CHAPTER IV

RESULT AND DISCUSSION

A. Research Findings

- 1. Analysis Data of Equal-test
- a. Data Description of Equal Test

To break down result of equal-test score of each classes, (see the table below)

No	Student	8D	Student	8 E	St <mark>ud</mark> ent	8F	Student	8G
1	AT	70	AB	80	AK	80	AS	80
2	AZ	80	AA	80	AM	80	AD	80
3	AS	60	AP	70	AI	80	AG	80
4	AD	70	AD	70	AN	80	AM	80
5	AN	70	AL	70	AS	90	AK	80

for the excerpt, and see (table 4.1 in appendix) for the further descriptions.

Researcher also outlined with frequency distribution of equal-test score in each

classes.

Tabel 4.1.1 Frequency Distribution of D Class Equal-test Score

No	Score	F	Percentage
1	30	1	2%
2	40	2	5%
3	50	5	12%
4	60	13	32%
5	70	15	37%
6	80	4	10%
7	90	1	2%
Total		41	100 %

Min : 30,00	
Max : 90,00	
Mean : 60,34	

Tabel 4.1.2 Frequency Distribution of E Class Equal-test Score

No	Score	F	Percentage
1	60	1	2%
2	70	16	39%
3	80	15	37%
4	90	9	22%
	Total	41	100%
Min :	60,00		
Max :	90,00		
Mean	: 70,78		

Tabel 4.1.3 Frequency Distribution of F Class Equal-test Score

No	Score	F	Percentage
1	60	1	2%
2	70	7	17%
3	80	24	59%
4	90	7	17%
5	100	2	5%
Total		41	100%

Min : 60,00		
Max : 100,00		
Mean : 80,04		

Tabel 4.1.4 Frequency Distribution of G Class Equal-test Score

No	Score	F	Percentage
1	70	11	27%
2	80	28	68%
3	90	2	5%
	Total	41	100%
Min : 7	70,00		
Max :	90,00		
Mean :	70,78	1	

To determine classes that chosen in the research, researcher did statistics test.

1) Test Difference of Learning Score Result 8D, 8E, 8F and 8G

Tebel 4.1.5 Distribution Average Score of 8D, 8E, 8F and 8G

Mean	
Class	Learning Score
	Result
8D	63,4146
8E	77,8049
8F	78,5122

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8G	77,8049
Total	74,3841

Based on tabel, average sore above can be assumed that average score of 8D is 63,4, average score of 8E is 77,8, average score of 8F is 78,5 and average score of 8G is 77,8. Therefore, researcher can state that 8E and 8G has the same average score result.

To know whether among average score of 8D, 8E, 8F and 8G has significant difference, researcher do the test of Anova statistics with some assumptions that must be qualified, those are normality and homogeneity. When those assumptions are not qualified, the test of statistics is replaced by Kruskall Wallis and continued with test Mann whitney U to know which class is same or different.

a) Tests of Normality

Tabel 4.1.6 Tests of Normality Equal-test

Tests	of	Normality

	Class	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic df Sig.			Statistic	Df	Sig.
	8D	,197	41	,000	,923	41	,008
Learning Score	8E	,243	41	,000	,841	41	,000
Result	8F	,324	41	,000,	,637	41	,000
	8G	,394	41	,000,	,695	41	,000

a. Lilliefors Significance Correction

Based on test of normality result with Kolmogorov-Smirnov, it can be found that significance value on all classes is 0,000 < 0,05 it means that data is not normal distribution.

b) Tests of Homogeneity

	Test of Homogene	eity of Varianc	e		
		Levene	df1	df2	Sig.
		Otatiotic			
	Based on Mean	3,437	3	160	<mark>,018</mark>
	Based on Median	3,865	3	160	,011
Result	Based on Median and with adjusted df	3,865	3	102,009	,012
	Based on trimmed mean	3,153	3	160	,027

Tabel 4.1.7 Tests of Homogeneity Equal-test

Based on tests of SPSS result, it can be found that significance value on Based of Mean is 0,018 < 0,05 it means that data variance is not homogeneous. Because normality assumption and homogeneity is not qualified, the test with Anova can not be continued, but it is replaced by test of Kruskal Wallis.

c) Test of Kruskal Wallis

est
e

Test Statistics ^{a,b}			
Learning Score			
	Result		
Chi-Square	53,219		
Df	3		



a. Kruskal Wallis Testb. Grouping Variable: Kelas

Based on test result of Kruskal Wallis to know there is difference of average score or not among class 8D, 8E, 8F, and 8G, it is found the result that significance value 0,000 < 0,05, so it can be concluded that there is difference of average score among class 8D, 8E, 8F, and 8G. to know which class has same average score or different, it continues by test of Mann Whitney U

d) Test of Mann Whitney U

Tabel 4.1.9 Test of Mann Whitney U Equal-test

CLASS	SIGNIFICANCE VALUE	CONCLUSION
8D and 8E	0,000	Different
8D and 8F	0,000	Different
8D and 8G	0,000	Different
8E and 8F	0,264	Same
8E and 8G	0,858	Same
8F and 8G	0,194	Same

Based on test result of Mann Whitney U, it can be found there are some classes have different average score and there are some classes have same average score. To determine classes chosen in the research, it was chosen, the classes have same average score and the significance value is the highest one is class 8E and 8G.

Based on consideration above, researcher takes E and G class to be control and experimental group. At random, researcher decides E class as an experimental group and G class as a control group.

2. Analisis Data of Pre and Post of Experimental and Control Group

After conducting pre-test and post-test, researcher shows the result of data pre-test and post-test in experimental and control group as mentioned below:

- 1) Data Description of Pre and Post of Experimental and Control Group
 - 1) Data Pre-test of Experimental Group

To break down result of pre-test score of experimental group, (see the table below) for the excerpt, and see (table 4.2 in appendix) for the further descriptions.

No	Student	Score
1	Akbar Bagus .S	75
2	Alfaricha Ardiana	60
3	Alifian Putra	65

Researcher also outlined with frequency distribution of pre-test score.

No	Score	F	Percentage
1	15	1	2%
2	40	1	2%
3	45	2	5%
4	50	6	15%
5	55	6	15%

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Mean : 60,12				
Max : 80.00				
Min : 15,00				
Total 41 100%				
10	80	1	2%	
9	75	4	10%	
8	70	8	19%	
7	65	6	15%	
6	60	6	15%	

2) Data Pre-test of Control Group

To break down result of pre-test score of control group, (see the table below) for the excerpt, and see (table 4.3 in appendix) for the further descriptions.

2	No	Student	Score
	1	Adam Syah Bagus	55
1	2	Ade Nisah Rahmawati	65
	3	Agung Eko Wisnu	55

Tabel 4.3.1 Frequency Distribution Control Group Pre-test Score

No	Score	F	Percentage
1	45	1	2%
2	50	4	10%
3	55	9	22%
4	60	6	15%
5	65	8	19%
6	70	7	17%

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7	75	4	10%		
8	80	2	5%		
	Total	41	100%		
Min : 45,00					
Max : 80,00					
Mean : 62,68					

3) Data Post-test of Experimental Group

To break down result of post-test score of experimental group, (see the table below) for the excerpt, and see (table 4.4 in appendix) for the further descriptions.

No	Student	Score
1	Akbar Bagus .S	80
2	Alfaricha Ardiana	80
3	Alifian Putra	90

Tabel 4.4.1 Frequency Distribution Experimental Group Post-test Score

No	Score	F	Percentage
1	65	1	2%
2	70	7	17%
3	75	6	15%
4	80	14	34%
5	85	6	15%
6	90	4	10%
7	95	2	5%

8	100	1	2%			
	Total	41	100%			
Min : 65,00						
Max : 100,00						
Mean :	80,12					

4) Data Post-test of Control Group

To break down result of post-test score of control group, (see the table below) for the excerpt, and see (table 4.5 in appendix) for the further descriptions.

No	Student	Score
1	Adam Syah Bagus	50
2	Ade Nisah Rahmawati	65
3	Agung Eko Wisnu	70

Tabel 4.5.1 Frequency Distribution Control Group Post-test Score

No	Score	F	Percentage				
1	45	1	2%				
2	50	12	30%				
3	55	6	15%				
4	60	7	17%				
5	65	5	12%				
6	70	8	19%				
7	75	2	5%				
	Total 41 100%						
Min : 45,00							
Max : 75,00							
Mean :	59,26						

5) Data Difference of Pre-test and Post-test Score Result of Experimental and

Control Group

Following tabel was presented to facilitate in comparing the full marks, minimal score and mean of pre-test and post-test of experimental and control group.

Tabel 4.6 Frequency Distribution Pre-test Post-test Experimental and Control

Group

Data	N	Min	Max	Mean
Pre-test Experimental	41	15,00	80,00	60,12
Pre-test Control	41	45,00	80,00	62,68
Post-test Experimental	41	65,00	100,00	80,12
Post-test Control	41	45,00	75,00	59,26

The minimal score got by control group in pre-test is 45, whereas the maximal score is 80, dan the minimal score of control group in post-tset is 45, the maximal score is 75.

Based on tabel above, the pre-test score of experimental group provides 15 for minimal score and 80 for maximal score. Besides, the post-test score of experimental group provides 65 for minimal score and 100 for maximal score.

Mean result of pre-test and post-test in control group based on tabel above does not through a significant increasing even tended to decreasing, it seems from the mean of pre-test is 62,68, and the mean of post-test is 59,26. Then, mean result of pre-test and post-test in experimental group tended to increasing, it seems on tabel above where the mean of pre-test is 60,12 and the mean of post-test is 80,12.

- 2) Test Difference of Learning Score Result 8E (Experiment) and 8G (Control)
- a) Test Difference of Pre-Test

(1) Distribution Average Score Pretest of Experimental and Control Group

Tabel 4.7 Distribution A	Average Pretest Sc	ore
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Class	Mean	N
Eksperimen (8E)	60,1220	41
Kontrol (8G)	62,6829	41
Total	61,4024	82

Based on average tabel above, it can be stated that average score of experimental group is 60,1 whereas average score of control group is 62,7, there is a little difference of average score in pretest between experimental group and control group, where the average score of control group is little higher than experimental group.

To know whether the difference is significant or not, it was conducted a test of independent sample t test with assumptions must be qualified, those are normality and homogeneity, when the assumptions are not qualified, test of independent sample t test can not be continued and replaced by test of Mann Whitney U.

(2) Test of Normality

Tabel 4.7.1	Test	of	Normality	Pre-test
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Tests of Normality							
	Class	Kolmogorov-Smirnov ^a Shapiro-Wilk					
		Statistic	Df	Sig.	Statistic	Df	Sig.
Result of Pre-test	Experiment (8E)	,120	41	,146	,908	41	,003
30016	Control (8G)	,148	41	,024	,957	41	,122

a. Lilliefors Significance Correction

Based on test of normality result with kolmogorov smirnov, it can be found that significance value of experimental group is 0,146 > 0,05 whereas significance value of control group is < 0,024, because all classes do not have significance value > 0,05 so the data is not normal distribution.

(3)Test of Homogeneity

Tabel 4.7.2 Test of Homogeneity Pre-test

Test of Homogeneity of Variance						
		Levene	df1	df2	Sig.	
		Statistic				
Result of Pre-test	Based on Mean	1,373	1	80	<mark>,245</mark>	

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Score	Based on Median	1,346	1	80	,249
	Based on Median and with adjusted df	1,346	1	70,042	,250
	Based on trimmed mean	1,479	1	80	,228

Based on SPSS test result, it can be found that significance value on Based of Mean is 0,245 > 0,05 so variance data is homogen. Because normality assumptions are not qualified though homogeneity is satiable, the independen sample t test can not be continued, but it was replaced by test of Mann Whitney U.

(4)Test of Mann Whitney U

Tabel 4.7.3 Test of Mann Whitney U Pre-test

Test Statistics ^a						
Result of Pre-tes						
	Score					
Mann-Whitney U	762,000					
Wilcoxon W	1623,000					
Z	-,737					
Asymp. Sig. (2-tailed)	,461					

a. Grouping Variable: Kelas

Based on test result of Mann Whitney U to know there is the difference of pre-test average score or not between experimental and control group, that the result of significance value is 0,461 > 0,05, therefore researcher concludes that there is no difference of pre-test average score between experimental and control group.

b) Test Difference of Post-Test

(1) Distribution Average Score Posttest of Experimental and Control Group

Class	Mean	N
Experiment (8E)	80,1220	41
Control (8G)	59,2683	41
Total	69,6951	82

Tabel 4.8. Distribution Average Posttest Score

Based on table above, average score can be assumed that average score of experimental group is 80,1 whereas average score of control group is 59,3, there is a great degree of difference in posttest average score between experimental and control group, which average score of experimental group is higher than control group.

To know whether the difference is significant or not, it did the test by independent sample t test with assumptions must be qualified, those are normality and homogeneity, when the assumptions are not qualified, the independent sample t test can not be continued and replaced by test of Mann Whitney U.

(2) Test of Normality

Tabel 4.8.1 Test of Normality Post-test

	Class		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	Df	Sig.	
Result of Post-	Experiment (8E)	,189	41	,001	,946	41	,049	
lest Score	Control (8G)	,178	41	,002	,902	41	,002	

	Т	ests	of	Norma	litv
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a. Lilliefors Significance Correction

Based on test of normality result with kolmogorov smirnov, it can be found that significance value of all classes is 0,000 < 0,05 so the data is not normal distribution.

(3) Test of Homogeneity

Tabel 4.8.2 Test of Homogeneity Post-test

Test of homogeneity of variance					
		Levene Statistic	df1	df2	Sig.
Result of Post- test Score	Based on Mean Based on Median Based on Median and with adjusted df	2,307 2,189 2,189	1 1 1	80 80 76,977	,133 ,143 ,143
	Based on trimmed mean	2,358	1	80	,129

Test of Homogeneity of Variance

Based on SPSS test result, it can be found that significance value on Based of Mean is 0,133 > 0,05 so variance data is homogeny. Because normality assumptions are not qualified though homogeneity is satiable therefore, independen sample t test can not be continued, but replaced by test of Mann Whitney U.

(4) Test of Mann Whitney U

Test Statistics ^a					
	Result of Post-				
	test Score				
Mann-Whitney U	60,500				
Wilcoxon W	921,500				
Z	-7,296				
Asymp. Sig. (2-tailed)	,000				
a. Grouping Variable: Kelas					

Tabel 4.8.3 Test of Mann Whitney U Post-test

Based on test result of Mann Whitney U to know whether there is the difference of post-test average score or not between experimental and control group, the result of significance value is 0,000 < 0,05, means there is significant difference in posttest average score between experimental and control group.

B. Result of Test Hypothesis

Test of hyphothesis in this research used test of Mann Whitney U by SPSS application 20 to test the difference of descriptive text with implementation of GIST Strategy and descriptive text in conventional learning without implementation of GIST Strategy.

In pre-test result based on test of Mann Whitney U, researcher found that the result of significance value is 0,461 > 0,05, therefore researcher concluded that there was no difference of pre-test average score between experimental and control group.

In post-test result based on test of Mann Whitney U, researcher found that the result of significance value is 0,000 < 0,05, means there was significant difference in post-test average score between experimental and control group. Besides, the average score of experimental group was higher than control group. Based on SPSS result interpretation, researcher stated learning with implementation of GIST Strategy is effective to improve student reading comprehension in exploring descriptive text.

As descriptions above, it can be concluded the result of test hypothesis is:

1. H_0 : The implementation of GIST Strategy is *not effective* to improve student reading comprehension in exploring descriptive text, **rejected.**

2. H_a : The implementation of GIST Strategy is *effective* to improve student reading comprehension in exploring descriptive text, **accepted**.

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C. Discussion

1. Discussion of Research Result

This study is conducted in SMPN 4 Surabaya. This study is intent on testing the effectiveness of GIST Strategy implementation to increase student reading comprehension in exploring descriptive text. The way is by determining the difference of test score result of experimental and control group. Research result is drawn conclusion through two test to answer the research question:

a. In equal-test, using test of Kruskal Wallis and Mann Whitney U. Other than to determine classes that chosen in the research, equal-test was also held to get the average score of all population of this research in order to know student reading comprehension in exploring descriptive text in second grade of SMPN 4 Surabaya.

Based on test result of Kruskal Wallis, it was found the result that significance value 0,000 < 0,05, so it can be concluded that there was difference of average score among class 8D, 8E, 8F, and 8G and on test result of Mann Whitney U, it can be found there were some classes have same average score, those are: 8D and 8E, 8D and 8F, 8D and 8G all of them have significance value >0,000. Then there were some classes have different average score, those are 8E and 8F with significance value is < 0,264, 8E and 8G with significance value is < 0,858, 8F and 8G with significance value was < 0,194. Then 8E and 8G was

chosen as the experimental and control group because the significance value is the highest one.

To know student reading comprehension in exploring descriptive text, researcher showed the average score of each classes and average score of all classes. The average score of each classes was 8D with average score 63,41, 8E with 77,80, 8F with 78,51, and 8G with 77,80. And the average of all classes was 65,54.

b. In pre-test and post-test, using test of Mann Whitney U to test the difference of descriptive text with implementation of GIST Strategy and descriptive text in conventional learning without implementation of GIST Strategy.

In pre-test result based on test of Mann Whitney U, the result of significance value is 0,461 > 0,05, therefore it was concluded that there was no difference of pre-test average score between experimental and control group.

In post-test result based on test of Mann Whitney U, the result of significance value was 0,000 < 0,05, meant there was significant difference in post-test average score between experimental and control group. Besides, the average score of experimental group was higher than control group. Based on SPSS result interpretations, so researcher states learning with implementation of GIST Strategy is effective to improve student reading comprehension in exploring descriptive text.

2. Research Constraint

The research constraint is including permission and restrictiveness of research period. On occasion of permission, the school was preparing to held "Last Semester Exam" therefore the permission impeded a bit to conduct this research, but that sort of thing can be solved. The restrictiveness of research period was also other obstruction. Learning text by implementing GIST strategy needed a quite long period when students did not understand yet the steps. However, by researcher's clear and specific explanation and student's great attention in process of teaching and learning, students can understand well the GIST instructions. In addition, the lesson session only has four hours a week therefore researcher maximized the available time, but the restrictiveness of research period did not become a hard obstacle in this research.