MATCHING GAME TO ENRICH STUDENTS' VOCABULARY ACHIEVEMENT

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Abstract : This study is to prove whether the use of the Matching Game in teaching vocabulary can achieve students' vocabulary or not. In doing this research, the writers use quantitative research through post-test only with an experimental group and a control group. The experimental class is taught in test after treatment and the control class is taught by conventional method. This study is conducted on students in the second grade of SMPN 2 East Siau. The sample is taken from one class of junior high school. After conducting research, it can be concluded that the use of Matching Games is very effective in improving a student's English vocabulary skills. It also further supports that the selection of appropriate and educational games greatly affects the output of each learner, of course, by taking into account demographic factors and the background of each student in order to increasingly provide games that match their interests.

Keywords : *Matching Game, Technique, Vocabulary*

INTRODUCTION

Language is a mean of communication that is used to transfer information, ideas, and feelings from one person to another. It holds an important role in the daily activities of human life. It is used to communicate both in written and spoken form (Raymond, 2001). It is in line with the idea of Lado, et al (1963), "Language is a system of arbitrary vocal symbols used for human communication." In addition, Maru (2016) explains, "Language is the most important aspect in the life of all human beings."

English is regarded as the universal language because it is one of the world's languages. Since it is one of the most widely used languages, it has an effect on every industry. It is thought to be crucial for the advancement and use of science and technology as well as for strengthening international ties and collaboration. Consequently, learning the English language is crucial. Not only become the fundamental language, but Learning English also involves four crucial skills divided into receptive and productive skills. Those abilities complement one another and cannot be separated in this situation. To enhance these four languages' abilities, basic language elements including structure, vocabulary, pronunciation, and spelling are applied. Inspiration was complemented as a key component for efficient language learning by the capacity to meet academic requirements and personalized learning goals (Liando, 2009:4).

English teachers play a critical role in English instruction since they are one of the elements that influence whether or not

the teaching is effective. Teachers and students should have good teamwork. Liando (2015) points out, “student’s motivation and teacher’s behaviors were indeed related to each other. Students and teachers were two important figures in the teaching and learning process”. Because students are prepared to learn quickly and effectively, teachers must be ready to use a variety of strategies when teaching English. Teachers also have to be as nice as they can in the learning process, because Liando (2015) explains, “being friendly and nice were more preferred than making the course more interesting, or giving lots of homework.”

One of the elements of the English language on which the authors of this study have focused is vocabulary. Regarding vocabulary's function in teaching a foreign language, Allen (1997) writes that "vocabulary is an important factor in teaching words, sound system, structure, and other essential area of language learning." The authors draw the conclusion that vocabulary should be studied because it is a crucial component of language. Without a strong vocabulary, communication skills will be unsuccessful because convincing others to speak up often depends on words.

Based on the preliminary studies in teaching English at SMP Negeri 2 Siau Timur, the writers find that most of students are lack of vocabulary. At the same time, some of them are not interested to the material because they think that English is so difficult to be learned. So, the writer chooses matching game to enrich Students’ Vocabulary Achievement.

Matching game requires the common vocabulary and daily words. Matching game also is a familiar game in students, so the writer used matching game to solve the problem above. As stated by Maru (2009) in Dengah, et al (2019), "Teaching language is not just an issue of methodologies and instructors' teaching roles, but also of the ambiance or climate in which teaching and learning take place." In teaching matching game to Enrich students’ vocabulary achievement, the writers use one picture with one or two variables, those variables mean piece of image which involves picture that correlate with the task that was given to students.

Furthermore, there are several aspects in the teaching-learning process that can influence the achievement of good school goals. Curriculum, materials, teaching methods, students, and facilities are among them (Mogea, 2019). It is a good choice activity to push students do teamwork. Therefore, matching game can be suitable material in attracting the children to the lesson. Because matching game began as visual aid, they also have many characteristics that make them easier to understand the picture.

RESEARCH METHODOLOGY

In doing this research, the writers use quantitative research through post-test only with an experimental group and a control group. Post-test is given to the students to find out students’ level of vocabularies mastery. The experimental class is taught in test after treatment and the control class is taught by conventional method. So, there are two tests: T1 is the Experimental Group and T2 is the Control group. X symbolizes the Treatment. The following is the presentation of the design:

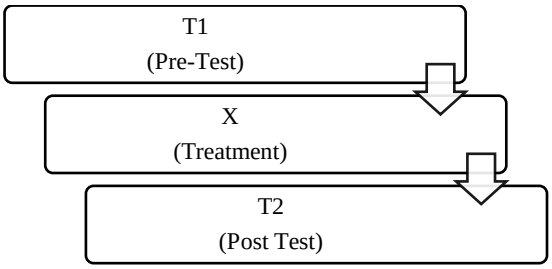

Figure 1. Steps of Pre-Experimental Design

This study is conducted on students in the second grade of SMPN 2 East Siau. The sample is taken from one class of junior high school. The instrument in this research is a test. This kind of test uses multiple-choice tests and the total number of multiple choices is 20 number. The test is based on the material given. There are several steps in order to collect the data for this research:

1. Make the lesson plan in the teaching and learning process.
2. Give the pre-test, before present the material.
3. Analyze the data taken from pre-test in order to plan the treatment for the students.
4. Give the treatment by using Matching Game.
5. Give the post-test.
6. Organize the data into table.
7. Analyze the data.

In analyzing the data, the writers use Mean Score formula and Standard Deviation as follows:

$$Me = \frac{\sum x\,i}{n}$$

Where:

Me = The mean score of students

∑x I = The total number of students score

N = The total number of students

(Sugiyono, 2010;49)

Standard deviation:

$$S = \sqrt{\frac{\sum (xi - x)^2}{(n-1)}}$$

Where:

S = Standard deviation

n = Number of samples

∑ = Epsilon / total (number, quantity)

x = Mean

xi = The score of samples

(Sugiyono, 2010;57)

FINDINGS AND DISCUSSIONS

The study question was already described in chapter 1 of the book. The issue was only resolved using a post-test pre-experimental design. The following statement was made as the hypothesis: *"Matching game to Enrich Students' Vocabulary Achievement."*

Two courses, an experimental class and a control class, each with 42 students, make up the sample for this study. The average class size is 21 students. While the control group is taught using a standard method, the experimental group is taught utilizing a matching game. To determine the kids' achievement following treatment, pre- and post-test data are collected.It applied the t-test formula to determine whether the experimental group's performance differed from that of the control group's. The formula used was provided by Shalvelson in 1981 as follows:

$$t_{\bar{x}_1-\bar{x}_2}obs = \frac{X_1 - \overline{X}_2}{\sqrt{\left[\frac{[(n_1-1)s_1^2 + (n_2-1)s_2^2]}{n_1+n_2-2}\right]\left[\frac{1}{n_1}+\frac{1}{n_2}\right]}}$$

Where:

$\overline{X}_1$ = Mean score of the experimental group

$\overline{X}_2$ = Mean score of control group

n_1 = Total number of subjects of the experimental group

n_2 = Total number of subjects of the control group

s_1^2 = Variance of the experimental group

s_2^2 = Variance of the control group

In analyzing the data, the writers follow the steps below (Proposed by Shalvelson (1981):

1. Examine the experimental group's (X1) and the control group's (X2) post-test results.
2. Create a frequency distribution of the experimental group's (X1) and the control group's (X2) test performance (score).
3. Determine the control group's variance (s2), the experimental group's variance (s), and the mean score ().
4. Calculate the variance for the experimental group and the control group using the standard deviation (s) of variance (s2) root.
5. Use the t-test formula to calculate t () observed by entering the values for the experimental group and the control.
6. Made the decision to accept or reject the null hypothesis.
   - Reject null hypothesis or H_0 if $:t_{obs} \geq t_{crit}$.
   - Do not reject null hypothesis H_0if $:t_{obs} < t_{crit}$.

The experimental group (X_1) and the control group (X_2) are shown on Table 1.

Table 1. Data Matrix of the Experimental Group and Control Group

Subject	X_1	Subject	X_2
	Control		Experimental
01	75	01	70
02	80	02	70
03	90	03	70
04	85	04	65
05	95	05	80
06	90	06	70
07	100	07	60
08	100	08	70
09	95	09	70
10	80	10	70
11	85	11	75
12	75	12	80
13	85	13	80
14	100	14	65
15	90	15	65
16	80	16	75
17	100	17	70
18	100	18	75
19	85	19	80
20	80	20	70
21	100	21	75
	1870		**1505**

The presentation frequency distribution of the experimental group (X_1) and the control group (X_2) scores are shown below.

Table 2. Frequency Distribution of the Experimental Group(X_1)

Value X_1	F_1	F_1 %	CF	CF_1%
100	6	28.57	21	100
95	2	9.52	15	71.43
90	3	14.29	13	61.91
85	4	19.05	10	47.62
80	4	19.05	6	28.57
75	2	9.52	2	9.52

Based on the presentation in Table 2, it is evident that 6 (six) students received the highest score of 100 (one hundred), or 28.57%, while 2 (two) students received the lowest score of 75 (seventy-five), or 9.52%. Three (three) students received the highest score of 90 (ninety) or 14.29%, while four (four) students received the highest score of 85 (eighty-five), or 19.05%..

Table 3. Frequency Distribution of Control Group (X_2)

Value X_2	F_2	F_2%	CF	CF_2 %
80	4	19.05	21	100
75	4	19.05	17	80.95
70	9	42.86	13	61.9
65	3	14.28	4	19.04
60	1	4.76	1	4.76

The presentation on Table 3 above makes it clear that the highest score, 80 (eighty), was earned by 4 (four) students, or in percentage 19.05%, followed by 9 (nine) students who earned 70 (seventy), or 42.86%, 3 (three) students who earned 65 (sixty-five), or 14.28%, and 1 (one) student who earned 60 (sixty), or 4.76%..

Table 4. Variance of Experimental Group

SUBJECT	X	$\bar{X}_1$	$X_1 - \bar{X}_1$	$(X_1 - \bar{X}_1)^2$
1	75	89,05	-14,05	197,4025
2	80	89,05	-9,05	81,9025
3	90	89,05	0,95	0,9025
4	85	89,05	-4,05	16,4025
5	95	89,05	5,95	35,4025
6	90	89,05	0,95	0,9025
7	100	89,05	10,95	119,9025
8	100	89,05	10,95	119,9025
9	95	89,05	5,95	35,4025
10	80	89,05	-9,05	81,9025
11	85	89,05	-4,05	16,4025
12	75	89,05	-14,05	197,4025
13	85	89,05	-4,05	16,4025
14	100	89,05	10,95	119,9025
15	90	89,05	0,95	0,9025
16	80	89,05	-9,05	81,9025
17	100	89,05	10,95	119,9025
18	100	89,05	10,95	119,9025
19	85	89,05	-4,05	16,4025
20	80	89,05	-9,05	81,9025
21	100	89,05	10,95	119,9025
Σ	**1870**			**1580,953**

The individual who diverged from the data presentation is then added to Table 4 (experimental group), and the mean (X 1) and standard deviation (S12) are then calculated using the following formula:

a.) $n_1 = 21$

$$\text{Mean } (\bar{X}_1) = \frac{\Sigma X_1}{n_1}$$

$$= \frac{1870}{21}$$

$$= 89.05$$

b.) Standard Deviation (S_1)

$$= \sqrt{\frac{\Sigma(X_1 - \bar{X}_1)^2}{n - 1}}$$

$$= \sqrt{\frac{1870}{21-1}}$$

$$= \sqrt{\frac{1870}{20}}$$

$$= \sqrt{93.5}$$

$$= 9.67$$

c.) $S_1^2 = 93.5$

Table 5. Variance of Control Group

SUBJECT	X_2	$\bar{X}_2$	$X_2 - \bar{X}_2$	$(X_2 - \bar{X}_2)^2$
1	70	71,7	-1,7	2,89
2	70	71,7	-1,7	2,89
3	70	71,7	-1,7	2,89
4	65	71,7	-6,7	44,89
5	80	71,7	8,3	68,89
6	70	71,7	-1,7	2,89
7	60	71,7	-11,7	136,89
8	70	71,7	-1,7	2,89
9	70	71,7	-1,7	2,89
10	70	71,7	-1,7	2,89
11	75	71,7	3,3	10,89
12	80	71,7	8,3	68,89
13	80	71,7	8,3	68,89
14	65	71,7	-6,7	44,89
15	65	71,7	-6,7	44,89
16	75	71,7	3,3	10,89
17	70	71,7	-1,7	2,89
18	75	71,7	3,3	10,89
19	80	71,7	8,3	68,89
20	70	71,7	-1,7	2,89
21	75	71,7	3,3	10,89
Σ	**1505**			**616,69**

The next step is to compute Mean (X 2) and Standard Deviation (S_2^2), which is done using the following formula: After placing the person who diverged from the

data presentation on Table 5 (control group),

In this study, it is anticipated that the experimental group will do better than the control group. The T-test is employed and applied based on the data in tables 4 and 5 to determine whether there is a significant achievement gap between these two groups. It can be formulated as follows.

Where:

$\overline{X}_1 = 89.05$ $n_1 = 21$ $S_1^2 = 93.5$

$\overline{X}_2 = 71.7$ $n_2 = 21$ $S_2^2 = 75.25$

a.) $n_2 = 21$

$$\text{Mean } (\bar{X}_2) = \frac{\Sigma X_2}{n_2}$$

$$= \frac{1505}{21}$$

$$= 71.67$$

b.) Standard Deviation (S_2)

$$= \sqrt{\frac{\Sigma(X_2 - \overline{X}_2)^2}{n_2 - 1}}$$

$$= \sqrt{\frac{1505}{21-1}}$$

$$= \sqrt{\frac{1505}{20}}$$

$$= \sqrt{75.25}$$

$$= 8.67$$

c.) $S_2^2 = 75.25$

$$t_{\overline{x}_1 - \overline{x}_2} obs = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\left[\frac{[(n_1-1)s_1^2 + (n_2-1)s_2^2]}{n_1+n_2-2}\right]\left[\frac{1}{n_1}+\frac{1}{n_2}\right]}}$$

$$= \frac{89.05 - 71.7}{\sqrt{\left[\frac{[(21-1)93.5 + (21-1)75.25]}{21+21-2}\right]\left[\frac{1}{21}+\frac{1}{21}\right]}}$$

$$= \frac{17.35}{\sqrt{\left[\frac{[(20)93.5+(20)75.25]}{40}\right]\left[\frac{2}{21}\right]}}$$

$$= \frac{17.35}{\sqrt{\left[\frac{[1870+1505]}{40}\right][0.1]}}$$

$$= \frac{17.35}{\sqrt{\left[\frac{3375}{40}\right][0.1]}}$$

$$= \frac{17.35}{\sqrt{[84{,}37][0.1]}}$$

$$= \frac{17.35}{\sqrt{8.44}}$$

$$= \frac{17.35}{2.90}$$

$$= 5.98$$

To test the hyphothesis there are two criteria given by Shalvelson (1981:427), namely: Directional (One-Tailed)

a) Reject null hypothesis or H_0if :$t_{obs} \geq t_{crit}.(\alpha/df)$
b) Do not reject null hypothesis H_0if :$t_{obs} < t_{crit}.(\alpha/df)$

Where:

H_o = NullHyphothesis
tobs = *t*observed
tcrit = *t*critical
df = degree of freedom
α = alpha (level of significance)

The criteria and data analysis demonstrate that the null hypothesis is disproved in this study since the t-observed is more than the t-critical, or 5.98> 2.021. It implies that there is a sizable gap in pupils' English proficiency between those who receive vocabulary instruction through matching games and those who do not.

The outcome of the data analysis clearly demonstrates the following true truth. Fourty-two students participated in the test, twenty-one of whom were in the experimental group and twenty-one in the

control group. The value of a treatment's success is calculated as follows by the authors. Students who have scores between 65 and 100 indicate that their treatment was successful; however, those who receive scores below 65 indicate failure.

The writers discover after analyzing the data that the experimental group's performance is superior than the control group's. The lowest score in the experimental group is 2 (two) students getting 75 (seventy-five) or 9.52%, followed by 3 (three) students getting 90 (ninety) or 14.29%, 4 (four) students getting 85 (eighty-five), and 4 (four) students getting 80 (eighty). The highest score in the experimental group is 100 (one hundred), gained by 6 (six) students, or in percentage 28.57%. The highest score in the control group is 80 (eighty), obtained by 4 (four) students, or 19.05%; the next four students get 75 (seventy-five), or 19.05%; the next nine students get 70 (seventy), or 42.86%; the next three students get 65 (sixty-five), or 14.28%; and the last student gets 60 (sixty), or 4.76%.

The experimental group has a higher score than the control group, according to the aforementioned data. The mean score (X 1 = 89.05) and standard deviation (S_1^2 = 93.5) are higher than those of the control group, which had mean scores of (X 2 = 71.7) and (S_2^2 = 75.25). It indicates that the experimental group's post-test results are superior to those of the control group. According to research, using a matching game to improve kids' vocabulary mastery is successful.

CONCLUSION

After conducting research, it was found that using matching games helped students improve their English vocabulary skills. In addition, it was found that choosing appropriate and educational games had a significant impact on each learner's output. Of course, this was done by taking into account each student's background and demographics in order to provide games that increasingly matched their interests. Consequently, the value of matching games in helping students learn their English vocabulary, particularly for the Sitaro Islands students who live in an archipelago with limited network access, can make matching games a good resource to suggest to teachers.

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