



The Effectiveness of Using Word-Search Puzzle Games in Improving Vocabulary Mastery at the Eighth Grade High School Students, Krabi Province

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Abstract

The study was aimed at measuring the effectiveness of word-search puzzle games on vocabulary mastery at the eighth grade high school students. The question of the study was that “Is a words-search puzzle game effective to improve vocabulary mastery of eighth-grade high school students?” The study adopted one group of pre-test and post-test experimental design. The population of the study consisted of two classes of the eighth grade high school students with the total number of 65 students. The pretest was conducted to know the students’ vocabulary scores before they were taught by using word-search puzzle games. Finally, the posttest was given to know the students’ vocabulary scores by using word-search puzzle games. T-test statistics was used to examine hypothesis of this study. The result of data analysis showed that the mean scores of students before getting the treatment was at 17.97. After getting the treatment, there was significant improvement on students’ scores (Mean 25.33). Based on the results of the pre-test calculation, the value (14.598) was lower than the post-test (22.480). It meant that the word-search puzzle games showed the effectiveness on vocabulary mastery of the eighth grade junior high school students.

Keywords: Word-Search Puzzle Game, Vocabulary Mastery



Introduction

Language is most important as a means of communication for human beings. People can communicate with each other to have interaction by language. In this global era where the distance is not such a problem, people have to do interact with another (Ramelan,1999). Therefore, it can be said that language is the system that can be used by people to give and get information to one another. There are many kinds of languages in this world, and every country has different languages. English as one of the International languages has an important role in daily life. It is acknowledged not only as a means of communication but also as a scientific language. The use of English can be easily found. For instance, many books, articles, advertisements, TV programs and job vacancies use English. Accordingly, without mastering English, people cannot communicate with other people and we may be left behind in science, education and also in the job vacancy.

English becomes more and more important in Thailand as it is used for different purposes, such as teaching and others. In Thailand, English is a foreign language that is taught in primary and secondary schools. Thai students spend twelve years studying English in primary and secondary schools, but the results are questionable. When compared to people in neighboring countries, Thais' English proficiency is relatively low. The 2010 Test of English as a Foreign Language (TOEFL) showed that Thailand ranked 116th out of 163 countries. The Netherlands topped the list with an average score of 100 out of 120, followed by Denmark and Singapore with the average scores of 99 and 98 respectively. The international average score was 80 but the Thai average score was 75, which was a little higher than the average scores of Cambodia, Laos, Vietnam, and Myanmar, but was trailing far behind other ASEAN countries such as Indonesia, Malaysia, the Philippines, and Singapore. On the 2011 report, the Thai average score was still the same, 75 (Test and Score Data Summary for TOEFL, 2011-2012). In addition, in the most recent Education First English Proficiency Index (EF EPI, 2012) released in October, 2012, Sweden and Denmark ranked first and second, Singapore twelfth, and Thailand 53rd – the world's second-lowest rank (above only Libya) – with an average score of 43.36 and labeled 'very low proficiency'. When the English-proficiency test results within Thailand were examined, the O-NET (Ordinary National Educational Test) revealed that the English average scores of Thai primary school students in 2010 and 2011 were, out of 100, 31.75, and 20.99 respectively. The average scores between 2009 and 2011 of 900,000 lower



secondary-school students were 32.42, 26.05, and 16.19 respectively. Among 350,000 upper secondary-school students, the English-language average scores (2009-2011) were 30.68, 23.98, and 19.22 (O-NET reports, 2012). These poor results were controversial. Some doubted the consistency and validity of the tests, while others questioned the teaching and learning practices in English-language classes in Thai schools.

Vocabulary is one of the aspects of English. It is very important for studying English. The learner who just learns grammar without vocabulary will be difficult to convey what he or she wants to say. However, the learner who learns vocabulary or read text or opens a dictionary will be able to say something (Harmer, 2001). Vocabulary helps to improve the four English skills; listening, speaking, reading, and writing. This means that vocabulary plays an important role in the study in their field of study. The students, who are less in vocabulary, will be difficult in understanding the text, unable to speak English, and difficult to write their own idea. In addition, students with a small vocabulary also read slowly because they do not understand many words or have to stop and look them up in the dictionary (Edwards, 1997). This indicates that vocabulary has an important role in communicating ideas. Students who have enough vocabulary are able to write and speak well. Additionally, the student needs to learn academic words or vocabulary mastery lists in understanding vocabulary. According to The Basic Education Core Curriculum B.E. 2551 (A. D. 2008) “For secondary school students (eighth-grade students), must know at least 1750 - 2500 words.

Literature Reviews

In learning English, there are language elements that English learners must master namely pronunciation, grammar, spelling and vocabulary. The latest element is regarded as the most crucial one. Vocabulary refers to list or sets of words which individual speakers of language might use, since vocabulary is a list, people may think that the only system involved is that of alphabetical order (Hatch and Brown,1996). Without vocabulary, English learner are unable to develop the other language elements either pronunciation, grammar or spelling. Vocabulary is one of the most important elements in a language. Many of the vocabulary in English textbook have to be learned. Without it, no one can speak or understand the language (Allen,1983). It means that vocabulary is a language component which gives information or explanation in a language terms. In another hand, Vocabulary



is a set of words. A vocabulary is as unique to a content area as fingerprints are to a human being. (Richard and Vacca,1999) Hornby states that vocabulary means the total number of words which (with roles for combining them) make up language.

Jack C. Richard says that vocabulary is one of the most obvious components of language and one of the first thing applied linguistic turned their attention to. Vocabulary can be classified into passive vocabulary and active vocabulary. A passive vocabulary is used receptively in listening and reading. Meanwhile, an active vocabulary is utilized productively in speaking and writing. (Jack C Richard and Theodore S Rogers,2003)

According to David Nunan in second language teaching and learning, vocabulary is more than lists of target language words. As a part of the language system, vocabulary is intimately interrelated with grammar. In fact, it is possible to divide the lexical system of most language into “grammatical words”, such as preposition, article, adverb, and soon. (David Nunan,1992) Vocabulary is essential component of all use of language. Vocabulary acquisition is one of the prime important in learning English. When the learners acquaint new vocabulary, they must know the meaning of words; they must also know how to arrange individual words within the sentence.

Based on the theories above, the researcher concludes that vocabulary is the stock of words used by people to express, thoughts, feelings and to communicate to other people both oral and written form.

Harmer explains that the first thing to realize about vocabulary item is that they frequently have more than one meaning. Sometimes words have meaning in relation to other words. Thus students need to know the meaning of vegetable as a word to describe any one of a number of other things (e.g., carrots, cabbage and potatoes). ‘Vegetable’ has a general meaning whereas ‘carrot’ has more specific. Words have opposite (antonym): the opposite of good for example is ‘bad’ they also have other words with similar meaning (synonym): for instance, the meaning of “strange” is similar to that of ‘unfamiliar’. As far as meaning goes, then students need to know about meaning in context and they need to know about sense relations. (Harmer,1991)



Previous Studies

1. The thesis entitles “Reinforcing Students Vocabulary through Puzzles Game at the Second Grade of SMPN 1 Jonggol-Bogor” by Zaini Rahman. The purpose of this study is to describe about the application of reinforcing student’s vocabulary through puzzle game at the second grade of SMPN 1 Jonggol-Bogor. This study is categorized as quantitative descriptive analysis by doing pre experiment research, which is pre-test before taught using puzzle and post-test after taught using puzzle in vocabulary teaching. The data collected in this research analysis using T-test. According to the result of statistical calculation, it is obtained the value of $t_o > t_i$ in 5% included as significant level. It means there is obvious difference between the average score from the result of teaching vocabulary using puzzle and without using puzzle. Based on the analysis, it can be inferred that teaching vocabulary using puzzle is more effective than teaching vocabulary without using puzzle. It simply illustrates that teaching vocabulary by puzzle gives more advantages and can improve student’s vocabulary (Zaini Rahman, 2009)

2. The thesis entitles “The Effectiveness of Using Pictorial Puzzle in Improving Vocabulary Mastery of Seventh Grade Students of SMP Islam Durenan” by Amiati Dwi Firma. The research design in this study was experimental design. In this study the researcher takes 72 students as the sample of the research by using purposive sampling. Data collecting method used in this research are administering test, observation, interview and documentation. The data collected from conducting interview, observation, and documentation are used as the supporting data. The data analysis technique used is t-test statistical analysis. From the statistical analysis it is found that $t \text{ count} = 2$ is bigger than $t \text{ table} = 1.671$. It means that H_0 there is no significant different scores of the students who are taught with and without pictorial puzzle. Meanwhile, H_a there is significant different scores of the students who are taught with and without pictorial puzzle. The results above show that there are significant different scores of the students taught by using pictorial puzzle and those who are taught without using pictorial puzzle as media in teaching vocabulary. It means that the pictorial puzzle as media of teaching vocabulary is effective (Amiati Dwi Firma, 2010)



3. The thesis entitles “The Effectiveness of Using Hidden Word Game to Improve Vocabulary Mastery of the Seventh Grade Students of SMPN I Munjungan” by Alipi Suciati. The purposes of the study were: 1) to know the student’s vocabulary achievement before they were taught by using hidden word game. 2) to know the student’s vocabulary achievement after they were taught by using hidden word game. 3) to know whether hidden word games gave significant influence(s) toward the student’s achievement in vocabulary ability or not. Result shows that a) the students vocabulary achievement before using Hidden Word Game is lower. The evidence is pre-test and post-test average were 27.88 (pre-test) and 34.5 (post-test), b) the student’s mastery on vocabulary by using Hidden Word Game it is shown the students score is high. This evidence is pre-test and post-test average were 29.75 (pre-test) and 89.13 (post-test), c) there was significant effect of thee using Hidden Word Game on the student’s vocabulary. Based on the statistical test result by using t-test shows t-table = 1.99 and t-test = 9.95. It means that the using Hidden Word Game there is significant effect in the vocabulary between thought by using hidden word game and those thought without using hidden word game (Alipi Suciati,2010)

From the studies above, there are similarities and differences from the previous ones. The similarities between the previous study and this study are: (1) the previous study using puzzle game, (2) the previous study focus on teaching vocabulary. The differences between the previous study and this study are: (1) the location and sample of the research, (2) this study using pre experimental design, (3) this study using word search puzzle game in teaching vocabulary.

Research Question

Does a words- search puzzle game effectively improve vocabulary mastery at the eighth-grade students of Nongthalaywittaya School?

Methodology

Participants

The participants of this study were the eight- grade students, studying at Nongthalaywittaya School, Krabi. The eight- grade students were 65 students with 2 classrooms, studying the second semester; therefore, they also registered to study Basic English 3 subject (E22101).



Instruments and Designs

The research instruments included:

1. Ten words-search puzzle game activity lesson plans with 40 minute each 8 hours in total.
2. Two tests: pre-test and post-test for evaluating students' multipoint choice test.

Intervention

The researchers had assessed the quality of research instrument as follows:

There were 10 words- search puzzle games activity lesson plans with 40 minutes each.

1. To study the words- search puzzle game activity conduction, including the concepts, theories and related research papers.
2. To study the Basic Education Core Curriculum B.E. 2551 (A.D. 2008), Foreign Language Learning area, Learning Strand, Learning Standard, Indicator and Learning Strand for Assessment and Evaluation. The contents were selected as follows:

A Lesson plan - Unit 1 People Identification

A Lesson plan - Unit 2 Cultures and Festivals

A Lesson plan - Unit 3 Holidays

A Lesson plan - Unit 4 Environments

(*Note: A period is 40 minutes. For example, two periods equal an 80 minutes)

3. To study the vocabulary mastery for words-search puzzle game activity teaching class.
4. To analyze and select the contents by considering the contents related to the indicators.
5. To create the 10 words-search puzzle game activity lesson plans with 40 minute each, the total is 8 hours including one orientation lesson plan. The contents could be seen as in the table.



Figure 1		
Lesson plans of Basic English 3 subject (E22101).		
Lesson plan no.	Topics	Time/hours
1.	People Identification	2
2.	Cultures and Festivals	2
3.	Holidays	2
4.	Environments	2
		Total 8

6. To propose the lesson plans to have a research advisor check and give some advice and the researcher develops the lesson plan later.

7. To propose lesson plans to three experts in a variety of fields: an expert of curriculum and teaching, an expert of assessment and evaluation and an expert of English language teaching to evaluate the quality of lesson plans by evaluating the elements of media and language content. Then took the words-search puzzle game activity class evaluation.

To develop the lesson plan and apply to check out the effective activity, media, language content, assessment and evaluation then develop before apply to the target group.

There were 2 tests: pre-test and post-test for evaluating students' multipoint choice test.

The construction of using words-search puzzle game in improving vocabulary mastery evaluation consisted of two tests: pre-test and post-test. The researcher has proceeded the steps as follows:

1. To study the document and related research about forming Students' in using words-search puzzle game in improving vocabulary mastery evaluation form.

2. To create words-search puzzle game in improving vocabulary mastery evaluation, the pretest and posttest were determined to allow students having a learning in the class. The content of pretest and posttest were included, a lesson plan unit 1 People Identification to unit 4 Environments.

3. To create the words-search puzzle game activity class evaluation form by adaptation the words-search puzzle game from Salatiga (2010). The content of the forms will be as follows:

Figure. 2 words-search puzzle game activity class evaluation

Words-Search 1															
H	T	A	B	A	E	K	A	T	X	J	T	D	Z	C	
H	K	P	P	B	R	O	T	H	E	R	I	X	W	K	K
G	Q	A	R	K	W	A	T	C	H	T	V	S	S	G	H
S	E	H	T	O	L	C	H	S	A	W	E	E	R	G	K
O	A	V	Y	G	M	C	B	F	W	H	H	E	T	P	E
P	T	E	H	Q	X	D	J	A	T	S	T	A	Y	T	C
L	D	B	L	R	H	K	K	O	I	S	K	D	B	S	A
N	F	N	F	V	Q	E	L	D	I	E	U	Z	K	Z	F
W	M	D	I	V	U	C	H	S	A	T	W	G	V	P	H
S	R	U	B	P	N	S	E	S	S	B	E	U	W	Y	S
U	E	P	X	O	A	V	H	J	V	N	M	S	O	L	A
E	H	L	R	W	T	O	D	A	U	G	H	T	E	R	W
Z	T	I	K	G	W	C	N	O	B	H	P	G	H	H	G
Q	Q	C	N	E	W	T	W	A	L	E	O	B	T	N	B
S	M	D	R	V	B	I	R	H	U	K	T	S	O	N	Q
B	F	A	L	S	V	H	X	R	E	H	T	A	F	G	H

Words	Meaning	Words	Meaning
study		take a bath	
brother		take a shower	
daughter		wake up	
father		wash clothes	
iron clothes		wash dishes	
mother		wash face	
sister		watch TV	
son			

--- Developed from (Salatiga,2010)

1. The three experts checked the content, next, the researcher did the pilot to find out the reliability value.

2. Develop the pretest and posttest before applying to the target group of this research.

Data Collection

The researcher conducted the experiment with Grade 8 Students at Nongthalaywittaya School, Krabi by conducting and collecting the data as follows:

1. Give students the pre- test to evaluate students' vocabulary mastery, by using multipoint choice test which students had to toward the topics, and to collect the data to be compared with the post-test.

2. Explain and clarify teaching and learning activities by using words-search game activity class to be the main activities in English Subject to student to be clearer understanding

3. Instruct the students by using 4 lesson plans with 40 minute each, the total hours are 8 hours.

4. Have instruction all 4 lesson plans, the researcher conducted the post-test to assess students' vocabulary mastery, the total scores are 40 scores using words-search puzzle game evaluation form.

Data analysis

Obtaining the data from the conducting the class, the researcher took these data and analyzed as follows:

1. To compare the score of the students' vocabulary mastery form using words-search puzzle game, assessment before and after by using the mean(\bar{x}), standard deviation (S.D.) and t-test
2. To examine the different results of pre-test and posttest, using SPSS to find the T-test

Findings

The result of improving vocabulary mastery before and after using the words-search puzzle game activity to improve vocabulary mastery 33-eight-grade student. The study of students' pre-test and post-test result from three experts to find the mean value and analyze the differences between the scores before and after applying a words-search puzzle game activity by using the statistical Paired t-test in order to compare the differences of improving vocabulary mastery of students before and after applying the words-search puzzle game activity showed as follows:

Table 1 The students' scores of pre-test and post-test
(Using Words-Search puzzle game)

<i>Students</i>	<i>Pretest</i>	<i>Post-test</i>	<i>Gained</i>
<i>Score</i>			
1	30	35	5
2	27	30	3
3	15	29	14
4	23	25	2
5	8	25	17
6	15	25	10
7	10	23	13



Table 1 The students' scores of pre-test and post-test (Cont.)
(Using Words-Search puzzle game)

<i>Students</i>	<i>Pretest</i>	<i>Post-test</i>	<i>Gained</i>
<i>Score</i>			
8	10	14	4
9	17	20	3
10	16	25	9
11	23	30	7
12	15	19	4
13	15	22	7
14	36	39	3
15	20	27	7
16	14	17	3
17	12	22	10
18	17	27	10
19	21	31	10
20	25	33	8
21	6	12	6
22	19	23	4
23	13	19	6
24	14	28	14
25	25	32	7
26	24	27	3
27	18	27	9
28	13	16	3
29	23	34	11
30	11	21	10
31	17	28	11
32	26	30	4
33	15	21	6
Total	593	836	243
Average	34.88	49.17	14.23



Note. Table 1: The result of pre-test and post-test, it shows that the lowest score of pre-test was 6 and the highest score was 30. Besides, the lowest score of post-test was 12 and the highest score was 35. The average of pre-test 34.88 and post-test 49.17. After conducting pre-test and post-test, the average of gained score that got was 14.29. the average of post-test after the students got treatment using words-search puzzle game was higher than the average of pre-test before the students got treatment.

Table 2 Showing the result of pre-test and post-test, using a words-search puzzle activity

Group	N	Mean	Std. Deviation (S.D.)	t	Sig. (2-tailed)
Pretest	33	17.97	6.678	14.598	.000***
Posttest	33	25.33	6.218	22.482	.000***

The study found that the mean value of students' improving vocabulary mastery before using a words-search puzzle game activity was 17.97, the S.D. was 6.678, and the mean value of students' improving vocabulary mastery after using a words-search puzzle game activity was 25.33, the S.D. was 6.218. Comparing students' improving vocabulary mastery between pre-test, the study found that the t-test was 14.598 and post-test, the study found that the t-test was 22.480 and Sig. (2-tailed) was .000, as the result, the students' improving vocabulary mastery after using a words-search puzzle game activity were statistical significantly higher that before their use at .05.

The Standard Deviation (S.D.) after the study was decreased, which showed that students had improving vocabulary mastery; consequently, using a words-search puzzle game activity could improve students' improving vocabulary mastery.

Conclusion

Based on the study in High School, teaching English vocabulary used a word-search puzzle game has improved the students' in English vocabulary of eight grade students. It showed that games can afford a valuable technique in language classroom for students at Junior High School and can be used to facilitate the process of vocabulary learning. The exciting nature of playing games can facilitate the vocabulary learning process. Language games are suitable evaluation tools in the hands of teachers. It quickly reveals the depth



of students understanding and reinforces their previous knowledge. The teacher needs to argue that, through games, students are given opportunities to know and explore new vocabulary without direct teacher assistance.

Besides, it can be seen from the assessment before and after using a words-search puzzle game activity found that the posttest was statistical significantly higher than the pretest as equal as .05. There was ($\bar{x} = 25.33$, S.D. = 6.218.) Comparing students' vocabulary mastery between pre-test and post-test, the study found that the t-test was 14.598 and Sig. (2-tailed) was .000, as the result, the students' vocabulary mastery after using a words-search puzzle game activity were statistical significantly higher that before their use at .05. It means that a words-search puzzle game activity is effective in improving student' vocabulary mastery. Therefore, it can be concluded that the answer of research question was proven that there is effectiveness of a words-search puzzle game activity on student' vocabulary at High School in academic year 2019/2020.

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