{Ei}$
	69.5	-1.75	-0.4602				
70 – 72				0.1584	5.1	4	0.2249
	72.5	-0.85	-0.3018				
73 – 75				0.3244	10.4	16	3.0430
	75.5	0.06	0.0225				
76 – 78				0.3092	9.9	7	0.8473
	78.5	0.96	0.3318				
79 – 81				0.1372	4.4	2	1.3012
	81.5	1.87	0.4690				
82 – 84				0.0282	0.9	1	0.0104
	84.5	2.77	0.4972				
85 – 87				0.0027	1.2	1	0.0333
	87.5	3.68	0.4999				
						$\chi^2 =$	= 5.4602

From the table above, we know that Chi-square (χ^2) count was 6, 4995 and the Chi-square (χ^2) table from 5% of significance with df 6 -3 = 3, it was found that χ^2_{table} was 7.82. So, because $\chi^2_{count} = 5.4602 < \chi^2_{table} = 7.82$, it meant data of post test from control class distributed normally.

b) Homogeneity Test Pre-test

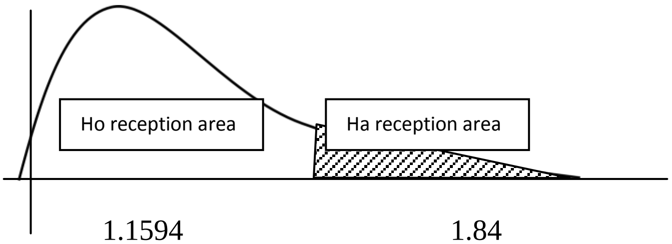
By knowing the mean and the variance, the writer was able to test the similarity of the two variants in post test of experimental and control class. The computation of the test of homogeneity as follows:

$$F = \frac{BiggestVariance}{SmallestVariance}$$

$$F = \frac{12.754}{11.000}$$

$$F = 1.1594$$

It shows from this diagram:



With significance 5% with df numerator $_{(nb - 1 = 32 - 1 = 31)}$ and df denominator $_{(nk - 1 = 32 - 1 = 31)}$, it was found F_{table} = 1.84. Because of $F_{count} = 1.1594 \leq F_{table} = 1.84$, it could be concluded that both experimental class and control class were homogenous.

c) Similarity Two Variants in Pre-test between Experimental and Control Class

To differentiate whether the students' result of speaking in descriptive text in experimental and control group were significant or not, the writer used t-test to test. This test was to prove that pre-test score of experimental and control class have similar result.

The formula was:

$$t= \frac{\bar{x}_1 - \bar{x}_2}{s\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

Firstly, the writer has to find out the value of standard deviation with formula below:

$$s = \sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}}$$

$$s = \sqrt{\frac{(32-1)11{,}00+(32-1)12{,}754}{32 + 32 - 2}}$$

$$s = \sqrt{\frac{(31 .\ 11{,}00) + (31 .12{,}754)}{62}}$$

$$s = \sqrt{\frac{341 + 394.374}{62}}$$

$$s = \sqrt{\frac{736.374}{62}}$$

$$s = \sqrt{11.877}$$

$$s = 3.45$$

Secondly, put the value of standard deviation into the t-test formula, as follow:

$$t_{count} = \frac{\bar{x}_1 - \bar{x}_2}{s\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

$$t_{count} = \frac{75.31 - 74.944}{3.45\sqrt{\frac{1}{32} + \frac{1}{32}}}$$

$$t_{count} = \frac{0.366}{3.45\sqrt{0,062}}$$

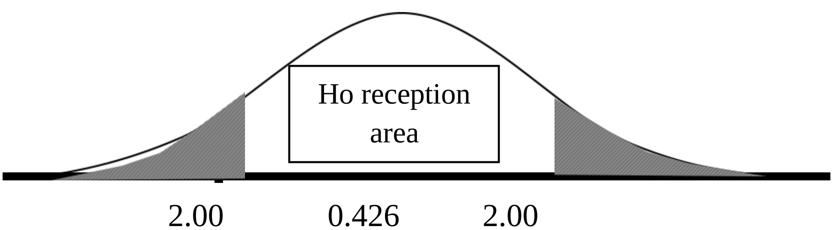
$$t_{count} = \frac{0.366}{3.45 \ . \ 0,249}$$

$$t_{count} = \frac{0.366}{0.859}$$

$$t_{count} = 0.426$$

The result of t-test would be consulted to the critical score of the t table to check whether the difference is significant or not. For α = 5% with df = $n_1 + n_2 - 2 = 32 + 32 - 2 = 62$. H_0 accepted if $t_{(1-1/2a)} < t < t_{(1-1/2a)(n1+n2-2)}$ it was found t table (0.025)(62) = 2.00.

It shows from this diagram:



Because t_{count}> t_{table} and on the Ho reception area, it could be concluded that there was no significance different result between the experimental class and control class. It meant that experimental class and control class havesimilarity result.

2) Post-test Analysis

a) Normality Test of Post-test

Test of normality was used to find out whether data of experiment and control class which had been collected from the research from normal distribution or not. The result of computation of Chi-square (χ^2) then compared with Chi-square (χ^2) table by using significance of alpha 5%. If χ^2_{count} < χ^2_{table}, meant the data spread of research distributed normally.

From the post test of control class we got the data maximum score was 87, minimal score was 72, R = 15 with 6 classes and interval 3. From the computation of frequency distribution it was found the data below:

Table 9:

Frequency Distribution of Post-test Score in Control Class

Class	f_i	X_i	X_i^2	$f_i.X_i$	$f_i.X_i^2$

72 – 74	8	73	5329	584	42632
75 – 77	15	74	5476	1110	82140
78 – 80	2	77	5929	154	11858
81 – 83	3	80	6400	240	19200
84 – 86	1	83	6889	83	6889
87 – 89	3	84	7056	252	21168
Total	**32**	**471**	**37079**	**2423**	**183887**

$$\bar{X} = \frac{\Sigma fiXi}{\Sigma fi} = \frac{2423}{32} = 75{,}72$$

$$S^2 = \frac{n\Sigma fixi^2 - (\Sigma fixi)^2}{n\,(n-1)}$$

S^2 = 13. 57

$S = 3.68$

Then, after counting the average score and standard deviation, the table of observation frequency was needed to measure score of Chi-square (χ^2).

Table 10:

Observation Frequency of Post-test Score in Control Class

Class	Bk	Z_i	$P(Z_i)$	Luas Daerah	Ei	Oi	$\frac{(Oi - Ei)}{Ei}$
	71.5	-1.14546	0.126008		7.82	8	0.0042
72-74				0.2443471			
	74.5	-0.33091	0.370356		10.09	15	2.3889
75-77				0.315324			
	77.5	0.483641	0.685679		6.95	2	3.5262

78-80				0.21721			
	80.5	1.298193	0.902889		2.55	3	0.0780
81-83				0.0797992			
	83.5	2.112745	0.982689		0.50	1	0.5022
84-86				0.0156017			
	86.5	2.927298	0.99829		0.05	3	0.02785
87-89				0.0016183			
	89.5	3.74185	0.999909				
						χ^2 =	=6,4995

From the table above, we know that Chi-square (χ^2) count was 6, 4995 and the Chi-square (χ^2) table from 5% of significance with df 6 -3 = 3, it was found that χ^2_{table} was 7.82. So, because χ^2_{count} = 6.4995 < χ^2_{table} = 7.82, it meant data of post test from control class distributed normally.

From the post test of experimental class we got the data maximum score was 90, minimal score was 75, R = 15 with 6 classes and interval 3. From the computation of frequency distribution it was found the data below:

Table 11:

Frequency Distribution of Post-test Score in Experimental Class

Class	f_i	X_i	X_i^2	$f_i.X_i$	$f_i.X_i^2$
75-77	8	76	5776	608	46208
78-80	7	79	6241	553	43687
81-83	7	80	6400	560	44800
84-86	4	85	7225	340	28900
87-89	5	88	7744	440	38720

90-92	1	91	8281	91	8281
Sum	**32**	**499**	**41667**	**2592**	**210596**

$\bar{X} = \frac{\Sigma fiXi}{\Sigma fi} = \frac{2592}{32} = 81{,}00$

$S^2 = \frac{n\Sigma fixi^2 - (\Sigma fixi)^2}{n\,(n-1)}$

$S^2 = 20.77$

$S = 4.56$

Then, after counting the average score and standard deviation, the table of observation frequency was needed to measure score of Chi-square (χ^2).

Table 12:

Observation Frequency of Experiment Class

Class	Bk	Z_i	$P(Z_i)$	Luas Daerah	Ei	Oi	$\frac{(Oi - Ei)}{Ei}$
	74.5	-1.43	-0.4321				
75-77				0.1444	4.6	8	2.4742
	77.5	-0.77	-0.2787				
78-80				0.2351	7.5	7	0.0362
	80.5	-0.11	-0.0437				
81-83				0.2520	8.1	7	0.1404
	83.5	0.55	0.2083				
84-86				0.1779	5.7	4	0.5034
	86.5	1.21	0.3862				
87-89				0.0827	2.6	5	2.0952
	89.5	1.86	0.4689				
90-92				0.0253	0.8	1	0.0451

	92.5	2.52	0.4942				
						χ^2 =	= 5.2944

From the table above, we know that Chi-square (χ^2) count was 6, 4995 and the Chi-square (χ^2) table from 5% of significance with df 6 -3 = 3, it was found that χ^2_{table} was 7.82. So, because χ^2_{count} = 5.2944 < χ^2_{table} = 7.82, it meant data of post test from control class distributed normally.

b) Homogeneity Test Post-test

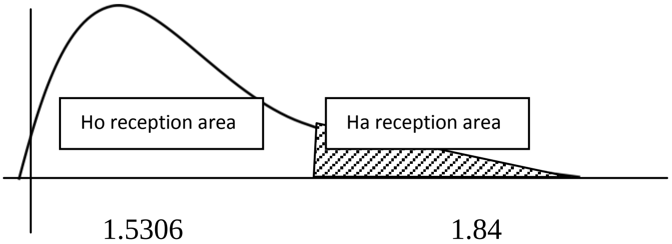
By knowing the mean and the variance, the writer was able to test the similarity of the two variants in post test of experimental and control class. The computation of the test of homogeneity as follows:

$$F = \frac{Biggest Variance}{Smallest Variance}$$

$$F = \frac{20.77}{13.57}$$

$$F = 1.5306$$

It shows from this diagram:



With significance 5% with df numerator (nb – 1 = 32 – 1 = 31) and df denominator (nk – 1 = 32 – 1 = 31), it was found F_{table} = 1, 84. Because of $F_{count} = 1.5306 \leq F_{table} = 1.84$ and on the Ho reception area, it could be concluded that both experimental class and control class were homogenous.

c) Differences Two Variants in Post-test between Experimental and Control Class Test

To differentiate whether the students' result of speaking in descriptive text in experimental and control group were significant or not, the writer used t-test to test. This test was to prove that pre-test score of experimental and control class have similar result.

The formula was:

$$t=\frac{\bar{x}_1-\bar{x}_2}{s\sqrt{\frac{1}{n_1}+\frac{1}{n_2}}}$$

Firstly, the writer has to find out s with formula below:

$$s = \sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}}$$

$$s = \sqrt{\frac{(32-1)20,77+(32-1)13,57}{32 + 32 - 2}}$$

$$s = \sqrt{\frac{(31 .\ 20,77) + (31 .13,57)}{62}}$$

$$s = \sqrt{\frac{643,87+420,67}{62}}$$

$$s = \sqrt{\frac{1064,54}{62}}$$

$$s = \sqrt{17,17}$$

$$s = 4,\ 14$$

Secondly, put the value of standard deviation into the t-test formula, as follow:

$$t_{count} = \frac{\bar{x}_1 - \bar{x}_2}{s\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

$$t_{count} = \frac{81-75.72}{4.14\ \sqrt{\frac{1}{32} + \frac{1}{32}}}$$

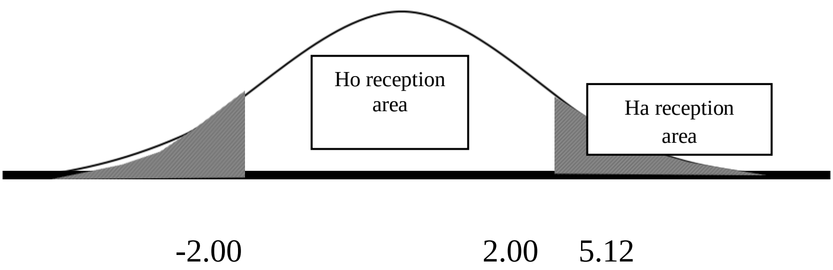
$$t_{count} = \frac{5,28}{4.14\ \sqrt{0.062}}$$

$$t_{count} = \frac{5.28}{4.14\ .\ 0.249}$$

$$t_{count} = \frac{5.28}{1.031}$$

$$t_{count} = 5.\ 12$$

The result of t-test would be consulted to the critical score of the t table to check whether the difference is significant or not. For α = 5% with df = $n_1 + n_2 - 2$ = 32 + 32 – 2 = 62. H_0 accepted if $t_{(1-1/2a)} < t < t_{(1-1/2a)(n1+n2-2)}$ it was found t table (0.025)(62) = 2,000.



Because t count > t table and on the Ha reception area, it could be concluded that there was significance influence between the experimental class and control class. It meant that experimental class has better result after getting treatment than control class.

B. DISCUSSION

According to the hypothesis above, it could be proved that the influence of using picture series to students' writing of descriptive text in SMP Negeri 23 Semarang showed the significant result in 5% significant. Thus, hypothesis was accepted.

Since the obtained t_{count} was higher than the critical score, the difference was statistically significance. Therefore, based on the computation there was a significance influence of using picture series on students' writing of descriptive text for the eighth grade students of SMP Negeri 23 Semarang. Writing of descriptive text using picture series seemed to be bringing positive influence to the students. It can be seen from the result of the test where the students that write descriptive text using picture series in experimental class got higher score than the students wrote the descriptive text without picture series in control class.

There were some reasons why picture series could influence students' writing of descriptive text.

1. Picture series as a tool to help students develop the ideas when they are writing. The picture series is kind of brainstorming and help students to writing descriptive text by stimulate them to describe things and write it down.
2. Picture is common thing that can be found everywhere and every time so students used to using picture and did not feel awkward. Picture can give clear explanation or strengthen the writing. Specifically, picture series contribute as visual ads to take interest and motivation of students, a sense of the context of language, and a specific reference point or stimulus.

Although picture series had influence to the students' writing of descriptive test, in fact the result of the analysis showed that picture series cannot reach maximal level. The effective contribution of picture series to the students' writing of descriptive text is 12, 5%. It cannot reach maximum level that is 100%. It meant that students' writing of descriptive text in SMP Negeri 23 Semarang in academic year 2016/2017 was still being affected by other factors which were not studied now.

C. LIMITATION OF THE RESEARCH

In conducting this research, the writer has limited the problems. First, for the population of the study is limited at the entire eight grades of SMP Negeri 23 Semarang and the study of students' writing ability is narrowed on descriptive text. Based on the research, the some students in the eighth grade of SMP Negeri 23 Semarang have errors in constructing simple present tense. They also have limitation of vocabulary and diction. Then, this research focused on eight grades students' writing ability of descriptive text.