

CHAPTER IV

RESULT AND DISCUSSION

A. Description of Data

In this chapter the writer would like to present the description of data obtained. The writer explained in the previous chapter that the population in this research were all students of second grade in MA Ponpes Kulni Cikande and the sample were 25 students of XI B as experimental class and 25 students of XI A as control class. In this research, the writer did an analysis of quantitative data. The data is obtained by giving test to the experimental class and control class. The test divided two types are pre-test and post-test. Pre-test was given before treatment and post-test was given after treatment. On the test, students choose the correct answer from multiple choice that consists 25 items.

The writer identifies some result to find out the effect of Suggestopedia method in improving students' reading comprehension. They are the score of students before treatment, the score students after treatment and the differences between pre-test and post-test score of students. The writer describes the data in experimental and control class as below:

1. Data Description of Experimental Class

The writer analysis the data by comparing students' score in pre-test and post-test in the experimental class. The students' improvement score caused the writer used suggestopedia in teaching reading. If seen from the students' improvement score, it means that used suggestopedia was success in improving students'

reading. The writer describes the students' improvement score of pre-test and post-test at the experimental class by the table below:

Table 4.1

The difference score between pre-test and post-test result of experimental class

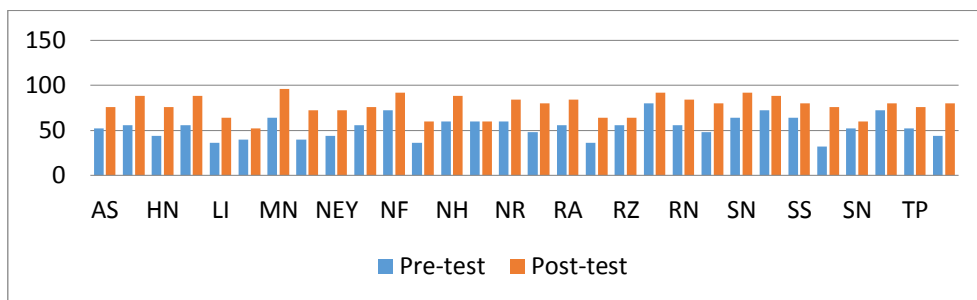
No	Respondent	Pre-Test (X_1)	Post-Test (X_2)	Diferences($X_2 - X_1$)
1	AS	52	76	24
2	EAM	56	88	32
3	HN	44	76	32
4	KK	56	88	32
5	LI	36	64	28
6	LPM	40	52	12
7	MN	64	96	32
8	MA	40	72	32
9	NEY	44	72	28
10	NE	56	76	20
11	NF	72	92	20
12	NFT	36	60	24
13	NH	60	88	28
14	NL	60	60	0
15	NR	60	84	24
16	OM	48	80	48
17	RA	56	84	28
18	RQ	36	64	28
19	RZ	56	64	8
20	RFP	80	92	12

21	RN	56	84	28
22	SA	48	80	32
23	SN	64	92	28
24	SMN	72	88	16
25	SS	64	80	16
26	SM	32	76	44
27	SN	52	60	8
28	SNK	72	80	8
29	TP	52	76	24
30	WFF	44	80	36
N	TOTAL	$\sum X =$	$\sum X = 2324$	$\sum X = 732$
=		1608		
30	AVERAGE	M = 53,60	M = 77,47	M = 24,40

Based the table 4.1 showed the difference result of pre-test and post-test at the experimental class. The mean (average score) of Pre-test was 53,60. The mean (average score) of post-test in experimental class was 77,47. There was significant difference score between pre-test and post-test at the experimental class by the highest score was 48 and the lowest was 0. It got the significant improvement after giving treatment using suggestopedia method, it was seen from the average of the post-test better than pre-test 53,60 < 77,47. The graphic describes the table as follow:

Graphic 4.1

The different score between pre-test and post-test of experimental class



From graphic 4.1 above showed the results of the students' pre-test and post-test scores on the criteria in reading at the experimental class. Data showed that the maximum score in pre-test was 80 and the minimum score was 32. While in post-test the maximum score was 96 and the minimum score was 52.

2. Data Description of Control Class

The writer analysis the data by comparing students' score in pre-test and post-test at the control class. This result describes by the table below:

Table 4.2

The difference score between Pre-test and Post-test result of control class

NO	Respondent	Pre-Test (X_1)	Post-Test (X_2)	Difference ($X_2 - X_1$)
1	AF	72	76	4
2	AZZ	64	68	4
3	AN	44	44	0
4	BG	48	60	12

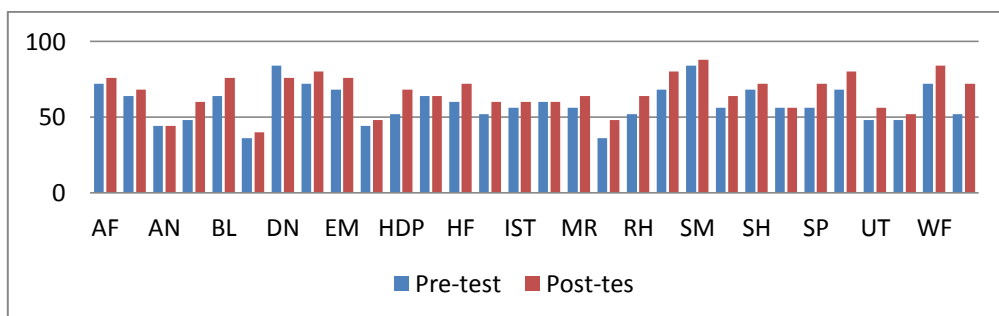
5	BL	64	76	12
6	DA	36	40	4
7	DN	84	76	-8
8	EP	72	80	8
9	EM	68	76	8
10	FA	44	48	4
11	HDP	52	68	16
12	IN	64	64	0
13	HF	60	72	12
14	IR	52	60	8
15	IST	56	60	4
16	JW	60	60	0
17	MR	56	64	8
18	PA	36	48	12
19	RH	52	64	12
20	RK	68	80	12
21	SM	84	88	4
22	SR	56	64	8
23	SH	68	72	4
24	SENS	56	56	0
25	SP	56	72	16
26	TA	68	80	12
27	UT	48	56	8
28	VH	48	52	4
29	WF	72	84	12
30	YY	52	72	20

N	TOTAL	$\Sigma X =$	$\Sigma X = 1980$	$\Sigma X = 208$
=		1760		
25	AVERAGE	M = 58,67	M = 66,00	M = 8,32

Table 4.8 above showed that the difference score between pre-test and post-test at the control class. The mean (average score) of Pre-test was 58,67. The mean (average score) of Post-test was 66,00. There was significant difference score between pre-test and post-test at the control class by the highest score was 18 and the lowest was -8. It showed the difference result of pre-test and post-test at the control class got the significant improvement after giving treatment without using suggestopedia, it was seen from the average of the post-test better than pre-test $58,67 < 66,00$. The graphic describes the table as follow:

Graphic 4.2

The different score between pre-test and post-test of control class



From graphic 4.2 above showed the results of the students' pre-test and post-test scores on the criteria in reading at the control class. Data showed that the maximum score in pre-test was 84 and the minimum score was 36. While in post-test the maximum score was 88 and the minimum score was 40.

B. Analysis of Data

1. Normality Test

Normality test is a statistical process used to determine if a sample or any group of data fits a standard normal distribution. The writer used Kolmogorov-Smirnov Test as normality test. The Kolmogorov-Smirnov test is used to decide if a sample comes from a population with a specific distribution.

a. Normality Test of Pre-Test in Experimental Class

Table 4.3

The Normality Test of Pre-Test in Experimental Class

No.	X_i	$Z = \frac{Xi - X}{SD}$	F_T	F_S	$ F_T - F_S $
1	32	-1.772	0.038	0.034	0.004
2	36	-1.444	0.074	0.133	0.059
3	36				
4	36				
5	40	-1.115	0.132	0.200	0.068
6	40				
7	44	-0.787	0.215	0.300	0.085
8	44				
9	44				
10	48	-0.459	0.322	0.366	0.044
11	48				
12	52	-0.131	0.447	0.466	

13	52				0.019
14	52				
15	56	0.196	0.578	0.666	0.088
16	56				
17	56				
18	56				
19	56				
20	56				
21	60	0.525	0.700	0.766	0.066
22	60				
23	60				
24	64	0.853	0.803	0.866	0.063
25	64				
26	64				
27	72	1.509	0.934	0.966	0.032
28	72				
29	72				
30	80	2.166	0.984	1.000	0.004

Based on table 4.3 above, the highest value was 0.088 with significant 0.241 in Kolmogorov-Smirnov table (See Appendix 8). It can be concluded the result pre-test of experimental class was lower than the significant ($0.088 < 0.241$). Therefore, the data pre-test of experimental class was normal distribution, because the value was lower than the significant.

b. Normality Test of Post-Test in Experimental Class

Table 4.4

The Normality Test of Post-Test in Experimental Class

No.	X_i	$Z = \frac{X_i - X}{SD}$	F_T	F_S	$ F_T - F_S $
1	52	-2.236	0.033	0.0126	0.0204
2	60	-1.534	0.133	0.062	0.071
3	60				
4	60				
5	64				
6	64	-1.182	0.233	0.118	0.115
7	64				
8	72				
9	72	-0.480	0.300	0.315	0.015
10	76				
11	76				
12	76	-0.128	0.466	0.448	0.018
13	76				
14	76				
15	80				
16	80				
17	80	0.222	0.633	0.588	0.045
18	80				
19	80				
20	84	0.573	0.733	0.716	0.017

21	84				
22	84				
23	88	0.925	0.866	0.822	0.044
24	88				
25	88				
26	88				
27	92	1.276	0.966	0.899	0.067
28	92				
29	92				
30	96	1.627	1.000	0.948	0.052

Based on table 4.4 above, the highest value was 0.115 with significant 0.241 in Kolmogorov-Smirnov table (See Appendix 8). It can be concluded the result post-test of experimental class was lower than the significant ($0.115 < 0.241$). Therefore, the data post-test of experimental class was normal distribution, because the value was lower than the significant.

c. Normality Test of Pre-Test in Control Class

Table 4.5

The Normality Test of Pre-Test in Control Class

N o.	X_i	$Z = \frac{Xi - X}{SD}$	F_T	F_S	$ F_T - F_S $
1	36	-1.868	0.066	0.030	0.036
2	36				
3	44	-1.209	0.133	0.113	0.02

4	44				
5	48	-0.879	0.233	0.189	0.044
6	48				
7	48				
8	52	-0.549	0.366	0.291	0.075
9	52				
10	52				
11	52				
12	56	-0.219	0.533	0.412	0.121
13	56				
14	56				
15	56				
16	56				
17	60	0.109	0.600	0.543	0.057
18	60				
19	64	0.439	0.700	0.669	0.031
20	64				
21	64				
22	68	0.769	0.833	0.779	0.054
23	68				
24	68				
25	68				
26	72	1.099	0.933	0.864	0.069
27	72				
28	72				
29	84	2.088	1.000	0.981	0.019

30	84				
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Based on table 4.5 above, the highest value was 0.121 with significant 0.241 in Kolmogorov-Smirnov table (See Appendix 8). It can be concluded the result pre-test of control class was lower than the significant (0.121 < 0.241). Therefore, the data pre-test of control class was normal distribution, because the value was lower than the significant.

d. Normality Test of Post-Test in Control Class

Table 4.6

The Normality Test of Post-Test in Control Class

No.	X_i	$Z = \frac{Xi - X}{SD}$	F_T	F_S	 F_T - F_S
1	40	-2.132	0.016	0.033	0.017
2	44	-1.804	0.035	0.066	0.031
3	48	-1.476	0.069	0.133	0.064
4	48				
5	52	-1.148	0.125	0.166	0.041
6	56	-0.820	0.206	0.233	0.027
7	56				
8	60	-0.492	0.311	0.366	0.055
9	60				
10	60				
11	60				
12	64				
13	64				

14	64	-0.164	0.434	0.500	0.066
15	64				
16	68	0.164	0.565	0.566	0.001
17	68				
18	72	0.492	0.688	0.700	0.012
19	72				
20	72				
21	72				
22	76	0.820	0.793	0.833	0.04
23	76				
24	76				
25	76				
26	80	1.148	0.874	0.933	0.059
27	80				
28	80				
29	84	1.476	0.930	0.966	0.036
30	88	1.804	0.964	1.000	0.036

Based on table 4.6 above, the highest value was 0.088 with significant 0.241 in Kolmogorov-Smirnov table (See Appendix 8). It can be concluded the result post-test of control class was lower than the significant ($0.066 < 0.241$). Therefore, the data post-test of control class was normal distribution, because the value was lower than the significant.

2.T-test Calculation

The writer analyzed the data by using t-test. The formula as follow:

$$t_0 = \frac{M_1 - M_2}{\left(\frac{\sum x_1^2 + \sum x_2^2}{N_1 + N_2 - 2}\right) \left(\frac{N_1 + N_2}{N_1 \cdot N_2}\right)}$$

Notes:

t_0 = t observation

M_1 = Mean score of the experiment class

M_2 = Mean score of the control class

$\sum x_1^2$ = Sum of square deviation score in experiment class

$\sum x_2^2$ = Sum of square deviation score in control class

N_1 = Number of students of experiment class

N_2 = Number of students of control class

2 = Constant number

df = Degree of Freedom (df = $N_1 + N_2 - 2$)

Table 4.7

The result calculation of post-test at the experimental class (X_1^2) and the control class (X_2^2)

NO	X_1	X_2	x_1	x_2	x_1^2	x_2^2
1	76	76	-1.466	10	2.151	100
2	88	68	10.533	2	110.951	4
3	76	44	-1.466	-22	2.151	484
4	88	60	10.533	-6	110.951	36
5	64	76	-13.46	10	181.351	100

6	52	40	-25.46	-26	648.551	676
7	96	76	18.533	10	343.484	100
8	72	80	-5.466	14	29.884	196
9	72	76	-5.466	10	29.884	100
10	76	48	-1.466	-18	2.151	324
11	92	68	14.533	2	211.217	4
12	60	64	-17.46	-2	305.084	4
13	88	72	10.533	6	110.951	36
14	60	60	-17.46	-6	305.084	36
15	84	60	6.533	-6	42.684	36
16	80	60	2.533	-6	6.417	36
17	84	64	6.533	-2	42.684	4
18	64	48	-13.46	-18	181.351	324
19	64	64	-13.46	-2	181.351	4
20	92	80	14.533	14	211.217	196
21	84	88	6.533	22	42.684	484
22	80	64	2.533	-2	6.417	4
23	92	72	14.533	6	211.217	36
24	88	56	10.533	-10	110.951	100
25	80	72	2.533	6	6.417	36
26	76	80	-1.466	14	2.151	196
27	60	56	-17.46	-10	305.084	100
28	80	52	2.533	-14	6.417	196
29	76	84	-1.466	18	2.151	324
30	80	72	2.533	6	6.417	36
Σ	2324	1980			3759.47	4312

Note :

X_1 = Score Post-test (Experimental Class)

X_2 = Score Post-test (Control Class)

x_1 = $X_1 - M_1$ (Mean X_1)

x_2 = $X_2 - M_2$ (Mean X_2)

x_1^2 = The Squared Value of x_1

x_2^2 = The Squared Value of x_2

Based on the table above, the researcher got the data $\sum X_1 = 2324$, $\sum X_2 = 1980$, $\sum x_1^2 = 3759,47$, $\sum x_2^2 = 4312$ where as $N_1 = 25$ and $N_2 = 25$. After that the writer calculated them based on the t-test formula, the steps as follow:

1. Determine mean of variable X_1 and X_2

$$\text{Variable } X_1 \quad M_1 = \frac{\sum x_1}{N_1} = \frac{2324}{30} = 77,47$$

$$\text{Variable } X_2 \quad M_2 = \frac{\sum x_2}{N_2} = \frac{1980}{30} = 66,00$$

2. Determine t-test

$$\sum x_1^2 = 3759,47$$

$$\sum x_2^2 = 4312$$

$$df = N_1 + N_2 - 2 = 30 + 30 - 2 = 58$$

$$t_o = \frac{M_1 - M_2}{\sqrt{\left(\frac{\sum x_1^2 + \sum x_2^2}{N_1 + N_2 - 2}\right) \left(\frac{N_1 + N_2}{N_1 \cdot N_2}\right)}}$$

$$= \frac{77,47 - 66,00}{\sqrt{\left(\frac{3759,47 + 4312}{30 + 30 - 2}\right) \left(\frac{30 + 30}{30 \cdot 30}\right)}} = \frac{11,47}{\sqrt{\left(\frac{8071,47}{58}\right) \left(\frac{60}{900}\right)}}$$

$$= \frac{11,47}{\sqrt{139,16 \times 0,06}} = \frac{11,47}{\sqrt{8,34}} = \frac{11,47}{2,88}$$

$$= 3,99$$

So after the writer calculates this data based on the formula t-test, the obtained t_o or $t_{observation}$ was 3,99.

C. Hypothesis Testing

Based on the result of calculation above, it is obtained that the value of t_o ($t_{observation}$) was 3,99, the degree of freedom (df) = 58. In the degree significance 5% = 1,67 in degree of significance 1% = 2,39 (see t-Table at appendix 7). After that the writer compared the data with t_t (t table) both in degree significance 5% and 1%. Therefore $t_o: t_t = 3,99 > 1,67$ in degree of significance 5% and $t_o: t_t = 3,99 > 2,40$ in degree significance 1%.

The statistic hypothesis states that if t_o is higher than t_t , it shows that H_a (alternative hypothesis) of the result is accepted and H_o (null hypothesis) is rejected. It means there was significant effect of using suggestopedia in improving students' reading comprehension than without using suggestopedia.

D. Interpretation Data

a. Interpretation Data of Experimental Class

The result of the research that the mean of pre-test score obtained by students of XI B Class of MA Ponpes Kulni Cikande (experimental class) was 53,60. The highest score of pre-test in experimental class was 80. The lowest score of pre-test in class experimental class was 32. Comparing to the mean of pre-test in

control class, the mean of pre-test in experimental class was lower than control class (53,60 < 58,67). The data of pre-test in experimental class was normal distribution because the result pre-test of experimental class was lower than the significant (0.088 < 0.241).

The result of the research that the mean of post-test score obtained by students of XI B Class of MA Ponpes Kulni Cikande (experimental class) was 77,47. The highest score in experimental class was 96. The lowest score in experimental class was 52. Comparing to the mean of post-test in control class, the mean of post-test in experimental class was higher than control class (77,47 > 66,00). The data of post-test in experimental class was normal distribution because the result post-test of experimental class was lower than the significant (0.115 < 0.241).

The students who taught by using suggestopedia musical environment could make students relax and comfort in reading activity. They were active, produced the question and understand what they read. The teacher also engaged with his role as the facilitator and feedback giver. The strong effort from each students in their group and the teacher role to provide what the students need to understand the text are evidence that suggestopedia was success to make the students' reading comprehension improved.

The learning acitivity in suggestopedia method, the classroom is not the same as common classrooms. The physical surroundings and the classroom atmosphere are most important and must be rich in sensory learning with art and music.

The students look and discuss a new text with the teacher. Students relax comfortably in reclining chairs and listen to the teacher read the text in a certain way. The students provide information from decoration of the class like poster on the classroom's wall. During the active concert and passive concert reading the material students suggested out by the instructor over a background of the special musical for suggest students' environment.

b. Interpretation Data of Control Class

The result of the research that the mean of pre-test score obtained by students of XI A Class of MA Ponpes Kulni Cikande (control class) was 58,67. The highest score of pre-test in control class was 84. The lowest score of pre-test in control class was 36. Comparing to the mean of pre-test in experimental class, the mean of pre-test in control class was higher than experimental class ($58,67 > 53,60$). The data of pre-test in control class was normal distribution because the result pre-test of control class was lower than the significant ($0.121 < 0.241$).

The result of the research that the mean of pre-test score obtained by students of XI A Class of MA Ponpes Kulni Cikande (control class) was 67,20. The highest score in control class was 88. The lowest score in control class was 40. Comparing to the mean of post-test in experimental class, the mean of post-test in control class was lower than experimental class ($66,00 < 77,47$). The data of post-test in control class was normal distribution because the result post-test of control class was lower than the significant ($0.066 < 0.241$).

The control class was very different with the experimental class. After got the pre-test, the writer gave the explanation about the text. Next, all of the exercises and practices were finished individually. No discussion, no sharing, etc. the high achievers and low achiever students work individually without any interaction. Then the teacher's role is as the leader in the class.

The students cannot learn actively. The teacher dominates the learning process. The students cannot explore their difficulties with the others. They also cannot share the idea to solve the problems. The exercises form was only answer the question of texts. It looks like conventional drills. When the writer compared the pre-test and post-test score, many students got higher score, same score, and lower score.

The writer summarized the data of post-test in experimental class and control class based on discussion above. The distribution of score post-test in experimental class was greater than class control. The mean of experimental class was 77,28 and the mean of control class was 67,20.

It could be concluded, from the description above obtained from the research of experimental class and control class among the average score (mean), $t_{\text{observation}}$ and comparison with t_{table} . The writer summarize that the students taught by suggestopedia have improving in reading ability than the students taught without suggestopedia. So there was a significance effect on students' reading comprehension.

