CHAPTER IV
FINDING AND DISCUSSION

The researcher provides the research findings and discusses them in this chapter. It presents dealing some discussions about the collected data of students' pretest and posttest from experimental and control classes. This chapter covers the description of data, the result of normality and homogeneity testing, hypothesis testing, and discussion.

A. The Description of Data

In this subchapter, the researcher compared the vocabulary achievement of students who were taught using Hangman Game with those who were taught utilizing conventional methods. The study's subjects were divided into two groups: i-1, which was the experimental group, and i-2, which was the control group. This research has the aim to know whether the use of Hangman Game in ATI Course Tulungagung to improve student's vocabulary mastery is effective or not. The data was provided from the students' scores on the pretest and posttest in both groups. Next, to ensure the significant difference of the variable, the researcher did not use the individual scores for doing the comparison. Moreover, it used the results of class mean scores dealing with vocabulary tests. The data can be seen as below:

1. The Data of Experimental Class

In the experimental class, there were 25 pupils and they were standing in i-1 class. Then, the result of pretest and posttest presented as the Table 4.1 here:

Table 4.1 The Scores of Pretest and Posttest of Experimental Class

No.	Name of Students	Score	
		Pretest	Posttest
1	P.P	64	73
2	J.I.P	62	74
3	F.A.P	59	71
4	S.Y	61	76
5	R.A	61	74
6	H	66	76
7	A.R.S	71	80
8	A.N.S	67	80
9	B.B.K	58	73
10	E.A.T	66	80
11	A.A.A	62	76
12	B.A.G	61	74
13	K.H.K	60	76
14	M.A.F	64	73
15	N.S	71	80
16	R.P.A	59	74
17	S.C.A	67	76
18	R.A.G	58	71
19	Y.S.R	62	73
20	R.D.S	66	74
21	A.H	64	73
22	M.N.H	61	76
23	A.R.S	59	71
24	N.A	71	80
25	A.A.M	60	74
SUM		**1580**	**1878**

Furthermore, the researcher used SPSS 16.0 for Windows to determine the results of the pretest class scores to determine the students' vocabulary achievement in the experimental class. The following is an example of the outcome:

Table 4.2 Descriptive Statistic Pretest of Experimental Class

Statistics		
Pretest Experimental Class		
N	Valid	25
	Missing	26
Mean		63.20
Median		62.00
Mode		61
Std. Deviation		4.021
Variance		16.167
Minimum		58
Maximum		71
Sum		1580

According to the above table, it can be said that the sum of pretest data in the experimental class was 1580. The lowest score was 58 and the highest one was 71. The mean of the data was 63.20. After, the researcher employed the treatment by using Hangman Game in teaching vocabulary in three meetings with a different topic. In this case, the topics were decided through the materials that existed in this class level. They were nouns, verbs, adjectives, pronouns, and adverbs. Then, the researcher decided to use three of them, such as nouns, verbs, and adjectives. Next, the students were asked to work the posttest. The data of posttest can be seen in Table 4.3 here:

Table 4.3 Descriptive Statistic Posttest of Experimental Class

Statistics		
Posttest Experimental Class		
N	Valid	25
	Missing	26
Mean		75.12

Median	74.00
Mode	74[a]
Std. Deviation	2.920
Variance	8.527
Minimum	71
Maximum	80
Sum	1878

Based on the above result, the posttest revealed that the sum was 1878. The lowest score was 71 and the highest score was 80. The mean of the posttest was 75.12.

Understanding the above table 4.3 dealing with pretest and posttest within the Experimental class, it can be said that the Sum of pretest data was 1580 and the Sum of posttest data was 1878. The mean of the pretest was 63.20 and the meant of the posttest was 75.12. Moreover, the gained score between pretest and posttest was 298 and the gained of the mean score was 11.92. So, it can be revealed that Hangman game can be used as media to increase students' achievement in vocabulary mastery.

2. The Data of Control Class

In the control class, the students consisted of 25 pupils and they were standing in i-2 class. Based on the result of pretest and posttest in the control class, the data score of students can be seen clearly as Table 4.4 below:

Table 4.4 The Scores of Pretest and Posttest of Control Class

No.	Name of Students	Score	
		Pretest	Posttest
1	A.V.S	71	71
2	Y.P	58	59
3	N.R	62	62
4	V.G.P	62	62

5	N.P	64	64
6	A.A	67	61
7	S.R.A	61	59
8	F.A.M	58	58
9	D.R.Z	60	60
10	H.S	60	60
11	R.A.S	66	66
12	Z.P.D	61	61
13	P.N	61	64
14	H.N	71	71
15	A.R.H	64	64
16	R.J.A	58	58
17	M.I	60	60
18	A.B.M	62	62
19	D.Z.K	59	60
20	R.R	64	64
21	U.N	66	66
22	D.N	61	61
23	H.B.S	59	59
24	A.G.F	60	60
25	A.R	62	62
SUM		**1557**	**1554**

In furthermore, the researcher used SPSS 16.0 for Windows to determine the students' vocabulary accomplishment in the control class to determine the results of class scores in the pretest. As an example, consider the following:

Table 4.5 Descriptive Statistic Pretest of Control Class

Statistics		
Pretest Control Class		
N	Valid	25
	Missing	26
Mean		62.28
Median		61.00
Mode		60[a]
Std. Deviation		3.623
Variance		13.127

Minimum	58
Maximum	71
Sum	1557

According to Table 4.5 in the control class, it can be said that the sum of pretest data was 1557. The lowest score was 58 and the highest one was 71. The mean of the data was 62.28. After the researcher taught this class by using the conventional teaching method, the researcher gave students the posttest. The data of posttest scores can be seen in Table 4.6 below:

Table 4.6 Descriptive Statistic Posttest of Control Class

Statistics		
Posttest Control Class		
N	Valid	25
	Missing	26
Mean		62.16
Median		61.00
Mode		60
Std. Deviation		3.484
Variance		12.140
Minimum		58
Maximum		71
Sum		1554

The posttest revealed that the sum was 1554, based on the aforementioned result. The lowest score received was 58, while the best score received was 71. The posttest mean was 62.16.

Based on the descriptive statistic between pretest and posttest of the Control class, it can be said that the *Sum* of pretest data was 1557 and

the *Sum* of posttest data was 1554. The mean of the pretest was 62.28 and the mean of the posttest was 62.16. In addition, the gained score between pretest and posttest was -3 and the gained of the mean score was -0.12. From this can be seen that without Hangman Game, students' achievement in vocabulary mastery can be low even minus.

B. The Result of Normality and Homogeneity Testing

1. The Result of Normality Testing

The data were checked for normality to see if it was already distributed regularly. The significant value (α) = 0.050 was chosen by the researcher in SPSS 16.0 One-Sample Kolmogorov-Smirnov test. The following was Table 4.7, which summarizes the results:

Table 4.7 Normality Testing

One-Sample Kolmogorov-Smirnov Test

		PRETEST	POSTTEST	Unstandardized Residual
N		25	25	25
Normal Parameters[a]	Mean	63.20	75.12	.0000000
	Std. Deviation	4.021	2.920	1.81938304
Most Extreme Differences	Absolute	.177	.209	.099
	Positive	.177	.209	.099
	Negative	-.098	-.153	-.088
Kolmogorov-Smirnov Z		.887	1.047	.496
Asymp. Sig. (2-tailed)		.411	.223	.966

a. Test distribution is Normal.

a. H_0: Data is in a normal distribution

b. H_1: Data is not in a normal distribution

Education has a conventional significance of 0.05 ((α) = 5%). The outcome of data normality testing may be used to evaluate whether the data had a normal distribution or not. The significant value from the pretest was 0.887, while the significance value from the posttest was 1.047, according to the SPSS report. They were both more than 0.50. As a result, both the pretest and posttest data had a normal distribution. Because H_0 was approved and H_1 was denied, the data for both the pretest and the posttest had a normal distribution.

2. The Result of Homogeneity Testing

After confirming that the data was normally distributed, homogeneity testing was performed. The goal of this test was to determine if the data were homogenous or heterogeneous. The researcher used the Homogeneity of Variances test with SPSS 16.0 and a significance value of (α) = 0.050 to determine homogeneity. The following are some of the factors to consider while doing homogeneity testing:

a. H_0: Data is homogeneous because the significance > 0.05

b. H_1: Data is not homogeneous, because the significance < 0.05

As a consequence, the homogeneity outcome of this study is shown in Table 4.8 below:

Table 4.8 Homogeneity Testing of Pretest

Test of Homogeneity of Variances

RESULT OF PRETEST

Levene Statistic	df1	df2	Sig.
.827	1	48	.368

The significant score was higher than 0.05 based on the outcome of homogeneity testing for the pretest. In the pretest, the homogeneity showed 0.368 which means more than the significant value that was 0.05. It means H_0 was accepted and H_1 was denied. Hence, it can be said that the data of i-1 students when doing pretest has the same variant.

Table 4.9 Homogeneity Testing of Posttest

Test of Homogeneity of Variances

RESULT OF POSTTEST

Levene Statistic	df1	df2	Sig.
.193	1	48	.662

The significant score was more than 0.05 based on the results of homogeneity testing toward the posttest. The homogeneity value in the pretest was 0.662, which was more than the significance value of 0.05. It indicates that H_0 has been approved and H_1 has been refused. As a result, data from i-1 students who took the posttest had the same variation.

C. Hypothesis Testing

The hypothesis testing of this research can be seen as below:

1. H_0 (null hypothesis): In ATI Course Tulungagung, notably in *I* classes, there were no significant differences in vocabulary scores between students who were taught using the Hangman Game and those who were taught using the traditional approach.

2. H_1 (alternative hypothesis): In ATI Course Tulungagung, especially in *I* classes, there is a significant difference in vocabulary scores between students who were taught using the Hangman Game and those who were taught using the conventional methods.

The hypothesis testing of this research followed the requirements as follows:

1. If the significant value is less than 0.05, the null hypothesis (H_0) rejected, and the alternative hypothesis (H_1) is accepted
2. If the significant value is more than 0.05, the alternative hypothesis (H_1) is rejected and the null hypothesis (H_0) is accepted

To comprehend whether there was any significant difference in students' vocabulary achievement between the pupils that had been taught by using Hangman Game and those who taught by using the conventional method, the calculating result presented whether (H0) was rejected or (H1) was affirmed. To analyze the data, the researcher employed SPSS 16.0 for Windows and the result can be viewed in Table 4.10 below:

Table 4.10 Descriptive Statistic of Posttest in Two Classes

Descriptive Statistics

	N	Mean		Std. Deviation
	Statistic	Statistic	Std. Error	Statistic
Experimental_class	25	75.12	.584	2.920
Control_class	25	62.16	.697	3.484

The table above indicated that there were two classes: experimental and control. The experimental class included 25 students, with a *mean* score of 75.12 and a *standard deviation* of 2.920. Meanwhile, the Control

class had 25 students, with a *mean* score of 62.16 and a *Standard Deviation* of 3.484.

Moreover, to know the different scores between Experimental and Control classes, the researcher also employed *Independent Sample T-test* by using SPSS *16.0 for windows.* This stage was done to comprehend the effectiveness of using Hangman Game towards students' vocabulary achievement. The result can be seen in Table 4.11 as follows:

Table 4.11 Independent Sample T-test

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
RESULT OF POSTTEST	Equal variances assumed	.193	.662	14.254	48	.000	12.960	.909	11.132	14.788
	Equal variances not assumed			14.254	46.576	.000	12.960	.909	11.130	14.790

Based on the table of Independent Sample T-test above presented that the significant value (sig-2 tailed) was **0.000.** Following to the hypothesis testing rule, the significant value (sig-2 tailed) of this research

was **0.000** and it was smaller than 0.05 **(0.00 < 0.05),** which it meant that (H_0) was rejected and alternative hypothesis (H_1) is accepted.

Based on the results of the foregoing analysis, it can be concluded that students' vocabulary mastery in the form of achievement differed significantly between those taught using the Hangman Game and those taught using the conventional teaching technique. The Hangman Game was shown to be an effective teaching means for improving students' vocabulary understanding in English classes.

From the description of data and any relevant testing above dealing with this research, the finding of this research can answer the research problem about the significant difference between class with Hangman game and not. The researcher successfully found that there were significant different scores between the class that was given Hangman game as treatment and not. The students who did not get the treatment in form of Hangman Game didn't present improvement mostly even minus result from pretest to posttest. It can be proved by looking at the mean of pretest was 62.28 and its posttest was 62.16. The gained mean pretest to posttest in control class was -0.12. In this case, several students were categorized as fair achievement (see appendix 2).

On the contrary, for the students who got the treatment of Hangman Game, their scores between pretest and posttest were improved better. The mean of their pretest was 63.20 and the mean of posttest was 75.12. The gained of mean score between the mean of pretest and posttest in experimental class was 11.92. The table of experimental class students' qualification presented that all students were

categorized into a good ability (see appendix 1) and no one students after being taught by Hangman Game got fair or even poor ability.

Moreover, the finding of this research was not only stuck in the effectiveness of Hangman Game, but in vocabulary mastery that was divided into three such as *knowing, understanding,* and *application.* To make it clear, first the researcher discuss about section 1 that was *knowing*. In this section, students were measured how they know about the meaning of some vocabularies (Noun, Verb, and Adjective). While the section 2 or *Understanding*, it showed that the test's form was Multiple Choice which students were considered as understandable ones if they can work that section properly. Last, section 3 or was called an *application.* In this section, the students were asked to apply their knowledge from *section 1* and *2* to make some sentences in English.

Dealing with the use of Hangman Game above, this game gave a big positive effect to those sections. The first one was improving section 2 or *understanding*. The mean of score between students' pretest was 27.20 and the posttest was 28.64. The second section showed that students got good effect from Hangman game in section 1 or *knowing*. The mean of score between students' pretest was 17.28 and the posttest was 23.04. The last section was section 3 or *application*. The mean of score between students' pretest was 18.72 and the posttest was 21.60. The gained mean score was 2.88. The clear data computation can be seen in appendix 4.

Based on the preceding sections, it can be concluded that the use of the Hangman Game was most suitable to enhance students' understanding the words

use, the second one was how they know about the meaning of words and the last was how they apply their vocabularies gotten from the game into good sentences.

D. Discussion

In this subchapter, the researcher continued to discuss the finding above with the theories and previous studies dealing with the use of Hangman Game. Based on the finding, the use of Hangman game can bring students to get more information about the vocabulary like the meaning, diction, until they can make sentences which that process was reading and writing skill. Those were meant as the term of mastery of vocabulary. That finding was in line with Demir (2013) that learners will not be able to apply the structures and functions we've learned for intelligible communication if we don't have a large vocabulary.

In addition, based on the result of this recent study, this research supports the findings from previous studies about the use of Hangman Game. The additional invention was that the use of Hangman Game is suitable to be implemented to increase students' vocabulary mastery in English Course not only in formal school. It was because by implementing the learning game, students are helpful than conventional teaching-learning. Celce-Murcia and Macintosh (1979:54) agree that games are fun and learning can be more enjoyable. Moreover, according to Nurhayati (2015: 221) Games are also very helpful for students because they can feel that certain words used in the game are important and necessary.

If comparing to the previous studies that were done mostly in formal school but the result of this research presented that Hangman game was also effective to be used in English course are. The first previous study was conducted by Mustafidah (2015) The achievement of eleventh-grade pupils at Private Senior High School differed considerably from that of pre-cycle such as (mean: 50.36), cycle 1 (mean: 69.76), to cycle 2 (74.73). It meant that the Hangman game is recommended to use for increasing students' vocabulary achievement. The second was done by Nur Napiah (2019) The Hangman game was shown to be effective in supporting students' motivation in learning vocabulary and improving their group interaction in the seventh grade of a public junior high school. It may be stated that including the Hangman game in the teaching-learning process can help pupils grasp their vocabulary.

Third, the previous study that was done in the level of the first grade of Junior High School by Jurasni (2019) found that The Hangman Game was found to be successful in a Private Junior High School setting, with a substantial difference between pre-test and post-test mean scores. The last was done by Nada Nabilah (2019) in the level of Public Senior High School, Hangman game could improve students' vocabulary. The last was compared to Napiah (2019) that The Hangman game is appropriate for supporting students' motivation in learning vocabulary and improving their group interaction at the Public Junior High School level.

The use of the Hangman game in the teaching-learning process increased students' vocabulary acquisition, according to the explanation above which was

not only used in both private and public formal school but also in the English Course and with the primary students' level. Moreover, it can enrich students' vocabulary in term of *knowing, understanding,* and *application* sections.