The influence of Memory Challenge Game Method and Students 'Reading Speed towards Their Vocabulary Achievement at Grade VIII of SMP Negeri 19 Ambon

Threesje R. Souisa and Emily F. Aipassa

Abstract. Vocabulary is commonly defined as all the words known and used by a particular person. Unfortunately, in learning process the students have limited words or vocabulary that caused them slow in reading a text. So, in order to increase students' vocabulary this research was aimed at finding out the positive and significance influence of Memory Challenge Game Method and Reading Speed towards students 'vocabulary. Quasi Experimental was used to conduct the study with pre-test and post-test non-equivalent control group design. The students from two classes namely class $VIII^7$ as the Experimental group and class $VIII^5$ as the Control group consisted of thirty students for each group. Descriptive and inferential statistics were applied in analyzing the data. The results revealed that the students' vocabulary had significant increase by using Memory Challenge Game than using Bingo Game Method. It was showed on the mean score of Post Test of Experimental class higher than post-test of Control Class and the T_{test} = 37.0. The result of reading speed rates of students in Experimental Class was higher than in Control Class. The result of the T_{test} of both Memory Challenge Game Method and Reading Speed was 4.22 while for both Bingo Game Method and Reading Speed was 1.15. From these findings, it can be concluded that first, there was a positive and significance influence of the memory challenge game towards the student' vocabulary achievement. Second, there was a positive and significance influence between the students' reading speed and their vocabulary achievement. Third, there was a positive and significance influence of the memory challenge game method, and reading speed towards the students' vocabulary achievement.

Keywords: *Influence, Memory Challenge Game Method, Bingo Game Method, Reading Speed, Vocabulary Achievement.*

Introduction

As the basic component in learning a language, vocabulary plays a central role in acquiring a new language such as learning English as the foreign language. To support this idea, Azar (2012) points out that vocabulary is an important element in learning English because it links to the four basic skills namely speaking, listening, reading and writing. Having a stock of vocabulary can lead someone to build a good interaction both in oral and written forms.

In order to be able to communicate fluently both in oral and written language, EFL learners should acquire the stock of vocabularies and use them accurately through a learning process. The ways they learn English vocabularies

can be varied based on their learning goals. In a foreign language context, the words that EFL learners should know and use it actively in their communication have varied different perspectives from the experts. For Instance, according to Mc Carten (2007), the words that EFL learners should master around 12.00 words and 20.000 words depend on the level of Education. Moreover, Kweldjue (1997) as cited in Jumiati (2010) that the average vocabulary sizes of English Departments ranged from 2041 to 3352 words. The graduate students' vocabulary size averaged 2861 words. S2 students' vocabulary size 2671 words and S3 students' was 3211 words. While the Japanese Ministry of Education Lower & Upper Secondary School Course of Study for Foreign Languages stated a recommendation for Junior High School students, the words should be mastered around 900 words and 1,800 words for Senior High School students.

Considering the expert theories about the words that should be mastered by EFL learners, it can't be denied that EFL teachers always tried to vary their teaching methods with aimed at helping the EFL learners to master English vocabularies with meaningful ways. Even through that some studies reported vary research findings about the effective teaching methods in improving students' vocabulary but EFL learners still facing difficulties in mastering vocabulary based on the expert's standard.

The roles of EFL teachers play a crucial part in teaching and learning vocabulary. For that reason, McCartney (2006) proposed 4 principles that EFL teachers should now and consider in designing an enjoyable vocabulary learning atmosphere. First principle is select words. In this principle, EFL teachers should choose useful words to learn by EFL learners. The useful words refer to the high frequency words that EFL learners use most often in communication inside or outside a classroom. Second, teach words. Build up the meaning of words by linking with other words or in other word teach students through semantic links. Semantic links are concerned with the word meanings and also should be link with the knowledge of the world. The more EFL learners learn vocabulary through semantic link the better they will increase their knowledge of the world. Third, activate the sound pattern of the word. EFL teachers should aware about activating the sound pattern of the words. This activity is very useful in trying to fix a word in EFL learners' memory. It is very helpful also to teach the semantic links and phonological form of a word together to help EFL learners learn, remember and use the words. Fourth, help EFL learners to revisit words by practicing ways to bringing the word into mind such as using games in teaching and learning vocabularies.

According to Daneman (1991) as cited in Opitz & Rubin (2006) 'vocabulary knowledge is one of the best single predictors of reading comprehension'. This idea implied that there is close relationship between vocabulary mastery and reading comprehension. EFL learners will have good reading comprehension if they have the appropriate vocabularies and through reading comprehension process, EFL learners also can enrich their vocabularies. The strength of the relationship between word knowledge and reading comprehension has also been well established in correlation studies over the past 50 years (Tannenbaum, Torgesen & Wagner, 2006). The study conducted by Carver (1982) as cited in

Chang (2012) reported that the reading rate or reading speed also give impact for vocabulary achievement and reading comprehension. He then points out that an optimal reading rate for native speaker is between 250 words per minute (wpm) and 350 (wpm) which means that readers will comprehend a text more efficiently with this reading speed whereas for faster readers usually read 600 words per minute. In line with this idea, it is stated that there is a type of reading strategy as reading speed that allow learners to read as much as 1.000 words per minute without losing too much comprehension (vocabulary. co.il, 2014).

In fact, there are many meaningful ways can be done to help EFL learners mastery vocabulary and to improve their reading speed. In the process of learning new vocabulary, memory is crucial because it keeps all vocabularies in a brain. Through memories EFL learners can accumulate the vast amount of words and it is very helpful when words are recycled regularly (Neyadi, 2007).

According to Koprowski (2006)' the recycling of new words will be critical if it can be readily accessible in long term memory. To stimulate long term memory, words would be reviewed 5-10 minutes after learn, 24 hours then one week next one month and finally six months. He then explained that EFL teachers can help EFL learners to keep new words in their memory by creating regular opportunities to practice the words every day and encourage EFL learners to make form-meaning connections of new vocabularies through playing games.

One of the games that can help EFL learners to enrich their vocabulary is memory challenge game. It is a kind of game for EFL learners who are the age of 15 -20 years old. It is a kind of method to help EFL learners to learn, remember and use the words in meaningful and attractive ways. This study was conducted with the aimed at ; 1) To find out the significantly difference in vocabulary achievement between the students who are taught by memory challenge game method and those who are taught by using bingo game method. 2) To find out the significantly difference in students' reading speed between the students who are taught by memory challenge game method and those who are taught by using bingo game method. 3) To find out the significantly difference in vocabulary achievement between the students who are taught by memory challenge game method and their reading speed and the students who are taught by bingo game method and their reading speed.

Research Method

Quasi Experimental Research with pre and post-test nonequivalent control group design was used to conduct the study**.** There were three kinds of variable in this study namely (1) Independent Variable (1). The independent variable of this research was the Memory Challenge Game Method. (2) Moderating Variable or the second independent variable**.** The moderating variable of this research was students' Reading Speed. (3) Dependent Variable was students' vocabulary achievement.

The study was held at SMP Negeri 9 Ambon. The subjects of this study were the intact students of class $VIII^5$ as the control class (Y) and the intact students of class $VIII^7$ as the experimental class (X). Both classes consist of 30 students'. In collecting the data, they key instrument was the test. The test was

designed based on the materials given in this research. The forms of the test consisted of two parts. The first part was a text for test reading speed of the students, and the second part was fill in the blank space of a text to test students vocabulary mastery, and in the six meetings, the essay test was administered. In analyzing the data, descriptive and inferential statistics were applied.

Research Findings and Discussion

The Result of data normality and homogeneities

The data normality and homogeneities were important steps in experimental research; both of these steps were done before the testing of hypothesis was processed. The homogeneities testing data of this study used F_{test}. The result showed that variant of X1 in pre-test is 64.99 while in Y_1 is 65.15. Meanwhile the variant of X_2 in reading speed test is 65.63 and in Y_2 is 71.59. The result of the data normality and homogeneity can be seen in table below:

Source of Variation	df of numerator n-1	df of denominator n-1	F_{test}	F_{table}
Memory Challenge and Bingo Game Method	**29**	**29**	**1.00**	**1.84**
Reading Speed of X and Y	**29**	**29**	**1.09**	**1.84**

The table above reported that degree of freedom numerator 30-1=29, degree of freedom denominator 30-1=29 with the F_{test} is 1.00 < F_{table} 1.84 and F_{test} is 1.09 < F_{table} 1.84. It meant that the variance data between X_1 and Y_2 is not different (Homogeny). In short the data was equal variance assumed. The normality and homogeneity test above used as the reason to use T-test in testing hypothesis in order to know the difference of the vocabulary achievement and reading speed between Y and X class on pre and post-test.

The normality and homogeneity of X_1X_2 and Y_1Y_2 by divide the large degree two value of standard deviation and the small degree two value of standard deviation. The result of the data normality and homogeneity can be seen in table below:

Source of Variation	df of numerator n-1	df of denominator n-1	F_{test}	F_{table}
Memory Challenge and Reading Speed	**29**	**29**	**1.01**	**1.84**
Bingo Game and Reading Speed	**29**	**29**	**1.10**	**1.84**

The table showed that degree of freedom numerator 30-1=29, degree of freedom denominator 30-1=29 with the F_{test} is 1.01 < F_{table} 1.84 and F_{test} is 1.10 < F_{table} 1.84. It meant that the variance data between X_1X_2 and Y_1Y_2 is not different (Homogeny). In short the data was equal variance assumed. The normality and homogeneity test above used as the reason to use T-test in testing hypothesis in order to know the difference of the vocabulary achievement and reading speed between Y and X class on pre and post- test.

The Result of Hypothesis Testing

This research used T-test with some statistical procedures to test the hypothesis. In this research, to reject or to accept the null hypothesis. The result of hypothesis testing can be seen in table below:

Source of variation	The Result of T_{test}	Significance (p-level)	Result of T_{test}	Mean	
				X	Y
Vocabulary	**37.0**	**0.000**	**Significance**	**85. 7**	**71 .5**
Reading Speed	**47.4**	**0.000**	**Significance**	**67.3**	**66.00**

Based on the data above, it showed that the differences result of vocabulary achievement between X and Y. The mean score result of X_1 is 85.7 was higher than Y_1 with 71.5 and the result of T_{test} was 37.0 with probability was 0.000 (p-level< α = 0.05. The result revealed that the T_{test} (37.0) >T_{table} (2.004) which meant that null hypothesis was rejected and hypothesis one (alternative hypothesis) was accepted.

Meanwhile the data of reading speed showed the differences result between X_2 and Y_2. It can be seen that, mean score of X_2 is 67.3 was higher than Y_2 which meant score of its class was 66.00 and the result of T_{test} was 47.4 with probability is 0.000 (p-level< α = 0.05. The result reported that the T_{test} (47.4) > T_{table} (2.00) which meant that null hypothesis was rejected and hypothesis one (alternative hypothesis) was accepted.

While the data of Memory Challenge Game, Bingo Game and Reading Speed showed the differences result between X_1X_2 and Y_1Y_2. The result of T_{test} of X_1X_2 was 4.22 and the result of T_{test} of Y_1Y_2 was 1.15, with probability is 0.000 (p-level< α = 0.05. to test the hypothesis. The result described that X_1X_2 T_{test} (4.22) > T_{table} (2.00) and Y_1Y_2 T_{test} (1.15) < T_{table} (2.00) which meant that null hypothesis was rejected and hypothesis one (alternative hypothesis) was accepted in Experimental Class while null hypothesis was accepted and hypothesis one (alternative hypothesis) was rejected in Control Class.

In short, the students who were taught of both Memory Challenge Game Method and Reading Speed have significant improvement of vocabulary. Even though, the students who were taught with Memory Challenge Game Method and Reading Speed have better significantly vocabulary achievement than the students

who are taught with Bingo Game Method and Reading Speed. Furthermore H_1 in this case the alternative hypothesis was accepted in Experimental Class.

The Discussion

This study discussed the positive and significance influences of Memory Challenge Game Method and reading speed toward the students' vocabulary (nouns, adjectives, verbs)' achievement. Based on the result of hypothesis, it showed that students who were taught with Memory Challenge Game Method have a better significant improvement of vocabulary (nouns, adjectives, verbs) and reading speed than those who were taught with Bingo Game Method. Thus, the null hypothesis was rejected and the researcher's hypothesis in this case alternative hypothesis was accepted, it can be proved in explanation about the influences of Memory Challenge Game Method to improve students' vocabulary (nouns, adjectives, verbs) and reading speed.

There are significantly differences in vocabulary achievement between the students who are taught by memory challenge game method and those who are taught by using bingo game method.

In order to be able to mastering English as a language, Jumiarti (2010) stated that EFL learners have to know the high frequency words or words that uses most often in communication either in classroom or outside classroom activities and the words that occurs frequently in texts. It means that to be able to know those words above the students have to do more practice in the classroom. Practice means learn more in order to be able to memorize. Memorization is helped when words are recycled regularly by using meaningful activities like game (Neyadi, 2007). So, Koprowski (2006) offered Memory Challenge Game Method to help students' rehearsal new words.

The result of applying Memory Challenge Game Method showed that the students competed and work hard based on the rule when; the teacher separated them into group then asked them to write down as many words of nouns, verbs and adjectives from a text in two minutes then memorize them in three minutes after that they have to collected the text and repeated those words by write on the board individually. In the end, the teacher had the opportunity to clarifying the incorrect words on their parts. According to several rules above, it can be said that this game not only involved the students to tried hard to do their task, but also, the teacher had to do their responsibility in teaching and learning vocabulary due to increase students' vocabulary.

The improvement of both experimental and control class can be found in pre-post-test. When researchers conducted the pre-test to check the students' vocabulary in experimental class and control class, their result was poor which meant that the students were lack of vocabulary. Whereas, when applying Memory Challenge Game Method students were able to determine the part of vocabulary, they analyzed the text which contains some of nouns, verbs and adjectives, gave each member task to memorize their own words also helped each other memorizing those words.

After applied Memory Challenge Game Method, most of students in experimental class have better improvement of vocabulary especially nouns, verbs and adjectives. It can be seen when the post test was given. Twenty students got very good level; seven students got good level and three students got fair level. Meanwhile, in control class when applying Bingo Game their vocabulary of nouns, verbs and adjectives had improve but was not same with experimental class that have significant better improvement of students' vocabulary, it can be seen that eleven students got very good level; eight students got good level; three students got fair level and eight students got poor level.

The result of pre-test and post-test can be described statistically. First is pre-test, it showed F_{test} was 1.00 < F_{table} 1.84 with degree of freedom numerator 30-1=29, degree of freedom denominator 30-1=29, which meant that the variance data between Control and Experimental class was not different (Homogeny). Besides, it can be summarize that the data was equal variance assumed. This normality and homogeneity test above can be used as the reason to use T-test in testing hypothesis in order to know the difference improvement of adjective vocabulary between control class and experimental class.

Second, the researchers used T-test to test hypothesis in order to know the difference of students' vocabulary achievement between experimental and control class. The result of T_{test} was 37.0 and T_{table} was 2.00 with the significance 5% (H_1 is acceptable if $T_{test} > T_{table}$), it showed that H_0 was rejected and H_1 was accepted. On the other side, mean score of experimental class was 85.7 higher than mean score of control class was 71.5.

The results of pre-test and post-test have differences when applying Memory Challenge Game Method in experimental class. The improvement also can be seen by the mean score after applying Memory Challenge Game Method, in this case Post-test (85.7) was more than the mean score before applying this game, in this case Pre-test (68.17) and the improvement of reading speed after applying Memory Challenge Game can be seen at the result on the pre-test (65.33) was more than the mean score on post-test (67.3).

From the description above, it can be concluded that there was significant differences of vocabulary achievement between students who were taught with Memory Challenge Game Method in experiment class and they who were taught Bingo Game Method in control class.

There were significantly differences in students' reading speed between the students who are taught by memory challenge game method and those who are taught by using bingo game method.

Carver (1982) as cited in Chang (2012) stated that an optimal reading rate for native reader is between 250 words per minute (wpm) and 350 (wpm), allowing readers to comprehend a text more efficiently. While the fast reader can usually read 600 words per minute.

One of six purposes of reading speed is to help you improve both vocabulary and general knowledge (Buzan, 2003). On the other hand, reading speed helps us developing our vocabulary. Dodd (2014) wrote scanning is the part of speed reading. Do scanning same as do intensive reading. He continued that

intensive reading is focuses on understanding vocabulary and looking at organizational patterns and text processing tactics. In short, text or stories give new words and also another meaning that helps us to gain and comprehend.

The result of applying Reading Speed showed that the students started reading speed after playing Memory Challenge Game Method. The result of pre-test and post-test can be described statistically. First was pre-test, it showed F_{test} is 1.09 < F_{table} 1.84 with degree of freedom numerator 30-1=29, degree of freedom denominator 30-1=29, which meant that the variance data between Control and Experimental class was not different (Homogeny). Besides, it can be summarize that the data was equal variance assumed.

After the treatment in both experimental class and control class, the post test was given to make sure reading speed improvement. The researcher used T-test to test hypothesis in order to know the difference of students' improvement in reading speed from both classes. The result of T-test was 47.4 and T-table was 2.00 with the significance 5% (H_1 was acceptable if $T_{test} > T_{table}$), it showed that H_0 was rejected and H_1 was accepted. On the other side, Mean score of experimental class (67.3) was higher than mean score of control class (66.0).

The results of pre-test and post-test have differences of reading speed in experimental class. It meant that most of the students were trying to read faster to be able to get the level excellent level. Unfortunately, the mean score of Post-test (137.0) is less than the mean score before applying this game, in this case Pre-test (143.8).

From the description above, it can be conclude that there was significant differences of students reading speed improvement between students who were taught with Memory Challenge Game Method in experiment class and they who were taught Bingo Game Method in control class.

There were significantly differences in vocabulary achievement between the students who were taught by memory challenge game method and their reading speed and the students who were taught by bingo game method and their reading speed.

The result of the T_{test} of Memory Challenge Game Method and Reading Speed on Experimental Class was 4.22 with the significance 5% (H_1 was acceptable If $T_{test} > T_{table}$), it showed that H_0 was rejected and H_1 was accepted. Meanwhile the T_{test} of Bingo Game Method and Reading Speed on Control Class was 1.15 with the significance 5% (H_1 was acceptable If $T_{test} > T_{table}$), it showed that H_0 was accepted and H_1 was rejected

From the description above, it can be conclude that there was significant difference of Vocabulary Achievement between students who were taught with Memory Challenge Game Method and Reading Speed in experimental class than they who were taught Bingo Game Method and Reading Speed in control class. It is also can be said that, the application of Memory Challenge Game Method and reading speed is gave influence to increase students' vocabulary (nouns, verbs and adjectives).

Conclusion and Suggestion

From the research findings and its discussion, it can be concluded that first, there is positive and significance influence of vocabulary achievement from the students who are taught by the memory challenge game method. It can be proved on the result of mean score between Memory Challenge Game Method and Bingo Game Method, and also on the pre and post test result. Second, there is a positive and significance influence of students' reading speed towards their vocabulary achievement. The Memory Challenge Game Method was useful for the students to develop their reading speed in scanning many words of nouns, verbs and adjectives. Third, there is positive and significance influence of the memory challenge method and reading speed towards their vocabulary achievement.

Based on the result of this study, some suggestions are provided. The first, EFL teachers can use this method as the effective teaching method, if EFL teachers consider the learning styles and the level of their vocabulary size. Second, EFL teachers need to design challenges tasks to make students compete with each other therefore they will explore deeply the words they learn. EFL teachers should give more chance for the learners to practice the words they learn both in oral and written forms as much as they can therefore they can remember the words.

References

Azar, A. S. (2012). The effect of games on EFL learners' vocabulary learning strategies. *International Journal of Basic and Applied Science,* 01(02), 252-256.

Buzan, T. (2003). *The Speed Reading Book*. London: BBC Active.

Chang, A. C-S. (2010). The effect of a time reading activity on EFL learners: Speed, comprehension, and perception. *Reading in a foreign language*, 22(2), 284-303.

Chang, A. C-S. (2012). Improving reading rate activities for EFL students: Timed reading and repeated oral reading. *Reading in a foreign language*, 24(1), 56-83.

Dodd, N. (2014). Activities for skim reading to improve speed reading in EFL. Retrieve from http://www.ehow.com

Jumiarti. (2010). Improving the vocabulary mastery of EFL students.

Koprowski, M. (2006). Ten good games for recycling vocabulary. *The Internet TESL Journal*, 7(7). Retrieve from http://iteslj.org/Techniques/Koprowski- RecyclingVocabulary.html.

McCarten, J. (2007). Teaching vocabulary; Lessons from Corpus, Lessons for The Classroom. Cambridge University Press.

McCartney, E. (2006). *Language support model. Principles of vocabulary development: for Teacher*. University of Strathclyde. Glasgow.

Neyadi, O. S. A. (2007). The effect of using games to Reinforce Vocabulary Learning. 99-107.

Nordquist, R. (2014). Reading speed definition.

Opitz, M. F. & Rubin, D. (2006). *Diagnosis and improvement in reading Instruction* (5th ed.). London: Allyn & Bacon.

Tannenbaum, K. R., Torgesen, J. K. & Wagner, R. K. (2006). Relationships between word knowledge and reading comprehension in third-grade children. *Scientific studies of reading*, 10(4), 381-398.

Vocabulary.co.il. (2014). One thousand free English vocabulary building games. speed reading and comprehension.