

Using Word Square Game to Improve Students' Vocabulary Achievement

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ABSTRACT

Keywords:

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The purpose of this study was to determine the impact of using the Word Square approach on students' vocabulary achievement. Students in the eighth grade from a public junior high school in Mendo Barat, Bangka Belitung, were chosen as the sample for an experimental type of research and separated into two groups using a quasi-experimental design: the experimental group and the control group. The test was the instrument employed in this study, and the t-test analysis was performed to assess the test data. The test result was analyzed statistically using the Paired Sample T-Test and the Independent Sample T-Test. It revealed that the experimental and control groups' respective mean pre- and post-test differences were 34.268 and 33.334. Additionally, the t-obtained post-test value of 1.549 was greater than the essential t-table value of 2.01. The findings suggested that the null hypothesis was disproved and the alternate hypothesis was found. According to the findings, the Word Square was one of the most successful strategies for increasing students' passion for studying English.



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Introduction

Word knowledge is essential in reading comprehension. The knowledge is required to be owned by students from upper elementary level to college since it determines their reading comprehension skill. (Anderson & Nagy, 1992) In addition, vocabulary development correlates with word knowledge in reading comprehension and having to read a lot so that the vocabulary increases. Vocabulary is a range or a set of words used in a certain language or a set of words that particular speakers of language might use (Hatch & Brown, 1995). If a reader has no idea about the meaning of words in a text, then it is impossible for them to understand. In other words, the vocabulary is a very important aspect in learning English.

Students come from different school background. Perhaps some of them attend playschool or often go to one school with a consistent reading program (Haager et al., 2009). Based on basic competences, eighth grade students are suggested to keep improving skills of English language in the scope of the subject such as reading, writing, speaking and listening (Wachidah et al., 2017). The format of individual assessment for each student in the knowledge aspect to the four skills such as listening, reading, speaking and writing are more on vocabulary (Hatch & Brown, 1995). According to the teacher, teaching English to Junior High School students gave a big challenge. Most of the students did not have a basic skill of English language. The crucial problem of learning English was students had low number of vocabulary. It was proved when they got difficulties to answer the questions in daily test word classes especially for nouns, verbs, and pronoun given by the teacher. Most of students said they did not understand the question meaning and the vocabulary itself because they were lack of vocabulary mastery.

As we know there are a lot of strategies in teaching vocabulary. One of them that could be used is a game. Therefore, this research was conducted using word square game as a strategy to facilitate students in learning vocabulary effectively. In the classroom teaching and learning process, many students found that learning English was difficult. Vocabulary acquisition is one of the challenges faced by students learning English. Many techniques can be applied to increase students' vocabulary proficiency. One of them is "Word Square".

The Word Square Game is one of the learning media tools in the form of a word box that contains a collection of letters. Word Square can help students in mastering vocabulary.

Therefore, this study is focused on finding out whether it is practical to implement Word Square game to develop students' mastery of vocabulary. In addition, this study is hopefully beneficial for students and teachers in obtaining students' development in vocabulary mastery by using such a fun way, which is an attractive game.

The application of Word Square game has been done by many researchers in their studies with the same result, that is it is effective in improving learners' language skills, especially vocabulary mastery (Berta & Swarniti, 2020; Hasibuan & Juliana, 2020; Mangindaan et al., 2020; Manurung et al., 2022; Mularsari, 2017; Sianturi, 2021; Sopia, 2018a)

There are some definitions of Word Square Game, they are: according to Merriam Webster, the term "word square" refers to a collection of words that are all the same length and arranged in a square arrangement so that they all read equally both horizontally and vertically. Thus, a word square is a grouping of square-shaped words, a collection of words that are of the same length and arranged in a word square so that they read uniformly both horizontally and vertically (Merriam-Webster, 2004). In other words, the Word Square Game is a group of words arranged in the shape of a square that can be read both horizontally and vertically and have relationships between one another. When learning vocabulary with word square, words are introduced or used in different ways, much like in a game.

The words in the word square game are designed such that they can be read vertically or horizontally. Word square displays a list of words that may be read both vertically and horizontally (Little, 1986). So, the word square consists of a group of words, all the same in length, composed of words such as nouns, animals, colors, etc. Word Square is a game that is used to more effectively convey information through text by arranging words either vertically or horizontally so that students can more easily learn terminology.

Word Square Game can be read from top to bottom as well as from left to right and right to left. The words are typically the same in both directions, although occasionally the horizontal and vertical words are different. Students are tasked with selecting the right word out of a random selection. Students had a better understanding of the meaning of the words themselves and these chapters as a whole if more students had been careful in how they were arranged and careful in developing vocabulary boxes for these words.

Carling claims that word square is a learning tool that combines with answering questions creatively in answer boxes (Carling et al., 2009). Word squares are groups of words that are related to one another and are arranged into squares. The goal of word square is to locate and mark every word that is concealed within the grid. The word can be positioned both vertically and horizontally. Either bottom to top or right to left can be used to write them. It's more challenging when a list of hidden words is provided, but the words must all be related to the theme. Word square might allow the player to decipher the game's story in order to teach students about lexical sets and new vocabulary.

Procedure of Teaching Vocabulary by using Word Square Game

Word Square is a really basic and straightforward game to play. Word visualization is a component of the word square strategy (Herczog & Porter, 2010). These procedures must be unambiguous and simple to comprehend. This is how to make a word square using Aqib's (Aqib, 2013):

- a. Each student receives a copy of the handout after the teacher describes word square to the class. Some squares are finished alone, while others are finished in a small group.
- b. A trio or quartet of students from each class work together to complete the task.
- c. The pupils look for the solution in square form, using a diagonal, vertical, or horizontal axis.
- d. In small groups, each group is required to stand up and write their response on the whiteboard.

This game can be used as a post-test or to assess the students' comprehension of the most recent topic. The students enjoyed doing it, and the teacher was able to apply all the materials based on the learning goal.

The Concept of Word Square Game

Here are a few explanations of game. According to the Oxford Advanced Learner's Dictionary, a game is any sport or activity with set rules in which individuals or teams compete with one another. (Hornby & Cowie, 1974). The second definition of a game is an activity that has guidelines, a purpose, and a fun component. Competitive games and cooperative games are the two main genres of games, games in which players or teams compete against one another in a race to the finish. Whereas in cooperative team-based games, players or teams work together to achieve a common goal. (Hadfield, 1999).

A game is also an activity that players or a team engage in to hone a particular skill while carrying out a particular function. The usage of games in the classroom aims to engage students' interest and focus on learning since it involves developing enjoyable learning activities with the ultimate objective of achieving a healthy learning environment and getting the highest possible standard. Students are tasked with playing the word square game by looking for obscure words within the alphabetic grid. In addition to being read vertically, horizontally, and diagonally, the word square can also be read from top to bottom, from left to right, and from bottom to up.

Table 1. Example of Word Square

W	H	I	T	E	B	O	A	R	D
B	I	L	U	A	C	P	A	J	V
A	L	P	H	A	B	E	T	L	K
M	N	B	V	C	R	B	M	A	P
R	T	A	H	P	E	I	C	G	R
R	O	A	Z	I	E	Y	A	D	D
E	B	V	B	I	M	N	E	H	O
L	O	U	K	L	C	L	C	K	C
U	O	T	E	A	E	O	U	I	K
R	K	A	D	F	G	R	E	T	L

1. Answer the question below by giving a line in the right word.

What is the name of the object in the classroom?

White Board Alphabet Map Chair
Ruler Book Table Pencil.

2. Present the Material

The teacher should provide some information regarding the test question before students fill out the answer sheet. Make sure the students are familiar with the subject so they can respond with ease. Following a brief presentation of the subject in accordance with the lesson plan, the students are asked to use the word square rules to respond to the exam questions on the response sheet.

3. Distribute the Worksheet as the Example

The students are given the Word Square Games answer sheet by the teacher, who then asks them to respond to the question using the previously explained example. Students may shade or draw a line in the appropriate response on the word square answer sheet, but they must also include the appropriate number of answers based on the question. The students are asked to draw a line in the appropriate word to answer the inquiry.

The Advantages of Word Square Game

The Word Square Game offers numerous benefits for increasing vocabulary proficiency. The students and the teacher both benefit from this. The teacher can better explain the lesson by using this media. The teacher can also determine how well the students have absorbed the content. This activity can also teach students to be more disciplined. Being disciplined entails consistently asking the students to complete this assignment.

Therefore, the advantages of word square game are:

1. Promoting students' understanding.
2. Developing their discipline.
3. Having the ability to be careful and critical.
4. Encouraging critical thinking in students.
5. Working on being accurate when they find an answer.

(Rinjani et al., 2021)

Some other advantages of word square game are:

1. Because students are instructed to locate the words in a box, this can help them learn the lesson materials.
2. Can make it easier for teachers to disassemble materials and tools because they can point students toward the prepared boxes.
3. Students will continue to color letters in line with the solutions, which will enhance their learning activities.
4. Preventing students from becoming bored while they are studying, as those activities do not bore them and go together with the lessons.

(Little, 1986).

It implies that learning the lesson through this game may be simpler for the students. The lesson can be taught to them in several ways. They must comprehend the subject matter in addition to correctly arranging the words. They are unable to respond to the question without sufficient comprehension. Additionally, the completion of word squares as well as the inclusion of an adequate description of the word and a phrase demonstrating the student's knowledge of the topic should be scored.

The Implementation of Using Word Square Game

Using the steps above, in this study, recount text was applied in Word Square Game activities. A recount text is one that gives the reader a single tale about past encounters, pursuits, or occurrences. What happened, who was involved, where it happened, when it happened, and why it happened can all be included. Recount text is a type of genre that uses the past tense to describe an incident with the intent of entertaining or informative, according to Gerot and Wignell. (Gerot & Wignell, 1994). A variety of engaging and enjoyable activities are provided, helping students to learn to apply the language they are learning. These activities include individual student practice, role plays, pair activities, and whole class activities. (Richards, 2002).

a. Group Activity

First, the teacher gives a quick definition of a word square. Four groups of students are formed by the range, with one student serving as the group's teacher. Each group sends a delegation of students to address the class. Using words from the teacher's selected vocabulary that is listed in the recount text, each group creates a list of numerous square word games. Each group then has a discussion to create a word square. Students are prompted by the variety to discuss their responses. For their delegation students, they then provided suggestions and definitions for each word that had been turned into a word-game square. The delegation from each group should be instructed to create a square word play of each phrase and to write a few square word plays on the board. Their joint response was corrected by the teacher. A star is awarded by the teacher for each word that is right. The teacher totals the number of stars each student has received. Teachers award rewards to all winners.

b. Pair activity

The teacher gives the students a list of terms that need to be rearrange to make other words in the recount text. The teacher instructed the class to form pairs. He/she then gave word game worksheets to each student pair. Students make a square word game for each word in the square of word game worksheet to complete the recount text with a square word game and then they identified clues or definitions of each word that has been made into a square word game. While the class is collaborating, the teacher offers direction. The teacher then worked with the students to correct their responses. A star must be awarded to the students as a reward for each accurate word. The amount of stars earned by each student is determined by the teacher. The teacher awards prizes to all winners.

b. Individual activity

The teacher delivered the word square game worksheet and gave a quick explanation of what the word square game is. Each student had to locate a word in the word square game worksheet to finish the recount

text using the hint and definition from the worksheet for the recount text pair by alphabet letters. The student then provided an updated response. The students who completed the word square exercise first were the winners, and they recognized the teacher's main point.

The teaching steps for Experimental group were as follows (Asril, 2017).

a. Pre- Activities

1. In order to get the students excited about learning, the teacher assigns a quick game.
2. The instructor asks some questions regarding the previously covered material.
3. Warm up (by posing inquiries on the course materials, you can make the classroom feel more inviting.).

b. Whilst Activities

1. The instructor defines recall text and provides examples.
2. A pre-explanation of some vocabulary, including as nouns, verbs, and adjectives, as well as the many sorts of recount texts, is given to the students.
3. In accordance with the delivered material, handouts are also distributed to the students.
4. On a piece of paper with some terminology, the teacher prepares some words.
5. Students are divided into four groups.
6. The teacher explains how to play the word square game.
7. Each group of students began reading the distributed material after being separated into four groups. Without using any incorrect words, students start to shade the appropriate box or phrase line. Each student is then given the chance to go forward and read the solutions aloud.
8. In the word square game, the teacher decides whether or not the word has been correctly shaded.
9. The final step involves the teacher giving assignments that each student must complete separately by writing as many words as they can.

c. Post- Activities

1. Assessment of the instruction is done by having the teacher examine the vocabulary to see if the pupils have understood its meanings or meaning.
2. The teacher gives time for students to ask questions.
3. Closing.

Method

This quantitative study used a quasi-experimental design and an experimental type of research methodology. A research approach known as a quasi-experiment contains assignments but does not randomly assign individuals to groups. (Fraenkel et al., 2012) and it has pre-test, post-test and experimental groups and control groups (Nunan, 1992). Students in eighth grade at a public middle school in Bangka Regency made up the study's population. Then, 25 of the 50 students were included in the experimental group using the purposive sampling strategy.

Both the control and experimental groups received the pre- and post-tests for the study's instrument. Additionally, t-test statistical analysis was employed to evaluate the data that was gathered. The vocabulary test in this study was administered using a multiple-choice format.

Prior to the pre-test, the validity and reliability test was utilized. Thus, only 30 of the 50 items in the test material were valid, and those 30 items were used for both the pre-test and the post-test.

Results and Discussions

1. The Statistical Analysis of Pre-test and Post-test of the Experimental Group and the Control group

Results from the Experimental and Control Groups' pre- and post-tests were gathered. The pre- and post-test results of the students who played the word square game to sharpen their vocabulary abilities served as the experiment's data. The data were collected and evaluated using the 26 independent sample t-test in the SPSS application.

The following data analysis was necessary to determine the outcomes of the pre-test and post-test for the experimental group:

Table 2
The Result of Pre-Test of the Experimental Group

Statistics		
PRE-TEST		
N	Valid	25
	Missing	0
Mean		33.84
Median		30.00
Mode		30
Std. Deviation		8.081
Minimum		27
Maximum		60

The pre-test outcome reveals that the mean was 33.84. The lowest score was 27, and the highest score was 60; the median was 30.00, the mode was 30, the standard deviation was 8081.

Table 3
The Result of Post-Test of the Experimental Group

Statistics		
POST-TEST		
N	Valid	25
	Missing	0
Mean		62.88
Median		60.00
Mode		53
Std. Deviation		10.620
Minimum		50
Maximum		87

The pre-test results revealed a mean score of 62.88, a median score of 60.00, a mode of 53, a standard deviation of 10.620, a lowest score of 50, and a highest score of 87.

a. The Result Pre-Test and Post-Test of the Experimental Group

Table 4
Paired Samples Statistics in Experimental Group

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre Test	33.84	25	80.81	16.14
	Post Test	62.88	25	10.620	21.24

Based on the paired sample statistics for the experimental group, the pre-test mean was 33.84 and the post-test value was 62.88. The pre-test standard deviation was 80.81 and the post-test value was 10.620. The pre-test standard error mean was 16.17 and the post-test value was 21.24.

Table 5
Paired Samples Correlations in Experimental Group

		N	Correlation	Sig.
Pair 1	Pre Test & Post Test	22	.740	.000

The pre-test and post-test correlation for the experimental group was 0.740, according to the paired sample correlation table, which was lower than the computation's significant level of 0.05. It revealed a substantial link between the experimental group's pre-test and post-test.

Table 6
Paired Samples Test in Experimental Group

	Paired Differences					T	Df	Sig. (2-tailed)	
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
				Lower	Upper				
Pair 1	Pre Test - Post Test	-29.040	7.150	1.430	-31.991	-26.089	-20.308	24	.000

The standard error mean was obtained with a t-value of 1.430, at a significant 0.00 for the two tailed and degree freedom 24. The mean difference between the pre-test and post-test in the experimental group was 29.040, the standard deviation was 7.150, and the standard error mean was accomplished with a p-value of 0.00. Since the p-output value of 0.00 was less than the probability value of 0.05. It indicates that students' vocabulary proficiency has increased.

- a. The Comparison of students Pre-Test between Experimental Group and Control Group

Table 7
Group Statistics Independent Sample T Test of Students' Pre-Test

	Group	N	Mean	Std. Deviation	Std. Error Mean
Score of Pre Test in Vocabulary Mastery	Experimental Group	25	33.84	8.081	1.616
	Control Group	25	36.60	4.123	.825

- b. The Comparison of students' Post-test Between Experimental Group and Control Group

Table 8
Group Statistics Independent Sample T Test of Students' Post-Test

Group		N	Mean	Std. Deviation	Std. Error Mean
Score of Pre Test in Vocabulary Mastery	Experimental Group	25	62.88	10.620	2.124
	Control Group	25	49.84	6.276	1.255

Table 9
Independent Samples Test Students' Post-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 of Pre Test	8.286	.006	5.286	48	.000	13.040	2.467	8.080	18.000
Equal variances assumed									
Equal variances not assumed			5.286	38.924	.000	13.040	2.467	8.080	18.030

The mean difference in the post-test results for students in the experimental and control groups was calculated using the independent sample test table above, with a standard error difference of 2.46. The table's critical value was 2.01, significant (2-tailed) value was .000, t-value was 5.286, and there were 48 degrees of freedom. Since the p-output or significant (2-tailed) value was 0.000 and the t-obtained value of 5.286 was higher than the critical value of t-table 2.01, the calculation was downgraded to the significant level 0.05. It is established that there was a substantial difference between the experimental group and control group on the students' post-test. Therefore, the alternative hypothesis (Ha) was accepted and the null hypothesis (Ho) was refuted.

In conclusion, students who used the word square game to learn their vocabulary fared significantly better than those who did not. It's because the p-output value was less than 0.05 and the t-obtained value was higher than the t-table. This study's finding demonstrates how well the word square game works is synonymous with many other studies, such as one by Berta and Swarniti (Berta & Swarniti, 2020) and the others were by Mangindaan (Mangindaan et al., 2020), Mularsari (MULARSARI, 2017), Sophia (Sophia, 2018b), and Usmayani (Usmayani, 2020).

According to the study's findings, it is recommended that this study serve as a benchmark and point of comparison for future research related to language skill improvement, especially vocabulary mastery by using word square game.

Conclusions

According to the statistical study, students who used the word square game in their learning performed significantly better on vocabulary tests than those who did not. As a result, the hypothesis was supported and the null hypothesis was found to be false. Evidence was provided by the fact that the experimental group's post-test mean was higher than the control group's post-test mean. The independent sample t-test revealed that, with a value of 5.286, t-obtain was bigger than t-table 2.01. Additionally, it implies that the post-test results of the students in the experimental and control groups differed significantly. Post-test results showed a substantial difference. It implies that the post-test results of the students in the experimental and control groups differed significantly. Post-test results showed a substantial difference between students who got word square instruction and those who did not, according to the results of a comparative analysis of an independent sample t-test. It was clear from the experimental group's post-test mean score of 62.88, which was higher than the control group's post-test score of 49.84. As a result, the alternative hypothesis was accepted and the null hypothesis was rejected. Therefore, using Word Square was a novel strategy to raise students' vocabulary proficiency.

References

- Anderson, R. C., & Nagy, W. E. (1992). The vocabulary conundrum. *American Educator: The Professional Journal of the American Federation of Teachers*, 16(4).
- Aqib, Z. (2013). Model-model, media, dan strategi pembelajaran kontekstual (inovatif). *Bandung: Yrama Widya*.
- Asril, Z. (2017). *Micro Teaching disertai dengan Pedoman Pengalaman Lapangan*, Jakarta: PT. Raja Grafindo Persada.
- Berta, M. O., & Swarniti, N. W. (2020). Improving The Students' Vocabulary Mastery through Word Square Game of the Eighth Grade of SMP Dwijendra Denpasar in The Academic Year 2019/2020. *Widyasrama*, 30(2), 18–25.
- Carling, G., Pinault, G.-J., & Winter, W. (2009). *Dictionary and thesaurus of Tocharian A* (Vol. 1). Harrassowitz.
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education* (Vol. 7). McGraw-hill New York.
- Gerot, L., & Wignell, P. (1994). *Making sense of functional grammar*. Citeseer.
- Haager, D., Klingner, J. K., & Aceves, T. C. (2009). *How to teach English Language Learners: Effective strategies from outstanding educators, Grades K-6*. John Wiley & Sons.
- Hadfield, J. (1999). *Beginners' communication games*. (No Title).
- Hasibuan, D., & Juliana, J. (2020). The Effect of Word Square Model on Students' Vocabulary Mastery. *Jurnal Mahasiswa Fakultas Ilmu Sosial Dan Kependidikan*, 1(1), 45–67.
- Hatch, E., & Brown, C. (1995). *Vocabulary, semantics, and language education*. ERIC.
- Herczog, M. M., & Porter, P. (2010). *Strategies for Struggling Readers: A Teacher Resource Guide*. We the People: The Citizen & the Constitution, Level 2. *Center for Civic Education*.
-

- Hornby, A. S., & Cowie, A. P. (1974). Oxford advanced learner's dictionary of current English. *Paperback*.
- Little, J. (1986). What's a Nine Letter Word for" A Type of Word Puzzle"? *TESL Canada Journal*, 76–81.
- Mangindaan, P. D. M., Sudipa, I. N., & Suparwa, I. N. (2020). Increasing English Vocabulary Mastery through Teams Games Tournament Using Word Square of Seventh Grades Students in SMP Frater Don Bosco Tomohon. *Increasing English Vocabulary Mastery Through Teams Games Tournament Using Word Square of Seventh Grades Students in SMP Frater Don Bosco Tomohon*, 59(1), 6–6.
- Manurung, J. E., Setiawan, H., & Sianturi, F. G. (2022). Improving Students' Vocabulary Mastery by Using Word Square Technique to Students of SMP Methodist 1 Palembang. *Didascein: Journal of English Education*, 2(2), 97–108.
- Merriam-Webster. (2004). *Merriam-Webster's collegiate dictionary*. Merriam-Webster.
- MULARSARI, A. (2017). *The Effectiveness of Using Word Square Game toward The Students' Mastery of Vocabulary of the First Grade Students at SMP Negeri 2 Sumbergempol*.
- Nunan, D. (1992). *Research methods in language learning*. Cambridge university press.
- Richards, J. C. (2002). *New Interchange 1 Lab Guide: English for International Communication (Vol. 1)*. Cambridge University Press.
- Rinjani, C., Wahdini, F. I., Mulia, E., Zakir, S., & Amelia, S. (2021). Kajian Konseptual Model Pembelajaran Word Square untuk Meningkatkan Hasil Belajar Siswa. *Jurnal Inovasi, Evaluasi Dan Pengembangan Pembelajaran (JIEPP)*, 1(2), 52–59.
- Sianturi, F. G. (2021). *Using Word Square Technique to Improve Students' Vocabulary Mastery of The Eighth Grade Students of SMP Methodist 1 Palembang*.
- Sopia, H. (2018a). *The Influence of Using Word Square Game Towards Students' Vocabulary Mastery at The Seventh Grade of MTs Al-Hikmah Bandar Lampung in The Academic Year of 2018/2019*.
- Sopia, H. (2018b). *The Influence of Using Word Square Game Towards Students' Vocabulary Mastery at The Seventh Grade of MTs Al-Hikmah Bandar Lampung in The Academic Year of 2018/2019*.
- Usmayani, U. (2020). *The Use of Word Square Game to Improve Students' Vocabulary Mastery at the Second Year of SMPN 4 Model Parepare*.
- Wachidah, S., Gunawan, A., Diyantari, D., & Khatimah, Y. R. (2017). *Bahasa Inggris: When English rings a bell SMP/MTs Kelas VIII: buku guru*.