CHAPTER IV

RESEARCH FINDINGS AND DISCUSSION

This chapter describes about research findings and discussion that include data of research findings, data analysis, the result of normality and homogeneity testing, hyp othesis testing and discussion.

A. Research Findings

In this chapter, the researcher presented the data on student's vocabulary before and after being taught by guessing game . In this presentation, the researcher presented and analyzed the data which had been collected through two kinds of test, they are pre-test and post-test. It was conducted to forty three students.

As mentioned before, the researcher used vocabulary test as the instrument in collecting data. It was given to class X- AK students of SMK Islam 1 Durenan. The number of question given by researcher was 20 questions. It was consist of multiple choice test. There were 43 students as respondent or subject at the research. The data of the students' achievement before and after teaching vocabulary mastery by using guessing game can be seen in the following table. **Description of Students' Vocabulary Mastery Score Before and After being Taught by Using Guessing Game.**

In this section, the researcher presented the result of the pre-test and post test that had been done before and after treatment. Pre-test was conducted on Monday, April 10, 2017 at 08.30 - 09.45 am. It's consisted of 20 items multiple

choices. Post-test was administered on Thursday, April 21, 2017 at 08.30 – 09.45

am. The list of students' score of vocabulary test can be seen in the table below:

Table 4.1 Students Score Before and After They were Taught Using

Guessing Game.

No.	Subject	Pre-tes Score (x)	Post-test Score (y)	Point Difference (D)	D^2
1.	A	85	100	15	225
2	B	85	100	15	225
3	C	70	85	15	225
4.	D	65	90	25	625
5	E	60	80	20	400
6.	F	70	90	20	400
7.	G	65	90	25	625
8.	H	70	85	15	225
9.	I	65	85	20	400
10.	J	65	80	15	225
11.	K	65	95	30	900
12.	L	75	85	10	100
13.	M	75	95	20	400
14.	N	85	95	10	100
15.	O	75	85	10	100
16.	P	85	95	10	100
17.	Q	85	95	10	100

18.	R	85	95	10	100
19.	T	90	95	5	25
20.	U	90	95	5	25
21.	V	85	90	5	25
22.	W	80	95	15	225
23.	X	85	90	5	25
24.	Y	75	85	10	100
25.	Z	80	90	10	100
26.	AB	85	95	10	100
27.	DC	75	90	15	225
28.	IT	65	85	20	400
29.	RH	65	95	30	900
30.	NA	65	85	20	400
31.	AC	65	80	15	225
32.	RA	75	90	15	225
33.	AA	75	95	20	400
34.	AU	70	85	15	225
35.	NH	70	85	15	225
36.	EK	40	75	35	1225
37.	DN	60	85	25	625
38.	NN	55	75	20	400
39.	CN	45	70	25	625

40.	YA	55	85	30	900
41.	NW	60	90	30	900
42.	KH	65	90	25	625
43.	EA	60	95	35	1225
	N= 43	$\sum X$ =3.065	$\sum Y$ =3.815	$\sum D$= 750	$\sum D^2$=15850

To know the students' achievement that is good or not, the researcher give criteria as suggested by the English Teacher of SMK Islam 1 Durenan. This is follows:

Table 4.2 The scores' Criteria

Grade	Interval Class	Criteria
A$^+$	90-100	Excellent
A	80-89	Very Good
B	70-79	Good
C	50-69	Fair
D	0-49	Poor

The scores' criteria above shows that A$^+$ (90-100) means excellent score, A (80-89) means very good score, B (70-79) means good score, C (50-69) means fair score, and D (0-49) means poor score. So, it helps and makes easy to the researcher classified the students' score based on the score's criteria.

From the data of the students pre-test and post-test score, the researcher arrange the frequency and the percentage of the students' score that can be seen as following table.

Table 4.3 Frequency of students' Score

No.	Score	Fx	Fy
1.	90-100	2	25
2.	80-89	11	15
3.	70-79	12	3
4.	50-69	16	0
5.	0-49	2	0
		$X_1 = 43$	$X_2 = 43$

It shows that in pre-test there were two students who got excellent score (90-100), elevan students got very good score (80-89), twelve students got good score (70-79), sixtenth students got fair score (50-69), two students got poor score (0-49). While, in the post-test there were twenty-five students got excellent score (90-100), fivetenth students got very good score (80-89), three students got good score (70-79). Thus, it can be seen that the students' score before and after they were taught using guessing game application has increased score from 2 tobe 25 students got excellent score (90-100), 11 to be 15 got very good score (80-89), and has decreased from 12 to be 3 got good score (70-79), 16 tobe 0 got fair score (50-69), and 2 to be 0 got poor score (0-49).

Table 4.4 Percentage of The Students' Pre-test

Grade	Criteria Score	Fx	%
A$^+$	90-100	2	04.66%
A	80-89	11	25.58%
B	70-79	12	27.90%
C	50-69	16	37.20%
D	0-40	2	04.66%
		N= 43	P = 100%

From the data percentage of the students' pre-test score, it can be seen that from 100% percentage two students (04.66%) got grade A$^+$ means excellent score, elevan students (25.58%) got A means very good score, twelve students (27.90%) got grade B means good score, sixteen students (37.20%) got grade C means fair score, two students (04.66%) got grade D means poor score.

Table 4.5 Percentage of the Students' Post-test

Grade	Criteria Score	Fy	%
A$^+$	90-100	25	58.14%
A	80-89	15	34.88%
B	70-79	3	06.98%
C	50-69	0	0
D	0-49	0	0
		N= 43	P= 100%

From the percentage of the students' post-test score, it can be seen that from 100% percentage twenty-five students (58.14%) got grade A$^+$ means excellent score, fiveteen students (34.88%) got grade A means very good score, and three students (06.98%) got grade B means good score.

Thus, it can be seen that the students' pre-test and post-test score in the percentage and criteria was different. After using guessing game application to help students vocabulary mastery, the table 4.4 and 4.5 show that criteria score of grade A$^+$ has increased from 04.66% to 58.14%, A grade has increased from 25.58% to 34.88%, B grade has decreased from 27.90% to 06.98%, C garde has decreased from 37.20% to 0%, and D grade has decreased from 04.66 to 0%. It shows that after using guessing game application as a technique to teach vocabulary had increased than before using guessing game application.

The result of analysing data of students' pre-test and post-test score can be seen in the following tables:

Table 4.6 Descriptive Statistic

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Pre_test	43	71.27	11.705	40.0	90.0
Post_test	43	88.72	6.734	70.0	100.0

Based on the table 4.6 above, shows *Mean* of pre-test score (71.27) and post-test score (88.72) . These numeral show that the mean of post-test is higher than than mean of pre-test. While number of subject (*N)* for cell there are 43, *Standard Deviation* for pre-test (11.705) and post-test (6.734), *Minimum* for pre-test (40.0) and post-test (70.0), *Maximum* for pre-test (90.0) and post-test (100.0).

Table 4.7 Wilcoxon Signed Ranks

Ranks

		N	Mean Rank	Sum of Ranks
Post_test - pre_test	Negative Ranks	0[a]	.0	.0
	Positive Ranks	43[b]	22.0	946.0
	Ties	0[c]		
	Total	43		

a. Post_test < pre_test

b. Post_test > pre_test

c. Post_test = pre_test

Based on the table 4.7 Wilocxon Signed Ranks above, in the negative Ranks show that *Mean Ranks* is 0 and *Sum Ranks* is 0. In the Positive Ranks it shows that score of *Mean Rank* is 22.0 and *Sum of Rank* is 946.0. It means the score of pre-test lower than post-test. It show there is significance different score of pre-test and pos-test.

Table 4.8 Test Statistic

Test Statistics[b]

	Post_test - pre_test
Z	-5.736[a]
Asymp. Sig. (2-tailed)	.000

a. Based on negative ranks.
b. Wilcoxon Signed Ranks Test

Based on the table 4.8, *test statistic* shows the result of Wilcoxon Signed Ranks Test analysis by using SPSS 16.0 for window. Output shows Score of Z is 5.736 and *the Value p (Asymp. Sig)* is 0.000 It show that significance = 0.000 is lower than 0.05 means H_0 is rejected and H_a is accepted.

B. The Result of Normality, Homogeneity, and Linearity Testing

In this part the researcher discuss about the result of normality and homogeneity testing.

a. The Result Normality Testing

Normality testing is conducted to determine whether the gotten data is normal distribution or not. The researcher used SPSS 16.0. *One – Sample Kolmogrov – Smirnov test* by the value of significance (α) = 0.05. the result can be seen below:

Table 4.9 Normality Testing

One-Sample Kolmogorov-Smirnov Test

		Pre_test	Post_test	Unstandardized Residual
N		43	43	43
Normal Parameters[a]	Mean	71.2791	88.7209	.0000000
	Std. Deviation	1.17054E1	6.73415	7.89078711
Most Extreme Differences	Absolute	.135	.173	.113
	Positive	.123	.129	.067
	Negative	-.135	-.173	-.113
Kolmogorov-Smirnov Z		.887	1.136	.742
Asymp. Sig. (2-tailed)		.411	.151	.641

a. Test distribution is Normal.

Based on the table above is known that the significance value from pre-test is 0.887 and from the post-test is 0.1136. Both value from pre-test and post-test are bigger than 0.05. The *sig/p* value on pre-test on pre-test is 0.887and it is higher 0.05 (0.887 > 0.05) means that the data is in normal distribution.Then, for post-test score the value of sig/p is 0.1136 and that is bigger than 0.05 (0.1136 > 0.05) means that the data is in normal distribution.

It also means that H_0 is accepted and H_a is rejected. So, it can be interpreted that both of the data (pre-test and post-test score) are normal distribution.

b. The Result of Homogeneity Testing

Homogeneity testing is conducted to know whether the gotten data has a homogeneous variance or not. To know the homogeneity the researcher used Test of Homogeneity of Variances with SPSS.16 by the value significance (α) = 0.05. the result can be seen below:

Table 4.11 Homogeneity Testing

Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
2.745	5	36	.034

Based on the table above is known that the sig/p value is 0.034 lower than 0.05 means H_0 is rejected and H_a is accepted. So, it can be interpreted that the data is not homogeny.

c. The Result of Linearity Testing

Linearity testing is conducted to know whether the gotten data has linear or not. To know the linearity the researcher used Test of Linearity of Variances with SPSS.16 by the value significance (α) = 0.05. the result can be seen below:

Table 4.12 Linearity Testing

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
Pre_test * Post_test	Between Groups	(Combined)	3282.376	6	547.063	7.966	.000
		Linearity	3139.541	1	3139.541	45.716	.000
		Deviation from Linearity	142.834	5	28.567	.416	.834
	Within Groups		2472.276	36	68.674		
	Total		5754.651	42			

Based on the table above is known that the sig/p value is 0.000 lower than 0.05 means H_0 is accepted and H_a is rejected. So, it can be interpreted that the data is linear.

C. Hypothesis Testing

The hypothesis testing of this study can be identified as follows:

1. When the significant value is less than 0.05, the alternative hypothesis (H_a) is accepted and the null hypothesis (H_0) is rejected. It means that there is significant different score of vocabulary achievement to tenth grade students at SMK Islam 1 Durenan before and after taught using guessing game application.

2. When the significant value is more than 0.05, the null hypothesis (H_0) is accepted and the alternative hypothesis (H_a) is rejected. It means that there

is no significant different score of vocabulary achievement to tenth grade at SMK Islam 1 Durenan before and after taught using guessing game.

To know wether the alternative hypothesis (H_a) is accepted or not, the researcher takes a look at the significance (2-tailed) value in the result of *Wilcoxon Test* that calculated by using SPSS statistics 16.0 for windows.

Based on the result of *Wilcoxon Test*, it can be seen that the significance value is 0.000. It means that the significance level is less than 0.05 (0.000 < 0.05). Therefore, the alternative hypothesis (H_a) which states that there is significant difference between studens' vocabulary achievement before and after being taught by using Guessing Game technique is accepted. Meanwhile, the null hypothesis (H_0) which states that there is no signnificant difference between students' vocabulary achievement before and after taught by using Guessing Game.

D. Discussion

From the rese archer method in chapter III in this research, teaching and learning process is divided into three steps. First step is the researcher administarted pre-test by giving vocabulary test. It is used to know the students' earlier vocabulary mastery before they get treatment.

The second is given treatment to the students. The treatment here is teaching vocabulary by using guessing game application of students' smart phone. After students got treatment, they were more enthusiastic to learn vocabulary. The last step was giving post-test to the students after they got treatment.

From the research finding in chapter IV, the output data of *Wilcoxon Test* shows mean of pre-test is 71.27 and pos-test 88.72 has increased and if compared

the differences both of value is 17.45. It was found that the students' vocabulary achievement after being taught by Guessing Game had better than the students vocabulary achievement before taught by Guessing Game. Therefore, from both mean it can concluded that there is significant differences in the students' achievement of vocabulary means that teaching vocabulary through Guessing Game is effective.

Mean is to measure average of pre-test and post-test score. The mean counted by SPSS of pre-test is 71.27 and post-test 88.72 where the score of pre-test and pos-test has increased. So, it can be concluded that using of Guessing Game gives positive impact to vocabulary mastery.

The standard deviation is to measure how much the variance of the sample. The standard deviation of pre-test is $11.705 < 71.27$ and post-test $6.734 < 88.72$ where if the standard deviation is getting higher than the mean, it means that the mean is not homogeny and if the standard deviation is getting smaller than the mean it means that the mean is homogeny. So, it can be concluded that standard deviati on of pre-test and post-test was homogeny means that the sample of this research almost has the same mean.

The score minimum and maximum is to know where the score lowest and uppest from the test. The score of Minimum from pre-test and post-test is $(40.0 < 70.0)$ meanwhile maximum of pre-test and post-test is $(90.0 < 100.0)$. It can be concluded that the score of minimum or maximum of pre-test is lower than post-test. So, Guessing game gives positive impact in vocabulary mastery.

Furthemore, the result of Wilcoxon Signed Ranks Test shows that the significance value (2-tailed) is 0.000. it means that the significance level is less than 0.05 (0.000 < 0.05) which means the alternative hypothesis (H_a) is accepted, while the null hypothesis (H_0) is rejected. Therefore, it can be concluded that there is significance different score of vocabulary mastery of tenth grade students of SMK Islam 1 Durenan in academic year 2016/2017 before and after being taught using Guessing Game Application (GGA) technique.

Based on the result of research finding and explanation above it, it can be concluded that using Guessing Game is effective to help vocabulary mastery at senior high school especially for tenth grade students of SMK Islam 1 Durenan. It proved that Guessing Game has significant effect to the students'vocabulary achievement.

Another effect to the students after taught by using Guessing Game Application (GGA) can be seen on their attitudes when they engage in vocabulary class. It is known from the implementation of GGA to the students of tenth grade students at SMK Islam 1 Durenan in the class. The students seem to be active and interested to participate in vocabulary activity. The finding is strengthened with statement from Hidayat (2015) Guessing Game can enlarge knowledge, enrich vocabulary, receive and send message, and also problem solving.

It also appropriate with other study which is conducted by Supriyatna (2016) that Guessing Game is effective in teaching vocabulary and to improve motivation and interest. Further, the students look so enthusiastic and enjoy the

activity. Guessing Game Application is a application game in mobile phone which the object is to guess some kind of information.

In the applying the game the researcher used cooperative learning methods. Students divided into small group, a group consist of 3 – 4 members of students which in this game the students work together and interaction whose interdependent relationship allows them to achieve a mutual goal. By using this technique can make the students are more confidence to give opinion about a problem, together to solve and to get good answer of the question.

Based on explanation above, Guessing Game Application (GGA) shows that it can be an alternative strategy to help the students vocabulary mastery. Since this technique provides for interaction so it can make students be active in class. Thus, it can be concluded that the teacher must not only focus on presenting materials for the students but the most important one must be considered that is how to present the materials.

In this way, students play guessing game application and discuss with their group based on the topic. It makes them more responsible in their study. The teacher is not only keep silent and sitting on the chair during teaching and learning, but she have to control the students activity by going around to the each group to make sure that the students involved in their group. This way is done to make the use of group discussion in teaching learning process.

After the researcher did the research in teaching vocabulary mastery to tenth grade students at SMK Islam 1 Durenan, guessing game application not only motivate the students to learning vocabulary but also help the students mastery.

So, they can learn to develop their ability in vocabulary, especially of complimenting. Guessing Game Application surely prove the real effectiveness in vocabulary because it can help the students in teaching vocabulary mastery, especially of tenth grade students at SMK Islam 1 Durenan.