CHAPTER IV
RESEARCH FINDING AND DISCUSSION

A. Description of The Research

In this chapter, the researcher wants to describe the result of the research based on the data collected and analyzed. The researcher wants to find out the effectiveness of using picture-cued drill to teach English preposition for enhancing students' acquisition of English preposition at 7th grade students of SMP Negeri 3 Kandangan in academic year of2012/2013.

The research had been conducted since March 4th of 2013 to April 6th 2013 in SMP Negeri 3 Kandangan. This research had been carried through 5 steps. They involve try out test, pre test, two times treatment and post test.

To find out the result of students' acquisition of English preposition using picture-cued drill, the researcher identified some result, they are: the score of students before treatment and the differences between pre test and post test score of students. This research used an analysis of quantitative data. The data was obtained by giving test to the experimental class and control class after giving a different treatment to both classes. The subjects of this research were divided into two classes. They are experimental (VII C) and control (VII B).

Before the activities were conducted, the research determined the materials and lesson plan of learning. The researcher gave first to analyze validity, reliability, difficulty level and also the discrimination power of each item. The researcher prepared 25 items as the instrument of the test. Try out test was given to the students who are had been got material of preposition. It is to the VIII A class. Then the researcher did the pre test to both classes, experimental and control group. It is used to know groups are normal and have same variant.

The learning process in the experimental class used picture-cued drill, while the control class without the using of picture-cued drill. After the both classes conducted the learning process, students were asked to do the assignment. This assessment is hoped would help the students to identify and remember target preposition.

The last, students done the post test then counted to get the result of this research which analyzed to prove the truth of hypothesis that has been planned.

B. The Data Analysis

1. Analysis of Try-out Test Instrument

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

   a. Validity of instrument

      Validity is a condition in which a test can measure what is supposed to be measured. It is used to know index validity of the test. To calculate the validity of instrument, the researcher used the person product moment formula to analyze each item.

There are 25 items as the instrument of try-out test. It is obtained 21 items which are valid and 4 test items which are invalid. They are on number 2, 9, 21, 22. They are to be said invalid because the computation result of their r_{xy}value is lower then r_{table}value.

Table 4.1
Validity of Each Item

Criteria	r_{table}	Number of questions	Total
Valid	0.404	1, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 23, 24, 25	21
Invalid		2, 9, 21, 22	4

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

N = 24 $\quad\quad$ $\sum X^2$ = 13

$\sum XY$ = 221 $\quad\quad$ $\sum X$ = 13

$\sum Y$ = 366 $\quad\quad$ $\sum Y^2$ = 6036

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

$$= \frac{(24 \times 221) - (13 \times 336)}{\sqrt{\{(24 \times 13) - (13)^2\}\{(24 \times 6036) - (366)^2\}}}$$

$$= 0.437$$

From the computation above, the result computing validity of the item number 1 is 0.437 after that, the writer consulted the result to the table of r product moment with the number of subject (N)=24 and significant level 5% it is 0.40. Because the result of the computation is higher than $r_{table,}$ the index of validity of the item number is considered to be valid. The list of the validity of each item can be seen in appendix 5.

b. Reliability of instrument

Reliability is shows whether an instrument is reliable and can be used as a device to collect the data with the stability of test score. The researcher calculed the reliability of the test using kuder-richarson formula (K-R 20).

N	= 24	$\sum pq$	$= 5.454$
$\sum Y^2$	= 6036	n	$= 25$
$\sum Y$	=366	S^2	= 18.937

$$r_{11} = \left[\frac{n}{n-1}\right]\left[\frac{S^2 - \sum pq}{S^2}\right]$$

$$= \left[\frac{25}{25-1}\right]\left[\frac{18.937 - 5.454}{18.937}\right]$$

$$= 0.741$$

from the computation above, it is found out that r_{11}(the total of reliability test) is 0.741whereas the number of subjects is 24 and the critical value for r_{table} with significance level 5% is 0.404 thus, the value resulted from the computation is higher than its critical value. It could be conclude that the instrument used in this research is reliable.

c. Difficulty level

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

$B = 13$

$JS = 24$

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

$$= \frac{13}{24}$$

$$= 0.54$$

It is proper to say that the index difficulty of the item number 1above can be said as the medium category, because the calculation result of the item number 1 is in the interval $0.30 \leq P < 0.70$.

After computing 25 items of the try-out test, there are 9 items are considered to be easy, 16 items are medium. The whole computation result of difficulty level can be seen in appendix 7.

Table 4.2
Degree of Difficulty of Each Item

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

d. Discriminating power

Item of discrimination power used to know how accurate the question differ higher subject and lower subject. The index of discriminating power told us whether those students who performed well on the whole test tended to do well or badly on each item in the test. To do this analysis, the number of try-out subjects was divided into 2 groups, upper and lower groups.

Table 4.3
The Table of Discriminating Power of Item Number 1

Upper Group			Lower Group		
No	Code	Score	No	Code	Score
1	T- 10	1	1	T- 22	1
2	T- 16	1	2	T- 3	1
3	T- 23	1	3	T- 1	0
4	T- 4	1	4	T- 6	1
5	T- 21	1	5	T- 18	0
6	T- 17	0	6	T- 20	1
7	T- 19	0	7	T- 5	1
8	T- 9	0	8	T- 8	0
9	T- 2	1	9	T- 7	0
10	T- 11	1	10	T- 3	0
11	T- 14	1	11	T- 12	0
12	T- 24	0	12	T- 15	0
Sum		8	Sum		5

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

$BA = 8$ $\qquad\qquad\qquad\qquad$ $BB = 5$

$JA = 12$ $\qquad\qquad\qquad\qquad$ $JB = 12$

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

$$= \frac{8}{12} - \frac{5}{12}$$

$$= 0.25$$

According to the criteria, the item number 1 above is enough, because the calculation result of the item number 1 is in the interval 0.21$< D \leq$ 0.40.

After computing 25 items of try-out test, there are 10 items are considered to be good 11 items are enough and 4 are les. The result of the discriminating power of each item could be seen appendix 8.

Table 4.4
Discriminating Power of Each Item

Criteria	Number of questions	Total
Less	2, 9, 21, 22	4
Enough	1, 5, 6, 7, 10, 12, 13, 15, 18, 20, 24	11
Good	3, 4, 8, 11, 16, 17, 18, 19, 23, 25	10

Based on the analysis on validity, reliability, difficulty level and discriminating power, finally 21 are accepted. From 21 items, only 20 items are used as instrument to make the scoring easy. They are number 1, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 23, 24, 25.

2. Analysis of Pre-test Score of the Experimental Class and the Control Class

Before the experiment was conducted, the researcher gave students pre-test consisting of 20 multiple choice items. The analysis of pre-test value of the control class and the experimental class, as follow:

Table 4.5
The list of pre-test score of the experimental class and the control class

Control Class			Experimental Class		
No	**Code**	**Score**	**No**	**Code**	**Score**
1	C-1	60	1	E-1	50
2	C-2	50	2	E-2	55
3	C-3	45	3	E-3	65
4	C-4	35	4	E-4	60
5	C-5	45	5	E-5	30
6	C-6	40	6	E-6	50
7	C-7	70	7	E-7	60
8	C-8	50	8	E-8	50
9	C-9	50	9	E-9	60
10	C-10	45	10	E-10	40
11	C-11	50	11	E-11	45
12	C-12	40	12	E-12	40
13	C-13	50	13	E-13	60
14	C-14	60	14	E-14	45
15	C-15	60	15	E-15	70
16	C-16	55	16	E-16	50
17	C-17	45	17	E-17	50

18	C-18	55	18	E-18	60
19	C-19	65	19	E-19	40
20	C-20	40	20	E-20	45
21	C-21	60	21	E-21	70
22	C-22	55	22	E-22	40
23	C-23	60	23	E-23	45
24	C-24	50	24	E-24	45
$\sum$	=	1235	$\sum$	=	1225
N	=	24	N	=	24
X	=	51.46	X	=	51.04
S^2	=	77.13	S^2	=	106.48
S	=	8.78	S	=	10.32

a. The normality of pre test of the control class

Test of normality is used to find out whether data of control and experimental class which have been collected from the research come from normal distribution or not. The result computation of Chi-square (x^2_{count}) then was compared with table of Chi-square (x^2_{table}) by using 5% alpha of significance. If $x^2_{count} < x^2_{table}$ meant that the data spread of research result distributed normally.

Hypothesis:

H_a : Data distributes normally

H_O : Data does not distribute normally

Ha accepted if $x^2_{count} < x^2_{table}$ with α = 5% and dk=k-1

Test of hypothesis:

The formula is used:

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

Computation of normality test:

Length of the class = 6

Maximum score = 70

Minimum score = 35

K / Number of class = 6

Range = 35

Table 4.6
Distribution value of pre-test of the control class

Class			fi	X_i	$f_i.X_i$	X_i^2	$f_i.X_i^2$
35	–	40	4	37.5	150	1406.3	5625
41	–	46	4	43.5	174	1892.3	7569
47	–	52	6	49.5	297	2450.3	14701.5
53	–	58	3	55.5	166.5	3080.3	9240.75
59	–	64	5	61.5	307.5	3782.3	18911.3
65	–	70	2	67.5	135	4556.3	9112.5
Sum			24			17168	65160

$$\bar{X} = \frac{\sum f_i . x_i}{\sum f_i} = \frac{1230}{24} = 51.25$$

$$S^2 = \frac{n \sum f_i . x_i^2 - (\sum f_i . x_i)^2}{n(n-1)}$$

$$= \frac{24^* 65160 - (1230)^2}{24\,(24-1)}$$

$$= 92.29$$

$$S = 9.61$$

Table 4.7
Observation frequency value of pre test of the control class

Class	Bk	Z_i	$P(Z_i)$	Wide of area	Ei	Oi	$\frac{(O_i - E_i)^2}{E_i}$
	34.5	-1.74	-0.4594				
35 – 40				0.0909	2.2	4	1.5129
	40.5	-1.12	-0.3684				
41 – 46				0.1789	4.3	4	0.0202
	46.5	-0.49	-0.1895				
47 – 52				0.2413	5.8	6	0.0076
	52.5	0.13	0.0518				
53 – 58				0.2230	5.4	3	1.0340
	58.5	0.75	0.2748				
59 – 64				0.1413	3.4	5	0.7629
	64.5	1.38	0.4161				
65 – 70				0.0614	1.5	2	0.1888
	70.5	2.00	0.4775				
					X^2	=	3.5264

With α = 5% dk = 6-1= 5 from the chi-square distribution table, obtained x_{table}= 11.07because x^2_{count} is lower than x^2_{table} (3.527<11.07) so, the distribution list is normal.

b. The normality of pre test of the experimental class

Hypothesis:

H_{a} : Data distributes normally

H_{O} : Data does not distribute normally

Ha accepted if $x^2_{count} < x^2_{table}$ with α = 5% and dk=k-1

Test of hypothesis:

The formula is used:

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

The computation of normality test:

Length of the class = 7

Maximum score = 70

Minimum score = 30

K / Number of class = 6

Range = 40

Table 4.8
Distribution value of pre-test of the experimental class

Class			Fi	X_i	$f_i.X_i$	X_i^2	$f_i.X_i^2$
30	–	36	1	33	33	1089	1089
37	–	43	4	40	160	1600	6400
44	–	50	10	47	470	2209	22090
51	–	57	1	54	54	2916	2916
58	–	64	5	61	305	3721	18605
65	–	71	3	68	204	4624	13872
Sum			24			16159	64972

$$\bar{X} = \frac{\sum f_i . x_i}{\sum f_i} = \frac{1226}{24} = 51.08$$

$$S^2 = \frac{n \sum f_i . x_i^2 - (\sum f_i . x_i)^2}{n(n-1)}$$

$$= \frac{24{*}64972 - (1226)^2}{24\ (24-1)}$$

$$= 101.92$$

$$S = 10.096$$

Table 4.9
Observation frequency value of pre-test of the experimental class

Class	Bk	Z_i	$P(Z_i)$	Wide of area	Ei	Oi	$\frac{(O_i - E_i)^2}{E_i}$
	29.5	-2.14	-0.4837				
30 – 36				0.0580	1.4	1	0.1107
	36.5	-1.44	-0.4257				
37 – 43				0.1520	3.6	4	0.0340
	43.5	-0.75	-0.2737				
44 – 50				0.2507	6.0	10	2.6371
	50.5	-0.06	-0.0230				
51 – 57				0.2605	6.3	1	4.4127
	57.5	0.64	0.2375				
58 – 64				0.1706	4.1	5	0.2004
	64.5	1.33	0.4081				
65 – 71				0.0704	1.7	3	1.0189
	71.5	2.02	0.4784				
					X^2	=	8.4138

With α = 5% dk= 6-1= 5 from the chi-square distribution table, obtained x_{table}= 11.07because x^2_{count} is lower than x^2_{table} (8.413 < 11.07). So, the distribution list is normal.

c. The homogeneity of pre test of the control class and the experimental class

The homogeneity test is used to know whether the group sample that was taken from population is homogeneous or not. In this research, the homogeneity of the test was measured by comparing the obtained score (F_{count}) with (F_{table}).

Ho : $\sigma_1^2 = \sigma_2^2$ (homogeny variance)

Ha : $\sigma_1^2 \neq \sigma_2^2$ (non homogeny variance)

Ho is accepted if $F_{count} < F_{table}$

<u>Data of the research:</u>

Source of Variant	Control class (VII B)	Experimental class (VII C)
Sum	1225	1235
N	24	24
$\overline{X}$	51.46	51.04
Variant (S^2)	77.13	106.48
Standard deviation (S)	8.78	10.32

By knowing the mean and the variant, the researcher was able to test the similarity of the two variants in the pre test between experimental and control class. The computation of the test of homogeneity as follows:

$$F = \frac{biggest\ variance}{smallest\ variance}$$

$$F = \frac{106.476}{77.128}$$

$$= 1.38$$

On α 5 % with dk numerator (k-1) = 24-1=23and dk denominator (k-1) = 24-1=23 it was found $F_{table\,(0.05)(23/23)}$ =2.269 because of (F_{count}) < (F_{table}), so it could be concluded that both experimental and control class had no differences. The result showed both classes had similar variants or homogenous.

d. Testing the similarity of average of the initial data between the experimental class and the control class

To test the similarity of average used t-test.

Ho = μ1 = μ2

Ha = μ1 ≠ μ2

Where:

μ1 : average data of experiment group

μ2 : average data of control group

The researcher used formula:

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

$$S = \sqrt{\frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2}}$$

The average similarity test of pre test of the experimental class and the control class

Source of variant	Control Class (VII B)	Experimental Class (VII B)
Sum	1235	1255
N	24	24
$\bar{X}$	51.46	51.04
Varian (S^2)	77.13	106.48
Standard Deviation (S)	8.48	10.32

$$S = \sqrt{\frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2}}$$

$$= \sqrt{\frac{[24-1]106.48+[24-1]77.13}{24+24-2}}$$

= 9.581

So, the computation of t-test:

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

$$= \frac{51.04-51.46}{9.581\sqrt{\frac{1}{24}+\frac{1}{24}}}$$

$$= -0.151$$

Based on the computation above, $t_{count=}$ -0.151 and opportunity (1- α) from the distribution, we got t_{table} = 2.013 with α = 5%, and dk= $24+24-2$ = 46 because $t_{count} < t_{table}$, so Ho is accepted. So, it can be concluded that there is no significant different of the average pre test between experimental and control classes, because t_{count} at the reception area of Ho. It meant that experimental and control classes had same condition before getting treatment.

3. Analysis of Post-test Score of the Experimental Class and the Control Class

The experimental class was given post-test on 6th April 2013 control class was given post-test 6th April 2013 post test was given after all treatments were done. Picture-cued drill was used as technique in teaching English preposition to students in experimental class. While for students in control class, they gave treatment without using picture-cued drill.

This analysis contains of normality test, homogeneity test and the difference average test of post-test.

Table 4.10
The list of post-test Score of the experimental class and the control class

Control Class			Experimental Class		
No	**Code**	**Score**	**No**	**Code**	**Score**
1	C-1	65	1	E-1	65
2	C-2	75	2	E-2	80
3	C-3	60	3	E-3	75
4	C-4	40	4	E-4	80
5	C-5	50	5	E-5	65
6	C-6	55	6	E-6	60
7	C-7	70	7	E-7	75
8	C-8	65	8	E-8	80
9	C-9	50	9	E-9	85
10	C-10	50	10	E-10	70
11	C-11	55	11	E-11	65
12	C-12	70	12	E-12	50
13	C-13	65	13	E-13	80
14	C-14	75	14	E-14	60
15	C-15	70	15	E-15	85
16	C-16	65	16	E-16	75

17	C-17	50	17	E-17	65
18	C-18	55	18	E-18	85
19	C-19	70	19	E-19	65
20	C-20	45	20	E-20	65
21	C-21	80	21	E-21	90
22	C-22	75	22	E-22	60
23	C-23	65	23	E-23	80
24	C-24	60	24	E-24	65
$\sum$	=	1480	$\sum$	=	1725
N	=	24	N	=	24
X	=	61.67	X	=	71.88
S^2	=	114.49	S^2	=	106.11
S		10.70	S	=	10.30

a. The normality of post test of the control class

The normality test is used to know whether the data is normally distributed or not. Test data of this research used the formula of Chi-square.

Hypothesis:

$H_{a:}$ Data distributes normally

$H_{O:}$ data does not distribute normally

Ha accepted if $x^2_{count} < x^2_{table}$ with α = 5% and dk=k-1

Test of hypothesis:

The formula is used:

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

The computation of normality test:

Length of the class = 7

Maximum score = 80

Minimum score = 40

K / Number of class = 6

Range = 50

Table 4.11
Distribution value of post-test of the control class

Class			Fi	X_i	$f_i.X_i$	X_i^2	$f_i.X_i^2$
40	–	46	2	43	86	1849	3698
47	–	53	4	50	200	2500	10000
54	–	60	5	57	285	3249	16245
61	–	67	5	64	320	4096	20480
68	–	74	4	71	284	5041	20164
75	–	81	4	78	312	6084	24336
Sum			24			22819	94923

$$\bar{X} = \frac{\sum f_i . x_i}{\sum f_i} = \frac{1487}{24} = 61.96$$

$$S^2 = \frac{n \sum f_i . x_i^2 - (\sum f_i . x_i)^2}{n(n-1)}$$

$$= \frac{24^{*}\, 94923 - (1487)^2}{24\,(24-1)}$$

$= 121.347$

$S = 10.106$

Table 4.12
Observation frequency value of post-test of the control class

Class	Bk	Z_i	$P(Z_i)$	Wide of area	Ei	Oi	$\frac{(O_i - E_i)^2}{E_i}$
	39.5	-2.04	0.4793				
40 – 46				0.0595	1.4	2	0.2285
	46.5	-1.40	0.4197				
47 53				0.1410	3.4	4	0.1119
	53.5	-0.77	0.2787				
54 – 60				0.2260	5.4	5	0.0333
	60.5	-0.13	0.0527				
61 – 67				0.2452	5.9	5	0.1331
	67.5	0.50	-0.1925				
68 – 74				0.1800	4.3	4	0.0237
	74.5	1.14	-0.3725				
75 – 81				0.0894	2.1	4	1.6017
	81.5	1.77	-0.4620				
					X^2	=	2.1322

With α = 5% dk= 6-1= 5 from the Chi-square distribution table, obtained x_{table}= 11.07 because x^2_{count} is lower than x^2_{table} (2.132<11.07). so, the distribution list is normal.

b. The normality of post test of the experimental class

<u>Hypothesis:</u>

$H_{a:}$ Data distributes normally

$H_{O:}$ Data does not distribute normally

Ha accepted if $x^2_{count} < x^2_{table}$ with α = 5% and dk=k-1

Test of hypothesis:

The formula is used:

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

The computation of normality test:

Length of the class	= 7
Maximum score	= 90
Minimum score	= 50
K / Number of class	= 6
Range	= 40

Table 4.13
Distribution value of post-test of the experimental class

Class			Fi	X_i	$f_i.X_i$	X_i^2	$f_i.X_i^2$
50	–	56	1	53	53	2809	2809
57	–	63	3	60	180	3600	10800
64	–	70	8	67	536	4489	35912
71	–	77	3	74	222	5476	16428
78	–	84	5	81	405	6561	32805
85	–	91	4	88	352	7744	30976
	Sum		24			30679	129730

$$\bar{X} = \frac{\sum f_i . x_i}{\sum f_i} = \frac{1748}{24} = 72.833$$

$$S^2 = \frac{n \sum f_i . x_i^2 - (\sum f_i . x_i)^2}{n(n-1)}$$

$$\frac{24^{*}\ 129730 - (1748)^2}{24\ (24-1)}$$

$$= 105.101$$

$$S = 10.251$$

Table 4.14
Observation frequency value of post-test of the experimental class

Class	Bk	Z_i	$P(Z_i)$	Wide of area	Ei	Oi	$\frac{(O_i - E_i)^2}{E_i}$
	49.5	-2.28	-0.4886				
50 – 56				0.0441	1.1	1	0.0033
	56.5	-1.59	-0.4444				
57 – 63				0.1257	3.0	3	0.0001
	63.5	-0.91	-0.3187				
64 – 70				0.2287	5.5	8	1.1496
	70.5	-0.23	-0.0900				
71 – 77				0.2655	6.4	3	1.7852
	77.5	0.46	0.1755				
78 – 84				0.1969	4.7	5	0.0159
	84.5	1.14	0.3724				
85 – 91				0.0932	2.2	4	1.3877
	91.5	1.82	0.4657				
					X^2	=	4.3418

With α = 5% dk= 6-1=5 from the Chi-square distribution table, obtained x_{table}=11.07 because x^2_{count} is lower than x^2_{table}(3.341<11.07). So, the distribution list is normal.

c. The homogeneity of post test of the control class and the experimental class

The researcher determined the mean and variant of the students' score either in experimental or control class. By knowing the mean and the variant, the researcher was able to test the similarity of the two variants in the post test between experimental and control class

Ho : $\sigma_1^2 = \sigma_2^2$ (homogeny variance)

Ha : $\sigma_1^2 \neq \sigma_2^2$ (non homogeny variance)

Ho is accepted if $F_{count} < F_{table}$

Data of the research:

Source of Variant	Control class (VII B)	experimental class (VII C)
Sum	1480	1725
N	24	24
X	61.67	71.88
Variant (S^2)	114.49	106.11
Standard deviation (S)	10.70	10.30

The computation of the test of homogeneity as follows:

$$F = \frac{biggest\ variance}{smallest\ variance}$$

$$F = \frac{114.4928}{106.1141}$$

$$= 0.927$$

On α 5 % with dk numerator (k-1) = 24-1=23 and dk denominator (k-1) = 24-1= 23 it was found $F_{table\ (0.05)(29/29)}$ =2.269 because of (F_{count}) < (F_{table}), so it could be concluded that both experimental and control class had no differences. The result showed both classes had similar variants or homogenous.

d. Testing the difference of average of the final data between the experimental class and the control class

To test the differences of average used t-test.

Ho = $\mu 1 \leq \mu 2$

Ha = $\mu 1 > \mu 2$

Where:

$\mu 1$: average data of experiment group

$\mu 2$: average data of control group

The researcher used formula:

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

$$S = \sqrt{\frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2}}$$

The average difference test of post-test of the experimental class and the control class

Source of Variant	Control class (VII B)	Experimental class (VII C)
Total	1480	1725
N	24	24
X	61.67	71.88
Variant (S^2)	114.49	106.11
Standard deviation (S)	10.70	10.30

$$S = \sqrt{\frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2}}$$

$$= \sqrt{\frac{[24-1]106.11 + [24-1]114.49}{24+24-2}}$$

$$= 10.5024$$

So, the computation of t-test

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

$$= \frac{71.88 - 61.67}{10.502\sqrt{\frac{1}{24} + \frac{1}{24}}}$$

$$= 3.367$$

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 dk=46 it was found t_{table}= 1.679 because of $t_{count} > t_{table}$, so it can be concluded that there was significance difference between the experimental and control class. It meant that experimental class was better than control class after getting all treatments.

After doing the analysis, the researcher concluded that since the obtained t-score was higher than critical score on the table, the difference was statistically significance. Therefore, based on the computation there was significance different between the teaching preposition using picture-cued drill and without picture-cued drill for the seventh grade of SMP Negeri 3 Kandangan. In this research, teaching English preposition using picture-cued drill was more effective than teaching English preposition without picture-cued drill. It can be seen from the result of the test. Where the students taught by using picture-cued drill got higher scores than the students taught without using picture-cued drill.

C. Discussion of Research Finding

The objectives of this research are to find out the students' achievement of preposition who have been taught using picture-cued drill and non picture-cued drill and whether there is difference between students' achievement of preposition of students who have been taught through picture-cued drill and have been taught through non picture-cued drill at the Seventh Grade of SMP Negeri 3 Kandangan in the Academic Year of 2012/2013.

In the pre-test, the average scores of the control group and the experimental group were 51.46 and 51.04. From the pre-test, it can be said that the ability of the two groups was relatively the same. From the scores, it can be concluded that the two groups were homogeneous, because there was only slight difference in the pre-test result between the control group and the experimental class.

After they received the treatment, the average score of the experimental group was higher than the control group. The experimental group got 71.88 and the control group got 61.67.

Table 4.15
The pre test and post test students' average scores of the control class and the experimental class

No	Class	The average of pre test	The average of post test	Percentage of rise in score
1	Experimental	51.04	71.88	16.96 %
2	Control	51.46	61.67	7.67 %

From the table above, it can be seen that the students' achievement of preposition was increasing. The percentage of rise in score of the pre-test and the post-test score of the experimental group was higher than the score of the control group.

Based on the result of calculation t-test is obtainedt_{count} : 3.37 andt_{table}: 1, 68. This shows that t_{count} >t_{table} (t_{count} higher than t_{table}). It means that there is a significant difference between students' achievement of preposition of students who have been taught through picture-cued drill and have been taught through non picture-cued drill.

The students' achievement of preposition influenced by learning method. In the control class, students were taught using conventional method, so there was not new experience to students. Teacher used blackboard and chalk as aid in the teaching learning process. Students could not enjoy in learning process. In the experimental class, students were taught using picture-cued drill in the treatment. By using picture as a teaching medium and drill as the technique, the attention of students more focused and it could create situation in teaching English preposition more interesting and made the students easier to understand the lesson.

Picture is one of teaching aid that the students and the teacher need it in order to maintain interest and motivation. There are some advantages of picture as follow: picture is more realistic in showing the meaning of main problem. Picture is simple and easy to be gotten and to be brought to the classroom and will be used without needing special tools. Except the advantages of the picture mentioned, picture also has some disadvantages. Such as, it only emphasize on the visual sensory perception. Complex picture is less effective to the learning activities. It is also not effective to the big group.

Drill as the technique that is based on guided repetition and practice can be used as the alternative technique to give chance to the students to practice intensively. In this technique there was an interaction between a student and the other student next to him/her. The students would know how to ask and also answer some questions in communicating with someone else appropriately. All of the students have the same chance in asking and answering questions. But there are some disadvantages from the implementation of it. Drill activity consumed time. It needed at least one hour to practice in a classroom which consists of 24 students. The second disadvantage was the technique was not effective to be practiced in a noisy classroom. Then, English teacher should be creative in modifying the technique in order to make the teaching and learning more conducive.

Considered explanation above it can be concluded that picture-cued drill is not the best one as an aid in learning process but it could be useful to create a more lively, fun and joyful learning atmosphere. The writer also considers that this study has many lacks. It was not deliberateness factor. It was happened because of the writer’s weakness. Relative lack of knowledge and experience of the writer, makes the analysis process of this study was less appropriate. But the writer tried as maximal as possible to do this study accordance with advisor guidance.