

Increasing Students' Vocabulary Through Online Crossword Games

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Abstract

Vocabulary is one of many sub-skills that is very important in learning a language to make a sentence, communicate, and especially in improving the four skills: listening, speaking, reading, and writing. The lack of vocabulary is one aspect that really can make students lazy in learning a language, especially in the English language. This research aims to look at the use of the game Cross Word in online learning to teach vocabulary. This study used semi-experimental research to gather the data and teach vocabulary practices using the game Cross Word application. The number of participants was sixteen and were around 12 years old from SD Advent Bendungan Hilir. The researcher conducted the research at SD Advent Bendungan Hilir was taken as the experimental group. The experimental group consisted of 16 students. A pre-test was conducted at the beginning. The researcher began using the game crossword application and used the game Cross Word application, and then the post-test was given after 32 hours. Based on the research results, although it is used as a method in the teaching and learning process of English, the game Cross Word application has significant advantages in developing student vocabulary, and it is also suggested that the game Cross Word application be used as a tool in English teaching and learning process.

Keywords: vocabulary, Cross Word, experimental, elementary

INTRODUCTION

English was the first foreign language that many schools or courses have given English as one of the lessons in Indonesia. English has four skills: speaking, reading, listening, writing, and vocabulary as the component that can be a tool to increase all the skills of English.

In teaching and learning the English language, one of the sub-skills that must be taught to the learners is vocabulary. Vocabulary is the main point, and it's important to the language learner. We listen, speak, read, and write with words. That is why the students will find difficulties in learning English skills if they have limited vocabulary. Without having enough vocabulary, someone cannot communicate effectively or express ideas because we think with a word. With a limited vocabulary, students will also have a limited understanding of skills of language. In other words, mastery of a language means the ability to use or even to understand the words of the language.

In fact, most students still struggle with vocabulary. Because the teacher typically uses a traditional approach to teaching vocabulary, the teacher teaches vocabulary just to familiarize students with the word before instructing them to recall it.

During a pandemic, the educational field must likewise adjust to the current situation. In this research, the researcher changed a crossword puzzle game to be played online in order to reduce students' offline learning time with the teacher.

In the digital era, games have become more popular in the sphere of education. There are various games that a teacher could apply as a learning aid. The researcher focused on vocabulary games, which are primarily composed of words, as part of this study. It also includes a crossword puzzle game.

One of the problems that students have in learning English is a lack of vocabulary. To master all the skills in English, including speaking, listening, reading, and writing, they were afraid of learning English Vocabulary was basic in the mastery of all English skills. According to Penny (1991) in Julita (2011), vocabulary could be defined as words that though in a foreign language. In brief, vocabulary was a unity of letters that became words taught in a foreign language.

One of the popular public elementary schools in Jakarta Pusat was at SD Advent Bendungan Hilir. Certainly, the quality of that school is very well especially in the English language because a few years ago they are using the English language as their language to study in the class. In fact, there were still some problems that faced, such as the student's English ability. When the researcher did teach English there, the researcher found that some of the students were still low and needed the effort to increase students' vocabulary. Some of them were blank and difficult to say or write anything about vocabulary. However, the researcher realized that the students have the potential and ability to increase their vocabulary.

One of the solutions to solve it was applying a game. The usage of the game in teaching vocabulary has facilitated the students to understand an object in the game that they recognized, searched, and were interested in when playing learning vocabulary.

The teacher and the students need to have a suitable strategy for learning vocabulary. Teaching vocabulary is an important element of a teacher's art (Harmer, 2007). It means that learning vocabulary should be interesting and satisfying for both teacher and the students.

This study is important to be done because it hopefully can give many benefits to English teachers, students, the readers, and also to the other researcher. The writer has hope that this study can solve the teacher's problem in teaching vocabulary and give the fun way and different strategy in teaching vocabulary. The researcher hopes that this study can help students to improve their vocabulary. To other researchers, the writer hopes that this study can give information about vocabulary and game Crossword.

The goal of this study was to see if the game Cross Word can help students at SD Advent Bendungan Hilir expand their vocabulary. As a result, the study set out to answer the following question: *Is there any significant difference in students' vocabulary before using game Cross Word and after using game Cross Word?*

The researcher expected that teaching English through the game Cross Word will increase students' vocabulary and positively correlate with it. Students' accomplishment test results were meant to represent their progress in acquiring vocabulary via the game Cross Word. In addition, one of the following inferences would be drawn from the findings of the investigations:

H₀: Formulating the null hypothesis (H₀): *there is no difference in students' vocabulary before using game Cross Word and after using game Cross Word?*

H_a: The formulating alternative hypothesis (H_a): *there is a significant difference in students' vocabulary before using game Cross Word and after using game Cross Word?*

LITERATURE REVIEW

Every student and teacher has recently placed a strong emphasis on boosting language awareness through games. According to Donmus (2010), games can help children improve their vocabulary abilities through educational toys. Similarly, according to the findings of a study by Barabadi and Khajavi (2017), combining education with gaming can be both educational and fun.

Games have numerous advantages and efficacy when it comes to learning new vocabulary. Games will build a pleasant setting in which all students are interested in a fun and competitive manner of learning in a supportive learning environment for all students in the classroom. As a result, students in a group will be able to help each other address problems that arise when working together.

Games are the most engaging and enjoyable way to motivate students to use their abilities. Games are usually played for the purpose of winning, following the rules, and having fun. According to Allen (2010:52), games are beneficial because they can teach students that specific words are significant and required because the game's goals can be accomplished without them.

Crossword puzzle

A crossword is a puzzle in which words are guessed from clues and written in spaces in a grid, according to the Oxford learner's dictionary. According to the Oxford learner's dictionary, a crossword is a puzzle in which words must be deduced from clues and written in grid spaces (2003;103). To solve or complete the challenge, you must use critical thinking. A puzzle (Longman Handy Learner's Dictionary of American English: 2000:336) is a game or toy that is used to improve one's intelligence.

In presenting crossword puzzles, the teacher can do various ways. The procedure of presenting crossword puzzles must make the students interested in solving the puzzle, especially in online learning.

The teacher gives the name of the application so they can participate in their place. In online learning, usually, students are learning in their own home or places because of that teacher can give them the name of the application, so they still participate to join the game

The students will pass each level in the game, and the teacher should know they have reached what level to see how they are active and participating in this activity. The teacher also can game them checkpoints when they have passed 5 levels so they can get points.

When the students have passed 5 levels, the teacher should ask them what vocabulary they got from using the game. The teacher can ask them to write the vocabularies too so the students can remember the vocabularies and also it can improve their writing skills.

Furthermore, in online learning, the teacher can be innovative in providing crossword problems. For example, after the students have completed five stages, the teacher can show the presentation on a learning platform such as Zoom or Google Meet. A point will be awarded to the student who completed the higher-level frit. If there is a prize for the winner, it can make it more attractive.

Vocabulary in learning English

The Oxford Learner's Pocket Dictionary defines vocabulary as "a list of words with their definitions, especially in a book for learning a foreign language." Vocabulary, which is one of the most obvious components of language, was one of the first things applied linguists concentrated on (Harmer; 2001: 4). We understand the value of words in the teaching-learning process, so we must broaden our horizons. In order for kids to learn the English language more readily, we must first grasp where vocabulary comes from.

Study vocabularies can be found on a variety of sites in online learning. As an example, students can use Duolingo, Cake App, and a variety of other apps. Students also use their devices to look up new words they have never heard before.

Advantages of game Crossword

1. Crossword puzzles have been successfully applied in a variety of areas, demonstrating their versatility and flexibility.
2. Crossword puzzles aid in the identification of areas of strength as well as areas of weakness and lack of knowledge.
3. Students' confidence may rise if they can accurately identify the solutions.
4. Because self-efficacy is linked to performance, and satisfaction has been found to enhance learning, this could have a favorable impact on grades.
5. Crossword puzzles are a type of helpful and educational activity that stimulates children's brain abilities while also teaching them spelling and vocabulary words.

Disadvantages of game Crossword

Karim and Hasbullah (1986) mention that crossword puzzles have some disadvantages. There are some disadvantages of crossword puzzles:

1. Sometimes crossword puzzle is still confusing for the students
2. The students will get some difficulties answering if the clues are not clear
3. The English teacher also has some difficulties in designing crossword puzzles by themselves.
4. Nowadays, students are often having the interested in playing Crossword on their gadgets.

The use of crossword puzzles in teaching vocabulary

The most popular word game is still the crossword puzzle. The words are stacked vertically and horizontally. According to Wharton (1995: 48), creating a crossword puzzle for use in a language classroom is actually quite simple. Crossword puzzles can be found on any platform, such as Google, and students can even download the application to play on their own devices.

This game can be played individually, in pairs, or in groups while studying offline. However, in online learning, the game is usually only played by one person. For the individual game, the student who finishes it first wins and receives a good grade from the teacher, as well as a prize from the teacher. This adds to the appeal of the game.

The use of crossword puzzles in vocabulary instruction is an alternate method of helping students in developing and expand their vocabulary. Furthermore, crossword puzzles can be one of the vocabulary-building games that can assist students in getting more familiar with, recognizing, manipulating, and remembering words (Scrivener; 1994: 83)

METHODOLOGY

From February 15 to March 15, this research was conducted at SD Advent Bendungan Hilir, with the goal of determining the usefulness of the game Cross Word in enhancing students' vocabulary. During the second semester of the school year 2020-2021, students from Grade 6 at SD Advent Bendungan Hilir participated in this study. There were 16 students in total who took part in this study, all of whom were in sixth grade.

Research Design

The goal of this study was to examine if the game Cross Word had a significant positive effect on enhancing vocabulary in one class that used an experimental design. In the experimental class, the researcher applied the game Cross Word to teach vocabulary, and in the experimental class, the researcher applied the pre-test and pro-test design.

Table 1: Research Design

ONE CLASS	EXPERIMENTAL	GROUP
O₁	X	O₂

Legend: **O₁**: Result of a pre-test

X: treatment that will be given in the class by using the Game Cross Word

O₂: Result of post-test

Source: Sugiyono, 2017

According to the chart above, a pre-test (**O₁**) was given in the experimental class to determine students' knowledge before treatment. Furthermore, the game Cross Word was used as a treatment (**X**), and a pro-test (**O₂**) was used to measure student achievement. Scores will be analyzed to assess if there has been any improvement.

Participants

The students who took part in the study were in sixth grade and totaled 16 in number. The sample for this study was chosen by random sampling from a class of 16 students.

Instrument

The instruments used in this study were: game Cross Word, pre-test, and post-test.

Game Cross Word: The online application that considers many levels, and each level have many questions to fill in the square

Pre-test and Post-test: pre-test is the test given before the treatment. Post-test is the test that was given after the treatment or after the teaching of 29 days.

Data collection

1. Pre-test

The students took a pre-test to determine their vocabulary knowledge before beginning the program. There were 25 crossword puzzles with 25 questions. If students properly answer all of the questions, they will receive 100 points.

2. Treatment

Following the pre-test, the researcher used the game Cross Word to provide materials to the student. Each of them should report on their progress in the application; those who can reach a higher level than the others will receive an extra point.

3. Post-test

The students were given a post-test after receiving treatment; the post-test was a measure of various characteristics assessed for trial participants following treatment. There are 25 questions within crossword puzzles, just like the pre-test. The test's substance differed from the previous one, but its structure and attributes remained the same. If students properly answer all questions, they receive a score of 100. The goal of the post-test was to see how far students had progressed in their vocabulary after treatment.

Statistical procedure (gain analysis)

The gain calculation is a pre-test and post-test analysis that compares the control and experimental groups' linguistic abilities (Hake, 1999). When the researcher discovers that the control and experimental groups' pre-test results differ, the gain measurement is used. The normalized benefit formula was used in this experiment.

$$\langle g \rangle = \frac{\langle \%post \rangle - \langle pre \rangle}{100\% - \langle \%pre \rangle}$$

(g): average normalized gain

$\langle \%pre \rangle$: percentage of mean score pre-test

$\langle \%post \rangle$: percentage of mean score post-test

Table 2: Clarification of Gain Score

Gain Score Value	Interpretation
0.00 – 0.30	Low
0.31 – 0.70	Moderate
0.71 – 100	High

RESULT AND DISCUSSION

In collecting data, the researcher did the following:

1. Pre-test

The students took a pre-test to determine their vocabulary knowledge before beginning the program. There were 25 crossword puzzles with 25 questions. If students properly answer all of the questions, they will receive 100 points.

2. Post-test

The students were given a post-test after receiving treatment; the post-test was a measure of various characteristics assessed for trial participants following treatment. There are 25 questions within crossword puzzles, just like the pre-test. The test's substance differed from the previous one, but its structure and attributes remained the same. If students properly answer all questions, they receive a score of 100. The goal of the post-test was to see how far students had progressed in their vocabulary after treatment.

Table 2: The Result of Pre-Test and Post Test score of the Experimental Group

Initial Name	Grade 1 (Pre)	Grade 4 (Post)	POST-PRE	SCORE IDEAL (100)-PRE	N-GAIN SCORE	N-GAIN SCORE PERCENT
KW	80	85	5	20	0,25	25
AP	60	80	20	40	0,5	50
GM	70	80	10	30	0,333333333	33,33333
NC	77	80	3	23	0,130434783	13,04348
RF	70	80	10	30	0,333333333	33,33333
AT	77	85	8	23	0,347826087	34,78261
LK	89	90	1	11	0,090909091	9,090909
AS	88	89	1	12	0,083333333	8,333333
RA	66	80	14	34	0,411764706	41,17647
AK	88	90	2	12	0,166666667	16,66667
AL	65	90	25	35	0,714285714	71,42857
JM	65	89	24	35	0,685714286	68,57143
HH	67	85	18	33	0,545454545	54,54545
BA	68	80	12	32	0,375	37,5
AR	62	80	18	38	0,473684211	47,36842
GR	65	89	24	35	0,685714286	68,57143
AVARAGE	72,3125	84,5	12,1875	27,6875	0,382965898	38,29659
HIGHEST SCORE	89	90				
LOWER SCORE	60	80				

Table 3: Normality tests

Tests of Normality	
Kolmogorov-Smirnov ^a	Shapiro-Wilk

	Statistic	df	Sig.	Statistic	df	Sig.
Pretest	.220	16	.037	.881	16	.040
Posttest	.283	16	.001	.777	16	.001

a. Lilliefors Significance Correction

Table 4: Homogeneity of variances test

Test of Homogeneity of Variances						
Result		Levene Statistic	df1	df2	Sig.	
	Based on Mean	11.305	1	30	.002	
	Based on Median	4.611	1	30	.040	
	Based on Median and with adjusted df	4.611	1	17.645	.046	
	Based on trimmed mean	10.499	1	30	.003	

Table 5: T-Test

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	72.3125	16	9.62440	2.40610
	Posttest	84.5000	16	4.42719	1.10680

Paired Samples Correlations				
		N	Correlation	Sig.
Pair 1	Pretest & Posttest	16	.462	.071

Table 6: Paired Samples Test

Paired Samples Test									
Paired Differences									
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
			n		Lower	Upper			
Pair 1	Pretest - Posttest	-12.18750	8.53400	2.13350	-16.73495	-7.64005	-5.712	15	.000

To answer the research question: *Is there any significant difference in students' vocabulary before using game Cross Word and after using game Cross Word?* The researcher can infer from the above data study that the game Cross Word can have a major impact on vocabulary knowledge because the importance of the vocabulary test after the researcher did the treatment was higher than before being taught using the game Cross Word application. This means that the game Cross Word application has a positive impact on students, especially those in grade six of SD Advent

Bendungan Hilir. This conclusion is backed up by additional research, which found that using a crossword puzzle to improve students' vocabulary understanding was successful for junior high school students. Crossword puzzles may assist students in relishing their learning so that they will not be bored during the teaching learning process. Crossword puzzles can also assist teachers when teaching vocabulary to students, helping them to achieve their learning objectives more effectively; this conclusion is backed up by additional research that claims crossword puzzles can assist teachers in teaching vocabulary to students (Manullang, 2018). Fachrozi (2021) also proves that Cross Word adds insight to the student's mastery of the English vocabulary, and it will not make the classes boring but also fun. Nasrullah (2021) stated that students would improve their vocabulary by completing a crossword problem. It was shown with them as a result of their active participation in the teaching-learning process at each meeting. The students found the crossword puzzle to be a fascinating medium for learning the language. By employing crossword puzzles in the classroom, students can effortlessly memorize new vocabulary and learn English (Rahmi, 2021).

CONCLUSION

Based on the result and discussion above, it is therefore concluded that using the game Cross Word in online learning increases students' vocabulary. It is highly recommended for the teachers to use the game Cross Word in their teaching of the English language, especially in elementary school.

Acknowledgement

The researcher would like to thank students in the sixth grade of SD Advent Bendungan Hilir, Jakarta, for participating in this research.

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