CHAPTER IV

RESEARCH FINDING AND DISCUSSION

This chapter presents research finding which has been collected during the research and discussion about the data of the research.

A. Research finding

Research finding is described by providing table, chart, and graph. In this research, the researcher did a Quasi-experimental research about the effectiveness of using IGT strategy towards the student's vocabulary mastery of the second grade at SMAN Campurdarat-Tulungagung in academic year 2017-2018. The research consist of two subjects that are experimental group, the group who has been given the treatment and the control group, the group which is used as the comparison. The experimental group was from XI Science class 1 which consist of 34 students. While the control group was from IX Science class 3 which consist of 33 students.

In this research the researcher use three steps: pretest for the both groups, treatment for experimental group, and posttest for the both groups. Pretest and posttest were done in order to get the student's vocabulary achievement score. The scores form the students that has been collected by the researcher will be discussed in this chapter. The description of data discussed about the data of each variable and reports being computed using descriptive statistic like histogram, mean, standard deviation, etc. The results of statistic computation can be seen as follows:

1. **The Vocabulary Mastery of the Students Taught Using IGT**

The students' pretest score in experimental group were conducted by the researcher on Monday, April 23rd 2018. The experimental group was conducted in XI IPA 1 that consists of 34 students. While, the posttest score of experimental group was conducted by the researcher on Thursday, May 3rd 2018.

The result of the student's pretest and posttest are presented in this sub heading. The experimental group students' pretest and posttest score are distributed in the following table in order to analyze the students' vocabulary mastery before and after being given the treatment.

Table 4.1. The Result of Pretest and Posttest in Experimental Group

No.	Name	Pre-test's Score	Post-test's Score
1.	AAJP	68	72
2.	APA	76	80
3.	ANH	72	80
4.	DP	72	80
5.	DL	72	76
6.	EYS	72	80
7.	EAP	68	76
8.	EV	72	76
9.	EMC	84	88
10.	EYS	76	80
11.	GAAM	68	80
12.	GOZ	76	80
13.	GTA	80	84
14.	YBBP	72	76
15.	IYA	72	80
16.	JN	76	80
17.	LMH	76	84
18.	LAZ	80	84
19.	MFH	68	76
20.	MIY	72	84
21.	NY	76	88
22.	NTC	76	80
23.	NPP	68	72
24.	NW	76	80
25.	PP	72	80

26.	PDL	76	84
27.	RR	72	88
28.	RAS	76	88
29.	RS	72	76
30.	SN	68	76
31.	SKA	64	76
32.	SZ	68	80
33.	VCA	64	80
34.	YEV	72	88
	N = 34		

Based on the table above, there were 34 students from XI IPA 1 as the sample of the research. The test was conducted by the researcher before and after being taught by using IGT in order to improve the student's ability in vocabulary. The technique focused on the gap-filling activity which emphasize the student's mind to guess the missing words among the sentences of a text.

The students' pretest and posttest score of experimental group were distributed in the following table in order analyzing the students' vocabulary achievement score before and after the treatment is given. Then, it was presented using frequency distribution in the following tables:

Table 4.2. Frequency of Pretest and Posttest Experimental Group

Pretest Experimental Group

pretest

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	64	2	5,9	5,9	5,9
	68	7	20,6	20,6	26,5
	72	12	35,3	35,3	61,8
	76	10	29,4	29,4	91,2
	80	2	5,9	5,9	97,1
	84	1	2,9	2,9	100,0
	Total	34	100,0	100,0	

Posttest of Experimental Group

posttest

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	72	2	5,9	5,9	5,9
	76	8	23,5	23,5	29,4
	80	14	41,2	41,2	70,6
	84	5	14,7	14,7	85,3
	88	5	14,7	14,7	100,0
	Total	34	100,0	100,0	

The tables above showed that pretest minimum score was 64 and the maximum score was 84. Score 64 has 2 frequency (5.9%), score 68 has 7 frequency (20.6%), score 72 has 12 frequency (35.3%), score 76 has 10 frequency (29.4%), score 80 has 2 frequency (5.9%), and the maximum score 84 has 1 frequency (2.9%). Meanwhile, in the posttest showed that the minimum score was 72 and the maximum score was 88. Score 72 has 2 frequency (5.9%), score 76 has 8 frequency (23.5%), score 80 has 14 frequency (41.2%), score 84 has 5 frequency (14.7%) and score 88 has 5 frequency (14.7%).

Besides the tables and histograms, the researcher also showed the statistic data of students' score. The data can be seen below:

Table 4.3. Statistic Data of Students' Pretest and Posttest Score in Experimental Group

Statistics

		pretest	posttest
N	Valid	34	34
	Missing	0	0
Mean		72,71	80,35
Std. Error of Mean		,764	,762
Median		72,00	80,00
Mode		72	80
Std. Deviation		4,455	4,444
Variance		19,850	19,750
Range		20	16
Minimum		64	72
Maximum		84	88
Sum		2472	2732

From the table 4.3, it can be concluded that in pretest, the maximum score of the data was 84 and the minimum score was 64. The range was 20. The mean was 72.71. The median was 72.00. The mode was 72. The standard deviation was 4.455. While in the posttest, the maximum score of the data was 88 and the minimum score was 72. The range was 16. The mean was 80.35. The median was 72.00. The mode was 80. And the standard deviation was 4.444. The researcher also made the categorization of the students' pretest and posttest score as follow:

Table 4.4 Categorization of Students' Score in Experimental Group

Pretest Score

Intervals	Frequency	Categorization	Percentage
81 – 100	2	Excellent	2.9%
61 – 80	32	Good	97.1%
41 – 60	0	Enough/Fair	0%
0 – 40	0	Poor	0%

Posttest Score

Intervals	Frequency	Categorization	Percentage
81 – 100	24	Excellent	70.6%
61 – 80	10	Good	29.4%
41 – 60	0	Enough/Fair	0%
0 – 40	0	Poor	0%

The categorization score was mentioned by the researcher in order to interpret the percentage of the score relying on the frequency distribution. With providing this point, the reader would be able to know the different percentage of each section scores. According to the categorization table above, it showed that in pretest there were 2 students (2.9%) got the score 81-100 in excellent categorization. Then, there were 32 students (97.1%) got the score 61-80 in good categorization. Meanwhile, there were not any student (0%) got the score 41-60 and 0-40 in fair and poor categorization. It means that in pretest most of the students was in good categorization score (between score 61 up to 80) based on their vocabulary skill.

In posttest, there were 10 students (29.4%) got the score 61-80 in good categorization. Then, there were 24 students (70.6%) got the score 81-100 in excellent categorization. Meanwhile, there were not any student (0%) got 41-60 and 0-40 in fair and poor categorization. Therefore, in posttest most of the students got the excellent categorization (between score 81-100) based on their vocabulary mastery. In pretest, there were just 2.9% students who got the excellent categorization, but the score was raising that in posttest the number of students whom got the excellent categorization has risen to 70.6%. Besides that, the researcher also provided the pie diagram presented the percentages below:

Figure 4.1 Pie Diagram of Experimental Group

Pretest Categorization Score

6%

94%

■ Excellent ■ Good ■ Poor ■ Enough

Posttest Categorization Score

29%

71%

■ Excellent ■ Good ■ Enough ■ Poor
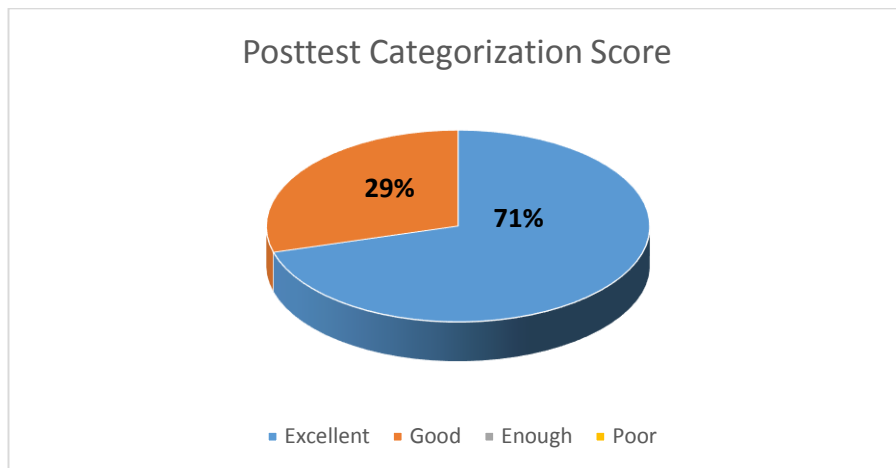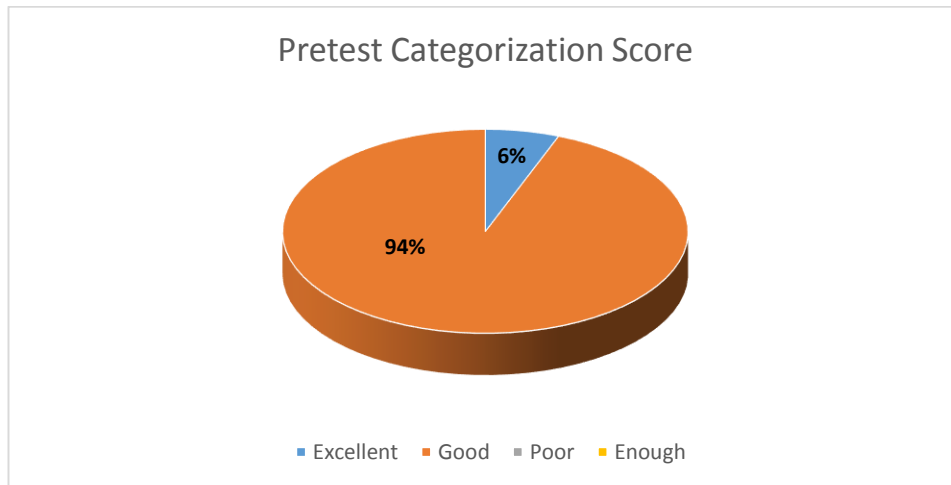
2. The Vocabulary Mastery of the Students Who are Not Taught Using IGT

The students' pretest score in control group were conducted by the researcher on Tuesday, April 24th 2018. The control group was conducted in XI IPA 3 that consists of 33 students. While, the posttest score of controlgroup was conducted by the researcher on Thursday, May 3rd 2018.

The control group students' pretest and posttest score are distributed in the following table in order to analyze the students' vocabulary mastery before and after without given the treatment.

Table 4.5. The Result of Pretest and Posttest in Control Group

No.	Name	Pretest's Score	Posttest's Score
1.	ADHP	68	64
2.	AT	72	72
3.	AOS	68	68
4.	AES	56	56
5.	AAAJ	76	76
6.	AM	72	72
7.	BSP	68	68
8.	CWA	72	72
9.	DRN	68	68
10.	DVA	80	68
11.	DAP	68	72
12.	DI	72	76
13.	EM	64	68
14.	FWM	56	56
15.	FL	72	76
16.	GHA	64	64
17.	IY	68	68
18.	LBIV	76	80
19.	LN	72	68
20.	MP	72	72
21.	MPL	76	76
22.	MRS	76	80
23.	NQK	68	76
24.	ODP	68	72
25.	RPR	68	64
26.	RDA	68	56
27.	SD	64	52
28.	SIO	72	72
29.	SAN	52	52
30.	SMDV	72	76

31.	YKAN	76	72
32.	YED	72	72
33.	ZAN	76	76
	N = 33		

Based on the table above, there were 33 students from XI IPA 3 as the control group of the research. The test was conducted by the researcher before and after without being taught by using IGT in order to see the student's ability in vocabulary. The students' pretest and posttest score of control group were distributed in the following table in order analyzing the students' vocabulary achievement score before and after without given the treatment. Then, it was presented using frequency distribution in the following tables:

Table 4.6. Frequency of Pretest and Posttest Control Group's Score

Pretest of Control Group

Pretest

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	52	1	3,0	3,0	3,0
	56	2	6,1	6,1	9,1
	64	3	9,1	9,1	18,2
	68	10	30,3	30,3	48,5
	72	10	30,3	30,3	78,8
	76	6	18,2	18,2	97,0
	80	1	3,0	3,0	100,0
	Total	33	100,0	100,0	

Posttest of Control Group

Posttest

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	52	2	6,1	6,1	6,1
	56	3	9,1	9,1	15,2
	64	3	9,1	9,1	24,2
	68	7	21,2	21,2	45,5
	72	9	27,3	27,3	72,7
	76	7	21,2	21,2	93,9
	80	2	6,1	6,1	100,0
	Total	33	100,0	100,0	

According to the tables and the histograms, in posttest of control group the minimum score was 52 and the maximum score was 80. The score 52 has 1 frequency (3.0%), the score 56 has 2 frequency (6.1%), the score 64 has 3 frequency (9.1%), the score 68 has 10 frequency (30.3%), the score 72 has 10 frequency (30.3%), the score 76 has 6 frequency (18.2%), and the last score 80 has 1 frequency (3.0%). Meanwhile, in posttest of control group showed that the minimum score was 52 and the maximum score was 80. The minimum score 52 has 2 frequency (6.1%), the score 56 has 3 frequency (9.1%), the score 64 has 3 frequency (9.1%), the score 68 has 7 frequency (21.2%), the score 72 has 9 frequency (27.3%), the score 76 has 7 frequency (21.2%), and the last score 80 has 2 frequency (6.1%). Besides the tables and histograms, the researcher also showed the statistic data of students' score. The data can be seen below:

Table 4.7. Statistic Data of Students' Pretest and Posttest Score in Control Group

Statistics

		Pre	Post
N	Valid	33	33
	Missing	0	0
Mean		69,09	69,45
Std. Error of Mean		1,317	1,071
Median		72,00	72,00
Mode		72	68(a)
Std. Deviation		7,568	6,150
Variance		57,273	37,818
Range		28	28
Minimum		52	52
Maximum		80	80
Sum		2280	2292

a Multiple modes exist. The smallest value is shown

From the table 4.7 it can be seen that in pretest of control group the maximum score of the data was 80 and the minimum score was 52. The range was 28. The mean was 69.45. The median was 72.00. The mode was 68. And the standard deviation was 6.150. While in the posttest, the minimum score was 52 and the maximum score was 80. Then, the range was 28. The mean was 69.09. The median was 72.00. The mode was 72. The standard deviation was 7.658.

The researcher also made the categorization of the students' pretest and posttest score as follow:

Table 4.8 Categorization of Students' Score in Control Group

Pretest Score

Intervals	Frequency	Categorization	Percentage
81 – 100	0	Excellent	0%
61 – 80	30	Good	90.9%
41 – 60	3	Enough/Fair	9.1%
0 – 40	0	Poor	0%

Posttest Score

Intervals	Frequency	Categorization	Percentage
81 – 100	0	Excellent	0%
61 – 80	28	Good	84.8%
41 – 60	5	Enough/Fair	15.2%
0 – 40	0	Poor	0%

According to the categorization table above, it showed that in pretest there were 3 students (9.1%) got the score 41-60 in fair or enough categorization. Then, there were 30 students (90.9%) got the score 61-80 in good categorization. While, there were not any students (0%) got the score 81-100 and 0-40 in excellent and poor categorization. It means that in pretest most of the students was in good categorization score (between score 61 up to 80) based on their vocabulary skill.

In posttest score, there were 5 students (15.2%) got the score 41-60 in fair categorization, then there were 28 students (84.8%) got the score 61-80 in good categorization. While, there were not any students (0%) got the score 81-100 and 0-40 in excellent and poor categorization. Therefore, in posttest most of the students got the good categorization score (between score 60-80). Based on the explanation before, in pretest there were 30 students (90.9%) whom got the good categorization score, but in posttest it has decreased into 84.8% or there were only 28 students whom got the good categorization. Besides that, the researcher also provided the pie diagram that presented the percentages below:

Figure 4.2. Pie Diagram of Control Group

Pretest Categorization Score

9%

91%

■ Excellent ■ Good ■ Enough ■ Poor

Posttest Categorization Score

15%

85%

■ Excellent ■ Good ■ Enough ■ Poor
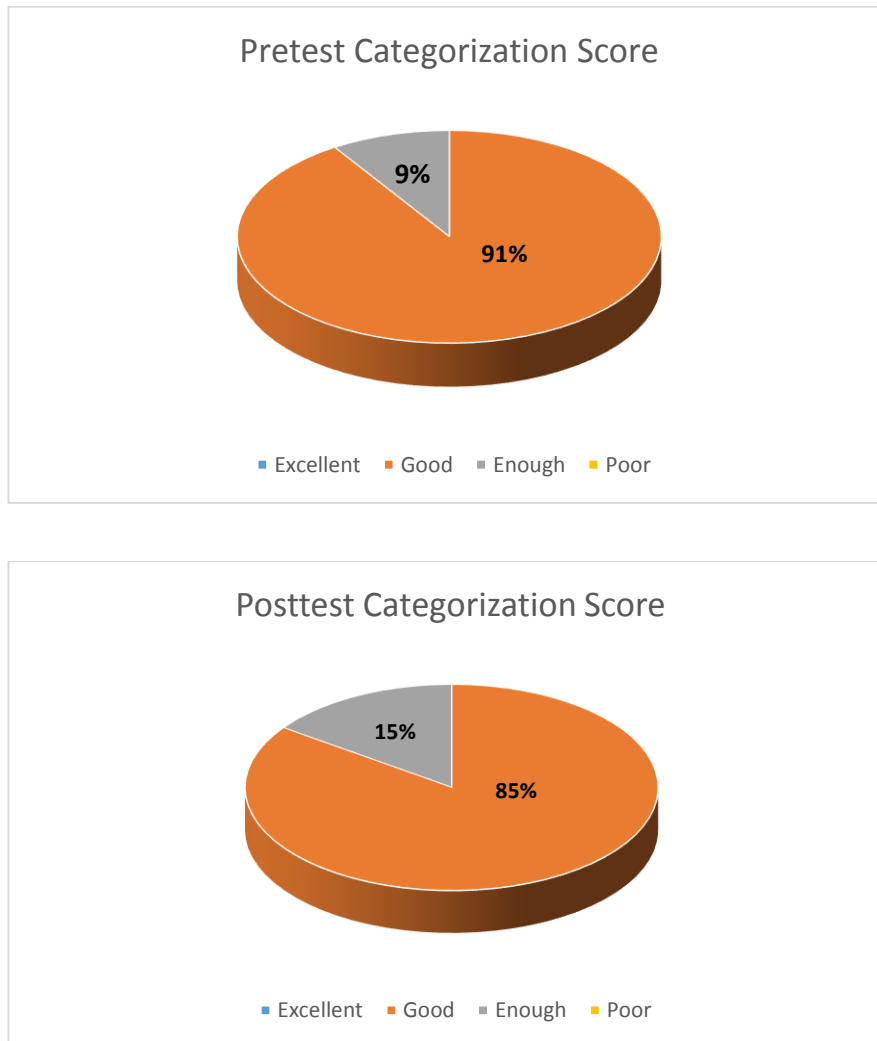
3. Hypothesis Testing of *F-Test*

In in this study consist of two samples that are experimental and control group, so the researcher needed to test the F-test in order to see the variance that the both groups were equal. The F-test is not used to test the research problem but to test that the both group samples were equal. The result of F-test can be seen on Table 4.10. The hypotheses for the F-Test can be seen below:

a. H_0: $\sigma^2{}_1 = \sigma^2{}_2$ or the null hypothesis states that there is an equal

between the variance of experimental group and the variance of

control group.

b. H_1: $\sigma^2{}_1 \neq \sigma^2{}_2$ or the alternative hypothesis states that there is not

equal between the variance of experimental group and the variance

of control group

1. If Sig greater than α (0.05) then the null hypothesis is not rejected. Therefore, *equal variance assumed* is used. In conclusion, the variance of experimental group and the variance in control group is equal.

2. If Sig less than α (0.05) then the null hypothesis is rejected. Therefore, *equal variance not assumed* is used. In conclusion, the variance of experimental group and the variance in control group is not equal.

1. Hypothesis Testing

Hypothesis testing was used to test the hypothesis of the research. In order to know the difference between experimental group and control group's result, hypothesis testing is conducted. This research used standard significance 95% ($\alpha =$ 0.05) to test the hypotheses. The hypotheses was tested T-test through SPSS 13.0 version for windows. T-test is intended to test the two means from the two groups. The formulation of the hypothesis can be seen below:

a. Null Hypothesis (Ho)

The null hypothesis states that there is no significant difference on the student's vocabulary mastery between who are taught and without using IGT.

b. Alternative Hypothesis (Ha)

The alternative hypothesis states that there is significant difference on the student's vocabulary mastery who are taught and without using IGT.

1. If Sig (2-Tailed) value less than 0.05, it means that Null Hypothesis (H_0) is rejected and Alternative Hypothesis (H_a) is not rejected.

2. If Sig (2-Tailed) value greater than 0.05, it means that Null Hypothesis (H_0) is not rejected and Alternative Hypothesis (H_a) is rejected.

The researcher also provided the table of statistic that is counted using SPSS 13.0 version. It aimed to show the analyzing data by using *Independent sample T-test*. The result was shown below:

Table 4.9. The Result of Group Statistic

Group Statistics

	Kelompok	N	Mean	Std. Deviation	Std. Error Mean
Score	Exp	34	80,35	4,444	,762
	Con	33	69,09	7,568	1,317

The table group statistic t-test above showed that N was the number of students of experimental group and control group of the second grade at SMAN Campurdarat. The IGT has been used to teach in experimental group, and conventional teaching has been used to teach in control group. According to the table the mean of experimental group was 80.35 and the mean of control group was 69.09. The standard deviation of experimental group was 4.444 and the standard deviation of control group was 7.568. Then, standard error mean of experimental group was 0.762 and the standard error mean of control group was 1.317.

Table 4.10. Independent T-test and F-test

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Score	Equal variances assumed	2,292	,135	7,173	65	,000	9,686	1,350	6,989	12,383
	Equal variances not assumed			7,134	56,600	,000	9,686	1,358	6,967	14,406

According to the table, the result of F-test showed that the *p-value* (Sig) is 0.135, and it was greater than significant level 0.05. It showed that $0.135 > 0.05$. In consequence, the null hypothesis is not rejected, therefore *equal variance assumed* is used.

Considering the result of independent F-test, the *equal variance assumed* is used to interpret the T-test as stated in table 4.10 above showed that Df is 65 and Sig (2-Tailed) value is 0.000. To know the significant difference score, Sig (2-Tailed) value must be compared with the significance level 0.05. It showed that $0.000 < 0.05$. It means that the Sig (2-Tailed) value is less than significance level 0.05 and the difference is significant. Thus, the alternative hypothesis (*Ha*) is accepted. The hypothesis testing in this research is the second grade students at

SMAN Campurdarat have better score which are taught using IGT in mastering their vocabulary skill than those students who are not taught using IGT.

B. Discussion

In this sub unit, the researcher presents some opinions which refers to the review of literatures on the chapter two. It means that in order to explain the discussion, the researcher did a comparison between this study and the previous studies according to the data such as the difference computation's result, the subject, and the variables. Moreover, the researcher also find out the correlation of the result in this study relying on the some theories that are presented on the chapter two.

The objective in this study is to know the effectiveness of using IGT in teaching vocabulary for the second grade students at SMAN Campurdarat. Meanwhile, some previous studies on the chapter two, the variable was different with this study. Two previous studies used IGT to teach speaking skill while in this study IGT used to teach vocabulary skill. Not only that, those previous studies used pre-experimental and CAR design, while in this study used quasi-experimental design. In this case, the subjects were different because in quasi-experimental design uses two groups.

Considering the difference computation result, one of previous study come from Jondeya (2011) showed that there is improvement on the student's speaking skill after being taught using IGT. It can be seen from the mean of pretest was 17.66 then increased up to 27.89 in posttest. While in this study also there is different

significant on the student's vocabulary mastery after being taught using IGT. It can be seen from the previous sub point that the mean of pretest was 72.71 then increased up to 80.35 in posttest. According to the result, the researcher infers that the different variable is influences on the result in using IGT technique.

Related to the vocabulary mastery, the previous study come from Noviana (2013) which used Contextualization in teaching vocabulary also showed that there is significant difference between before and after being given the treatment. It can be seen from the pretest's mean was 21.40 then increased up to 26.75 with the deviation 5.35. Comparing with this study that has pretest's mean from 72.71 into 80.35, with deviation 7.64, it shows that this study has higher computation result than the previous study, although has the same significant difference on the student's vocabulary mastery. In this case, the researcher infers that the use of different technique also influences on the result in improving vocabulary skill.

The previous explanation proves that the use of IGT is effective to improve the student's vocabulary skill. This statement is line with Harmer (1991) states about the method in teaching vocabulary by using Discovery. The students can be encouraged to understand new languages by discovering them in a text. The researcher infers that the theory is similar with the use of IGT activity which encourages the student in discovering the new words that is missing from a text. The students will be able to guess the missing informations step by step in order to complete the whole text or information. Thus, slowly the students will be able to enrich and organizing the new words.

Furthermore, this condition also line with Pica (1987) IGT is the activity one student or group of students has one set of information and another students or group has a complementary set of information. In reality based on the research, the students did gap filling activity in a pair, so they can negotiate to each other in order to complete the missing gaps/words. The process can be seen in Appendixes.

Finally, relying on the discussion above, it can be concluded that IGT technique is effective to teach the vocabulary skill on the second grade students at SMAN Campurdarat.