

WORD SEARCH PUZZLE GAMES - BASED VOCABULARY LEARNING: AN ACTION RESEARCH TO JUNIOR HIGH SCHOOL IN BENGKAYANG

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Abstract

This research aims to find out how the Word Search Puzzle (WSP) game can improve students' vocabulary mastery. The research was conducted through a Classroom Action Research (CAR) design. The subjects of this research were 30 students in class VIII of SMP Borneo Bengkayang. The data were gathered through observation and measurement techniques, and the data collection tools used were observation checklists, field notes, and vocabulary tests. Then the quantitative data were analyzed using descriptive statistics, while the qualitative data were analyzed using thematic analysis. The results of this research show that WSP game could improve students' vocabulary mastery. WSP helped improve students' vocabulary mastery in finding out the correct meaning of words, correct spelling, classifying word classes, using words in sentence, remembering new vocabulary. In addition, WSP games improve students' vocabulary learning activities. Students were actively involved in the teaching and learning process where they were more enthusiastic and interested in participating the vocabulary learning process. The results suggest that WSP games can be used as an alternative way of vocabulary learning for junior high school students.

Keywords: *Classroom Action Research, Vocabulary Learning, Word Search Puzzle.*

INTRODUCTION

Vocabulary is crucial in language learning. Miller in Mukoroli (2011, p. 6) states that "Vocabulary is basic of words that is the basic building blocks used in generation and understanding of sentences". This statement indicates that students who possess a large enough vocabulary will be able to read, write, listen, and speak fluently. On the contrary, Students will not be able to communicate with others or simply express their ideas if their vocabulary is insufficient. In learning English, a key component of learning English is expanding one's vocabulary. It is one of the language elements that underpins the English language's four skills: speaking, listening, reading, and writing. This means that vocabulary for English learners is the main language component to learn and master in order to effectively acquire a language.

Vocabulary is defined as a particular collection of words that are familiar with and can employ in a language. These words might be single words, phrases, chunks of words, or many words that express a certain meaning. As Hatch and Brown in Nushi and Jenabzadeh (2016, p. 52) defined, "vocabulary is the specific set of words a person is familiar with and can use in a language". Thus, mastering vocabulary, as Liando et al. (2019) stated, deals with the knowledge of words and words meaning.

In Indonesia school context, students at Junior High School levels (English Curriculum, 2013) are expected to achieve one of the standard competences that includes the ability to list and describe objects, people, locations, and animals in their immediate vicinity. Students should acquire vocabulary before attempting to attain this basic skill, as they would struggle to attain those competencies without it. In other words, for students to master the four language skills of speaking, listening, writing, and reading, they must possess a large enough vocabulary.

In reality, there is a gap between the school curriculum expectations and the fact that was happening in the classroom where the current research was conducted. Based on the researcher's pre-observation at SMP Borneo Bengkayang. The researcher found that since the beginning of the semester 2 in the academic year 2022/2023, the students had lack of vocabulary and indicated that they also had trouble improving their vocabulary, especially in the of nouns, verbs, and adjectives. They also found difficulties in memorizing new words that are presented in the texts that the teacher delivered. As a result, the students were ignorant of word meanings and proper usage in texts.

In addition, the researcher's pre-observation indicated that the students' inadequate of vocabulary and difficulties in memorizing new words also affect the process of learning English in the classroom and the classroom atmosphere. The students seemed to have low motivation and interest in joining the learning process because they thought learning English is difficult. This condition, in turn, caused the classroom atmosphere to become not effective for their learning English, particularly in learning vocabulary. This condition motivates the researcher to address this gap and the problem of practice, particularly in helping improve the students' vocabulary mastery by offering a different way of teaching and learning vocabulary.

There are many ways to vocabulary learning, the WSP games is one of the effective ways for learning vocabulary. One of the games that can be utilized as a vocabulary learning exercise is WSP games. WSP games is a puzzle that consists of hidden words which aims for students to find the words hidden. Vossoughi and Zargar state in Maylani et al. (2021, p. 218), "Word search puzzle as an instructional game consist of letters arranged in a grid and persuade students to find the listed words in any direction: horizontally, vertically, diagonally, forwards, and backwards". In summary, WSP games are educational puzzle games with words arranged in all directions to entice students to discover the words concealed in the puzzle with challenge.

WSP games is considered to be an effective way for improving students' vocabulary mastery because the WSP game's primary goal is to assist students in expanding their vocabulary, so that will help them recognize words and enhance group activities and learning. Students in junior high schools can use word search puzzles to help them learn new words. Research on the use of word search puzzles to increase students' vocabulary was carried out by ZA et al. (2021) and is titled, "Improving Students' Vocabulary Through Word Search Puzzle Game". According to this study, SMP Kartika XIV-1 Banda Aceh students' motivation and comprehension of studying English vocabulary have increased as a result of the Word Search Puzzle's deployment. The study found that during the teaching and learning process, students' participation in either the pre-cycle or first and second cycle increased from 50% to 100%, as did their grasp of English vocabulary.

In the current research, the researcher wants to teach vocabulary in English through WSP games. This puzzle game can help students train their brains more and get more motivated to study vocabulary because it demands creativity to solve the puzzles. Thus, the researcher intends to investigate into how word search puzzle games can improve eighth-grade SMP Borneo Bengkayang students' vocabulary.

In this research, the researcher is interested in conducting classroom action research entitled "Word Search Puzzle Games – Based Vocabulary Learning: An Action Research to Junior High School in Bengkayang".

METHOD

In this research, the researcher used Classroom Action Research (CAR) design. The researcher employed CAR because the researcher was interested in investigating the process of learning vocabulary by using the word search puzzle games in class to improve students'

vocabulary. Gay et al. (2012, p. 508) explained that “CAR in education is any systematic inquiry conducted by teachers, principals, school counselors, or other stakeholders in the teaching–learning environment that involves gathering information about the ways in which their particular schools operate, the teachers teach, and the students learn”. In the current research, the researcher used CAR because the researcher intends to bring about positive changes and improvement in the students’ vocabulary mastery by implementing the Word Search Puzzle games in class. In this research, the researcher used observation and measurement technique in collecting the data. The observation technique is used to collect data that are related to the situation of teaching and learning process, while the measurement technique is used to collect the data that are related to the students’ score after giving the vocabulary test.

The researcher used qualitative and quantitative methods in the data analysis. In analyzing the qualitative data, the researcher used thematic analysis by Braun and Clarke (2006) to understand the data based on the field notes when conducting the observation. And in quantitative data, the researcher used descriptive statistic which are used to find out individual score and mean score of students’ vocabulary test.

1. Individual score

After giving the test, the researcher used this formula to calculate the students’ individual score in their vocabulary test. Here is the formula to measure of individual score:

$$X = \frac{A}{N} \times 100$$

Where:

X = an individual score

A = the students’ right answer

N = the number of test items

Adopted from Cohen *et al.* (2007: p.

423)

2. Mean score

After calculating the individual score of students, then the researcher analyzed the mean score following formula:

$$M = \frac{\sum X}{N}$$

Where:

M = The students’ mean score

$\sum X$ = The total score of students

N = The total number of students

Adopted from Singh (2006: p.286)

After the score of each student has been calculated into mean score, the researcher tried to categorize the students’ score into some categorize, namely; excellent, good, adequate, inadequate, and failing. It would be made in table below and the formula used Suherman and Sukjaya as cited in Malik (2018, p. 88):

$$P = \frac{F}{N} \times 100$$

P = The percentage of class
F = The frequency of each category
N = The number of students

Table 1
Score Qualifications

Range Score	Classification
90 – 100	Excellent
80 – 89	Good
70 – 79	Adequate
60 – 69	Inadequate
Bellow 60	Failing

Adopted from Brown (2004, p. 287)

FINDINGS AND DISCUSSION

FINDINGS

The Qualitative Data

This chapter presents the results of the Classroom Action Research findings carried out in two cycles. This section presents the results from the qualitative data taken from observation checklist and field notes in each cycle.

Cycle I

The results of observation checklist and field notes in first cycle in student performance section at the first meeting of first cycle showed that there were very little students who listened to the teacher's explanation enthusiastically, very little students paid attention well when the teacher explained the lesson in in front of the class, and some students were afraid to ask the teacher about what they did not understand related to be learning material. In addition, many students were not active during the learning process in class where they were did not participate in the learning process enthusiastically, did not do their task seriously, and they were very noisy and very untidy, students are undisciplined and naughty so that the class is not neat, some students walk around when the teacher explains the material in front of the class, and many students ask permission to go to the toilet when the learning process in the classroom. Meanwhile, in the teacher performance section at the first meeting of cycle I, the teacher explained a little about the learning material based on the learning plan, the teacher needs to ask students first to provoke students to respond actively to the teacher in front of the class, and in this first meeting the teacher only provided a few conclusions from this first meeting, and the teacher also did not provide reflection activities at the end of the learning process. The teacher cannot manage the class well so that the circumstances and conditions of the class become very messy, such as; some chairs and tables are located out of place when students are taking part learning process in the classroom.

The results of observation checklist and field notes in first cycle in student performance section at the second meeting of first cycle, there was a slight improvement, some students had started to listen to the teacher's explanation and pay attention when the teacher explained the lesson, but there were still many students who were afraid to ask questions to the teacher about what they do not understand related the learning material, and

there are still very few students who are active during the learning process in class, there is no interaction between teacher and students and students and students. But some students have started to participate in the learning process in class. Some students started do their task seriously, but the class remains noisy. Students do not yet have a good cooperative attitude when working with their group, so the students become very noisy, and the class remains untidy. And some students were walking around in class, also going back and forth to go to the toilet. Meanwhile, in the teacher performance section at the second meeting of cycle I, there was a slight improvement in some of the teacher's performance, the teacher explained how the word search puzzle game works to the students well, the instructions given were good, but there was no improvement when the teacher gave instructions to the students, and the teacher still did not provide conclusions from the learning at this second meeting, and the teacher also still did not provide reflection activities at the end of the learning process at this second meeting. The teacher was still not very able to manage the class conditions well so that some students were still noisy and in the end the class conditions were still it does not look neat and calm yet. The teacher finds it difficult to provide instruction and WSP game procedures that are loud, clearly and detailed, because the circumstances classroom is messy and noisy.

The results of observation checklist and field notes in first cycle in student performance section at the third meeting of first cycle, at this third meeting there was a good improvement from the second meeting in students who listened to the teacher's explanation enthusiastically and students who paid attention to the teacher's explanation in front of the class. However, at this third meeting several students began to dare to ask the teacher about what they did not understand regarding the learning material, several students also began to be active during the learning process in class, then at this third meeting there was good improvement because some students had follow the learning process in class with enthusiasm, students worked on group instruments and post-test 1 in an orderly and seriously, students also had a good cooperative nature when working on group instruments, students began to be orderly when following the learning process in class, students no longer went back and forth to toilet during class learning, but there are still some students walking around in the classroom while working on group instruments. And students are no longer too noisy when the teacher is explaining the learning material and giving instructions on the WSP game instruments. Meanwhile, in the teacher performance section at the third meeting of cycle I, the teacher has started to provide conclusions from the learning at this third meeting, and the teacher has also provided a little reflection activity at the end of the learning process at this meeting. At this third meeting there began to be a good improvement, because the teacher was starting to be able to manage the class well, the teacher was also able to organize and discipline the students so that there were no more students going back and forth to the toilet when the teacher was explaining the learning material or when the teacher is giving group instrument and instructions to students. The situation in the classroom was a little calmer than the previous meeting.

Based on the results of qualitative data collection in cycle I, several conclusions can be drawn from qualitative data collection in cycle I. In conclusion, the results of the observation checklist and field notes in cycle I still did not show an excellent improvement in all activities and performance of students and teacher, because in several meetings there were still many students who were not active when participating in the classroom learning process using the WSP game. In this first cycle there was also no good interaction between teacher and students and students with students, so that learning in the classroom was still not very conducive. There are still many students who are afraid to ask the teacher about lesson material or WSP games that they don't understand. And, in the first cycle in the first two

meetings the teacher was still not able to discipline the students very well and was also not able to organize and manage the conditions and circumstances in the class become more orderly, neat and not noisy. This means showing that a sign to researcher that students' active engagement and the classroom environment have not improved very well for this first cycle.

Cycle II

In this second cycle, students know and understand the concepts and how to play words search puzzle games properly and correctly. In this way, the teaching and learning process at the meetings in this second cycle is different from the previous cycle. In this qualitative data, the researcher presents finding based was data taken from observation checklist and field notes in this second cycle. In cycle II there was a very specific increase in the performance and activities in the observation checklist and field notes in cycle II.

The results of observation checklist and field notes in first cycle in student performance section at the first meeting of second cycle, student performance experienced several good improvements, almost all students had started to be active during the learning process in class and were enthusiastic when participating in the learning process in class, many students also asked the teacher about things they did not understand about the learning material explained by teacher. Almost all students were no longer as noisy as at the previous meeting in the first cycle, students became interested and enthusiastic when following the learning process from the beginning of learning to the end of learning, and students is calm and serious when working on group instruments given by the teacher. Meanwhile, in terms of teacher performance at the first meeting of cycle II, teacher performance in cycle II experienced a better improvement compared to the previous cycle. In cycle II, the teacher began to provide better conclusions about the learning material compared to the previous cycle, and the teacher also provided several reflection activities at the end of the learning process. Teacher no longer has difficulty managing the class well, teachers can also manage and discipline students who were naughty at meetings in the previous cycle, and teacher become more comfortable and relaxed when teaching, because the conditions in the classroom are better, quieter and less noisy.

The results of observation checklist and field notes in first cycle in student performance section at the second meeting of second cycle, all student performance experienced a very significant increase. At this meeting all students listened and paid attention to the teacher's explanation very well and enthusiastically, students were interested, enthusiastic and enthusiastic when they followed the learning process from the beginning to the end of the lesson. Students are also active and always ask the teacher what they do not understand about the learning material and WSP games, students worked on group instruments and post-test 2 seriously, calmly and orderly. Students are exemplary and orderly, there are no longer students wandering around when working on group instruments, students are no longer noisy when the teacher explains the material and gives WSP game instructions. Students really appreciate the teacher who is explaining the learning material so they remain seated in their respective seats when the teacher is still talking in front of the class. Meanwhile, in the teacher performance section at the second meeting of cycle II, all teacher performance also experienced a very significant increase and was much better compared to the previous meeting and cycle. Teacher no longer needs to ask students to ask questions first to provoke students to respond actively to the teacher during the learning process. The teacher conveys the learning objectives, explains the learning procedures in very detailed, clear and detailed manner. The teacher provides more examples than in the previous lesson in the learning process and the teacher also carries out simulations so that students better understand learning using the WSP game. And the teacher succeeded in managing the

class very well. After the teacher learns from the previous cycle, the teacher can manage and control the class situation well so that the class conditions and environment look more lively, fun and happy and the class also looks neater, orderly and organized compared to the previous meeting. In this second meeting, the condition of the class became good because there was good interaction between students and teacher, and interaction between students and students.

Based on the results of qualitative data in second cycle, from the gathered qualitative data of the second cycle, some conclusions can be drawn. The conclusion is the results of the observation checklist and field notes in cycle II have shown excellent improvement at each meeting in this second cycle. In the second cycle, it can be seen that there is good interaction between teachers and students and students and students, thus making learning in the classroom more enjoyable and students also look very happy, more active, interested and enthusiastic than the previous cycle when students participating in learning process and playing WSP games in the class. Students are also active and no longer afraid to ask the teacher if there is any lesson material or WSP game that they do not understand. Lastly, the teacher can discipline students very well and has also been able to manage the conditions and circumstances in the classroom be more orderly, neat and less noisy than in the previous cycle, especially when students work on the instruments of the WSP game in groups and do the post-test II. This shows a sign to researchers that the student's active engagement and classroom environment has experienced excellent improvements for this cycle.

The Quantitative Data

The quantitative data of first cycle and second cycle was obtained from individual scores from vocabulary test.

Cycle I

From the results of the vocabulary test cycle I, the student's highest score on the post-test cycle I was 100 and the lowest score is 56. Two-students got a score of 100, four-students got a score of 92, four-students got 88 score, five-student got 84 score, five-students got score 80, one-student got score 76, three-students who got a score of 72, there were two-students who got a score of 68, two-students got a score of 60, and two-students got a score the lowest is 56. The total score of the post-test cycle I is 2400, and the mean of post-test cycle 1 is 80.

If the student learning outcomes in the post-test I section are grouped into five categories, namely; excellent, good, adequate, inadequate, and failing. And students learning result in the post-test I are presented as follows:

No	Classification	Score	Frequency	Percentage
1.	Excellent	90-100	6	20%
2.	Good	80-89	14	47%
3.	Adequate	70-79	4	13%
4.	Inadequate	60-69	4	13%
5.	Failing	BELLOW 60	2	7%
				100%

The table above shows the results of student scores on the post-test cycle 1 there were 6 students (20%) got "Excellent" classification, 14 students (47%) got "Good" classification, 3 students (13%) got "Adequate" classification, 4 students (13%) got classification "Inadequate" and 2 students (7%) got the "Failing" classification.

Cycle II

From the results of the vocabulary test cycle II, it can be seen that the student's highest score on the post-test cycle II was 100 and the lowest score is 80. Six-students got a score of 100, five-students got a score of 96, eight-students got 92 score, seven-student got 88 score, two-students got score 84, and two-students got a score the lowest is 80. The total score of the post-test cycle II is 2760, and the mean of post-test cycle II is 92.

If the student learning outcomes in the post-test II section are grouped into five categories, namely, excellent, good, adequate, inadequate, and failing. And students learning result in the post-test II are presented as follows:

No	Classification	Score	Frequency	Percentage
1.	Excellent	90-100	19	63%
2.	Good	80-89	11	37%
3.	Adequate	70-79	0	0%
4.	Inadequate	60-69	0	0%
5.	Failing	BELLOW 60	0	0%
				100%

The table above showed the results of percentage student scores on the post-test cycle II. There were 19 students (63%) got "Excellent" classification, 11 students (37%) got "Good" classification, and the good thing that there were no one students got a "Adequate", "Inadequate" and "Failing" classification.

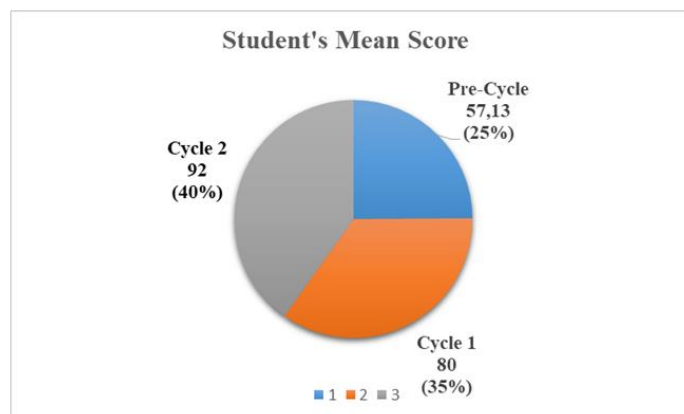
Based on the overall score pre-test, post-test cycle 1, and post-test cycle 2, it is known that the average score before implementation the Classroom Action Research (CAR) or pre-test was only 57,13 and only four students passed KKM. In the first cycle post-test the average score was 80 and the number of students who completed it KKM consist of 21 students. Meanwhile, in the post-test in second cycle, 30 students completed it KKM and the average score is 92.

DISCUSSION

From the results of research carried out by researchers in these two cycles, it shows that the WSP game has succeeded in improving the vocabulary of class VIII students. The success of this research can be seen from the student learning and learning outcomes scores which have increased step by step. During the implementation of two cycles of the WSP game in class, students gave a positive response to this research where the students became more actively participating in the learning process than before. The use of the WSP game as a media for classroom learning also made students more enthusiastic and enjoyed the learning process and learning in the classroom, and students also become more focused on paying attention to the teacher when explaining learning material in front of the class.

These results mean that WSP is an effective way of vocabulary learning process as it can improve students' active engagement during the classroom learning process and mastery of vocabulary. The use of WSP game is effective in building students' vocabulary mastery, attitudes, motivation and interest in learning using WSP game. In other words, the use of WSP game in vocabulary learning can provide positive changes in the teaching and learning process. For example, it improves the students' motivation and achievement in their vocabulary learning. Based on the results of observation checklist and field notes that have been analyzed by researcher in research findings, it shows that students gave positive responses from cycle I to the last cycle which means that students experienced step-by-step improvements in the learning process using WSP to improved students' vocabulary mastery. Then, quantitative data obtained from students' vocabulary test also shows that students experienced good improvements in their vocabulary mastery. The results on quantitative data or students' vocabulary test scores in cycle I, the highest score was 100, and the lowest score

was 100 the average score in cycle II was 80. Meanwhile in cycle II, the highest score was 100, and the lowest score was 80, the average score in cycle II was 92. There are significant differences from before researcher implemented WSP game. This means that students' score has improved very well. The improvement in student learning outcomes were increased from first cycle to second cycle as can be seen in graph 1 below:



Graph 1.1 Mean Score Pre-Cycle, Cycle 1 & Cycle 2

From the graph above it can be concluded that there was a significant increase from pre-cycle, cycle I to cycle II. The average student result in pre-cycle was 57,13, the average student result in cycle I was 80 in the "Good" category and the average student result in cycle II was 92 in the "Excellent" category.

This result is in line with a theory that sees WSP game can improve vocabulary, can stimulate problem solving skills, can improve focus and attention, and give students a successful experienced, (Niemi as cited in Anggreni 2017). It was because WSP game is suitable media or technique to improve students' learning process and outcomes in vocabulary. This can result students actively engagement in learning process using WSP and also can improve students' vocabulary mastery. It can be clearly seen from the data results which are explained in detail in the findings section that the WSP game can improve students' vocabulary stimulate problem solving in the WSP game, improve students' focus and attention to the teacher, and give students a successful experience when they successfully complete the task WSP game in groups.

CONCLUSION

Based on the findings and discussion in the previous chapter, it can be concluded that WSP games can be used as an alternative ways of vocabulary learning. WSP games could help students become more active and enthusiastic in the process of learning vocabulary in the classroom, because teaching vocabulary using WSP game can involve students directly in the learning process. Through the WSP game, students can improve their concentration and collaborate well with the group when they complete the WSP game instrument with their group. Then, the process of learning vocabulary using the WSP game becomes more fun and interesting, making students more enthusiastic and interested in following the learning process from the beginning to the end of the lesson, because they can learn while playing. Furthermore, the classroom atmosphere also looks more lively, fun and enjoyable so that students will not feel bored.

Therefore, the researchers suggest that the use of WSP games in teaching English vocabulary could bring significant positive changes in the vocabulary mastery of class VIII

students at SMP Borneo Bengkayang. Apart from providing positive changes to vocabulary mastery, this game also has a positive influence on the classroom climate and atmosphere where the students become more active and confident when the teacher gives instructions to come to the front of the class to write answers. During the learning process, students are not afraid or reluctant to ask the teacher if there is subject matter that they do not understand well and students can also interact well with their friends in class. This showed that there is good interaction between students and teachers and students with students. Furthermore, during the implementation of Classroom Action Research in these two cycles, it can be clearly seen from cycle 1 to cycle 2 that students' vocabulary mastery increased. This could be seen from the results of calculating scores and the average value of students which has increased gradually. In general, this showed a significant positive sign that students' vocabulary was increasing as the researchers expected in the final results of this research.

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