CHAPTER IV
RESEARCH FINDINGS AND ANALYSIS

A. Description of the Result Research

Findings of this research described that there were different result between experimental class which was taught by using *Two Stay Two Stray* technique and control class which was taught without using *Two Stay Two Stray* technique on Narrative Reading Text. The research was conducted in SMPN 23 Semarang which is located at RM. Hadi Subeno Street Mijen, Semarang at the seventh grade in the academic year 2014/ 2015.

The activity of the research started on 27rd October 2014 by choosing the sample used cluster random sampling technique. To get the representative sample, the researcher wrote the names of the classes on small piece of paper. And then, the papers were rolled and put into a lot of box. At last, the researcher got class VII C which consisted of 32 students as try-out group, class VIII A which consisted of 32 students was experimental group, and class VIII B which consisted of 32 students was as control group. The number of students was gained from the documentation of the school by the help of the English teacher.

Before items were given to the students, the researcher gave tryout test for try-out class on 28th October 2014 to analyze validity, reliability, difficulty level and the discrimination power of each item. The researcher prepared 30 items as the instrument of the test. Test was given to know the validity, reliability, degree of test difficulty, and discriminating power of test items of try-out test in control class that was provided by the writer.

In this research finding of try out test, the researcher used *product-moment* formula to analyze validity. The researcher applied the *spearman-brown* formula which was combined with *product- moment* formula to analyze reliability instrument. The degree of test difficulty used difficulty level formula by considering five levels of difficulty. The last analysis of try-out test was discriminating power by divided into two groups; lower group and upper group which consist of 15 students in each groups.

The researcher gave pre-test on 30th October 2014 in experimental group and 1th November 2014 in control group. The questions consisted of 20 items were stated valid according to try-out analysis. After giving pre-test, the writer determined the materials and lesson plans of learning activities. Pre-test was conducted to both groups to know that two groups were normal and homogeny.

After knowing the control group and experimental group had same variant. Before giving the treatment and conventional method, the researcher prepared lesson plan and material to learning activity. The researcher conducted treatment in experimental class on 5th and 6th November 2014. The control group was not taught using *Two Stay Two Stray* technique, but the teacher explained the material using conventional method without giving variation or special treatment in learning process.

The treatment for experimental group conducted on 5th and 6th March 2014 by using *Two Stay Two Stray* technique which is appropriate to teach Narrative Reading Text because it makes students be happy and understandable easily by the students.

After gave treatments in experimental group and conventional teaching in control group, the researcher gave post-test which consisted 20 test items which approximately finished on 40 minutes. The researcher gave post test on 12th and 14th November 2014 to both experimental group and control group.

From the post-test, it could be known that there were significant result between control group and experimental group by hypothesis test which showed the value of t-test is higher than t-table. It could be seen on the value of t-test is 3.150 while the critical value on $t_{s0,05}$ is 1.67, so the hypothesis is accepted. It meant that Facilitating students using *Two Stay Two Stray* technique in teaching Narrative Reading Text is effective and gave good result in teaching and learning process because the students felt more exited, cooperative, and responsible in learning process.

B. The Data Analysis and Test of Hypothesis

1. The Data Analysis

a. The Data Analysis of Try-out Finding

This discussion covered validity, reliability, level of difficulty and discriminating power.

1) Validity of Instrument

As mentioned in chapter III, validity refers to the precise measurement of the test. In this study, item validity was used to know the index validity of the test. To know the validity of instrument, the writer used the Pearson product moment formula to analyze each item. It was obtained that from 30 test items; there were 20 test items which were valid and 10 test items which were invalid. They were on number 2, 6, 16, 26, and 30. They were invalid with the reason the computation result of their r_{xy} value (the correlation of score each item) was lower than their r_{table} value.

Table 2
Validity of Each Item

Criteria	r_{table}	Number of questions	Total
Valid	0. 361	1, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 29.	25
Invalid		2, 6, 16, 26, 30.	5

The following was the example of item validity computation for item number 1 and for the other items would use the same formula.

N = 30 $\sum Y = 626$

$\sum XY = 489$ $\sum X^2 = 22$

$\sum X = 22$ $\sum Y^2 = 13918$

$$r_{xy} = \frac{N\sum XY - \sum(X)\sum(Y)}{\sqrt{\left\{N\sum X^2 - \left(\sum X\right)^2\right\}\left\{N\sum Y^2 - \left(\sum Y\right)^2\right\}}}$$

$$r_{xy} = \frac{30(489) - 22(626)}{\sqrt{\left\{30(22) - (22)^2\right\}\left\{30(13918) - (626)^2\right\}}}$$

$$r_{xy} = \frac{14670 - 13772}{\sqrt{(660 - 484)(417540 - 391876)}}$$

$$r_{xy} = \frac{898}{\sqrt{176x25664}}$$

$$r_{xy} = \frac{898}{\sqrt{4516864}}$$

$$r_{xy} = \frac{898}{2125{,}291}$$

$$r_{xy} = 0{,}422$$

From the computation above, the result of computing validity of the item number 1 was 0.422. After that, the researcher consulted the result to the table of r Product Moment with the number of subject

(N) =30 and significance level 5% it was 0.361. Since the result of the computation was higher than r in table, the index of validity of the item number 1 was considered to be valid.

2) Reliability

A good test must be valid and reliable. To get the coefficient of correlation, the researcher applied the *product-moment* formula and then continued to the *spearman-brown* formula. The formula of product moment as follow: Before computing the reliability, the researcher had to compute *product moment* formula (r_{xy}) with the formula below:

N = 30 $\sum XY = 3445$

$\sum Y = 319$ $\sum X^2 = 3442$

$\sum Y^2 = 3565$ $\sum X = 306$

$$r_{xy} = \frac{N\sum XY - \sum(X)\sum(Y)}{\sqrt{\left\{N\sum X^2 - \left(\sum X\right)^2\right\}\left\{N\sum Y^2 - \left(\sum Y\right)^2\right\}}}$$

$$r_{xy} = \frac{30(3445) - (306(319)}{\sqrt{\left\{30(3442) - (306)^2\right\}\left\{30(3565) - (319)^2\right\}}}$$

$$r_{xy} = \frac{103350 - 97614}{\sqrt{(103260 - 93636)(106950 - 101761)}}$$

$$r_{xy} = \frac{5736}{\sqrt{9624x5189}}$$

$$r_{xy} = \frac{5736}{\sqrt{49938936}}$$

$$r_{xy} = \frac{5580}{7066{,}748}$$

$$r_{xy} = 0{,}789$$

After finding *product moment* formula (r_{XY}) the computation was continued to the *Spearman-Brown* formula as follow:

$$r_{11} = \frac{2 \times r_{xy}}{\sqrt{1 + r_{xy}}}$$

$$r_{11} = \frac{2x0{,}789}{\sqrt{1 + 0{,}78}}$$

$$r_{11} = \frac{1{,}578}{\sqrt{1{,}78}}$$

$$r_{xy} = \frac{1{,}578}{1{,}334}$$

$$r_{11} = 1{,}182$$

From the computation above, it was found out that r_{11} (the total of reliability test) was 1,182 whereas the number of subjects was 30 and the critical value for r-table with significance level 5% was 0.312. Thus, the value resulted from the computation was higher than its critical value. It could be concluded that the instrument used in this research was reliable.

3) Degree of test difficulty

The following is the computation of the level difficulty for item number 1 and for the other items would use the same formula.

B=14+8=22

JS= 30

$$P = \frac{B}{JS}$$

$$P = \frac{22}{30}$$

$$P = 0{,}7$$

It is proper to say that the index difficulty of the item number 1 above can be said as the easy category, because the calculation result of the item number 1 is in the interval 0. $70 \leq p \leq 1{,}00$. After computing 30 items of the try-out test, there were 20 items were considered to be easy, 10 items were considered to be medium, and there were no difficult tests.

Table 3

Degree of Difficulty of Each Item

Criteria	**Number of questions**	**Total**
Easy	1, 3, 4, 5, 7, 8, 9, 10, 13, 14, 16, 17, 18, 21, 24, 27, 29, 30	18
Medium	2, 6,11, 12, 15, 19,20, 22, 23, 25, 26, 28	12

4) The Discriminating Power

The following is the computation of discriminating power of item number 1. To do this analysis, the number of try-out subjects was divided into two groups, upper and lower groups. They were upper and lower group.

Table 4
The Table of Discriminating Power of Item Number 1

Upper Group			Lower Group		
No	Code	Score	No	Code	Score
1	T-27	1	1	T-28	1
2	T-19	1	2	T-14	1
3	T-20	1	3	T-18	1
4	T-9	1	4	T-30	1
5	T-26	1	5	T-6	1
6	T-23	0	6	T-12	1
7	T-24	1	7	T-8	0
8	T-4	1	8	T-29	1
9	T-32	0	9	T-2	0
10	T-1	1	10	T-7	0
11	T-10	1	11	T-22	0
12	T-21	1	12	T-31	1
13	T-15	1	13	T-25	0
14	T-5	1	14	T-17	0

Upper Group			Lower Group		
No	Code	Score	No	Code	Score
15	T-3	1	15	T-11	0
16	T-16	1	16	T-13	0
Sum		14	Sum		8

T : Try Out Student

This was the analysis of discriminating power for item number 1:

JA =15
JB = 15
BA=14
BB =8

$$D = \frac{B_A}{J_A} - \frac{B_B}{J_B}$$

$$D = \frac{14}{15} - \frac{8}{15} = \frac{6}{15}$$

D = 0, 4

According to the criteria, the item number 1 above was medium category, because the calculation result of the item number 1 was in the interval $0.20 \leq D \leq 0.40$. After computing 30 items of try – out test and after being consulted to the discriminating power category, there were 2 items which considered being good, 16 items were satisfied and 12 items were poor.

Table 5
Discriminating Power of Each Item

Criteria	Number of questions	Total
Poor	1, 4, 5, 6, 7,9, 13, 16, 20, 26, 27, 30	12
satisfied	2, 3, 8, 10, 12, 14, 15, 17, 18, 19, 21, 23, 24, 25, 28, 29	16
Good	11, 22	2

Based on the analysis of validity, reliability, difficulty level, and discriminating power, finally 30 items of test, there were 25 items were accepted to be used in pre-test and post-test. They were number 1, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28 and 29.

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

Table 6
SCORE PRE TEST BETWEEN EXPERIMENTAL CLASS AND CONTROL CLASS

CONTROL			EXPERIMENT		
NO	CODE	SCORE	NO	CODE	SCORE
1	C-1	40	1	E-1	30
2	C-2	30	2	E-2	55
3	C-3	45	3	E-3	15
4	C-4	45	4	E-4	30
5	C-5	40	5	E-5	15

CONTROL			EXPERIMENT		
NO	CODE	SCORE	NO	CODE	SCORE
6	C-6	50	6	E-6	30
7	C-7	40	7	E-7	25
8	C-8	35	8	E-8	40
9	C-9	50	9	E-9	30
10	C-10	40	10	E-10	40
11	C-11	25	11	E-11	20
12	C-12	30	12	E-12	40
13	C-13	40	13	E-13	40
14	C-14	20	14	E-14	35
15	C-15	60	15	E-15	75
16	C-16	35	16	E-16	45
17	C-17	40	17	E-17	35
18	C-18	45	18	E-18	40
19	C-19	40	19	E-19	25
20	C-20	45	20	E-20	30
21	C-21	50	21	E-21	45
22	C-22	70	22	E-22	30
23	C-23	45	23	E-23	45
24	C-24	45	24	E-24	40
25	C-25	35	25	E-25	30
26	C-26	15	26	E-26	45
27	C-27	55	27	E-27	20
28	C-28	65	28	E-28	40
29	C-29	20	29	E-29	45
30	C-30	45	30	E-30	40
31	C-31	30	31	E-31	20
32	C-32	45	32	E-32	25

CONTROL			EXPERIMENT		
NO	CODE	SCORE	NO	CODE	SCORE
Total		1315			1120
N		32			32
X Average		41,09375			35
Varians (s2)		149,572			150
Standard deviation (S)		12,22995			12,24745

1) The Normality of the Experimental Class Pre-test

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

Hypothesis:

Ha: The distribution list was normal.

Ho: The distribution list was not normal

Test of hypothesis:

The formula was used:

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

The computation of normality test:

Maximum score	= 75. 00
N	= 32
Minimum score	= 15. 00
Range	= 35, 00
K / Number of class	= 6
Length of the class	= 7

S = 12. 25

$\bar{x}$ = 35

Table 7
The Frequency Distribution of the Experimental Class Pre-Test

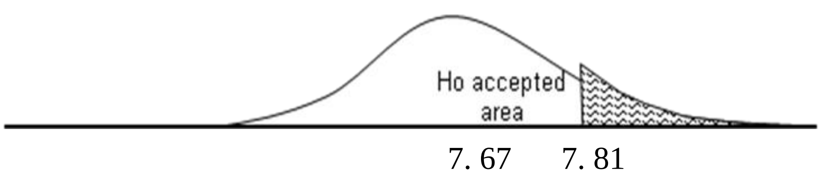
Class			f_i	X_i	X_i^2	$f_i.X_i$	$f_i.X_i^2$
15	–	21	5	18	324	90	1620
22	–	28	3	25	625	75	1875
29	–	35	9	32	1024	288	9216
36	–	42	8	39	1521	312	12168
43	–	49	5	46	2116	230	10580
50	–	56	1	53	2809	53	2809
57	–	63	0	60	3600	0	0
64	–	70	0	67	4489	0	0
71	–	77	1	74	5476	74	5476
Total			32			1048	43744

Table 8
The Frequency Distribution of the Experimental Class Pre-Test

class	Bk	Z_i	$P(Z_i)$	Wide range	Ei	Oi	$\frac{(O_i - E_i)^2}{E_i}$
	14,5	-1,05	-0,3524				
15 - 21				0,1118	3,6	5	0,5663
	21,5	-0,65	-0,2406				
22 - 28				0,1443	4,6	3	0,5673
	28,5	-0,24	-0,0963				
29 - 35				0,1590	5,1	9	3,0100
	35,5	0,16	0,0627				
36 - 42				0,1493	4,8	8	2,1712
	42,5	0,56	0,2120				
43 - 49				0,1197	3,8	5	0,3580
	49,5	0,96	0,3317				
50 - 56				0,0818	2,6	1	0,9991
	56,5	1,36	0,4134				
57 - 63				0,0477	1,5	0	1,5255
	63,5	1,76	0,4611				
64 - 70				0,0237	0,8	0	0,7584
	70,5	2,17	0,4848				
71 - 77				0,0100	0,3	1	1,4312
	77,5	2,57	0,4949				
					X^2	=	7. 67

$\chi^2_{count} = 7.\ 67$

For a = 5%, dk = 6 - 3 = 3, $X_{table} = 7.\ 81$



With α = 5% and dk = 6-3=3, from the chi-square distribution table, obtained X_{table} = 7.81.

Because χ^2_{count} was lower than X^2_{table} (7. 67 < 7. 81). So, the distribution list was normal.

2) The Normality of the Control Class Pre-test

<u>Hypothesis :</u>

Ho: The distribution list was normal.

Ha: The distribution list was not normal.

<u>Test of hypothesis:</u>

The formula was used:

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

The computation of normality test:

Maximum score	= 70. 00
N	= 32
Minimum score	= 15. 00
Range	= 55. 00
K/ Number of class	= 6
Length of the class	= 6
S	= 12. 2295
$\bar{x}$	= 41. 09

Table 9
The Frequency Distribution of the Control Class Pre-Test

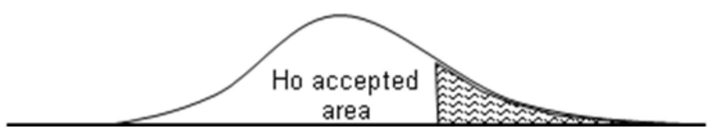
Class			f_i	X_i	X_i^2	$f_i.X_i$	$f_i.X_i^2$
15	-	20	4	17,5	306,25	70	1225
21	-	26	4	23,5	552,25	94	2209
27	-	32	3	29,5	870,25	88,5	2610,75
33	-	38	5	35,5	1260,25	177,5	6301,25
39	-	44	4	41,5	1722,25	166	6889
45	-	50	6	47,5	2256,25	285	13537,5
51	-	56	1	53,5	2862,25	53,5	2862,25
57	-	62	3	59,5	3540,25	178,5	10620,8
63	-	68	1	65,5	4290,25	65,5	4290,25
69	-	74	1	71,5	5112,25	71,5	5112,25
Total			32			1250	55658

Table 10
The Frequency Distribution of Control Class Pre-Test

Class			Bk	Z_i	$P(Z_i)$	Wide range	Ei	Oi	$\frac{(O_i - E_i)^2}{E_i}$
			14,5	-1,65	-0,4510				
15	-	20				0,0566	1,8	4	2,6498
			20,5	-1,25	-0,3945				
21	-	26				0,0931	3,0	4	0,3489
			26,5	-0,85	-0,3013				
27	-	32				0,1305	4,2	3	0,3315
			32,5	-0,44	-0,1708				
33	-	38				0,1557	5,0	5	0,0001
			38,5	-0,04	-0,0151				
39	-	44				0,1581	5,1	4	0,2212
			44,5	0,37	0,1429				
45	-	50				0,1366	4,4	6	0,6076
			50,5	0,77	0,2795				
51	-	56				0,1004	3,2	1	1,5253
			56,5	1,17	0,3800				
57	-	62				0,0629	2,0	3	0,4852
			62,5	1,58	0,4428				
63	-	68				0,0335	1,1	1	0,0048
			68,5	1,98	0,4763				
69	-	74				0,0152	0,5	1	0,5436
			74,5	2,39	0,4915				
							X^2	=	6,72

χ^2_{count} = 6. 72

For a = 5%, dk = 6 - 3 = 3, X^2_{table} = 7. 815



6. 72 7. 81

With α = 5% and dk = 6 - 3 = 3, from the chi-square distribution table, obtained X_{table} = 7. 81. Because χ^2_{count} was lower than X^2_{table} (6. 72 < 7. 81). So, the distribution list was normal.

<u>Hypothesis</u>

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

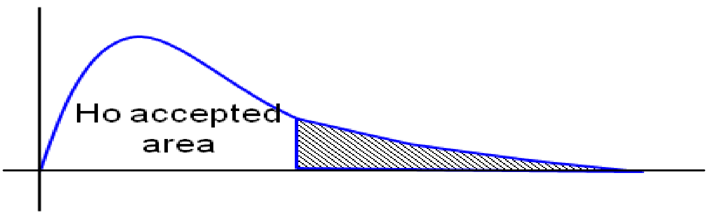
H_a: $\sigma_1^2 \neq \sigma_2^2$

The Calculation

Formula:

$$\boxed{F = \frac{Vb}{VK}}$$

Ho is accepted if $F \leq F_{(1-a)\ (nb-1):\ (nk-1)}$



$F_{(1-a)\ (nb-1):\ (nk-1)}$

Table 11
Result of Pre Test

Variation Source	Experimental	Control
Sum	1120	1315
N	32	32
X	35	41. 093
Variants (s^2)	150	149. 572
Standard deviation (s)	12. 247	12. 229

According to the formula above, it is obtained that:

$$\boxed{F = \frac{Vb}{VK}}$$

$$F = \frac{150}{149.572}$$

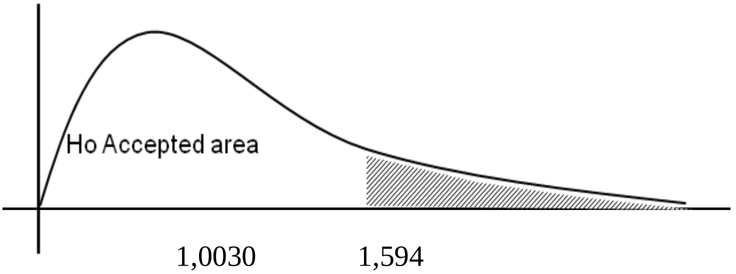
$$= 1.003$$

For a = 5% with:

df1 = n – 1 = 32 – 1 = 31

df2 = n – 1 = 32 – 1 = 31

$F_{(0.05)(31:31)}$ = 1. 594



Since F count < F table, the experimental and control group have the same variance. With α = 5% and dk = (32-1=31) :(32-1=31), it is obtained that F_{table} =1. 594. Because F_{count} was lower than F_{table} (1. 003 < 1. 694). So, Ho was accepted and the two groups have same variant/ **homogeneous.**

The Hypothesis Test

In this research, because $\sigma_1^2 = \sigma_2^2$ (has same variant), the t-test formula was as follows:

$$\boxed{t = \frac{\bar{x}_1 - \bar{x}_2}{s\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}} \qquad S^2 = \frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2}$$

Table 12

Variation Source	Experimental	Control
Sum	1120	1315
N	32	32
X	35	41. 093
Variants (s^2)	150	149. 572
Standard deviation (s)	12. 247	12. 229

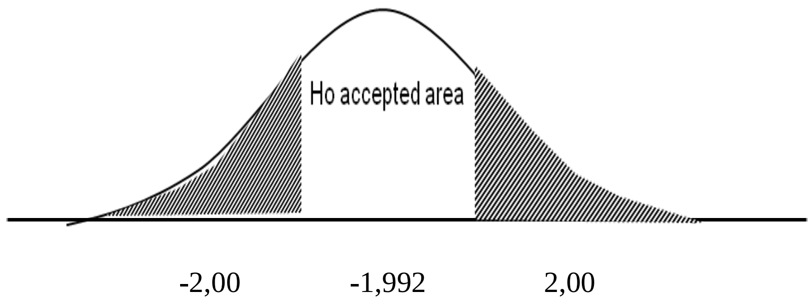
According to the formula above, it is obtained that:

$$S = \sqrt{\frac{(32 - 1)\ 150 + (32 - 1)\ 149.\ 572}{32 + 32 - 2}}$$

$$= 12.2387$$

$$t = \frac{35 - 41{,}09}{12.2387\sqrt{\frac{1}{32} + \frac{1}{32}}} = -1.992$$

For α = 5% and dk = 32 + 32 - 2 = 62 , $t_{(0.025)(62)}$ = 2.00



With $\alpha = 5\%$ and dk = 28 + 28 – 2 = 54, obtained t_{table} = 2.00. Because t_{count} was lower than t_{table} (-1. 992 < 2, 00). So, Ho was accepted and there was no difference of the pre-test average value from both groups.

c. The Data Analysis of Post-test Score of the Experimental Class and the Control Class.

Table 13
The list of the Experimental and Control Class Post-test score

	CONTROL		EXPERIMENTAL		
NO	CODE	SCORE	N0	CODE	SCORE
1	C-1	55	1	E-1	50
2	C-2	60	2	E-2	65
3	C-3	55	3	E-3	35
4	C-4	55	4	E-4	55
5	C-5	40	5	E-5	60
6	C-6	65	6	E-6	55
7	C-7	45	7	E-7	45
8	C-8	60	8	E-8	55

	CONTROL		EXPERIMENTAL		
NO	CODE	SCORE	N0	CODE	SCORE
9	C-9	40	9	E-9	50
10	C-10	40	10	E-10	60
11	C-11	40	11	E-11	50
12	C-12	50	12	E-12	70
13	C-13	50	13	E-13	80
14	C-14	40	14	E-14	50
15	C-15	60	15	E-15	90
16	C-16	55	16	E-16	70
17	C-17	50	17	E-17	55
18	C-18	50	18	E-18	55
19	C-19	40	19	E-19	60
20	C-20	65	20	E-20	55
21	C-21	45	21	E-21	55
22	C-22	60	22	E-22	65
23	C-23	35	23	E-23	65
24	C-24	40	24	E-24	65
25	C-25	50	25	E-25	80
26	C-26	45	26	E-26	60
27	C-27	65	27	E-27	65
28	C-28	65	28	E-28	50
29	C-29	70	29	E-29	60
30	C-30	70	30	E-30	60
31	C-31	25	31	E-31	65
32	C-32	50	32	E-32	55
Total		1635			1910
N		32			32
Average		51,09375			59,6875
Varians(s2)		122,152			116,0282
Standard deviation (S)		11,05225			10,77164

1) The Normality of the Experimental Class Post-test

Based on the table above, the normality test:

Hypothesis :

Ho : The distribution list was normal.

Ha : The distribution list was not normal.

Test of hypothesis:

The formula was used:

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

The computation of normality test:

Maximum score	= 85. 00
N	= 32
Minimum score	= 35. 00
Range	= 50. 00
K/ Number of class	= 6
Length	= 8
S	= 10. 77
$\bar{x}$	= 59. 68

Table 14
The Frequency Distribution of the Experimental Class Post-Test

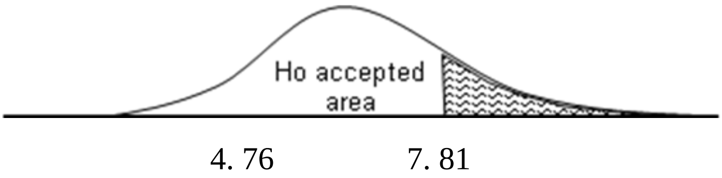
Class	f_i	X_i	X_i^2	$f_i.X_i$	$f_i.X_i^2$
35 - 42	1	38,5	1482,25	38,5	1482,25
43 - 50	6	46,5	2162,25	279	12973,5
51 - 58	8	54,5	2970,25	436	23762
59 - 66	12	62,5	3906,25	750	46875
67 - 74	2	70,5	4970,25	141	9940,5
75 - 82	2	78,5	6162,25	157	12324,5
83 - 90	1	86,5	7482,25	86,5	7482,25
Total	32			1888	114840

Table 15
The Frequency Distribution of the Experimental Class Post-Test

Class			Bk	Z_i	$P(Z_i)$	Wide	Ei	Oi	$\frac{(O_i - E_i)^2}{E_i}$
			34,5	-2,32	-0,4899				
35	–	42				0,0488	1,6	1	0,2012
			42,5	-1,56	-0,4412				
43	–	50				0,1513	4,8	6	0,2774
			50,5	-0,81	-0,2899				
51	–	58				0,2710	8,7	8	0,0519
			58,5	-0,05	-0,0189				
59	–	66				0,2804	9,0	12	1,0211
			66,5	0,71	0,2615				
67	–	74				0,1677	5,4	2	2,1111
			74,5	1,47	0,4292				
75	–	82				0,0579	1,9	2	0,0117
			82,5	2,23	0,4871				
83		90				0,0115	0,4	1	1,0809
			90,5	2,99	0,4986				
							X^2	=	4,76

χ^2_{count} = 4. 76

For a = 5%, dk = 6 - 3 = 3, X^2_{table} = 7. 815



With α = 5% and dk = 6-3=3, from the chi-square distribution table, obtained X_{table} = 7.81. Because χ^2_{count} was lower than X^2_{table} (4. 76 < 7. 81). So, the distribution list was normal.

2) The Normality of the Control Class Post-test

Hypothesis:

Ho : The distribution list was normal

Ha : The distribution list was not normal

Test of hypothesis:

The formula was used:

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

The computation of normality test:

Maximum score	= 70. 00
N	= 32
Minimum score	= 25. 00
Range	= 45. 00

K / many class interval = 6

Length of the class = 7

S = 11. 05

$\bar{x}$ = 51. 09

The computation of normality test:

Table 16

The Frequency Distribution of the Control Class

Post-test

Class			f_i	X_i	X_i^2	$f_i.X_i$	$f_i.X_i^2$
25	-	31	1	28	784	28	784
32	-	38	1	35	1225	35	1225
39	-	45	8	42	1764	336	14112
46	-	52	6	49	2401	294	14406
53	-	59	6	56	3136	336	18816
60	-	66	8	63	3969	504	31752
67	-	73	2	70	4900	140	9800
Total			32			1673	90895

Table 17
The Frequency Distribution of the Control Class

Post-Test

Kelas			Bk	Z_i	$P(Z_i)$	Luas Daerah	Ei	Oi	$\frac{(O_i - E_i)^2}{E_i}$
			24,5	-2,64	-0,4959				
25	–	31				0,0199	0,6	1	0,2049
			31,5	-1,98	-0,4759				
32	–	38				0,0709	2,3	1	0,7108
			38,5	-1,31	-0,4050				
39	–	45				0,1645	5,3	8	1,4221
			45,5	-0,64	-0,2405				
46	–	52				0,2488	8,0	6	0,4830

Kelas			Bk	Z_i	$P(Z_i)$	Luas Daerah	Ei	Oi	$\frac{(O_i - E_i)^2}{E_i}$
			52,5	0,02	0,0083				
53	–	59				0,2455	7,9	6	0,4382
			59,5	0,69	0,2538				
60	–	66				0,1580	5,1	8	1,7122
			66,5	1,35	0,4118				
67		73				0,0664	2,1	2	0,0072
			73,5	2,02	0,4782				
							X^2	=	4,97

$\chi^2_{count} = 4.97$

For a = 5%, dk = 6 - 3 = 3, $X^2_{table} = 7.81$

4. 97 7, 81

α = 5% and dk = 6-3 = 3, from the Chi-Square distribution table, obtained X^2_{table} = 7.81. Because χ^2_{count} was lower than X^2_{table} (4. 97 < 7.81). So, the distribution list was normal.

Hypothesis

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

H_a: $\sigma_1^2 \neq \sigma_2^2$

The Calculation

Formula:

$$\boxed{F = \frac{Vb}{VK}}$$

Ho is accepted if $F \le F_{1/2\square\ (nb-1):(nk-1)}$

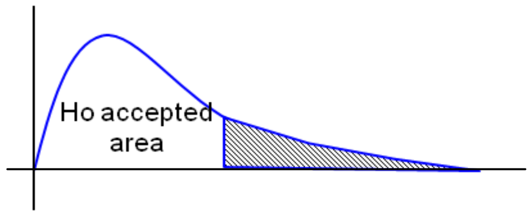


Table 18

Variation Source	Experimental Class	Control Class
Sum	1910	1635
N	32	32
X	59, 688	51,094
Variants (s^2)	116. 028	122.152
Standard deviation (s)	10. 772	11. 052

$$F = \frac{122.152}{116.028}$$

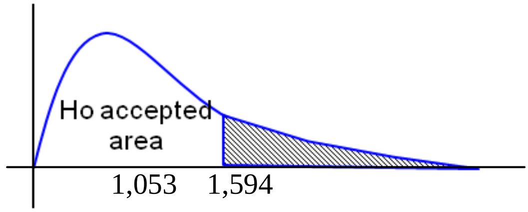
$$= 1.053$$

For a = 5% with:

df1 = n – 1 = 32 – 1 = 31

df2 = n – 1 = 32 – 1 = 31

$F_{(0.05)(31:31)}$ = 1. 594



Since F count < F table, the experimental and control group have the same variance. With α = 5% and dk = (32-1=31) :(32-1=31), obtained F_{table} =1. 594. Because F_{count} was lower than F_{table} (1. 053 < 1. 594). So, Ho was accepted and the two groups have same variant/ **homogeneous.**

The Hypothesis Test

In this research, because $\sigma_1^2 = \sigma_2^2$ (has same variant), the t-test formula was as follows:

$$t = \frac{\overline{X}_1 - \overline{X}_2}{S\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} \qquad S^2 = \frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2}$$

Ho is accepted if $t \leq t_{(1-\square)(n1+n2-2)}$

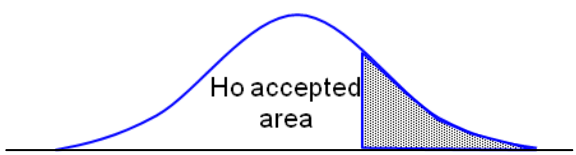


Table 19

Variation Source	Experimental Class	Control Class
Sum	1910	1635
N	32	32
X	59, 688	51,094
Variants (s^2)	116. 028	122.152
Standard deviation (s)	10. 772	11. 052

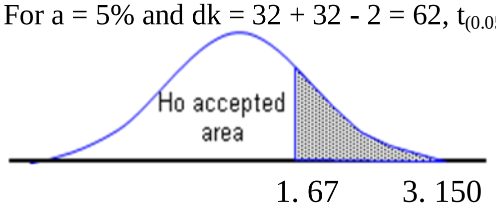
According to the formula above, it is obtained that:

$$S = \sqrt{\frac{(32-1)\ 116.028 + (32-1)\ 122.152}{32+32-2}}$$

$$= 10.9128$$

$$t = \frac{59{,}68 - 51{,}09}{10.9128\sqrt{\frac{1}{32}+\frac{1}{32}}} = 3.150$$

For a = 5% and dk = 32 + 32 - 2 = 62, $t_{(0.05)(62)} = 1.67$



Since t count > t table means that there is a significant difference between experimental and control class on the test the experimental is higher than the control one. From the computation above, by

5% alpha level of significance and dk = 32+32-2=62. It was Obtained t_{table} was 1. 67 while t_{count} was 3. 150. So, it can be concluded Ho was rejected because t_{count} was higher than the critical value on the t_{table} (3. 150 >1. 67).

From the result, the hypotheses in this research can be concluded that there was a significance difference in narrative text achievement score between experimental class which was taught by using cooperative learning type of *Two Stay Two Stray* technique and control class which was taught with conventional method type of *direct method*.

C. Discussion of the Research Findings

1. The score of initial ability (Pre-test)

   Based on the calculations of normality and homogeneity test from class VII A as the experimental class and class VII B as the control class is normal distribution and homogeneous.

2. The score of final ability (Post-test)

   The result of this research is obtained the average score of experimental class was 59. 68 which were higher than the result of control class 51. 09. The average score of experimental class was 59/ 68 and (s) was 10. 77. Teaching narrative reading text in experimental class by using cooperative learning type of *Two Stay Two Stray* technique as a medium can encourage the students to be more active and motivated in learning activities. *Two Stay Two Stray* technique as a teaching medium can create situation in teaching English narrative reading text interesting and make the students easier to understand the material. It can be seen on average score of experimental class which had better result than control class.

The average score of control class was 51. 09 and (s) was 11. 05. Teaching English narrative reading text at control class by using conventional method made the students feel bored with the material that is being presented because the method is too monotonous. So, the material can't be well-transferred to the students optimally.

Based on the result of calculation t-test is obtained t_{count} : 3. 15 and t_{table} : 1. 67. This shows that $t_{count} > t_{table}$ (t_{count} higher than t_{table}). So it means that there is a significant difference between narrative reading text's achievement score of students which was taught by using cooperative learning type of *Two Stay Two Stray* technique and without *Two Stay Two Stray* technique.

D. Limitations of the Research

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

1. The research was limited at SMP N 23 Semarang in the academic year of 2014/ 2015. When the same researches conducted in other schools, it is still possible that different result will be gained.
2. Relative lack of experience and knowledge of the researcher, makes implementation process of this research was less smooth. But the researcher tried as maximal as possible to do this research.

Considering all those limitations, there is a necessary to do more research about teaching English narrative reading text using the same or different technique. Because student's skill was different, so other research with other technique need to do in order to find out an appropiated technique to teach genre.Two Stay Two Stray technique makes the students more active in their learning. This technique give chance to all students to share with different partner in short time and structural way. It is appropiate with Huda's statement that *cooperative learning* help students to have positif attitude in learning, ready to involve with their friends and cooperate to improve their own learning.[1]

[1] Miftahul Huda, Cooperative Learning : metode, teknik, struktur dan model penerapan, (Yogyakarta : Pustaka Pelajar, 2013), P.265