

CHAPTER IV

RESULT OF THE STUDY

In this chapter, the researcher presented the data which had been collected from the research in the field of study. The data were the result of experiment and control class, the result of post-test experiment and control class, result of data analysis, and discussion.

A. Description of the Data

1. The result of Pre-Test score of the Experiment and Control Class

Before conducting the pre- test, the researcher divided the subject into two categories : high and low motivation groups based on intrinsic motivation test as presented in appendix 7. The number of subject was presented in table 4.1, the subject categorized in high motivation and low motivation. It can said high motivation if the students got > 40% on motivation and low motivation if they got < 40 %.¹ The table below, there were result score of intrinsic motivation.

Table 4.1 The Category of Motivation Class Experiment and Control

No	Class	Category	Number
1	Experiment	High Motivation	28
		Low Motivation	5
2	Control	High Motivation	28
		Low Motivation	5

¹ Wawan Setiawan, Upaya Meningkatkan Motivasi Belajar, <http://wawan.setiawan.ardcorp.Education.blogspot.com/2013/01/upaya-meningkatkan-motivasi-belajar>. Html, Accesed on August, 2014.

	Total of Subject	66
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From the table above, there were 28 subject in high motivation at experiment and control class which the students got > 40% on motivation. There were 5 subject with low motivation at experiment and control class which the students got < 40%. The Pre- Test at the control class conducted on August, 26th 2014 (Tuesday, at time 11.30-12.50) in class VIII-6. The number of student was 33 students. Then the experiment class conducted on August, August, 26th 2014 (Tuesday, at time 08.20-09.55) in the class VIII-7 with the number of student was 33 students. The Pre-test scores of both of class were presented in table:

Table 4.2 The Pre- Test Scores of High Motivation Students of Experiment and Control Class

No.	Control Class Score	Experiment Class Score
1	60	61
2	61	64
3	63	60
4	61	63
5	61	62
6	60	63
7	60	61
8	60	62
9	60	61
10	60	61
11	60	63
12	60	61
13	63	60
14	61	61
15	60	61
16	64	60
17	65	61
18	66	62
19	60	62

20	60	60
21	60	60
22	63	60
23	60	62
24	60	61
25	60	63
26	63	62
27	60	62
28	60	60
Sum	1711	1719
Lowest score	60	60
Highest score	66	64
Mean	61.1	61.39
Standard deviation	1.75	1.1

The researcher got the result of the data by using manual calculation and SPSS 20. The data presentation of experiment and control class showed the table frequency distribution of pre- test score.

Based on the result of research in class VIII-6 as control class and VIII-7 as experiment class before being taught by basic questioning technique with picture media in writing recount text. The highest pre- test score of high motivation control class was 66 and the lowest score of high motivation control class was 60 with sum of the data was 1711, mean was 61.1, with standard deviation (S) was 1.75. In contrary, the highest score of high motivation experiment class was 64 and the lowest score of the experiment class was 60 with sum of the data was 1719, the mean was 61.39 with Standard deviation (S) was 1.1.

Table 4.3 The Pre- Test scores of Low Motivation Students of Experiment and Control Class

No.	Control Class Score	Experiment Class Score
1	60	62
2	60	60
3	60	62
4	62	61
5	60	60
Sum	302	305
Lowest score	60	60
Higher score	62	62
Mean	60.4	61
Standard deviation	0.8	0.89

Based on the result of research in class VIII-6 as control class and VIII-7 as experiment class before being taught by basic questioning technique with picture media in writing recount text. The highest pre- test score of low motivation student control class was 62 and the lowest score of low motivation control class was 60 with sum of the data was 302, mean was 60.4, with standard deviation (S) was 0.8. In contrary, the highest score of low experiment class was 62 and the lowest score of the experiment class was 60 with sum of the data was 305, the mean was 61 with Standard deviation (S) was 0.89.

2. Result of Post-Test of Control and Experiment Class

The test of Post- Test score at the control class conducted on September, 11st 2014 (Thursday, at time 08.20-09.55) in class VIII-6 with the number of student was 5students. Then the experiment class conducted on September, 10th 2014 (Wednesday, at time 11.30-12.50) in the class VIII-7

with the number of student was 33 students. The Pre-test scores of both of class were presented in table 4.4 and 4.5:

Table 4.4 the of Post- Test Scores of High Motivation Students of Experiment and Control Class

No.	Control class Score	Experiment class Score
1	70	80
2	70	79
3	72	84
4	69	79
5	70	81
6	66	80
7	69	78
8	66	77
9	69	83
10	67	79
11	66	85
12	68	82
13	64	78
14	72	84
15	64	84
16	72	77
17	65	83
18	74	78
19	76	80
20	65	84
21	68	83
22	66	78
23	71	87
24	65	84
25	64	85
26	68	84
27	72	83
28	69	78
Sum	1917	2277
Lowest score	64	77
Highest score	76	87
Mean	68.46	81.32
Standard deviation		2.85

The researcher got the result of the data by using manual calculation and SPSS 20. The data presentation of experiment and control class showed the table frequency distribution of post- test score, measurement of central tendency (mean, median, and mode)(see on appendix 7) Standard deviation.

Based on the result of research in class VIII-6 as control class which taught by konvensional teaching. The highest post-test score of high motivation of control class was 76 and the lowest score was 64 with sum was 1917, so the mean was 68.46 and standard deviation (S) was 16.02. Whereas, VIII-7 as experiment class after being taught by basic questioning technique with picture in writing recount text. The highest score of low motivation of experiment class was 87, and the lowest score of low motivation of experiment class was 77, with sum was 2277. So, the mean is 81.32 and Standard deviation (S) was 2.85.

Table 4.5 the of Post- Test Scores of Low Motivation Students of Experiment and Control Class

No.	Control Class Score	Experiment Class Score
1	75	84
2	76	84
3	75	81
4	73	82
5	74	83
Sum	373	414
Lowest score	73	81
Higher score	76	84
Mean	74.6	81.32
Standard deviation		2.85

Based on the result of research in class VIII-6 as control class which taught by konvensional teaching. The highest post-test score of low motivation students of control class was 73 and the lowest score was 76 with sum was 373, so the mean was 74.6 and standard deviation (S) was 1.05 . Whereas, VIII-7 as experiment class after being taught by basic questioning technique with picture in writing recount text. The highest score of low motivation students of experiment class was 84, and the lowest score was 81, with sum was 414. So, the mean was 81.32 and Standard deviation (S) was 2.85.

3. The Comparison Result of Pre-Test and Post- Test Score of Experiment Class

The comparison pre-test and post test score of teaching recount text using basic questioning technique with picture.

Table 4.6 The Comparison Result of Pre- Test and Post- Test Score of High Motivation Experiment Class

No.	Experiment		Improvement
	Pre-Test	Post-Test	
1	61	80	19
2	64	79	15
3	60	84	24
4	63	79	16
5	62	81	19
6	63	80	17
7	61	78	17
8	62	77	15
9	61	83	22
10	61	79	18
11	63	85	22
12	61	82	21

13	60	78	18
14	61	84	23
15	61	84	23
16	60	77	17
17	61	83	22
18	62	78	16
19	62	80	18
20	60	84	24
21	60	83	23
22	60	78	18
23	62	87	25
24	61	84	23
25	63	85	22
26	62	84	22
27	62	83	21
28	60	78	18
Sum	1719	2277	
Highest Score	60	77	
Low Score	64	87	
Mean	61.39	81.32	
SD	1.1	2.85	

Table 4.7 The Comparison Result of Pre- Test and Post- Test Score of High Motivation Experiment Class

No.	Experiment		Improvement
	Pre- Test	Post- Test	
1	62	84	22
2	60	84	24
3	62	81	19
	61	82	21
	60	83	23
Sum	305	414	
Highest Score	62	84	
Low Score	60	81	
Mean	61	82.8	
Standard Deviation	0.89	1.16	

B. Result of Data Analysis

1. Testing of Normality and Homogeneity

The researcher was calculated the result of pre-test and post-test score of experiment and control class by using SPSS 20.0 program. It is used to know the normality of the data that is going to be analyzed whether both groups have normal distribution or not. Also homogeneity is used to know whether experiment group and control group, that are decided, come from population that has relatively same variant or not.

- a. Testing of Normality and Homogeneity of Pre- Test of Experiment and Control Class

Table 4.8 One-Sample Kolmogorov-Smirnov Test

		Experiment	Control
N		28	28
Normal Parameters ^{a,b}	Mean	61.3929	61.1071
	Std. Deviation	1.13331	1.74991
Most Extreme Differences	Absolute	.207	.344
	Positive	.207	.344
	Negative	-.132	-.263
Kolmogorov-Smirnov Z		1.095	1.819
Asymp. Sig. (2-tailed)		.181	.3

a. Test distribution is Normal.

b. Calculated from data.

Based on the calculation used SPSS 20 program, the asymptotic significance normality of experiment class 0.181 and control class was 0.3. Then the normality both of class was consulted with table of Kolmogorov-Smirnov with the level of significance 5% ($\alpha=0.05$). Because asymptotic

significance of experiment was 0.181, $\alpha = 0.05$, and asymptotic significance of control = $0.3 \geq \alpha = 0.05$. It could be concluded that the data was normal distribution.

Table 4.10 Testing of Homogeneity Levene's Test of Equality of Error Variances^a

Dependent Variable: Achievement

F	df1	df2	Sig.
2.140	3	62	,104

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

Based on the result of homogeneity test, the f_{value} was 2.140 and the significant value was 0.104. The data are homogeneous if the significant value is higher than significance level $\alpha = 0.05$. Because the significant value (0.104) was higher than significance level $\alpha = 0.05$, it could be concluded that the data are homogeneous. It meant that both of classes have same variants.

- b. Testing of normality and homogeneity for Post-test of experiment and control class

Table 4.11 One-Sample Kolmogorov-Smirnov Test

		Control	Experiment
N		33	33
Normal Parameters ^{a,b}	Mean	69.3939	81.5455
	Std. Deviation	3.70759	2.76237
Most Extreme Differences	Absolute	.123	.186
	Positive	.123	.125
	Negative	-.092	-.186
Kolmogorov-Smirnov Z		.707	1.066
Asymp. Sig. (2-tailed)		.700	.206

- a. Test distribution is Normal.
b. Calculated from data.

Based on the calculation used 20 SPSS program, the asymptotic significance normality of experiment class was 0.700 and control class was 0.206. Then the normality both of class was consulted with table of Kolmogorov- Smirnov with the level of significance 5% ($\alpha= 0.05$). Because asymptotic significance experiment = 0.206 $\geq \alpha= 0.05$, and asymptotic significance control= 0.700 $\geq \alpha= 0.05$. It could be concluded that the data was normal distribution.

Table 4.12 Testing Homogeneity Levene's Test of Equality of Error Variances^a

Dependent Variable: Score

F	df1	df2	Sig.
2.307	3	62	.085

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Class + Level + Class * Level

Based on the result of homogeneity test, the f_{value} was 2.307 and the significant value was 0.085. The data are homogeneous if the significant value is higher than significance level $\alpha= 0.05$. Because the significant value (0.085) was higher than significance level $\alpha= 0.05$, it could be concluded that the data are homogeneous. It meant that both of classes have same variants.

2. Testing Hypothesis

a. Using Manual Calculation

The researcher used Two- Ways Anova to test the hypothesis with significance level $\alpha= 0.05$. The researcher used manual calculation and SPSS

20.0 Program to test the hypothesis using Two-ways Anova. There are steps formula of Anova:

a. The total sum of squares

$$SS_t = \sum X_t^2 - \frac{(\sum X_t)^2}{N}$$

$$SS_t = 379035 - 375914.56$$

$$SS_t = 3120.4$$

Where

SS_t = sum of square total

$\sum X^2$ = each score squared, then summed

$(\sum X_t)^2$ = all the scores summed first, then this sum squared

N = number of scores

b. The sum of squares between groups

$$SS_b = \frac{(\sum X_{r1})^2}{nr_1} + \frac{(\sum X_{r2})^2}{nr_2} + \frac{(\sum X_{c1})^2}{nc1} + \frac{(\sum X_{c2})^2}{nc2} - \frac{(\sum X_2)^2}{N}$$

$$SS_b = \frac{(2277)^2}{28} + \frac{(1917)^2}{28} + \frac{(414)^2}{5} + \frac{(373)^2}{5} - \frac{(4958)^2}{66}$$

$$SS_b = 185168.89 + 131246.03 + 34279.2 + 27825.8 - 375914.56$$

$$= 2596.4$$

c. The sum of squares within groups

$$SS_w = SS_t - SS_b$$

$$SS_w = 3120.44 - 2605.36$$

$$= 523.964$$

d. The between-columns sum of squares

$$SS_{bc} = \frac{(\sum X_{c1})^2}{nc1} + \frac{(\sum X_{c2})^2}{nc2} - \frac{(\sum X)^2}{N}$$

$$\begin{aligned}
&= \frac{(2691)^2}{33} + \frac{(2290)^2}{33} - \frac{(4981)^2}{66} \\
&= 219438.81 + 158912.12 - 375914.56 \\
&= 19905.09
\end{aligned}$$

e. The between-rows sum of squares

$$\begin{aligned}
SS_{br} &= \frac{(\sum X_{r1})^2}{n_{r1}} + \frac{(\sum X_{r2})^2}{n_{r2}} - \frac{(\sum X)^2}{N} \\
&= \frac{(2691)^2}{56} + \frac{(787)^2}{10} - \frac{(4981)^2}{66} \\
&= 314100.6429 + 61936.9 - 375914.56 \\
&= 122.9
\end{aligned}$$

f. The sum of squares interaction

$$\begin{aligned}
SS_{int} &= SS_b - (SS_{bc} + SS_{br}) \\
SS_{int} &= 2605.36 - (2436.37 + 122.9828) \\
&= 2605.36 - 2559.35 \\
&= 46.01
\end{aligned}$$

g. Determine the number of degrees of freedom associated with each source of variation. They are found as follows:

$$df_{\text{for between-columns sum of squares}} = C - 1$$

$$df_{bc} = C - 1 = 2 - 1 = 1$$

$$df_{\text{for between-rows sum of squares}} = R - 1$$

$$df_{br} = R - 1 = 2 - 1 = 1$$

$$df_{\text{for interaction}} = (C - 1)(R - 1)$$

$$= (1) \times (1) = 1$$

$$df_{\text{for between-groups sum of squares}} = G - 1$$

$$df_{\text{between group}} = 4 - 1 = 3$$

$$df_{\text{for within-groups sum of squares}} = N - G$$

$$df_{\text{within group}} = 66 - 4 = 62$$

$$df_{\text{for total sum of squares}} = N - 1$$

$$df_{\text{total sum}} = 66 - 1 = 66$$

where:

C = number of columns

R = number of rows

G = number of groups

N = number of subjects in all groups

- h. The mean square values by dividing each sum of squares by its associated number of degrees of freedom.
- i. Compute the F ratios for the main and the interaction effects by dividing the between-groups mean squares by the within-groups mean square for each of the three components.

The criteria of H_a was accepted when $F_0 > F_{\text{table}}$, and H_0 was refused when $F_0 < F_{\text{table}}$. The result of testing hypothesis explained in table 4.13:

Table 4.13 Result of Testing Hypothesis

Source of variance	SS	Df	MS	F Value (F0)	Level of significance 0.05	Note
Between Columns	19905.09	1	19905.09	23558.6	4.00	Significance
Between Rows	122.9	1	122.9	14.8	4.00	Significance
Columns by Rows (Interaction)	46.01	1	46.01	5.5	4.00	Significance
Between Group	2596.4	3	868.4			
Within Group	523.9	62	8.4			
Total		65				

1. First, based on the calculation above used manual calculation and SPSS 20.0 program, the F_{value} between columns was 23558.6. Then it was consulted with F_{table} of with the level of significance 5% so $F_{\text{table}} = 4.00$. Because $F_0 = 23558.6 > F_{\text{table}} = 4.00$, the difference between columns was significance. It could be concluded that the basic questioning technique with picture toward high motivation level of student's achievement in writing recount text gave significance effect. Thus, H_a stating that the basic questioning technique with picture is effective to the high motivation students' writing skill of recount text at the eighth grade of SPMN 2 Palangka Raya was accepted and H_0 stating that the technique of basic questioning with picture is not effective to the high motivation students' writing skill of recount text at the eight grade of SPMN 2 Palangka Raya was rejected.

2. Second, the F_{value} between rows was 14.8 which consulted with F_{table} with the level of significance 5%, because the $F_{\text{value}} = 14.8 > F_{\text{table}} = 4.00$, the difference between rows was significance. It could be concluded that using basic questioning technique with picture toward low level of students' achievement in writing recount text was significance effect. Therefore, H_a stating that the students' low motivation is effective to the students' writing skill of recount text at the eight grade of SMPN 2 Palangka Raya was accepted and H_0 stating that the students' motivation is not effective to the low motivation students' writing skill of recount text at the eight grade of SMPN 2 Palangka Raya was rejected.
3. Third, the F_{value} columns by rows (interaction) was 5.5 that consulted with level of significance 5%, because $F_{\text{value}} = 5.5 > F_{\text{table}} = 4.00$, it could be concluded that using basic questioning technique with picture toward high and low motivation level of student's achievement in writing recount text was significance effect. It could be concluded that H_a stating that the basic questioning technique with picture and high and low motivation are effective to the students' writing skill of recount text at the eight grade of SPMN 2 Palangka Raya was accepted, and H_0 stating that the technique of basic questioning with picture and high and low motivation are not effective to the students' writing skill of recount text at the eight grade of SMPN 2 Palangka Raya was rejected.

b. Using Spss 20.0 Calculation

There are Levene's Test of Equality of Error Variances and Descriptive Statistics calculations univariate analysis of variance used spss 20.0 program:

Table 4.14 Tests of Between-Subjects Effects

Dependent Variable: Score

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2596.475 ^a	3	865.492	102.412	.000
Intercept	199095.009	1	199095.009	23558.649	.000
Class	.000	0	.	.	.
Level	160.096	2	80.048	9.472	.000
Class * Level	.000	0	.	.	.
Error	523.964	62	8.451		
Total	379035.000	66			
Corrected Total	3120.439	65			

a. R Squared = ,832 (Adjusted R Squared = ,824)

Table 4.15 Descriptive Statistics

Dependent Variable: Score

Class	Level	Mean	Std. Deviation	N
Experiment Class	High Motivation Experiment	81.5000	2.84800	28
	Low Motivation Experiment	81.8000	2.48998	5
	Total	81.5455	2.76237	33
Control Class	High Motivation Control	68.4643	3.19122	28
	Low Motivation Control	74.6000	1.14018	5
	Total	69.3939	3.70759	33
Total	High Motivation Experiment	81.5000	2.84800	28

Low Motivation Experiment	81.8000	2.48998	5
High Motivation Control	68.4643	3.19122	28
Low Motivation Control	74.6000	1.14018	5
Total	75.4697	6.92869	66

Table 4.16 Between-Subjects Factors

		Value Label	N
Class	1.00	Experiment Class	33
	2.00	Control Class	33
Level	1.00	High Motivation Experiment	28
	2.00	Low Motivation Experiment	5
	3.00	High Motivation Control	28
	4.00	Low Motivation Control	5

Table 4.17 Levene's Test of Equality of Error Variances^a

Dependent Variable: Score

F	df1	df2	Sig.
2,307	3	62	,085

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Class + Level + Class * Level

Based on the result of homogeneity test, the f_{value} was 2.307 and the significant value was 0.085. The data are homogeneous if the significant value is higher than significance level $\alpha = 0.05$. Because the significant value (0.085) was higher than significance level $\alpha = 0.05$, it could be concluded that the data are homogeneous. It meant that both of classes have same variants.

C. Interpretation of The F-Ratios

The hypothesis testing used two ways anova to measure the significance effect of basic questioning technique with picture toward high motivation levels of students' achievement in writing recount text. Based on the manual calculation and SPSS 20 program of two ways anova between columns $F_0 = 23558.6$ was consulted with F table with significance level 5% ($F_{table} = 4.00$). Therefore, Between Rows was $F_0 (14.8)$ and between group was $F_0 (5.5) > F_{table} (4.00)$. It could be concluded using basic questioning technique with picture toward high motivation level of students' achievement in writing recount text was significance.

Next, F- ratio, which $F_0 = 23558.6$ was more than F table on significance level 5% ($F_{table} = 4.00$) is significant at the level 5% ($F = 4.00$), based on comparison of achievement of the subject in high motivation of experiment class and high motivation level of control class with achievement of the subject in low motivation level of experiment class and low motivation level of control class. Therefore, it can summary that the difference achievement between the performance of those subject in high motivation level and the subject in low motivation level of both classes in writing recount text is beyond expectation. It shown on table 4.1 that high motivation level of experiment class and control class have obtained a combined mean (see on appendix 7).

Lastly, F-ratio shown the interaction effect between the two variable, high and low level of students' achievement in writing recount text that taught by basic questioning technique with picture, which testing hypothesis used two ways anova. Based on the calculation of two ways anova, $F_0 = 5.5$. It was consulted with F table with level of significance 5% ($F_{table} = 4.00$) because the $F_0 = 5.5 > F_{table} = 4.00$. It could be concluded that there are significance interaction using basic questioning technique with picture toward high and low motivation level of students' achievement in writing recount text. Its mean that the effect of basic questioning technique with picture using picture in teaching writing recount text depended on the students' level achievement.

