CHAPTER IV
RESEARCH FINDING AND ANALYSIS

A. Descriptions of the Research

In this chapter, the researcher wanted to describe the result of the reserach based on the data collected and analysis. The reseracher wanted to find out the difference between the students who were taught using ST Method and the students who were not taught using ST Method and the students who were not taught using ST Method in teaching reading comprehension on descriptive text at VIII grade students in MTs Sunan Muria Pati in academic year 2015/2016.

The research had been conducted since November 14th, 2016 to Desember 3th, 2016 in MTs Sunan Muria Pati. The researcher did an analysis of quantitative data. The data was obtained by giving test to the experimental class and control class after giving a different treatment of learning process in both classes. The subject of this research were divided into two classes. They were experiment class (VIII C) and control class (VIII A).

Before the activities were conducted, the research determined the materials and lesson plan of learning. The researcher gave first to analyze validity, reability, difficulty level, and the discrimination power of each item. The researcher prepared 30 items as the intrument of the test. Try out test was given to the students who were had ben got material of descriptive

text. It was to the IX C class.then the researcher did the pre test to both classes, experiment and control group. It was used to know groups were normal and had same variant.

The learning process in the experimental class used ST method, while the control class without using ST method. After the both classes conducted the learing process, students were asked to do the assignment. This assignment was hoped to help the students to identify and remember descriptive text.

After giving in experimental class and conventional teaching in control class, the researcher gave post test which approximately finished on 45 minutes.

The data in this research were obtained from the test result, as follow:

1. Result of the Research
    a. The Average Score of Pretest
        1) The Data of Score Pretest of the Experimental Group

            Based on the result of research in class VIII A before being taught by using Snowball Throwing (ST) in reading comprehension a descriptive text the highest score achieved was 80, the lowest was 45, the range (R) was 35, the number of class (K) 6 , and the class interval was 6. The result of the calculation above was then inputted into the table of frequency distribution as follows:

Table 4.1

List of Frequency Distribution Value of Pretest

of the Experimental Group

Kelas Interval			Batas Kelas	Z untuk batas kls	Peluang untuk Z
45,00	-	50,00	44,50	-1,60	0,4450
51,00	-	56,00	50,50	-1,06	0,3553
57,00	–	62,00	56,50	-0,52	0,1986
63,00	-	68,00	62,50	0,02	0,0075
69,00	-	74,00	68,50	0,56	0,2115
75,00	-	80,00	74,50	1,10	0,3637
			80,50	1,64	0,4491

Untuk α = 5%, dengan dk = 6 - 1= 5 diperoleh χ^2 tabel = 11,07

(See in appendix 8)

2) The Data of Score Pretest of the Control Group

Based on the result of research in class VIII C before being taught by using conventional learning (without using Snowball Throwing) in reading comprehension a descriptive text the highest score achieved was 79, the lowest was 50, the range (R) was 29, the number of class (K) 6, and the class interval was 5. The result of the calculation above was then inputted into the table of frequency distribution as follows:

Table 4.2

List of Frequency Distribution Value of Pretest of the Control Group

Kelas Interval	Batas Kelas	Z untuk batas kls.	Peluang untuk Z		
50,00	-	54,00	49,50	-1,68	0,4534
55,00	-	59,00	54,50	-1,09	0,3632
60,00	–	64,00	59,50	-0,51	0,1953
65,00	-	69,00	64,50	0,07	0,0291
70,00	-	74,00	69,50	0,66	0,2444
75,00	-	79,00	74,50	1,24	0,3927
				79,50	1,82

Untuk α = 5%, dengan dk = 6 - 1= 5 diperoleh χ^2 tabel = *(See in appendix 9)*

b. The average score of posttest

1) The Data of Score Posttest of the Experimental Group

Based on the result of research in class VIII C before being taught by using Snowball Throwing (ST) in reading comprehension a descriptive text the highest score achieved was 90, the lowest was 50, the range (R) was 40, the number of class (K) 6 , and the class interval was 7. The result of the calculation

above was then inputted into the table of frequency distribution as follows:

Table 4.3

List of Frequency Distribution Value of Posttest of the Experimental Group

Kelas	Bk	Z_i	$P(Z_i)$
	49,5	-1,80	0,46
50 – 57			
	57,5	-1,14	0,37
58 – 65			
	65,5	-0,48	0,18
66 – 73			
	73,5	0,19	-0,07
74 – 81			
	81,5	0,85	-0,30
82 – 89			
	89,5	1,51	-0,43
90 – 97			
	97,5	2,17	-0,49

2) The Data of Score Posttest of the Control Group

Based on the result of research in class VIII A before being taught by using conventional learning (without using Snowball Throwing) in reading comprehension a descriptive text the highest score achieved was 85, the lowest was 45, the range (R) was 40, the number of class (K) 6, and the class interval was 7. The result of the calculation above was then inputted into the table of frequency distribution as follows:

Table 4.4

List of Frequency Distribution Value of Posttest of the Control Group

Kelas	Bk	Z_i	$P(Z_i)$
	44,5	-1,71	0,4566
45 – 52			
	52,5	-1,02	0,3452
53 – 60			
	60,5	-0,32	0,1252
61 – 68			
	68,5	0,38	-0,1470
69 – 76			

		76,5	1,07	-0,3586
77	– 84			
		84,5	1,77	-0,4617
85	– 92			
		92,5	2,47	-0,4932

c. The average score difference between pretest and postest

The data were obtained from the students' ability scores of the reading comprehension on descriptive text. They were pretest and posttest scores from the experimental and the control groups. The average score from the experimental class was 63,88 for the pretest and 71,25 for the posttest. While the average scores for the control group 62,29 for the pretest and 64,17 for the posttest. The following was the simple table for the pretest and posttest students' average scores:

Table 4.5

The Result Average Score between Pretest and Posttest

Class	The average score of the pretest	The average score of the posttest
Experimental	63,88	71,25

Control	62,29	64,17

Based on the table above, it can be seen that there was an improvement of the students' result in reading comprehension a descriptive text. Each class had different result. The result of the experimental group was higher than the control group.

B. Data Analysis and Hypothesis Test

1. Analysis of Try-out Test Instrument

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

a. Validity of instrument

There are thirty items number in try out. From the try out test that was conducted, it showed that fifteen reading item numbers were valid. For example, the item analysis of relevance was obtained r(xy) 0,53178 for $\alpha = 5$ % with N = 25. It would be obtained 0,329. Since the result of the instruments validity was higher than the critical score, it was considered that the instruments were valid. The complete computation and the sample of computation are as below.

Table 4.6
Validity of each item

Criteria	t_{table}	Number of questions	Total
Valid	0,329	1, 2, 3, 4, 5, 6, 8, 10, 11, 14, 19, 20, 22, 25, 30	15
Invalid		7, 9, 12, 13, 15, 16, 17, 18, 21, 23, 24, 26, 27, 28, 29	15

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

Formula :

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

Keterangan :

r_{xy} = the correlation coefficient between variable X and variable Y

N = the number of students

ΣX = the sum of score of X item

ΣY = the sum of total score

ΣXY= the sum of multiplication between X and Y

The following is the calculation for item number 1, for the other items would use the same formula. If $r_{xy} > r_{table,}$ the item is invalid.

Table 4.7
Item number one of try out test analysis

NO	CODE	X	Y	X^2	Y^2	XY
1	TO-01	1	18	1	324	18
2	TO-02	1	15	1	225	15
3	TO-03	1	13	1	169	13
4	TO-04	1	21	1	441	21
5	TO-05	1	19	1	361	19
6	TO-06	1	19	1	361	19
7	TO-07	1	14	1	196	14
8	TO-08	1	24	1	576	24
9	TO-09	1	19	1	361	19
10	TO-10	1	21	1	441	21
11	TO-11	1	17	1	289	17
12	TO-12	1	15	1	225	15
13	TO-13	1	23	1	529	23
14	TO-14	1	16	1	256	16
15	TO-15	1	21	1	441	21
16	TO-16	0	8	0	64	0
17	TO-17	1	15	1	225	15
18	TO-18	1	23	1	529	23
19	TO-19	0	13	0	169	0
20	TO-20	1	20	1	400	20
21	TO-21	1	18	1	324	18
22	TO-22	1	18	1	324	18
23	TO-23	1	11	1	121	11
24	TO-24	1	17	1	289	17
25	TO-25	1	16	1	256	16
SUM		**23**	**434**	**23**	**7896**	**413**

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

$$\boldsymbol{r_{xy} = \frac{(25)(413) - (23)(434)}{\sqrt{\{(25)(23) - (23)^2\}\{(25)(7896) - (413)^2\}}}}$$

$$r_{xy} = \frac{10325 - 9982}{\sqrt{\{575 - 529\}\{197400 - 170569\}}}$$

$$r_{xy} = 59.98$$

From the computation above, the result of computing validity of the item number 1 is 0.25998 the result of the table of r *product moment* with α = 5% and N = 25 obtained r_{tabel} = 0,329. Because $r_{xy} < r_{tabel}$, so the item number 1 is **valid**.

b. Reliability of instrument

After validity items was done, the next analysis was to test the reliability of instrument to find out whether a test had higher critical score and gave the stability or consistency of the test scores or not. The complete analysis and the computation as follow:

Formula:

$$r_{11} = \left(\frac{k}{k-1}\right)\left(\frac{S^2 - \sum pq}{S^2}\right)$$

Keterangan:

r_{11} = the hole of test reliability

Σpq = the sum of multiplication between p and q

n = the number of items

s^2 = total of variant

The following is the calculation of reliability of the item, if $r_{11} > r_{table}$ so the instrument is reliable.

Based on the data of the analysis of try-out test obtained

$\Sigma pq = pq_1 + pq_2 + pq_3 + \ldots + pq_{40}$

$= 0.23071 + 0.24306 + 0.24691 + \ldots + 0.25$

$= 6.47068$

$$S^2 = \frac{\sum Y^2 - \frac{(\sum Y)^2}{N}}{N}$$

$$= \frac{7896 - \frac{(434)^2}{25}}{25}$$

$$= \frac{7896 - 188{,}331}{25} = 7{,}217.4$$

$$r_{11} = \left(\frac{n}{n-1}\right)\left(\frac{s^2 - \sum pq}{s^2}\right)$$

$$= \left(\frac{30}{30-1}\right)\left(\frac{7{,}217.4 - 6.47068}{7{,}217.4}\right)$$

$$= 1.03 \times 1.00$$

$$= 1.03$$

From the analysis r product moment with $\alpha = 5\%$ and n = 30 obtained $r_{table} = 0{,}329$. Because $r_{11} > r_{table,}$ it means that the instrument is reliable.

c. Difficulty level

The computation of difficulty level of the thirty items analysis of reading, it was found that the difficulty level of number one is easy. The sample of computation is as follow.

Formula:

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

Criteria:

0.00-0.30 = very difficult

0.31-0.70 = medium

0.71-1.00 = easy

Calculation:

Below is the example of the computation of difficulty level on item number 1.

P $= \frac{18}{25}$

$= 0.72$

Based on the criteria above, the result is between $0.70 \leq P < 1.00$, so item number 1 is easy.

Table 4.8

Degree of Difficulty of each item

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

d. Discriminating power

The discriminating power of the fifteen items analysis of reading was satisfied. It showed that all speaking items had strong discrimination. The complete analysis and the sample of computation as follow.

Formula:

$$D = \frac{BA}{JA} - \frac{BB}{JB}$$

Criteria:

Table 4.9

Criteria of discriminating power analysis

Interval (D)	Criteria
$D \leq 0.00$	Least
$0.00 < D \leq 0.20$	Less
$0.20 < D \leq 0.40$	Enough
$0.40 < D \leq 0.70$	Good
$0.70 < D \leq 1.00$	Excellent

Calculation:

Below is the example of the computation of discriminating power on item number 1.

Table 4.10

Computation item number 1 reliability analysis

Top Group			Bottom Group		
No	Code	Score	No	Code	Score
1	TO-01	1	1	TO-02	1
2	TO-04	1	2	TO-03	1
3	TO-05	1	3	TO-07	0
4	TO-06	1	4	TO-11	1
5	TO-08	1	5	TO-12	1
6	TO-09	1	6	TO-14	0
7	TO-10	1	7	TO-16	1
8	TO-13	1	8	TO-17	1
9	TO-15	1	9	TO-19	1
10	TO-18	1	10	TO-23	1
11	TO-20	1	11	TO-24	1
12	TO-21	1	12	TO-25	1
13	TO-22	1			
Total		13	Total		10

The following was the computation ofthe discriminating power for the item number 1 and for other items would use the same formula.

$BA = 13$

$JA = 13$

$BB = 10$

$JB = 13$

$$D = \frac{BA}{JA} - \frac{BB}{JB}$$

$= 0{,}166$

According to the criteria, the item number1 above was failed, because the calculation result of the item number 1 was less 0,63. After computing 30 items of tryout test, there were 1 item were considered to be good, 4 items were enough, 25 items were bad. The result of the discriminating power of each item could be seen appendix.

Table 4.11

Discriminating power of each item

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

Based on the analysis on validity, reability, difficulty level and discriminating power, finally 15 items were accepted. They were number 1, 2, 3, 4, 5, 6, 8, 10, 11, 14, 19, 20, 22, 25, 30.

2. Analysis of pre-Test

a. Normality Test of Pre-Test

The normality text in used to know whether the data of control and experimental class which had been cpllected from the research came from normal distribution or not. To find out the distribution data is used normality testwith Chi-square.

Ho : the data of normal distribution

Ha : the data of un normal distribution

With criteria Ho accepted if $x^2_{count}<x^2_{table}$.

Table 4.12
The normality result pre test in experimental class and control classes

Class	Test	x^2_{count}	x^2_{table}.	Criteria
Experimental	Pre test	3,8042	11,07	Normal
Control	Pre test	10,3593		Normal

Based on the analysis above it can be seen that x^2_{count} both of class were lower that $x^2_{table}(x^2_{count}<x^2_{table})$, so Ho is accepted. It can be

concluded that the distribution data of experimental and control class are normal.

b. Homogeneity Test of Pre Test

The homogeneity test is used to know whether the group sample that was taken from population is homogeneity or not.

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

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

Table 4.13

The homogeneity result of pre test in experimental and control classes

Class	Variance (s^2)	N	F_{count}	F_{table}	Criteria
Experimental	123,87	24	1,689	2,0144	Homogenous
Control	73,33	24			

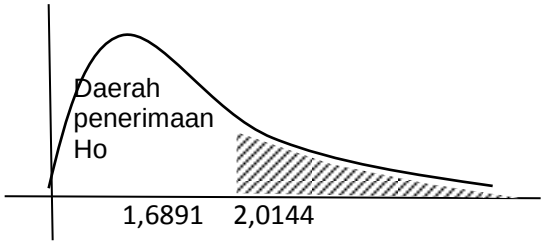
Accourding to the formula above, it is obtained that:

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

$F = \frac{73,33}{123,87}$

= 1,689

$F_{(0,025)(29:29)}$ = 2,0144



Because F were in area acceptance Ho, then it can be concluded taht the second classes homogeneity.

Based on the computation above it is obtained that F_{count} is lower than F_{table} so Ho accepted. It can be conclude that data of pre test from experimental and control class have the same variance.

c. Testing the similarity of Average of the Initial Data between Experimental and Control Classes.

To test the difference of average the writer used t-test.

Ho : $\mu_1=\mu_2$

Ha : $\mu_1\neq\mu_2$

μ_1 : average data of experiment group

μ_2 : average data of control group

Table 4.14

The average test of pre test in experimental and control test

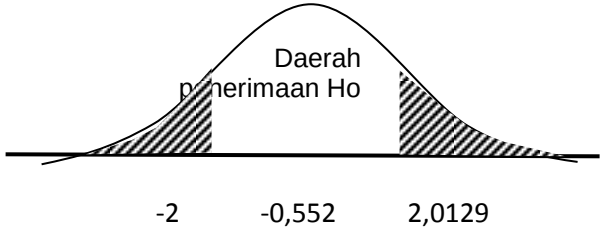
Source of Variance	Experimental	Control	Criteria
Sum	1495	1533	Ho accepted
N	24	24	
Average	62,29	63,88	
Variance	123,8678	73,3315	
Standard Deviation *(S)*	11,13	8,56	

According to the formula above, it is obtained that:

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

$$t_{count} \quad \frac{62{,}29 - 63{,}88}{9{,}92974\sqrt{\frac{1}{24}+\frac{1}{24}}} = 9{,}9297$$

pada a=5% dengan dk=24+24-2=46 diperoleh $t_{(0,975)(58)} = 2{,}0129$



Because F were in area acceptance Ho, then it can be concluded that there is no difference an average of the two groups.

With α = 5% and df = 24+24-2=46, obtained t_{table} = 2,0129. From the result of calculation t-test, t_{count} was lower than t_{table} (2,0129>-0,755). So Ho is accepted. It means that both of classes was homogeneous.

3. Post test

It was done to answer hypothesis of this research. The data used were the result of post test of both classes. The final

analysis contains of normality test, homogeneity test and the hypothesis test.

Hypothesis test is used to know whether there is a difference on post-test of experimental class and control class. The data which is used to test the hypothesis is score post-test both of class. To test the difference of average used t-test.

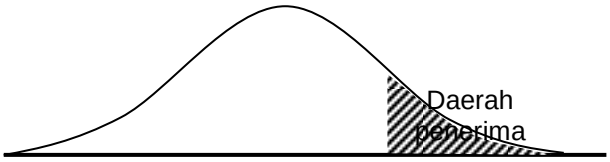
Ho: $\mu_1 \leq \mu_2$ → it means there is no significant difference between the reading comprehension improvements of students who were taught by using ST method and who were taught by using non-ST method.

Ha: $\mu_1 > \mu_2$ → it means there is significant difference between the reading comprehension improvements of students who were taught by using ST method and who were taught by using non-ST method.

Table 4.15
The result of computation T-test

Class	N	Average (X)	Variance (S^2)	*s*
Control	24	64,17	131,88	11,48
Experimental	24	71,25	133,15	11,54

With $\alpha = 5\%$ and df = 24+24-2 = 46, obtained t_{table} -2,13



1,68 -2,13

Based on the computation above, it obtained that the average of post test of the experimental class and control class who were taught by using ST method was 71,25 and standard deviation (s) was 11,54. While the average of post test of control class who were taught by using non ST method was 64,17 and standard deviation (s) 131,8841. With df= 24+24-2=46 by α=5% so obtained t_{table} and t_{count}, $t_{count} > t_{table}$. It means that Ho was rejected and Ha was accepted. The calculations more can be seen in *appendices 14*.

C. Discussion

To find out the result of students' understanding of descriptive text in reading comprehension using Snowball Throwing, the researcher identified some result they were the

average score of students before treatment and the differences between pre-test and post-test of students.

From explain above, researcher choosen MTs Sunan Muria Jembulwunut, Pati to used research because this school still used conventional method in learning process. Profile of MTs Sunan Muria Jembulwunut, Pati is located at Jl. Raya Gunungwungkal Tayu KM 4 Jembulwunut, Gungungwungkal, Pati, headed by Widiati, S.Pd.i. The number of classroom 8, teacher 17 and 24 facilities.

From the previously studies conducted by Ulin Ni'mah, (Semarang: IAIN, 2012), "The Effectiveness of Using Basic Questioning with Picture to Improve the Students' Descriptive Writing Skill".[1] The result of the study indicated that there were average of post- test of experiment class was 71.17 which were higher than the average of posttest of the control class 57.83. Based on the calculation result of t-test is obtained t_{count} (8.581) was higher than the t_{table} (1.67). Since the t_{count} was higher than t_{table}, the hypothesis was accepted. It means that there was a significant difference in writing skill improvement between students who were taught writing descriptive text by using basic questioning with picture and those who were taught by lecturing (without basic questioning with picture).

[1] Ulin Ni'mah, *The Effectiveness of Using Basic Questioning with Picture to Improve the Students' Descriptive Writing Skill*. FITK Library

For answer the hypothesis in this research how were the average scores of experimental and control groups pretest had in similarity, the average score of experimental group posttest better than the of the experimental group pretest, and the average score of experimental group better than the of control group posttest effective in teaching descriptive text in reading comprehension to the eight grade students of MTs Sunan Muria Pati in the academik year of 2015/2016? the writer concluded that there would be the average scores of experimental and control groups pretest haven in not similarity, the average score of experimental group posttest better than the experimental group pretest, and the average score of experimental group lower than the of control group posttest.

Based on the result of pre-test and post-test, it could be concluded:

Snowball Throwing method could to teach descriptive text in reading comprehension at the eight grade VIII of MTs Sunan Muria Pati in academic year of 2015/2016. It can be seen from the result of analysis by using t test formula:

1. Descriptive text in reading comprehension of experimental and control group before treatment was similarity. It can be seen from the mean of pre-test of experiment class (63,88) and the mean of control group (62,29) before the treatment.
2. Descriptive text in reading comprehension of experimental group after treatment better than experimental group before

treatment. It can be seen from the mean of post-test the experiment class (71,25) was higher than experiment class (64,17) before the treatment.

3. Descriptive text in reading comprehension of control group before treatment was lower than control group after treatment. It can be seen from the mean of pre-test of control class (62,29) was lower than the mean of post-test of control class (64,17) after the treatment.
4. Descriptive text in reading comprehension of experimental group after treatment was better than control group after treatment. It can be seen from the mean of post-test of the experiment class (71,25) was better than the mean of post-test of control class (64,17) after the treatment.
5. The case in both groups was the same that there was an improvement in each group's cognitive achievement. However, the improvement on control group did not as much as on the experimental group. It convinced by the statistical result of the hypothesis test. The test by means of t-test formula shown that t_{count}= 9,9297 >t_{table}= 2,0129 at 0.05 level of significance with df = 24+24-2 = 46 by α = 5%, so obtained t_{table} = 2,0129. From the result of calculation t-test t_{count} = 9,9297. If compared between t_{count} and t_{table}, t_{count}>t_{table}. It means Ho was rejected and Ha was accepted. There was a significance difference of average score from pre-test and post-test of control class. From the calculation of interaction

A and C, there was a different significance between students who taught by using Snowball Throwing and students who taught by using non using Snowball Throwing method.

D. Limitation of the Research

In learning process there was supported and limited, for supporting factors in a study of which was the mental attituded of educators, the ability of educators, media etc. Limiting factors in a study was difference characteristics of learners, individual differences which include intelligence, character and background, difficulty determining material that matches the psychological and educational levels of learners, difficulty in adjusting the course material by various methods so that learners do not soon get bored, difficulty in obtaining resources and tools for learning, difficulties in conducting the evaluation and setting time.

From explain above in collecting the data, there was constrain and obstacles faced during the research process. Some limitation of this research as follows:

1. The research was limited at MTs Sunan Muria Pati and just used class VIII A and class VIII C as the sample, The sample size used in this study was 48 students obtained by using random sampling that of a number of populations so that when the same research was conducted in other school, it was still possible that different result will be gained.
2. The researcher was still had less skill and having no teaching experience possessed as a teacher.

3. The research had lack of facilities or media at school, so that the learning process had not conducive.

Considering all those limitations, there was a need to do more research about teaching reading comprehension on descriptive text using the same or different method. In the hope there would be more optimal result.