

CHAPTER IV

FINDINGS AND DISCUSSION

A. FINDINGS

The research aims to know the effectiveness of using two theories in teaching English to young learners (Piaget and Bruner) in improving students' vocabulary of third grade students in SDN 1 Marabahan before learning through the use of those two theories and after learning through the use of those two theories.

To find out the effectiveness of using two theories in teaching English vocabulary to young learners (Piaget and Bruner), this research had four data, the data of students' vocabulary ability obtained from experiment class and control class there are pre test and post test. Here, the researcher describes about result of the research on the field that collected by techniques of data collection. English learning process at SDN 1 Marabahan at third grade students have been done eight time in four weeks. The test was done for 70 minutes for each class.

The researcher did the research on September, 3rd 2017, until September 26th 2017, the researcher gave the research letter from Official of Education in Marabahan City to Headmaster of SDN 1 Marabahan.

1. Pre – test Result

a. Pre – test results in experiment class

The students was given pretest by answering 20 English questions.

Pre – test is followed by 24 students. From the result of students'

English score calculation at the time of pretest obtained the lowest score was 40 and the highest score was 80. Look at the table :

Table 4.1 Pre – test results in experiment class

No	Name	Scores	Criteria
1	Student 1	60	Fair
2	Student 2	50	Low
3	Student 3	55	Low
4	Student 4	60	Fair
5	Student 5	50	Low
6	Student 6	40	Very Low
7	Student 7	60	Fair
8	Student 8	45	Very Low
9	Student 9	65	Fair
10	Student 10	60	Fair
11	Student 11	50	Low
12	Student 12	50	Low
13	Student 13	50	Low
14	Student 14	80	Very Good
15	Student 15	55	Low
16	Student 16	40	Very Low
17	Student 17	50	Low
18	Student 18	65	Fair
19	Student 19	60	Fair
20	Student 20	75	Good
21	Student 21	45	Very Low
22	Student 22	65	Fair
23	Student 23	50	Low
24	Student 24	55	Low

To know the students' vocabulary achievement of using Piaget and Bruner Theories for experiment class before using Piaget and Bruner Theories her research at the third grade students of SDN 1 Marabahan, to calculate the mean score of experiment class vocabulary test for pre test, the writer uses the accounting of mean score as follows:

$$M_1 = \frac{\sum fx}{N}$$

$$= \frac{1318}{24}$$

$$= 54,916$$

Pre test mean for Experiment Class : 54,916

Based on the calculation above, it can be seen that the students' vocabulary achievement of using Piaget and Bruner Theories for Experiment Calss at the third grade students of SDN 1 Marabahan is conclude in less effective category.

b. Pre – test results in control class

The students was given pretest by anwearing 20 english questions. Pre – test is followed by 22 students. From the result of students' English score calculation at the time of pretest obtained the lowest score was 35 and the highest score was 75. Look at the table :

Table 4.2 Pre – test results in control class

No	Name	Scores	Criteria
1	Student 1	55	Fair
2	Student 2	45	Very Low
3	Student 3	50	low
4	Student 4	40	Very Low
5	Student 5	35	Very Low
6	Student 6	35	Very Low
7	Student 7	60	Fair
8	Student 8	60	Fair
9	Student 9	50	Low
10	Student 10	55	Low
11	Student 11	45	Very Low
12	Student 12	65	Fair
13	Student 13	45	Very Low
14	Student 14	55	Low
15	Student 15	50	Low
16	Student 16	45	Very Low
17	Student 17	75	Good
18	Student 18	45	Very Low
19	Student 19	55	Low
20	Student 20	60	Fair
21	Student 21	40	Very Low
22	Student 22	60	Fair

To know the students' vocabulary achievement of using Vygotsky Theory for control class before tried use Piaget and Bruner Theories her research at the third grade students of SDN 1 Marabahan, to calculate the

mean score of control class vocabulary test for pre test, the writer uses the accounting of mean score as follows:

$$M_2 = \frac{\sum X}{N}$$

$$= \frac{1108}{22}$$

$$= 50,3636$$

Pre test mean for Control Class : 50,3636

Based on the calculation above, it can be seen that the students' vocabulary achievement of using Vygotsky Theory for control Calss at the third grade students of SDN 1 Marabahan is conclude in less effective category.

2. Post – test Result

a. Post – test in Experiment class

Posttest research was held to 22 students from the same when done pretest. This research was carried out after students had been doing treatment by studying through two theories (Piaget and Brunner) for 4 weeks respectively. Posttest aimed to find out students' learning achievement after the given treatment by using two theories (Piaget and Brunner).

The number of tests as many as 20 and from the result of students' English score calculation at the time the lowest score obtained was 75, the highest score was 100 and mean 87,625 . Look at the table :

Table 4.3 Post – test results in experiment class

No	Name	Scores	Criteria
1	Student 1	100	Very Good
2	Student 2	85	Very Good
3	Student 3	80	Very Good
4	Student 4	95	Very Good
5	Student 5	85	Very Good
6	Student 6	75	Good
7	Student 7	95	Very Good
8	Student 8	75	Good
9	Student 9	90	Very Good
10	Student 10	80	Very Good
11	Student 11	80	Very Good
12	Student 12	85	Very Good
13	Student 13	80	Very Good
14	Student 14	90	Very Good
15	Student 15	80	Very Good
16	Student 16	75	Good
17	Student 17	95	Very Good
18	Student 18	100	Very Good
19	Student 19	85	Very Good
20	Student 20	100	Very Good
21	Student 21	75	Good
22	Student 22	80	Very Good
23	Student 23	80	Very Good
24	Student 24	90	Very Good

b. Post – test results in control class

The students was given pretest by anwearing 20 english questions. Post – test is followed by 22 students. From the result of students' English score calculation at the time of pretest obtained the lowest score was 65, the highest score was 90 and mean was 81,5455 . Look at the table :

Table 4.4 Post – test results in control class

No	Name	Scores	Criteria
1	Student 1	80	Very Good
2	Student 2	80	Very Good
3	Student 3	80	Very Good
4	Student 4	70	Good
5	Student 5	70	Good
6	Student 6	65	Fair
7	Student 7	85	Very Good
8	Student 8	85	Very Good
9	Student 9	80	Very Good
10	Student 10	85	Very Good
11	Student 11	70	Good
12	Student 12	90	Very Good
13	Student 13	75	Good
14	Student 14	80	Very Good
15	Student 15	80	Very Good
16	Student 16	80	Good
17	Student 17	90	Very Good
18	Student 18	75	Good
19	Student 19	85	Very Good

20	Student 20	90	Very Good
21	Student 21	65	Fair
22	Student 22	90	Very Good

Table 4.5 Normally test of pre test experiment class

kelas interval	batas kelas	Z batas kelas	Luas Z tabel	Ei	Oi	(Oi-Ei)2/Ei
1	2	3	4	6		7
	38,5	-1,667295955	0,4515			
39 - 45			0,1226	2,9424	4	0,380137901
	45,5	-0,95636773	0,3289			
46 - 52			0,2341	5,6184	7	0,339744155
	52,5	-0,245439506	0,0948			
53 - 59			0,0824	1,9776	3	0,528570874
	59,5	0,465488718	0,1772			
60 - 66			0,2018	4,8432	8	2,0576037
	66,5	1,176416943	0,379			
67 - 73			0,0909	2,1816	1	0,639979171
	73,5	1,887345167	0,4699			
74 - 80			0,0253	0,6072	1	0,254103821
	80,5	2,598273391	0,4952			

jumlah $\chi^2 = 18,1704$ 4,200139622

Table 4.6 Normally Test of pre test control class

kelas interval	batas kelas	Z batas kelas	Luas Z tabel	Ei	Oi	(Oi-Ei)2/Ei
1	2	3	4	6		7
	33,5	-1,707183729	0,4554			
34 - 40			0,1165	2,563	4	0,805684354
	40,5	-0,998541426	0,3389			
41 - 47			0,2286	5,0292	6	0,187396135
	47,5	-0,289899124	0,1103			
48 - 54			0,0488	1,0736	3	3,456610432
	54,5	0,418743179	0,1591			
55 - 61			0,2095	4,609	7	1,2403734
	61,5	1,127385481	0,3686			
62 - 68			0,0978	3,1296	1	1,449129652
	68,5	1,836027784	0,4664			
69 - 75			0,0281	0,8992	1	0,011299644

	75,5	2,544670087	0,4945			
jumlah				17,3036		7,150493617

Based on table above, the researcher compared the normality test in pre – test from experiment class and control class which is calculated by Microsoft excel . From table significant of normality test consist of X2 count and X2 table. The data distributed is normally if X2 count < X2 table. The result of Experiment class was 4,200 with significant 0,05 with the formula $(1-\alpha)(n-1)$ significant 0,05 and $(n-1) = 5$ so X2 table is 11,07. It means that the result of pre – test of experiment class was higher than the significant ($4,200 < 0,05$). Then, the result of control class was 7,150 with significant 0,05 with the formula $(1-\alpha)(n-1)$ significant 0,05 and $(n-1) = 5$ so X2 table is 11,07. It means that the result of pre – test of control class was higher than the significant ($7,150 < 0,05$). So, the data pre-test of experiment class and control class was normal distribution. (See Appendix 7).

Table 4.7 Normality of post tests experiment class

kelas interval	batas kelas	Z batas kelas	Luas Z tabel	Ei	Oi	(Oi-Ei)2/Ei
1	2	3	4	6		7
	74,5	- 1,566004291	0,4525			
75 - 79			0,121	2,904	4	0,41364187
	79,5	- 0,969431228	0,3315			
80 - 84			0,1872	4,4928	7	1,39913903
	84,5	- 0,372858164	0,1443			
85 - 89			0,1137	2,7288	4	0,59218317

	89,5	0,705920393	0,258			
90 - 94			0,0443	1,0632	3	3,52821129
	94,5	0,850338277	0,3023			
95 - 99			0,1184	2,8416	3	0,00882973
	99,5	1,416861025	0,4207			
100 - 104			0,0571	1,3704	3	1,93782557
	104,5	2,013434088	0,4778			
jumlah						7,87983066

Table 4.8 Normally test of post test control class

kelas interval	batas kelas	Z batas kelas	Luas Z tabel	Ei	Oi	(Oi-Ei)2/Ei
1	2	3	4	6		7
	64,5	0,501418116	0,1844			
65 - 69			0,0476	1,0472	2	0,8669097
	69,5	0,354335469	0,1368			
70 - 74			0,0575	1,265	3	2,37962451
	74,5	0,207252821	0,0793			
75 - 79			-0,0554	-1,2188	2	-8,5007166
	79,5	0,060170174	0,0239			
80 - 84			0,008	0,176	7	0,56788995
	84,5	0,086912473	0,0319			
85 - 89			0,0591	1,3002	4	5,60599911
	89,5	0,233995121	0,091			
90 - 94			0,057	1,254	4	6,01317065
	94,5	0,381077768	0,148			
jumlah						6,93287728

Based on table 4.7 and 4.8 above the researcher compared the normality test of post – test from experiment class and control class who calculated by

Microsoft Excel. The result of Experiment class was 7,87983066 with significant 0,05. It means that the result of post – test of experiment class was higher than the significant ($7,879 < 0,05$). Then, the result of control class was 6,93287728 with significant 0,05. It means that the result of post – test of control class was higher than the significant ($6,932 < 0,05$). Thus, the data post – test of experiment class and control class was normal distribution.

3. Homogeneity from Experiment and Control Class (Pre – Test)

The result of homogeneity in pre – test from experiment class and control class who calculated by Microsoft Excel was 1,009. Which the significant of homogeneity test is 0,05 with the formula $(1-\alpha)(n-1)$ significant 0,05 and $(n-1) = (0,05: 23 :21)$ so X2 table is 2,035 . So, the result of homogeneity test in pre – test from experiment class and control was higher than the significant ($1,009 < 2,035$). It means the data was homogeneity. (See Appendix 10).

4. Homogeneity from Experiment and Control Class (post – Test)

The result of homogeneity in post – test from experiment class and control class who calculated by Microsoft Excel was 1,0561 . Which the significant of homogeneity test is 0,05 with the formula $(1-\alpha)(n-1)$ significant 0,05 and $(n-1) = (0,05: 23 :21)$ so X2 table is 2,063. So, the result of homogeneity test in post – test from experiment class and control was higher than the significant ($1,056 < 2,063$). It means the data was homogeneity. (See Appendix 11).

The table is 2,015. To get the critical t value (t – table) at significant 0,05 and db is 44. Then the researcher count the different between pre and post value and fine Mx 30 and My 18,909 . Then fine Σx^2 is 1400 and Σy^2 is 10308,82 . So fine t count is 2,303 . Because t count (2,303) is higher than t table (2,015). it means the mean different from experiment class and control class (post – test) is significant. Then, if t count > t table, it means H_0 is rejected and H_a is accepted. (See Appendix 12).

The last. From the decription above the mean score pre – test of experiment class was 54,916 it changed in post – test after the researcher gave treatment about Piaget and Bruner Theories was 87,625 .The mean score pre – test of control class was 50,363 it changed in post – test was 81,545 .Then, from pre – test and post – test score to get a normality and homogeneity.

5. Calculation Results of Using Gain Score

To calculate the gain score uses formula as follows:

$$\begin{aligned}
 \text{Gain score} \quad : \langle g \rangle &= \frac{x_{\text{post}} - x_{\text{pre}}}{G_{\text{max}} - x_{\text{pre}}} \\
 &= \frac{87,625 - 54,916}{100 - 54,916} \\
 &= \frac{32,708}{45,084} \\
 &= 0,725
 \end{aligned}$$

The table 4.9. The results of calculatation of Gain Score

Class	Mean	Gain Score	Category
Pre test	54,916	0,725	High
Post test	87,625		

From the results obtained gain score 0,725 then it can be inferred that the effectiveness of using Piaget and Bruner theories to improve the student's English achievement is in high category.

B. DISCUSSION

This chapter presents the discussion of the result of data analysis presented in chapter IV. It covers the discussion of the interpretation of the research findings. This research aims to know the effectiveness and the achievement of using Piaget and Bruner Theories in teaching English vocabulary for young learners. The researchers first did pre – test for experiment class and got mean score 54,916 which of 24 students there were good score. 1 students got score with good category, 1 student got score with good category, 8 students get score with fair category, 3 students got score with low category, and 11 students got score with very low category (*look at table 4.1*). After a pre – test, then the students were given a treatment where they were taught by using Piaget and Bruner theories in the classroom. Then after given treatment and then held back a post – test. From the result obtained post – tests for experiment class very good with mean score 87,625 where now 20 students got score with very good category, 4 students got score with good category (*look at table 4.3*).

The researchers did pre – test for control class and got mean score 50,363 which of 22 students there were good score. 1 student got score with good category, 4 students get score with fair category, 7 students got score with low category, and 10 students got score with very low category (*look at table 4.2*). After a pre – test, then the students were given a treatment where they were taught by using another theory in the classroom. Then after given treatment and then held back a post – test. From the result obtained post – tests for control class with mean score 81,545 where now 15 students got score with very good category, 5 students got score with good category and 2 students got score with fair category (*look at table 4.4*).

Based table , it showed the data of pre- test of experiment class and control class was homogeny. Also, table showed homogeneity test of post – test of experiment class and control class was homogeny. Also, table showed homogeneity test of post – test of experiment class and control class was homogeny.

The pre – test of experiment class an control class. The result was homogenous but variances are not significant. Thus, the researcher must apply t_{-test} . Meanwhile the result of t_{-test} of pre – test of experiment class and control class. Then, it wsa indicated that the means of experiment class and control class were significantly different in teaching English vocabulary before the researcher doing treatment in experiment class.

Based on table, the result of post – test of experiment class and control class was homogenous. Also, the variance between experiment and control class was different. Thus, $t_{\text{-test}}$ can be applied. Showed $t_{\text{-count}}$ was higher than $t_{\text{-table}}$ it means post –test of experiment class an control class was significant difference in the means. H_0 was rejected and H_a was accepted. W. S. Gosset (1908). The T- test is used to test differences in the means of two groups. The grouping variable is categorical and data for the dependent variable is interval scaled. The following table showed alternative stastical tehniques that can be used to analyze this type of data when different levels of measurement are available.

To give accurate data on the students' score improvement and to know the effectiveness using Piaget and Bruner theories in teaching English for young learners, then the results from pretest and posttest were clculated with gain score score formulaand got the score 0,725 which is categoriezed as a high category (look at Table 4.9). it means that using Piaget and Bruner theories in teaching English for young learners in improving students' English achievement is high effective.

As whole, the result of this research idicated that using Piaget an Bruner Theories in teaching English vocabulary by the researcher was effective. There was a difference between experiment class and control class before using Piaget and Bruner Theories. Then, after experiment class used Piaget and Bruner Theories in teaching English vocabulary the mean was increasing and higher than control class without using Piaget and Bruner Theories in teaching English.