CHAPTER IV
FINDINGS AND DISCUSSION

A. Description of Research Finding

The Implementation of Learning

This study used experimental design of the use of matching game to improve students' understanding on irregular verb of simple past tense on 03rd November until 24th November 2010.

The implementation of this study was divided into three classes, namely the experiment class (VIII A), the control class (VIII B) and the last is try out class (VIII C). Before the activities were conducted, the materials and lesson plan were determined to the process of learning. Learning in the experiment class was conducted by using matching game with flash card as a medium in teaching irregular verb of simple past, while the control class using the conventional method (without using matching game) and the try out class as the control class was taught without matching game focusses on the validity, reliability, index difficulty level and discriminating power.

The situation in teaching and learning process of experimental class using matching matching game, first the teacher prepared 40 flash cards in the box, the flash cards consist of 20 answer cards (verb 1) and 20 question cards (verb 2). Second, the teacher spread the cards to the students one by one and the students did not know what card they got (answer card or question card), the students appreciated to take the flash card from the box. Third, the teacher explained the role of the game and asked the students to match the changing verb of the students in question card to the students in answer card in peer. The last the students should match their correct answer in group based on the tenses, that was past tense and past continuous tense. The students gave their attention very much to join the game.

After the data were collected, the writer analyzed it. The first, analysis data was from the beginning of control class and experimental class was taken from the pre test value. It were the normality test and the homogeneity test. It were used to know that two groups were normal and had same variant. Another analis data was from the ending of control class and experimental class. It was used to prove the truth of hyphothesis that had been planned.

B. Data Analysis and Test of Hyphotesis

1. The Data Analisis of Try-out Finding

This discussion covers validity, reliability, level of difficulty and discriminating power. Data analysis is intended to process the data collected from pre-test and post-test. The goal of analysis is to prove the hyphotesis whether it is received or rejected. The first analysis was meant to get a valid and reliable instrument for investigation. Try out tests were conducted for eight grade of VIII C students of SMPN 01 Mlonggo Jepara consist of 36 respondents. They were given a try out without matching game. The following is the interpretation of the try out test to find out the validity and reliability of the instrument.

Table IV. 1 Table of Score of the Try out class

NO	CODE	WRITING ITEMS					RAW SCORE	RIPE SCORE
		G	V	M	R	F		
1	T – 12	4	5	3	2	3	17	68
2	T – 21	3	3	4	3	4	17	68
3	T – 36	4	4	4	4	3	19	76
4	T – 9	4	5	5	5	4	23	92
5	T- 16	4	4	4	4	5	21	84
6	T- 27	3	4	4	2	4	17	68
7	T – 34	4	3	3	3	2	15	60
8	T – 5	3	4	4	4	3	18	72
9	T- 23	3	3	3	4	3	16	64
10	T- 25	3	4	4	3	2	16	64
11	T – 31	4	4	2	4	3	17	68
12	T – 33	4	5	5	4	4	22	88
13	T – 2	3	5	4	5	4	21	84

14	T – 4	4	4	4	3	4	19	76
15	T- 13	3	4	3	3	2	15	60
16	T- 15	5	3	4	2	4	18	72
17	T- 17	4	4	4	4	3	19	76
18	T- 35	4	5	2	3	4	18	72
19	T – 29	5	5	3	2	4	19	76
20	T – 1	5	2	4	4	5	20	80
21	T – 11	3	3	3	3	3	15	60
22	T – 14	4	3	4	3	3	17	68
23	T – 20	3	4	2	3	2	14	56
24	T- 12	3	4	3	5	3	18	72
25	T – 22	3	3	3	3	3	15	60
26	T- 24	5	4	5	4	5	23	92
27	T – 26	3	4	3	3	3	16	64
28	T- 28	4	4	5	3	2	18	72
29	T- 30	4	2	3	3	3	15	60
30	T– 32	2	3	4	2	4	15	60
31	T-10	4	5	5	3	4	21	84
32	T-3	3	5	3	4	3	18	72
33	T-8	2	4	2	4	4	16	64
34	T-7	4	5	4	4	4	21	84
35	T-19	2	4	4	4	5	19	76
36	T-6	4	5	3	4	4	20	80
SUM		129	142	129	123	125	648	2592
AVERAGE		6,97	3.94	3.58	3.42	3.47	18	72

1) Validity of Try-out Test

The writing items consist of five items. They are grammar, vocabulary, mechanic, relevance, and fluency. From the try out test that was conducted, it was obtained that all writing items were valid. For example, the item analysis of relevance was obtained (r_{xy}) 0.6466 for α = 5 % with N = 36. 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.

The Computation of Item Validity Matching Game

Formula:

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

Criteria:
The item is valid if $r_{xy} > r_{table}$

Calculation:
Below is the example of the item validity of number 2.

Table IV. 2 Validity Table of Try-out Class

NO	CODE	X	Y	X2	Y2	XY
1	T – 12	5	17	25	289	85
2	T – 21	3	17	9	289	51
3	T – 36	4	19	16	361	76
4	T – 9	5	23	25	529	115
5	T- 16	4	21	16	441	84
6	T- 27	4	17	16	289	68
7	T – 34	3	15	9	225	45
8	T – 5	4	18	16	324	72
9	T- 23	3	16	9	256	48
10	T- 25	4	16	16	256	64
11	T – 31	4	17	16	289	68
12	T – 33	5	22	25	484	110
13	T – 2	5	21	25	441	105
14	T – 4	4	19	16	361	76
15	T- 13	4	15	16	225	60
16	T- 15	3	18	9	324	54
17	T- 17	4	19	16	361	76
18	T- 35	5	18	25	324	90
19	T – 29	5	19	25	361	95
20	T – 1	2	20	4	400	40
21	T – 11	3	15	9	225	45
22	T – 14	3	17	9	289	51
23	T – 20	4	14	16	196	56
24	T- 12	4	18	16	324	72
25	T – 22	3	15	9	225	45
26	T- 24	4	23	16	529	92
27	T – 26	4	16	16	256	64
28	T- 28	4	18	16	324	72

29	T- 30	2	15	4	225	30
30	T– 32	3	15	9	225	45
31	T-10	5	21	25	441	105
32	T-3	5	18	25	324	90
33	T-8	4	16	16	256	64
34	T-7	5	21	25	441	105
35	T-19	4	19	16	361	76
36	T-6	5	20	25	400	100
SUM		142	648	586	11870	2594

Where: N =36 $X^2 = 586$ $X = 142$ $Y^2 = 11870$ $Y = 648$ $\Sigma XY = 2594$

$$r_{xy} = \frac{(36\times 2594)-(142)(648)}{\sqrt{\{(36\times 586)-(142)^2\}\{(36\times 11870)-(648)^2\}}}$$

$$= 0{,}6466$$

$r_{table} = 0{,}329$

Because of $r_{xy} > r_{table}$, so item number 2 is valid.

2) Reliability of Try-out Test

After validity items had been done, the next analysis was to test the reliability of instrument. It was done to find out whether a test had higher critical score and gave the stability or consistency of the test scores or not. From the computation of reliability of the try out instruments using matching game, it was obtained 0.338, for α 5 % with N = 36. It was obtained 0.329. It could be concluded that the instruments that were used in this research was reliable. The complete analysis and the computation as follow:

The Computation of Reliability Matching Game

Formula:

$$r_{11} = \left(\frac{k}{k-1}\right)\left(1-\frac{\sum \sigma_{b^2}}{\sigma_{t^2}}\right)$$

Criteria:

The try out is reliable if $r_{11} > r_{table}$

Calculation:

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

$$\sigma_t^2 = \frac{11870 - \frac{(648)^2}{36}}{36}$$

$$= 5.72$$

Variance

$$\sigma_b^2 = \frac{\sum X^2 - \frac{(\Sigma X)^2}{N}}{N}$$

$$\sigma_{b1}^2 = \frac{485 - \frac{(129)^2}{36}}{36} = 0{,}6$$

$$\sigma_{b2}^2 = \frac{586 - \frac{(142)^2}{36}}{36} = 0{,}7$$

$$\sigma_{b3}^2 = \frac{489 - \frac{(129)^2}{36}}{36} = 0.7$$

$$\sigma_{b4}^2 = \frac{445 - \frac{(123)^2}{36}}{36} = 0{,}7$$

$$\sigma_{b5}^2 = \frac{461 - \frac{(125)^2}{36}}{36} = 0{,}7$$

$$\Sigma b_b^2 = 3.4$$

Index Reliability

$$r_{11} = \left(\frac{5}{5-1}\right)\left(1 - \frac{3.4}{5.72}\right)$$

= 0.338

The result shows that 0.338 is more than 0.329, it meant that the items of instrument were valid.

3) Discriminating Power of Try-out Test

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

The Computation of Discriminating Power

Formula:

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

Criteria:

D = 0.00 – 0.20 : Poor

D = 0.21 – 0.40 : Satisfactory

D = 0.41 – 0.70 : Good

D = 0.71 – 1.00 : Excellent

Calculation:
Below is the example of the computation of discriminating power on item number 2.

$$D = \frac{18}{20} - \frac{8}{16} = 0.9 - 0.5 = 0{,}4$$

The result obtained D = 0,4
Because of the result is between 0.21 – 0,40. So the item number 2 is satisfactory.

4) Difficulty Level of Try Out Test

From the computation of difficulty level of the five items analysis of writing, it was found that the difficulty level is easy. So, it could be concluded that the final total items analysis for the instruments were categorized satisfactory. The sample of computation is as follow.

The Computation of Difficulty Index

Formula:

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

Criteria:
$0.00 \leq P < 0.30$ is difficult

$0.30 \leq P < 0.70$ is medium

$0.70 \leq P < 1.00$ is easy

Calculation:
Below is the example of the computation of difficulty level on item number 2.

B = 26
JS = 36
So:

$$P = \frac{26}{36} = 0.722$$

The result obtained P = 0.722
Because of the result is between 0.70 – 0.100, so the item number 2 is easy.

C. Data Analysis of Pre Test of Experimental and Control Class

The second analysis represents the result of pre-test that was done both in experimental and control group. This analysis will answer the research question "How is the effectiveness of using matching game to improve students' understanding on irregular verb of simple past tense at the eighth grade students of SMP Negeri 01 Mlonggo Jepara?".

Before the researcher tested the hypothesis that had been mentioned in the chapter two, the researcher analyzed and tested hypothesis prerequisites which contained of normality test and homogeneity test. Second analysis dealt with normality test, homogeneity test, and t-test (test of difference two variants) in pre-test and post-test.

The experimental group (VIII A) was given a pre-test on November 06th, 2010 and control group (class VIII B) was given a pre-test on November 08th, 2010. They were asked to make a conversation based on situations that were given to them.

Table IV. 3 Table of Pre-test Score of the Experimental Group

NO	CODE	WRITING ITEMS					RAW SCORE	RIPE SCORE
		G	V	M	R	F		
1	E – 1	4	4	2	4	4	18	72
2	E – 2	3	2	3	3	3	14	56
3	E – 3	3	3	3	3	3	15	60
4	E – 4	4	3	3	3	4	17	68
5	E – 5	4	3	3	3	2	15	60
6	E – 6	3	4	3	2	3	15	60
7	E – 7	3	3	3	4	3	16	64
8	E – 8	2	3	4	4	3	16	64
9	E – 9	3	3	3	3	4	16	64
10	E – 10	4	4	2	3	4	17	68
11	E – 11	5	4	3	4	3	19	76
12	E – 12	3	3	3	4	2	15	60
13	E – 13	3	3	3	3	4	16	64
14	E – 14	4	4	3	3	3	17	68
15	E – 15	3	3	5	3	4	18	72
16	E – 16	3	3	3	3	4	16	64
17	E – 17	3	4	3	5	4	19	76
18	E – 18	3	2	3	5	3	16	64
19	E – 19	3	4	4	3	4	18	72
20	E – 20	2	3	3	3	3	14	56
21	E– 21	3	3	3	3	2	14	56
22	E – 22	3	4	3	3	4	17	68
23	E – 23	3	3	4	4	3	17	68
24	E – 24	3	3	3	2	3	14	56
25	E – 25	3	2	3	2	2	12	48
26	E– 26	3	3	3	3	3	15	60
27	E – 27	4	2	3	3	2	14	56
28	E – 28	4	3	3	4	4	18	72
29	E – 29	3	5	2	3	3	16	64
30	E – 30	4	2	3	3	4	16	64
31	E – 31	3	3	3	3	3	15	60
32	E – 32	4	3	3	3	4	17	68
33	E – 33	2	3	2	3	3	13	52

34	E – 34	4	4	3	4	2	17	68
35	E– 35	3	4	2	4	5	18	72
36	E – 36	4	3	3	3	3	16	64
37	E – 37	3	3	4	3	4	17	68
38	E– 38	2	3	3	3	2	13	52
39	E – 39	5	3	3	4	3	18	72
40	E– 40	3	3	3	3	3	15	60
Sum		131	127	121	131	129	639	2556
Average		3,275	3,175	3,025	3,275	3,225	15,975	63,9

Table IV. 4 Table of Pre-test Score of the Control Group

NO	CODE	WRITING ITEMS					RAW SCORE	RIPE SCORE
		G	V	M	R	F		
1	C - 1	3	4	3	3	2	15	60
2	C - 2	4	3	3	2	4	16	64
3	C - 3	3	2	5	3	3	16	64
4	C - 4	2	2	4	4	3	15	60
5	C - 5	4	3	4	3	3	17	68
6	C- 6	2	3	3	4	3	15	60
7	C- 7	3	3	2	3	4	15	60
8	C - 8	5	4	3	3	3	18	72
9	C- 9	3	4	3	4	3	17	68
10	C - 10	2	2	3	3	3	13	52
11	C - 11	4	2	3	3	2	14	56
12	C - 12	3	2	3	3	3	14	56
13	C - 13	5	5	4	3	3	20	80
14	C - 14	4	4	4	3	3	18	72
15	C - 15	3	3	4	3	2	15	60
16	C - 16	4	4	3	4	3	18	72
17	C - 17	3	2	3	4	4	16	64
18	C- 18	3	3	3	4	4	17	68

19	C - 19	5	4	3	3	4	19	76
20	C - 20	4	2	2	3	3	14	56
21	C- 21	4	4	4	2	3	17	68
22	C - 22	2	3	2	3	3	13	52
23	C - 23	3	5	5	3	4	20	80
24	C- 24	5	3	2	3	4	17	68
25	C - 25	4	3	3	4	4	18	72
26	C - 26	3	3	3	3	3	15	60
27	C - 27	3	3	2	2	3	13	52
28	C - 28	3	2	3	5	5	18	72
29	C - 29	4	3	3	4	3	17	68
30	C - 30	3	4	2	5	3	17	68
31	C - 31	3	3	2	4	3	15	60
32	C - 32	4	4	3	3	4	18	72
33	C - 33	3	3	3	4	5	18	72
34	C - 34	2	3	4	4	4	17	68
35	C - 35	3	4	2	3	2	14	56
36	C - 36	3	3	3	3	3	15	60
37	C- 37	4	3	3	2	3	15	60
38	C - 38	3	4	2	4	4	17	68
39	C - 39	4	2	3	3	3	15	60
40	C - 40	4	3	4	2	3	16	64
Sum		136	126	123	131	131	647	2588
Average		3,4	3,15	3,075	3,275	3,275	16,175	64,7

1) Test of Normality

Test of normality was used to find out whether data of control and experimental group which had been collected from the research come from normal distribution normal or not. The result computation of Chi-quadrate (X^2_{score}) then was compared with table of Chi-quadrate

(X^2_{table}) by using 5% alpha of significance. If $X^2_{score} < X^2_{table}$ meant that the data spread of research result distributed normally.

Based on the research result of VIII A students in the experimental group before they were taught irregular verb of simple past tense without matching game, they reached the maximum score 76 and minimum score 48. The stretches of score were 28. So, there were 6 classes with length of classes 5. From the computation of frequency distribution, it was found ($\Sigma f_i . x_i$) = 2560, and ($\Sigma f_i . x_i^2$) = 165700 So, the average score ($\overline{X}$) was 9.49 and the standard deviation (S) was 6,906. After counting the average score and standard deviation, table of observation frequency was needed to measure Chi-quadrate (X^2_{score}).

Table IV.5 Table of the Observation Frequency of Experimental Group

Kelas			Bk	Zi	P(Zi)	Luas Daerah	Ei	Oi	$\frac{(O_i - E_i)^2}{E_i}$
			47,5	-2,39	-0,4916				
48	–	52				0,0395	0,9	3	4,4434
			52,5	-1,67	-0,4521				
53	–	57				0,1254	3,0	5	1,3179
			57,5	-0,94	-0,3267				
58	–	62				0,2407	5,8	7	0,2587
			62,5	-0,22	-0,0860				
63	–	67				0,2798	6,7	9	0,7768
			67,5	0,51	0,1939				
68	–	72				0,1969	4,7	14	18,1926
			72,5	1,23	0,3908				
73	–	77				0,0839	2,0	2	0,0001
			77,5	1,95	0,4747				
							X^2	=	24,9894

Based on the Chi-quadrate table (X^2_{table}) for 5% alpha of significance with dk 7 – 3 = 4, it was found X^2_{table} = 9.49. Because of $X^2_{score} < X^2_{table}$, so the initial data of control group distributed normally.

While from the result of VIII B students in control group, before they were taught irregular verb of simple past tense without usiing matching game, was found that the maximum score was 80 and

minimal score was 52. The stretches of score were 28. So, there were 6 classes with length of classes 5. From the computation of frequency distribution, it was found ($\Sigma f_i x_i$) = 2600, and ($\Sigma f_i x_i^2$) = 171260. So, the average score ($\overline{X}$) was 65 and the standard deviation (S) was 7,6. After counting the average score and standard deviation, table of observation frequency was needed to measure Chi-quadrate (X^2_{score}).

Table IV.6 Table of the Observation Frequency of Control Group

Kelas			Bk	Zi	P(Zi)	Luas Daerah	Ei	Oi	$\frac{(O_i - E_i)^2}{E_i}$
			51,5	-1,77	-0,4619				
52	–	56				0,0940	2,3	7	9,9751
			56,5	-1,12	-0,3679				
57	–	61				0,1908	4,6	8	2,5576
			61,5	-0,46	-0,1772				
62	–	66				0,2553	6,1	6	0,0026
			66,5	0,20	0,0781				
67	–	71				0,2253	5,4	10	3,9007
			71,5	0,85	0,3034				
72	–	76				0,1312	3,1	7	4,7145
			76,5	1,51	0,4346				
77	–	81				0,0503	1,2	2	0,5192
			81,5	2,17	0,4849				
							X^2	=	21,6697

Based on the Chi-quadrate table (X^2_{table}) for 5% alpha of significance with dk 7 – 3 = 4, it was found X^2_{table} = 9.49. Because of $X^2_{score} < X^2_{table}$, so the initial data of experimental group distributed normally.

2) Test of Homogeneity

Test of homogeneity was done to know whether sample in the research come from population that had same variance or not. In this study, the homogeneity of the test was measured by comparing the obtained score (F_{score}) with F_{table}. Thus, if the obtained score (F_{score})

was lower than the F_{table} or equal, it could be said that the Ho was accepted. It meant that the variance was homogeneous. The analysis of homogeneity test could be seen in table IV. 7.

Table. IV. 7 Test of Homogeneity (Pre-test)

Variant Sources	Experimental G	Control G
Sum	2556	2588
N	40	40
$\bar{X}$	63,90	64,70
Variants (s2)	45,5282	54,6769
Standart deviation (s)	7,39	6,75

By knowing the mean and the variance, the writer was able to test the similarity of the two variants in the pre-test between experimental and control group. The computation of the test of homogeneity as follows:

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

=54.6768/45,5282

= 1,201

On a 5% with dk numerator (nb - 1) = 40 – 1 = 39 and dk denominator (nk – 1) = 40 – 1 = 39, it was found $F_{table}{}_{(0,025)(39:39)}$ = 1.89. Because of $F_{score} \leq F_{table}$, so it could be concluded that both experimental and control group had no differences. The result showed both groups had similar variants (homogenous).

3) Test of Difference Two Variants in experiment and control group

After counting standard deviation and variance, it could be concluded that both group have no differences in the test of similarity between two variances in pre-test score. So, to differentiate whether the students' results of writing of irregular verb of simple past tense in experimental and control group were significant or not, the writer used

t-test to test the hypothesis that had been mentioned in the chapter two. The writer used formula:

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

Where:

$$S = \sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}}$$

Based on table IV. 7, first the writer had to find out S by using the formula above:

$$S = \sqrt{\frac{(40-1)45{,}5282 + (40-1)54{,}6768}{40 + 40 - 2}}$$

$$= 7$$

After S was found, the next step was to measure t-test:

$$t = \frac{63{,}90 - 64.70}{7\sqrt{\frac{1}{40} + \frac{1}{40}}}$$

$$= -1{,}41$$

After getting t-test result, then it would be consulted to the critical score of t_{table} to check whether the difference is significant or not. For a = 5% with df 40 + 40 – 2 = 78, it was found $t_{table(0.975)(78)}$ = 1.99. Because of $t_{score} < t_{table}$, so it could be concluded that there was no significance of difference between the experimental and control group. It meant that both experimental and control group had same condition before getting treatments.

D. Data Analysis of Post Test of Experimental and Control Class

The experimental group was given post test on November 20th, 2010 and control group was given a post test on November 22th, 2010. Post-test was

conducted after all treatments were done. Matching game was used as technique in the teaching of writing irregular verb of simple past tense to students in experimental group. While for students in control group, they were given treatments without matching game. Post-test was aimed to measure students' ability after they got treatments.

Table IV.9 Table of the Pos-test Score of the Control Group

NO	CODE	WRITING ITEMS					RAW SCORE	RIPE SCORE
		G	V	M	R	F		
1	C – 1	4	4	4	5	3	20	80
2	C – 2	3	4	2	3	2	14	56
3	C – 3	4	3	3	3	3	16	64
4	C – 4	3	3	3	3	4	16	64
5	C – 5	5	3	3	3	2	16	64
6	C – 6	3	3	3	3	3	15	60
7	C – 7	3	3	3	5	3	17	68
8	C – 8	3	3	4	3	4	17	68
9	C – 9	3	3	3	3	4	16	64
10	C – 10	3	4	3	4	3	17	68
11	C – 11	5	4	4	4	4	21	84
12	C – 12	3	3	3	4	2	15	60
13	C – 13	3	3	3	4	4	17	68
14	C – 14	4	4	4	3	3	18	72
15	C – 15	2	3	2	3	3	13	52
16	C – 16	3	3	3	5	4	18	72
17	C – 17	3	4	3	5	4	19	76
18	C – 18	3	3	3	5	3	17	68
19	C – 19	3	5	4	3	4	19	76
20	C – 20	2	4	3	4	4	17	68
21	C – 21	3	3	3	3	3	15	60
22	C – 22	4	4	3	4	4	19	76
23	C – 23	3	3	4	4	3	17	68
24	C – 24	3	3	4	3	3	16	64
25	C – 25	3	3	5	4	4	19	76
26	C – 26	3	4	3	5	3	18	72
27	C – 27	4	4	2	4	3	17	68

28	C – 28	3	3	3	3	4	16	64
29	C – 29	2	5	3	4	3	17	68
30	C – 30	4	5	3	4	4	20	80
31	C – 31	3	4	3	4	3	17	68
32	C – 32	4	3	4	3	4	18	72
33	C – 33	3	3	5	4	5	20	80
34	C – 34	4	5	3	5	3	20	80
35	C – 35	4	5	2	4	3	18	72
36	C – 36	4	3	4	4	4	19	76
37	C – 37	4	5	4	5	4	22	88
38	C – 38	4	3	3	3	4	17	68
39	C – 39	5	3	4	4	4	20	80
40	C – 40	4	4	5	4	3	20	80
Sum		136	144	133	153	137	703	2812
Average		3,4	3,6	3,325	3,825	3,425	17,575	70,3

Table IV.8 Table of the Pos-test Score of the Experimental Group

NO	CODE	WRITING ITEMS					RAW SCORE	RIPE SCORE
		G	V	M	R	F		
1	E – 1	4	5	4	4	3	20	80
2	E – 2	3	4	3	3	5	18	72
3	E – 3	3	4	5	3	4	19	76
4	E – 4	4	4	3	3	4	18	72
5	E – 5	4	5	4	3	3	19	76
6	E – 6	3	4	5	3	4	19	76
7	E – 7	5	5	4	5	3	22	88
8	E – 8	4	5	3	3	3	18	72
9	E – 9	4	4	5	3	4	20	80
10	E – 10	3	3	3	4	4	17	68
11	E – 11	3	3	3	3	4	16	64
12	E – 12	3	3	4	4	3	17	68

13	E – 13	4	4	5	4	5	22	88
14	E – 14	5	5	5	4	4	23	92
15	E – 15	4	3	3	4	3	17	68
16	E - 16	3	4	4	3	4	18	72
17	E - 17	5	5	4	3	3	20	80
18	E - 18	4	3	4	4	4	19	76
19	E - 19	4	5	5	5	4	23	92
20	E - 20	3	3	4	4	4	18	72
21	E - 21	4	4	4	4	3	19	76
22	E - 22	4	3	4	4	3	18	72
23	E - 23	4	4	5	4	5	22	88
24	E - 24	5	5	5	3	3	21	84
25	E - 25	4	5	5	3	5	22	88
26	E - 26	5	4	3	2	3	17	68
27	E - 27	3	3	4	4	4	18	72
28	E - 28	5	4	3	4	4	20	80
29	E - 29	3	3	4	5	3	18	72
30	E - 30	4	4	3	3	4	18	72
31	E - 31	4	5	4	3	2	18	72
32	E - 32	4	4	5	5	4	22	88
33	E - 33	5	4	4	4	4	21	84
34	E - 34	4	5	5	3	4	21	84
35	E - 35	3	4	2	4	5	18	72
36	E - 36	4	4	4	2	4	18	72
37	E - 37	4	3	3	3	5	18	72
38	E - 38	3	4	2	4	3	16	68
39	E - 39	4	3	5	4	3	19	76
40	E - 40	3	4	4	4	3	18	72
SUM		154	160	158	144	149	765	3064
AVERAGE		3,85	4	3,95	3,6	3,725	19,125	76,6

1) Test of Normality

Test of normality was used to find out whether data of control and experimental group, which had been collected after they got treatments, come from normal distribution normal or not. The formula, that was used, was Chi-quadrate. The result computation of Chi-quadrate (X^2_{score}) then was compared with table of Chi-quadrate (X^2_{table}) by using 5% alpha of significance. If $X^2_{score} < X^2_{table}$ meant that the data spread of research result distributed normally.

Based on the research result of VIII B students in the control group after they got usual treatments in the teaching of grammar especially irregular verb of simple past tense, they reached the maximum score 86 and minimum score 56. The stretches of score were 30. So, there were 7 classes with length of classes 5. From the computation of frequency distribution, it was found ($\Sigma f_{i.} x_i$) = 2755, and ($\Sigma f_{i.} x_i^2$) = 191645. So, the average score ($\overline{X}$) was 68.875 and the standard deviation (S) was 6.969. It meant that there was an improvement of students' score after they got treatments. After counting the average score and standard deviation, table of observation frequency was needed to measure Chi-quadrate (X^2_{score}).

Table IV. 10 Table of the Observation Frequency of Control Group

Class	Class Limit	Z_i	$P(Z_i)$	Ld	Ei	Oi	$\frac{(O_i - E_i)^2}{E_i}$
	55,5	-1,92	-0,4725				
56 – 60				0,0873	2,1	5	4,0318
	60,5	-1,20	-0,3853				
61 – 65				0,1994	4,8	6	0,3088
	65,5	-0,48	-0,1859				
66 – 70				0,2781	6,7	16	13,0324
	70,5	0,23	0,0922				
71 – 75				0,2369	5,7	6	0,0174
	75,5	0,95	0,3291				

76 – 80				0,1233	3,0	5	1,4096
	80,5	1,67	0,4523				
81 – 85				0,0391	0,9	1	0,0039
	85,5	2,39	0,4915				
86 – 90				0,0076	0,2	1	3,6846
	90,5	3,10	0,4990				
						X^2 =	22,4884

Based on the Chi-quadrate table (X^2_{table}) for 5% alpha of significance with df 7 – 3 = 4, it was found X^2_{table} = 9.49. Because of $X^2_{score} < X^2_{table}$, so the data of control group after getting treatments distributed normally.

While from the result of VIII A students in experimental group, after they were taught by using matching game, was found that the maximum score was 92 and minimal score was 64. The stretches of score were 28. So, there were 6 classes with length of classes 4. From the computation of frequency distribution, it was found ($\Sigma f_i x_i$) = 3078.5, and ($\Sigma f_i x_i^2$) = 239378.75. So, the average score ($\overline{X}$) was 76.96 and the standard deviation (S) was 7.9254. By seeing the average score of students in experimental group, it could be concluded that there was an improvement of students' score after they got treatments by using matching game. After counting the average score and standard deviation, table of observation frequency was needed to measure Chi-quadrate (X^2_{score}).

Table IV. 11 Table of the Observation Frequency of Experimental Group

Class	Class Limit	Z_i	$P(Z_i)$	Ld	Ei	Oi	$\frac{(O_i - E_i)^2}{E_i}$
	63,5	-1,80	-0,4638				
64 – 68				0,1111	2,7	5	2,0412
	68,5	-1,05	-0,3527				
69 – 73				0,2350	5,6	13	9,6060
	73,5	-0,30	-0,1177				
74 – 78				0,2910	7,0	11	2,3084
	78,5	0,45	0,1733				
79 – 83				0,2111	5,1	4	0,2249
	83,5	1,20	0,3845				
84 – 88				0,0897	2,2	6	6,8743
	88,5	1,95	0,4742				

89 – 93				0,0223	0,5	1	0,4042
	93,5	2,69	0,4965				
					X^2	=	21,4591

Based on the Chi-quadrate table (X^2_{table}) for 5% alpha of significance with df 7 – 3 = 4, it was found X^2_{table} = 9.49. Because of $X^2_{score} < X^2_{table}$, so the data of experimental group after getting treatments distributed normally.

2) Test of Homogeneity

The writer determined the mean and variance of the students' score either in experimental or control group. By knowing the mean and variance, the writer was able to test the similarity of the two variance in the post-test between experimental and control group.

Table. IV. 12 Test of Homogeneity (Post-test)

Varians Sources	Experimental G	Control G
Sum	3064	2812
N	40	40
$\bar{X}$	76.60	70.30
Variants (S^2)	55.4256	61.4462
Standart deviation (S)	7.75	6.72

The computation of the test of homogeneity as follows:

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

$$= 61.4462/55.4256$$

$$= 1.109$$

On a 5% with df numerator (nb - 1) = 40 – 1 = 39 and df denominator (nk – 1) = 40 – 1 = 39, it was found $F_{table\ (0.025)(39:39)}$

= 1.89. Because of $F_{score} \leq F_{table}$, so it could be concluded that both experimental and control group had no differences. The result showed both groups had similar variance (homogenous).

3) Test of Difference Two Variants in post-test between experiment and control group

After counting standard deviation and variance, it could be concluded that both group is difference in the test of similarity between two variances in post-test score. So, to differentiate if the students' results of writing irregular verb of simple past tense in experimental and control group after getting treatments were significant or not, the writer used t-test to test the hypothesis that had been mentioned in the chapter two. To see the difference between the experimental and control group, the writer used formula:

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

Where:

$$S = \sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}}$$

Based on table IV. 6, first the writer had to find out S by using the formula above:

$$S = \sqrt{\frac{(40-1)55.4256 + (40-1)61{,}4462}{40 + 40 - 2}}$$

$$= 7.644$$

After S was found, the next step was to measure t-test:

$$t = \frac{76.60 - 70.30}{7.644\sqrt{\frac{1}{40} + \frac{1}{40}}}$$

$$= 3.686$$

After getting t-test result, then it would be consulted to the critical score of t_{table} to check whether the difference is significant or not. For a = 5% with df 40 + 40 – 2 = 78, it was found $t_{table(0.975)(78)}$ =

1.99. Because of $t_{score} > t_{table}$, so it could be concluded that there was significance of difference between the experimental and control group. It meant that experimental group was better that control group after getting treatments.

Since the obtained t-score was higher than the critical score on the table, the difference was statistically significance. Therefore, based on the computation there was a significance difference between the teaching of irregular verb of simple past tense using matching game and the teaching of irregular verb of simple past tense without matching game for the eighth grade students of SMPN 01 Mlonggo Jepara. Teaching irregular verb of simple past tense using matching game technique seemed to be more effective than teaching irregular verb of simple past tense without using matching game. It can be seen from the result of the test where the students taught irregular verb of simple past tense using matching game got higher scores than the students taught irregular verb of simple past tense without using matching game.

E. Discussions of Research Finding

The data were obtained from the students' achievement scores of the test of writing irregular verb of simple past tense. They were pre-test and post-test scores from the experimental and control group. The average score for experimental group was 63.90 (pre-test) and 76.60 (post-test). The average score for control group was 64.70 (pre-test) and 70.30 (post-test). The following was the simple tables of pre and post-test students' average score and students' average score of each writing components.

Table IV. 13 The Pre-test and Post-test Students' Average Scores of the Experimental and Control Group

No	Group	The Average Percentage of Pre-test	The Average Percentage of Post-test

1	Experimental	63.90	76.60
2	Control	64.70	70.30

Table IV. 14 The Pre-test and Post-test Students' Average Scores of the Experimental and Control Group

No	Component of writing	Group	The Average Score of Pre-test	The Average Score of Post-test
1	Grammar	Experimental	3,3	3,8
		Control	3,4	3,4
2	Vocabulary	Experimental	3,2	4
		Control	3,1	3,6
3	Mechanic	Experimental	3,0	3,9
		Control	3,0	3,3
4	Relevance	Experimental	3,2	3.6
		Control	3,3	3,8
5	Fluency	Experimental	3,2	3.7
		Control	3,2	3,4

1. Students' Condition in Control Group

In this study, source of data that become as control group was class VIII B. In the control group, there was not a new treatment in a teaching learning process. They were given a usual treatment. They were taught writing irregular verb of simple past tense using matching game. By using text as an aid in the teaching learning process, teacher had used a monotonous media that could not increase students' writing skills on grammar especially irregular verb of simple past tense. Students could not enjoy in writing and explore their ideas because they had to write what they had read from the text. It was proven with the control group's average in the post-test (70.30) which was lower than the experimental group

(76.60); although, the control group's average in the pre-test (64.70) was higher that the experimental group (63.90).

2. Students' Condition in Experimental Group

a. Analysis Students' Writing Before Treatment (Pre-test)

In the pre-test, students' ability in writing irregular verb of simple past tense was low. Pre-test was conducted before the treatment. From the result of pre-test, it was known that students faced many difficulties in writing irregular verb of simple past tense was. Sentences, which were made by students, were influenced by Indonesian language. Students' ability was in low level when they had to arrange sentences to be a good paragraph by considering main idea. It meant that the idea was not clearly stated and the sentences were not well-organized to support the main idea. Students' word choice (fluency) was also far from being perfect. Not only the sequence of sentences which were made by students was not complete but also there were many difficulties in grammar and mechanic; therefore, students' ability of irregular verb of simple past tense was could not be understood. To minimize the number of students' mistakes in their writing, the researcher collected students' writing, gave correction, and returned the paper to them. From the correction of their mistakes, students' were supposed to learn more and improve their ability in writing irregular verb of simple past tense was.

b. Analysis Students' Writing After Treatment (Post-test)

The result of the post-test that the average score obtained by the students in both groups increased. The average score obtained by the experimental group was (76.60) and control group (70.30) Although there was a slight difference between those scores, still it can be said that the experimental group achieved higher score than the control group. According to Harmer

> there is always a danger that students may find writing imaginatively difficult. Having 'nothing to say' they may find

> creative writing a painful and de-motivating experience, associated in their minds with a sense of frustation and failure.[1]

Based on the analysis of students' ability, it was found that students' ability after getting treatment improved. In the treatment, students were given matching game that was in line with the function of cooperative learning using matching game. The content was complete and relevance to the topic and the ideas were easy to understand. The finding showed that students' ability was in good level; although, there were still some mistakes that students had made like grammar. So, it could be concluded that the implementation of using matching game with flash card as media in the teaching of irregular verb of simple past tense was very effective. It was proven with students' average score in experimental group was higher than control group. By considering the students' final score after getting treatment, the teaching of writing irregular verb of simple past using matching game was better than without matching game.

Based on t-test analysis that was done, it was found that the t-score (3.686) was higher than t-table by using 5% alpha of significance (1.99). Since $t_{score} > t_{table}$, it proved that there was a significant difference between the improvement of students achievement that was given a new treatment (using matching game) and the improvement of students achievement that was given a usual treatment (using text).

c. The Advantages and Disadvantages of Using Matching Game in the Teaching of Irregular Verb of Simple Past Tense.

After conducted the research, there were some advantages of using matching game in the teaching irregular verb of simple past tense:

1. The matching game gave students the real data of a chronological action. It helped students to express their ideas not only based on

[1] Jeremy Harmer, *The Practice of English Language Teaching*, (New York: Longman, 1991), p. 260.

their imagination but also reality because teacher tought the students using their own experience. The use of matching game was actually meant to help them in catching and expressing their ideas easily.

2. Students' boredom in learning grammar could be avoided. The treatment gave students different nuances of teaching and learning process so they were interested in following the lesson. Matching game that contained flash card could attract students' attention to interpret it and express their ideas related to the card.
3. Using matching game the teacher can motivate to join the class and stimulate because there is competition to be the winner when they play the game.

d. The Disadvantages of Using matching game in the Teaching of Irregular Verb of Simple Past Tense.

The disadvantages were described below:

1. It spent a lot of time, because the students' skill was too low, they can't directly make practice after getting the situations that distributed by the teacher. They need time to prepare their performance because their pronuciation in reading ability was too low.
2. It was not easy enough to manage the class, because sometime the students will be very hysteric when they see their friends practicing in front of them. Their voice can disturb another class.
3. The use of matching game costs a lot of money also, because the teacher used many flash card as media in teaching learning process, there are 20 question cards and 20 answer cards.

F. Limitation of Research

The researcher realizes that this research had not been done optimally. There were obstacles faced during the research process.

Some limitations of this research are:

1. The researcher's ability

   The researcher realizes that the implementation of the research process was less smooth; this was more due to lack of the researcher's experience and knowledge.

2. Limitation of time

   Based on the regulation of Tarbiyah Faculty, the research must be done 21 days. So, the relative short time made this research could not be done maximally.

3. Limitation of application

   In this research, the researcher only gave three times treatment to the experiment class, so the result of the research was not maximal.

4. Limitation of the design

   In this research, the researcher used short design. So the research can not be done maximally.

   Considering all those limitations, there is a need to do more research about teaching simple past by using matching game technique so that the more optimal result will be gained.