THE USE OF WORD SEARCH GAME AS THE PRE-ACTIVITY IN TEACHING VOCABULARY

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Abstract
This study aimed to measure how significant is the effect of using the Word Search game as a pre-activity in improving the vocabulary mastery of fourth-grade students at SD Islam Mu'tashim Billah during the Academic Year 2023/2024. The research applied a pre-experimental one-group pre-test and post-test design, using a total sampling technique that selected 15 students from the tenth grade as the research sample. Analysis of the pre- and post-test data using a t-test revealed a pre-test mean score of 37.66 and a post-test mean score of 84.66. The t-test result, indicating -12.89, was compared to the t-table value of 1.761% at a 0.05 significance level with 14 degrees of freedom (df). Based on the above data analysis, the null hypothesis (Ho) is rejected, and the alternative hypothesis (Ha) is accepted because the t-test was smaller than the t-table (-12.89<-1.761). Furthermore, the effect size of 3.43 indicated a very strong effect (0.8<). In conclusion, the use of the Word Search game as a pre-activity in teaching significantly influences students' vocabulary mastery.

Keywords: *Pre-activity Teaching, Vocabulary, Word Search Game*

INTRODUCTION

Learning English as a foreign language in Indonesia has shown a significant increase where it seems as if there is no age limit. Young and adult learners are starting to realize the importance of mastering English in this modern era. English has become a vital need for people around the world because of its position as an international language.

In Indonesia, the Ministry of National Education has designated English as the mandatory first foreign language in schools and higher education institutions. Various curriculum and methods have been developed to enhance students' English language proficiency (Permono et al., 2019). One way the government aims to improve students' English language proficiency is by introducing English at an

early stage, starting from primary school (Malik et al., 2021).

In the process of learning English, learners cannot be separated with Vocabulary. Mastery of vocabulary is an essential element in language learning that comprises a collection of words and phrases used for communication. At the primary school level, young learners are in a crucial stage of language development. They are building their language foundation, which will shape the basis for their speaking, reading, and writing skills (Rohmatillah, 2015). However, teaching vocabulary to primary school students can be challenging due to their unique characteristics and developmental stage. Students in primary schools prefer to learn using interactive media such as video, game, songs and physical activities such as singing and dancing (Biesaga, 2017). To address these challenges effectively, teachers need to employ engaging and age-appropriate teaching approaches and strategies that capture students' interest and enthusiasm to learn.

A similar problem happens in teaching vocabulary to primary students in SD Islam Mu'tashim Billah. it was found that the students had lacking interest and enthusiasm when learning English. The students also had some difficulties in memorizing the English word. During the learning process, teacher primarily relied on oral methods and used textbooks as the primary learning resources. In other words, teacher did not use supplementary media in teaching, that made this situation challenging for students to learn English.

This problem inspired the researcher to try a different way to teach vocabulary by utilizing the Word Search game as a pre-activity in teaching vocabulary by giving 15 minutes pre-teaching activity, in hope the students will be more motivated to improve their vocabulary in a fun and effective way. One way to make English for Young Learner (EYL) class more engaging is through the use of teaching aids or media used by the teacher such as by using a Word Search game. Word Search is a puzzle game that requires problem solving and logical thinking skills where students have to consider the direction of words, interact with other letters in a grid, and look for words in a certain order.

Word Search can improve thinking skills thereby helping students strengthen their memory of words and integrate them into their vocabulary (Chesy et al., 2018). This is proved by some studies. The first was conducted by Ningsih (2021), she stated that the use of Word Search game as teaching media was effective in teaching vocabulary. The second study was conducted by (Arinta & Pusparini, 2012). She stated that the students were actively participating in joining the lesson, and the

implementation of word puzzle game had improved the students' vocabulary mastery.

The researcher conducted research to the fourth-grade students of SD Islam Mu'tashim Billah to find out the effectiveness of using Word Search game as pre-activity to teach vocabulary. The selection of fourth-grade students is based on the fact that they are at a critical stage and need to sharpen their English language skill, as well as providing insight into how an effective learning approach can assist them in this process. The researcher expects that Word Search can be an effective tool for improving student's vocabulary mastery and the teacher can consider the use Word Search game as media in any vocabulary class in fourth grade of SD Islam Mu'tashim Billah.

METHOD

The method used in this research was a quantitative method with a one-group pre-test and post-test of pre-experimental design. According to (Creswell & Creswell, 2018), pre-experimental research seeked to determine if a specific treatment influences an outcome. The population for this research was the 15 fourth grade students in SD Islam Mu'tashim Billah in Academic Year 2023/2024. The researcher used Total Sampling technique meant that the number of samples was the same as the population.

In collecting the data, the researcher used The Word Intelligibility by Picture Identification (WIPI) test where the test items displayed a picture and the students then asked to write down the words under the picture using measurement technique.

The researcher gave 20 test items for the pre-test and post-test. In analyzing the data, the writer used t-test and effect size to analyze and measure students' outcomes. The t-test was a type of statistical analysis used to determine whether there was a statistically significant difference between the means of two groups (Cohen et al., 2007). After obtaining the t-test result, the data then examined using the Effect Size calculation to provide an indication of the efficacy to see how big the effect or influence of the research finding.

The effect size classification was characterized as follows:

Table 1. The Effect Size Classifications

0 – 0.1	Weak
0.2 – 0.3	Modest
0.4 – 0.5	Moderate
0.6 – 0.8	Strong
0.8 <	Very strong

RESULT AND DISCUSSION

After conducting on the use of Word Search game as the pre-activity in teaching vocabulary, the findings are presented as follows:

The Coefficient of Correlation

The coefficient of correlation was used to measure the strength of the relationship between two variables. To

know how the strength or weakness of the relationship level between these variables, the formula from Pearson Product Moment Coefficient method was used in this research.

Table 2. Coefficient of Correlation Qualification

Coefficient Interval	Relationship Level
0.00 – 0.19	Very Weak
0.20 – 0.39	Weak
0.40 – 0.59	Moderate
0.60 – 0.79	Strong
0.80 – 1.00	Very strong

$$r = \frac{n\,(\sum XY)-(\sum X)(\sum Y)}{\sqrt{[n\,(\sum X^2)-(\sum X)^2]\,[n(\sum Y^2)-(\sum Y)^2]}}$$

$$r = \frac{15\,(49075)-(565)(1270)}{\sqrt{[15\,(23775)-(565)^2]\,[15(110300)-(1270)^2]}}$$

$$r = \frac{736125\,-717550}{\sqrt{[356625-319225]\,[1654500-1612900]}}$$

$$r = \frac{18575}{\sqrt{[37400]\,[41600]}}$$

$$r = \frac{18575}{\sqrt{1555840000}}$$

$$r = \frac{18575}{39444} = 0.47$$

It was shown from the computation, the coefficient of correlation was 0.47 which considered as "moderate".

The Mean Score of Pre-test and Post-test

The total pre-test score of fourth-grade students was 565, with a total of 15 students. The writer divided this score by the total number of students in the group. As explained below:

$$M_1 = \frac{\sum x_1}{N}$$

$$M_1 = \frac{565}{15}$$

$$M_1 = 37.66$$

The total post-test score of fourth-grade students was 1270, with a total of 16 students. In short, the mean score was as follows:

$$M_2 = \frac{\sum x_2}{N}$$

$$M_2 = \frac{1270}{15}$$

$$M_2 = 84.66$$

The Variation Score of Pre-test and Post-test

The deviation of each data value that had been squared was then divided by (n - 1). The squared deviation score for the pre-test was 2493.33 and for the post-test was 2773.33. The detail of calculation was explained below:

$$S_X{}^2 = \sum \frac{(X-M1)2}{n-1}$$

$$S_X{}^2 = \frac{2493.33}{15-1}$$

$$S_X{}^2 = \frac{2493.33}{14}$$

$$S_X{}^2 = 178.09$$

The variation score for the pre-test was 178.09

$$Sy2 = \sum \frac{(Y-M2)2}{n-1}$$

$$Sy2 = \sum \frac{2773.33}{15-1}$$

$$Sy2 = \sum \frac{2773.33}{14}$$

$$Sy2 = 198.09$$

The variation score for the post-test was 198.09

The Standard Variation of Pre-test and Post-test

Standard deviation was used to determine how spread out the data in a sample. Standard deviation was the square root of variance. As explained below:

$$\text{Pre-test. S1} = \sqrt{\sum \frac{(X-M1)2}{n-1}}$$

$$\text{Pre-test. S1} = \sqrt{178.09}$$

$$\text{Pre-test. S1} = 13.34$$

The standard deviation for the pre-test was 13.34.

Post-test. $S2 = \sqrt{\sum \frac{(Y-M2)2}{n-1}}$

Post-test. $S2 = \sqrt{198.09}$

Post-test. $S2 = 14.07$

The standard deviation for the post-test was 14.07

The Calculating of t-test

After getting the mean score, variation score, and standard deviation, the next step was calculation t-test in order to determine whether there was a statistically significant difference between the means of two groups after the students were treated using the Word Search game. The t-test score was -12.89 as explained below:

$$t = \frac{\bar{x}1 - \bar{x}2}{\sqrt{\frac{Sx2}{n1} + \frac{Sy2}{n2} - 2r\left(\frac{s1}{\sqrt{n}}\right)\left(\frac{s2}{\sqrt{n}}\right)}}$$

$$t \frac{37.66 - 84.66}{\sqrt{\frac{178.09}{15} + \frac{198.09}{15} - 2(0.47)\left(\frac{13.34}{\sqrt{15}}\right)\left(\frac{14.07}{\sqrt{15}}\right)}}$$

$$t \frac{-47}{\sqrt{11.87 + 13.21 - 2(0.47)(3.44)(3.63)}}$$

$$t = \frac{-47}{\sqrt{11.87 + 13.21 - (0.94)(3.44)(3.63)}}$$

$$t = \frac{-47}{\sqrt{25.08 - 11.74}}$$

$$t = \frac{-47}{\sqrt{13.34}}$$

$$t = \frac{-47}{3.65} = \text{-12.89}$$

To know that the writer as right or wrong that the null hypothesis is rejected, the writer checked the t-distribution table of significance (t_{table}) at level 0.05 with degree of freedom (df) = N-1, the writer finds: df =
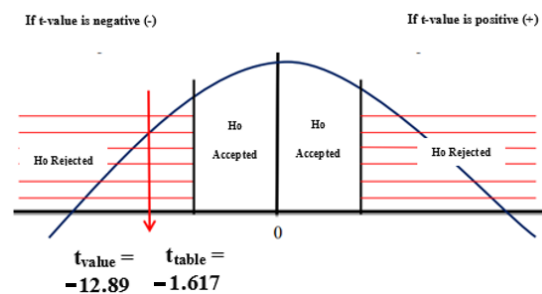
15-1 = 14. It meant that the t_{table} value was 1.761 at 0.05 level.

Picture 1. Table Distribution

Hypothesis Testing

As shown below, the obtaining t_{value} was -12.89. It was lower than the t_{table} (-12.89 < -1.761).

Picture 2. The t-Test Curve

Therefore, it proved that the alternative hypothesis (The use of Word Search Game is effective as the pre-activity in teaching vocabulary to the fourth-grade students of SD Islam Mu'tashim Billah in Academic Year 2023/2024) was accepted and the null hypothesis (The use of Word Search Game is not effective as the pre-activity in teaching vocabulary to the fourth-grade students of SD Islam Mu'tashim Billah in Academic Year 2023/2024) was rejected.

The Calculating of Effect Size

$$d = \frac{M_2 - M_1}{\sqrt{\frac{SD_1{}^2 + SD_2{}^2}{2}}}$$

$$d = \frac{84.66 - 37.66}{\sqrt{\frac{(13.34)^2 + (14.07)^2}{2}}}$$

$$d = \frac{47}{\sqrt{\frac{177.96 + 197.96}{2}}}$$

$$d = \frac{47}{\sqrt{\frac{375.62}{2}}}$$

$$d = \frac{47}{\sqrt{187.81}}$$

$$d = \frac{47}{13.70} = 3.43$$

By referring to Cohen et al. (2007) classification in deciding effect size (see table 1), the result obtained is more than 0.8 (3.43>0.8), which is considered as "Very Strong" effect size.

The success of this implementation was followed by their understanding of the meaning and concepts of vocabulary through the Word Search game which included word forms, meanings, and examples or use of sentences. This methodology was in line with Nation's (2013) statement that learning vocabulary through games presented forms, meanings and usage in sentences helped students understand the structure, meaning and contextual application of vocabulary. Bella and Rahayu (2023) added that active engagement in the Word Search game allowed students to not only strengthened their vocabulary but also developed a deeper understanding of the context of each word and how it is used. Therefore, the inclusion of meaning and use of sentences in the Word Search game made a significant contribution to students' vocabulary mastery.

Regarding to the implementation of the Word Search game in the classroom, researchers suggested several factors that contributed to the impact of the treatment on students' vocabulary. First, the Word Search game stimulated students' enthusiasm for the learning process, as shown in the collaborative game. The active participation and enthusiasm shown by students in competing with other students shows their high interest in vocabulary acquisition. This was in line with Al-Malki (2020) findings that competitive games in Word Search increase students' desire to learn vocabulary more quickly. Andari (2023) stated that a certain learning style such a by playing games shaped how individuals perceive and engage with information and aligning teaching methods with these styles could enhance students' motivation, independence, and overall learning success.

Additionally, collaborative gaming activities in Word Search mode fostered engagement among students, encouraging group learning. Observations during the game showed that students support and helped each other in finding answers. This collaborative learning approach, as proposed by Al-Furqon (2017), building a

support system for knowledge transfer, facilitating meaningful vocabulary learning through group discussions. Ramzan et al. (2023) discussed that collaborative learning played a crucial role to enhanced students' vocabulary and motivation by fostering peer interaction a deeper understanding of vocabulary and language use, feedback, and shared tasks as students felt supported by their peers and teachers that could lead to increased students' satisfaction with the learning process.

The Word Search game helped students to develop their vocabulary mastery. Students were also really interested and showed great attention during the teaching and learning process. The implementation of the Word Search game highly assisted students in finding a tool for English learning. This media also increased students' enthusiasm which made them not feel burdened to learn.

CONCLUSION

According to the result findings and the discussion, there was a significant difference in the students' performance following the treatment's administration through the use of Word Search game as a media to improve students' vocabulary. It was demonstrated by the fact that the students' scores on the post-test (1270) were higher than the scores they received on the pre-test (565).

Moreover, the Word Search game was very strongly affected the fourth-grade students' vocabulary mastery with the ES result was 3.43. Thus, the prediction of the alternative hypothesis (Ha) in this research was accepted, as a matter of fact, that Word Search game was very effective to teach vocabulary to the fourth-grade students of SD Islam Mu'tashim Billah in Academic Year 2023/2024.

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