Do the Keyword Method as Mnemonic Device and Language Aptitude work on The Student's Vocabulary Retention?

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Abstract

The final goal of learning a foreign language is vocabulary acquisition. Accordingly, the way learners study English must be packed creatively and uniquely. The use of the keyword method has been proven to improve immediate and delayed vocabulary retention. However, it needs to be revealed if the effectiveness of the keyword method is due to the effectiveness of the keyword method or someone's language aptitude. This study was conducted at the Senior High School of Bangsal. The research used a quasi-experimental design in two groups contain 32 students in each class to answer two research questions. The participants were classified into high and low language aptitude. The calculation used two-way ANOVA factorial design 2x2. The result showed the experimental group outperformed the control group in vocabulary retention and proved the effectiveness of the keyword method on the repetition method. The finding suggests the teacher use the keyword method to teach vocabulary. Likewise, it showed that the effectiveness of the method was not influenced by learners' language aptitude. The keyword method was effective for all learners no matter the level of language aptitude of the students have.

Keywords: keyword method, language aptitude, vocabulary retention

INTRODUCTION

Vocabularies are basics to all four skills but not taught specifically in class. Vocabulary study was one of the traditional language-teaching method (Zimmerman, 1997, p. 5). It was delivered by boring ways with lists, definitions, written and oral drills, and flash cards. In the end of the twentieth century, better concerns of vocabulary learning was revived among many levels and context of proficiency. Wilkins (1972) assumes that persons who don't know grammar, has a little knowledge of a language, but without vocabulary, they totally don't understand a language.

Before the CLT (Communicative Language Teaching), people widely used Grammar Translation and Audio Lingual approaches. The Grammar Translation approach is to benefit from

the mental discipline and doesn't concern on speaking/listening. While the language is studied through the use of grammar, followed by translating sentences. The vocabulary is presented through bilingual word lists, dictionary and memorization. The sentence in the Grammar Translation approach, is the basic unit of teaching and practice. The accuracy is emphasized, to attain high standards in translation. Based on its name, grammar is taught deductively, by presentation and study of grammar rules. The Audio Lingual approach, which behaviorism was believed as the best concept to learn something, by its repetition (drills), but the drawback is that learner is treated as a passive entity. There is no room for authentic language.

Chomsky (1959) harshly criticized this model. He thought that this method is not satisfying, nor provide with creativity and uniqueness in language production processes, inherent to every speaker. Learning then will not be based on habit formation, but on rational acquisition of the finite set of rules which enables a speaker to produce/understand an infinite range of experiences. As repetition and memorization are realized not enough forms, and the focus was shifted to advance the aptitude to use language for practical ends. Henceforth, the traditional methodologies gave way to Communicative Approach.

From Communicative Approach, then emmerged CLT which offers the vocabulary teaching with the concept of incidental learning, by-product of comunicative activities, rather than intentional learning. The incidental learning is believed has a tempting expectation which gives access to a broader input for the language learners, then they will gain vocabularies automatically (Brown, 2014). The learning strategy of vocabulary explicit instruction is needed to help the students' conciousness so that they can learn by themselves outside the classroom (Atay and Ozbulgan, 2007). But Schmitt (2008) argues that the intentional learning is better since the features of vocabulary need concious attention, the learners do not often know the features since they are too focus on the cognition of the tasks. Then Laufer (2003) believes about the excellence of intentional learning in the language acquisition.

Hornby (2000) in Oxford Advanced Learner's Dictionary of Current English says that vocabulary is every word that people use or be familiar with, the words or groups of word that are used in communication about a topic. There are some classification of vocabulary. First is based on its frequency, second is according to its use in the four skills, and the last is based on its specialized text where it is found. Gairns and Redman (1991), Nation (2001) and Pikulski and Templeton (2004) state that vocabulary based on its use is divided into two types, first is receptive vocabulary, it is the word that learners can see and understand in the context of reading and listening material. While productive/expressive vocabulary is the words that learners can recall and use appropriately in speaking and writing to express themselves and to send their messages.

The two types of vocabulary are frequently called as passive and active vocabulary (Gairns and Redman, 1991). Pikulski and Templeton (2004) add two more types of vocabulary, (a) meaning/oral vocabulary which refers to the combination of listening and speaking vocabulary, (b) literate / written vocabulary which refers to the combination of reading and writing vocabulary. Based on the frequency of vocabulary, it is divided into two types; high vocabulary is vocabulary that is frequently used in normal language in the four skills and over the full range of conditions of use. Nation and Newton (1997) and low frequency vocabulary consists of words that are rarely used in common activity of a language in all four skills. It covers a small proportion of any text. (Nation, 2007).

The ability of remembering the words is of course different between one to another, depends on the frequency of using the words or the tricks of storing the memory in the brain. Many

ways are taken to enhance the remembering ability of someone, one of them is using the keyword method as mnemonic device. The use of mnemonic can help a teacher in teaching materials thus it is easily understood by the students. The teacher also be able to give the students some tricks that can be used to enhance the knowledge concept, both individually and groups. The use of a mnemonic device is a useful way to avoid this boring situation, however some people think that it is only for the lower level students. It is not always correct as a mnemonic can be implemented to assist the students to master a concept so that this model can also be learned in a lively situation. That way, a mnemonic can be very effective and can make the students to have more motivation then they will have an attractive lesson time (Georger in Amiryousefi, 2011:180). Atkinson (1975) promoted a mnemonic technique based on imagery – the keyword method – for learning foreign language (FL) vocabulary. But Wang, Thomas, and Ouelette (1992) argue that the Keyword method only works for short retention. However many researches find the Keyword Method is effective for the vocabulary retention, short-term or long-tern retention. The keyword method has been proven to improve immediate and delayed vocabulary retention (Avila & Sadoski, 1996).

The Keyword Method may have become one of the success factor for language learners to study English, but the the researcher wants to know is whether the student's aptitude in language is one of the factor that influence the superiority of keyword method. As Gu (2008) states that of all individual differences, the correlations between language aptitude and language learning success are very stable.

There are many studies about keyword method but only a few about language aptitude and its influence in language learning. The researcher wants to know whether there is a difference result when the Keyword Method implemented to a student who has different language aptitude.

The scholars thinks that language aptitude is an important factor in second language acquisition. But the language aptitude is hard to rate effectively. It now has better way in measuring an in the theoretical research it can provide a useful data. The researcher used Modern Language Aptitude Test (MLAT) to conduct the language aptitude test to gauge the aptitude of students in a foreign language since Mistar, J. (2001) believes that MLAT and EPQ-R Short Form are the best predictors of someone's language aptitude. Modern Language Aptitude Test (MLAT) introduced by Caroll & Sapon (1959) is the most fabulous and broadly used around the world by many organizations owing to the accurate result. It contains five parts of test, each which scales a particular skill which has connection with a foregn language learning.

The first objective of this research is to measure the effectiveness of the Keyword Method as mnemonic device to know the influence of student's language aptitude towards the Keyword Method. And the second one is if the keyword method is proven as an effective teaching method, do the effectiveness of the method is because of the student's language aptitude

METHOD

The research utilized quantitative research design. The 1st independent variable is teaching method, in this case is the Keyword Method as a mnemonic device and the repetition method. The 2nd independent variable is student's language aptitude and the dependent variable is vocabulary retention. The researcher used Quasi Experimental design. Creswell (2008) states that quasi-experiment is experimental situation in which the researcher assigns participants to groups, but not randomly.

Participants

The population of this research is all of 1150 students at SMAN 1 Bangsal – Mojokerto study in 36 classes, from grade X – XII. There were two classes selected as a control and experiment group. After a homogeneity test was conducted to three classes, XI MIA 5, and XI MIA 6, and XI MIA 7, then two classes were selected since they are homogenous in English knowledge (see table 3).

The result between XI MIA 5 and XI MIA 6 which has 0.290 of significance value is the value that shows a homogeneity. Because the significance value of the two group in the homogeneity test is 0.290 > 0.05, then the two groups are homogenous and they were appointed as experimental and control group.

After doing a toss with a coin, then thirty two students of grade XI Mia 5 were appointed as the experiment group and thirty two students of grade XI Mia 6 were as the control group.

Table 1. Test of Homogeneity of variances between XI MIA 4 and 5

		Levene Statistic	df1	df2	Sig.
	Based on Mean	8.173	1	62	.006
	Based on Median	5.876	1	62	.018
Homogenety Test Score	Based on Median and with adjusted df	5.876	1	52.324	.019
	Based on trimmed mean	7.598	1	62	.008

Table 2. Test of Homogeneity of Variances between XI MIA 4 and 6

		Levene Statistic	df1	df2	Sig.
	Based on Mean	4.155	1	62	.046
	Based on Median	4.580	1	62	.036
Homogenety Test Score	Based on Median and with adjusted df	4.580	1	61.531	.036
	Based on trimmed mean	4.578	1	62	.036

Table 3. Test of Homogeneity of Variances between XI MIA 5 and 6

|		Levene Statistic	df1	df2	Sig.
	Based on Mean	1.139	1	62	.290
	Based on Median	.509	1	62	.478
Homogenety Test Score	Based on Median and with adjusted df	.509	1	55.023	.478
	Based on trimmed mean	.876	1	62	.353

Instruments

There were three instruments used in this research; (a) homogeneity test is a test to measure the English knowledge homogeneity among classes, there are 20 questions of English knowledge in the test and must be done in 30 minutes (b) Language aptitude test is a test to predict someone's language aptitude. It is administered in Bahasa Indonesia because it is the native language of the students. It is not tested the student's English knowledge, but language aptitude. Thus the Indonesian translation of MLAT by Mistar, J (2001) was used. 49 items in three sections, number learning, word in sentences and pair association, were given to the students. (c) Post-test was used

to measure students' vocabulary retention after they were given treatments. There are 40 items in the test and must be done in less than 30 minutes. The result of the post-test is used to analyze the result of the treatment given.

Data collection method

Figure 1. Data collection method
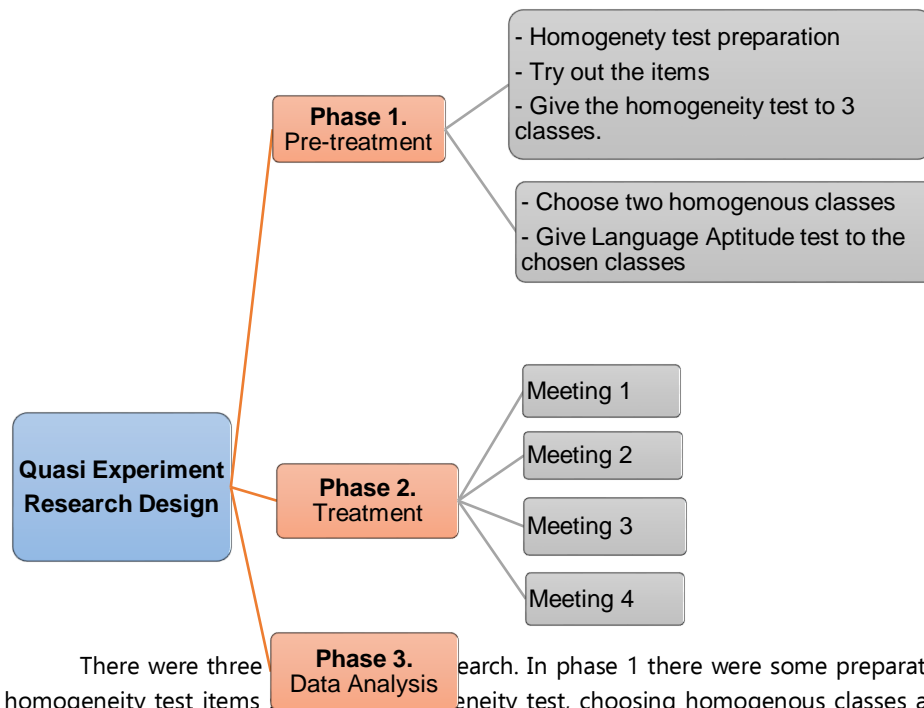
There were three phases in this research. In phase 1 there were some preparations, such as homogeneity test items, try out homogeneity test, choosing homogenous classes and language aptitude test using Modern Language Aptitude Test (MLAT).

In phase 2, the treatment to the experimental and control class was done in four meetings. The first meeting, was done to introduce the text 1 to the students and asked the students to memorized 18 words. The experimental group used keyword method to memorize the words but the control group used repetition method. In the second meeting, the students in both groups were asked about their vocabulary retention randomly and did reading comprehension. In the third meeting, The students were introduced with text 2. Having read the text the students were asked to memorize 22 words. The experimental group used keyword method to memorize the words but the control group used repetition method. In the last meeting, the students in both groups were asked about their vocabulary retention randomly and did reading comprehension.

In phase 3, the post-test was conducted and continued with data analysis.

Data analysis

Table 4. The Statistic Description of Factorial Design 2x2

Teaching Method	Language aptitude	
	High	Low
Keyword Method	$\bar{x}$ = 73	$\bar{x}$ = 75
	s = 15	s = 17

Repetition Method	$\bar{x}$ = 58	$\bar{x}$ = 58
	s = 23	s = 9

Table 4 explains about the statistic description of the data taken in the experimental and control classes. The table shows mean score ($\bar{x}$) of post-test obtained by each group of language aptitude categorization in each class. It also shows the total participants (s) in each groupd of language aptitude categorization in each class. From the table, it was found that the experimental class which was taught with keyword method, there were 15 students (s) who were categorized as students with high language aptitude obtained mean score ($\bar{x}$) = 73 in post-test. While, there were 17 students who were categorized as low language aptitude obtained mean score ($\bar{x}$) = **75** of post-test.

In the other class, XI MIA 6 as the control group who were taught with conventional method, namely repetition method, there were 23 students (s) who were categorized as students with high language aptitude obtained mean score ($\bar{x}$) = 58 in post-test. Students who were categorized as low language aptitude were 9 students with mean score ($\bar{x}$) = 58 in post-test.

The SPSS 20.0 for Windows Program was utilized to conduct the data analysis of Two-way ANOVA 2 x 2. The two-way ANOVA does the calculation by comparing the results of the post-test of control and experimental class to answer the first research problem, then compares the post-test result with the result of students' language aptitude test to answer the second research problem. Finally, it also analyzes whether there is an interaction between the teaching method and the students' language aptitude.

Table 5 explains that there were 38 students in both groups with high language aptitude and 26 students with low language aptitude.

Table 5. The number of the subjects factors

		Value Label	N
Teaching method	1	Keyword method	32
	2	Repetition method	32
Language aptitude	1	High language aptitude	38
	2	Low language aptitude	26

RESULT

The effect of teaching method

The tests of two-way ANOVA was conducted to detect the connection between factors or variables in the research. The results show some values generated by the the calculations among the factors. However, to answer the hypothesis in the first chapter above, it doesn't need to explain all of the result in the table. The researcher only reads the most three important of them to know if a hypothesis (H_1) is accepted or rejected.

Table 6. The Tests of Between-Subjects Effects

Dependent Variable: Post_Test

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Teaching method	3841.713	1	3841.713	13.249	.001
Language aptitude	7.704	1	7.704	.027	.871

Interaction between teaching method and language aptitude	12.939	1	12.939	.045	.833

a. R Squared = .199 (Adjusted R Squared = .159)

The significant value (Sig.) of the teaching method shows 0.001, It is smaller than 0.05, means that The hypothesis (H_1) of the research is accepted. It indicates that students taught with the keyword method achieve better than students not taught with the keyword method. It proves the effectiveness of the teaching method in the experimental class ($\bar{x}$ = 74.0) compares with the teaching method in the control class ($\bar{x}$ = 57.6). The mean scores ($\bar{x}$) of the score of students' vocabulary retention can be seen in the table 7.

Table 7. The mean score of each group

Dependent Variable: Post-Test

Teaching method	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Keyword method	74.010	3.016	67.977	80.043
Repetition method	57.609	3.348	50.912	64.305

The effect of language aptitude

The section of interaction between the teaching method and language aptitude shows a significant value (Sig.) of 0.833, It is bigger than 0.05, means that the hypothesis (H1) of the second research problem is rejected. There is no interaction between keyword method and the language aptitude. It indicates that the the effectiveness of the keyword method is not influenced by students language aptitude.

The section of interaction between the teaching method and language aptitude shows a significant value (Sig.) of 0.833, It is bigger than 0.05, means that the hypothesis (H1) of the second research problem is rejected. There is no interaction between keyword method and the language aptitude. It indicates that the the effectiveness of the keyword method is not influenced by students language aptitude.

Table 8. The mean score of each language aptitude level in each group

Dependent Variable: Post Test

Teaching method	Language Aptitude	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Keyword method	High language aptitude	73.167	4.397	64.372	81.961
	Low language aptitude	74.853	4.130	66.592	83.114
Repetition method	High language aptitude	57.717	3.551	50.615	64.820
	Low language aptitude	57.500	5.676	46.146	68.854

Table 8 shows that the students with low language aptitude obtained higher than the students with high languange aptitude in achievement. However the different result obtained by the students in the control group, as shown in the table. Both language aptitude categorization obatained the same, $\bar{x}$ = 58. In conclusion, By looking back to the table on the interaction between teaching method and language aptitude, the significant value (Sig.) = 0.833 > 0.05, reveals that there is no interaction occurs between the keyword method and the vocabulary retention.

DISCUSSION

There are many previous studies about keyword method and language aptitude. However, none of them study whether the factor of language aptitude influences the result of keyword method. That is why this research is significant for the study of English language teaching especially the teaching of vocabulary.

The Superiority of keyword method

The finding data in the previous chapter have answered the questions of this research. The presumption that the keyword method as the mnemonic strategy as an effective method to teach the students has been strongly supported. The students who were taught with keyword method achieve better in vocabulary retention than the students who were taught with repetition method. The significance value (Sig.) of the effectiveness between two methods is 0.001 which means its effectiveness is very high because further from 0.05. Although the effectiveness of the keyword method has been proved by many experts, yet it was still surprising for the researcher, for it seems that all of the students in both groups could answer the questions from the researcher orally. However the post-test had uncovered that the keyword method is more effective than the repetition method. As Raugh and Atkinson (1975) discover that the experimental group who used the keyword method can achieve three times better than the control group who used the repetition method. It prooves that the keyword method is a very strong method to develop the students' vocabulary retention.

This research also reveals some facts associated with the keyword method, such as the students in the experimental group were shock in the first period of the treatment. They were surprised of the way the vocabulary memorization taught since there was not such a method alike this one. They felt a little shock with the pictures presented to link between the word and the meaning. The students were stunned to see how their native language is linked with English, sometimes in silly way. The students sometimes laughed at the association pictures, however it is a good way to strengthen their retention. Mnemonics, especially the keyword method, gives a chance to the learners to memorize the vocabulary more effectively (Thompson, 1987:48). A student claimed that the keyword method makes her easier to memorize the vocabulary by seeing the pictures since the brain responses the keyword when she meets the vocabulary (see appendix). The response also triggers the brain to arise the meaning of the word.

The control group which was taught with the repetition method cannot outperform the keyword method. The students' vocabulary retention is better if the teachers implement a new method in their class, such as the keyword method. In addition, the students will enjoy the lesson more as the keyword method is presented more interactively in order to the students are far from the boredom they get from the common lessons.

Wang, Thomas, and Ouelette (1992) finds that in the student's long term vocabulary retention with repetition method is better than the students with the keyword method. But, the result of this research rejects the finding of them. The duration between the last treatment and the post-test was 28 days. It means that the vocabulary retention of the students have been stored in long-term memory retention. The students didn't recall the target words in a long period and almost forget them. However, the experimental class taught with the keyword method is able to recall better than the student in control group. This result is linear with Avila and Sadoski (1996) who convince that the students using the keyword method can memorize better definition of word in both immediate and delayed vocabulary retention. The experimental group taught with the keyword method was superior than the students in control group taught with the repetition method. The condition explains to the teachers about why the students are too easy to loose their

vocabulary when they are taught with the repetition method. The mean score ($\bar{x}$) of the control class was 58, which means that the students have lost almost half of their vocabulary retention in only not more than a month. This fact convinced the researcher that the involvemnet of the two sides of brain right and left, is important to make sure that the students obtained a good result in memorizing something. Eventually, the other methods of memorizing are interested to be tried too.

The influence of student's language aptitude towards the effectiveness of keyword method as mnemonic device in the student's vocabulary retention

The second finding of the research rejects the second hypothesis of "the higher the language aptitude the students have, the better vocabulary retention the students have". With the significance value (Sig.) = 0.833 > 0.05, means that the language aptitude is not the factor which influences the effetivenss keyword method since no interaction occur between the aptitude and the teaching method.

With the keyword method, the students who don't have higher language aptitude can achieve better in vocabulary retention. The students with low language aptitude outperformed the students' with high language aptitude in the vocabulary retention. It is a good news for all learners who think that they are weak in memorizing the vocabulary. They have a broader chance to study new language by using the keyword method. There is no boundary that restricts the learners to learn a foreign language due to their lower language aptitude. Everybody can use the keyword method to gain greater vocabulary retention. The teacher can use the result of learner's language aptitude to adjust the teaching method in a class in order to give same opportunity to each learner in the EFL class.

The question about the accuracy of Modern Language Aptitude Test as an instrument to predict someone's success in language acquisition or whether there is other more effective tools to measure the language aptitude make the study about language aptitude is interesting to do. An argument against the aptitude comes from Skehan (1989) who states that language aptitude is not as relevant as the factors of motivation, personality or cognitive styles. In the other hand, Kocic' (2010) argues that MLAT is more reliable than other tests of intelegence to predict someone's success in learning a language, however it is essential to claim that the variability in scores recomends some factors which may affect the success.

It can be concluded that the keyword method is a superior method of vocabulary retention, no matter the learners begin from lower language aptitude, as long as they learn how to use the keyword method well, they have bigger opportunity to have greater vocabulary retention and success in EFL class.

The implication of keyword method for teachers in efl class

Although the superiority of keyword method in vocabulary retention has been proved, but the implementation of this method needs better preparation in providing the keywords and images. Teachers can create the keyword and the image by simply browsing the internet. There are millions of images available online to pick and use as the teachers wish. For the teachers who have better skill to draw things, it is good to create the image by themselves for it is be able to produce better goal.

By teaching the students how to produce the keyword method, the teachers give another option of memorizing the vocabulary. The students will use the keyword method to memorize

difficult words with simple and enjoyable way. The students will develop their vocabulary retention by themselves and success in the foreign language acquisition.

CONCLUSIONS AND SUGGESTIONS

The effectiveness of the use of Keyword method as mnemonic device to the student's vocabulary retention was proven. The keyword method helps the students to recall the difficult English words better than the repetition method.

It can be seen from the score of the post-test of vocabulary retention of the students. The mean score ($\bar{x}$) of the experimental class who were taught with keyword method was 74.0 and the mean score ($\bar{x}$) of the control class who were taught with repetition method was 58.0. And the significant value between the two results was 0.001. It means that there is a significant difference between the two methods because 0.001 < 0.05.

However there is not an influence of the student's language aptitude to the effectiveness of the use of keyword method as a mnemonic device. As the significant value (Sig.) shows 0.833 > 0.05 in the interaction of the teaching method and language aptitude, the interaction between them didn't occur. The effectiveness of the keyword method was not influenced by their language aptitude. Furthermore, the students of low language aptitude outperformed the students of high language aptitude in vocabulary retention.

The mean score ($\bar{x}$) of students with high language aptitude was 73.1, while the mean score ($\bar{x}$) of students with low language aptitude was 74.8. It means that the students' language aptitude doesn't affect the students' vocabulary retention and there is no interaction between language aptitude and the vocabulary retention.

By considering the results of the research the researcher suggest to other EFL researcher to conduct other research relating with vocabulary retention but with longer duration of retention. And for the English teacher, it is better to use the keyword method to increase the students' vocabulary retention. There is not an influence of the student's language aptitude to the effectiveness of the use of keyword method as a mnemonic device. As the significant value (Sig.) shows 0.833 > 0.05 in the interaction of the teaching method and language aptitude, the interaction between them didn't occur. The effectiveness of the keyword method was not influenced by their language aptitude. Furthermore, the students of low language aptitude outperformed the students of high language aptitude in vocabulary retention.

REFERENCES

Avila & Sadoski. (1996). Exploring New Applications of the Keyword Method to Acquire English Vocabulary. *Language Learning 46(3):* 379-395.

Atay, D., & Ozbulgan, C. (2007). Memory Strategy Instruction, Contextual Learning and ESP Vocabulary Recall. *English for Specific Purposes*, 26(1): 39–51.

Brown, H. D. & Lee, H. (2014). *Teaching by Principles: An Interactive Approach to Language Pedagogy.* New York: Pearson Education.

Creswell, J. W. *(3rd ed).* (2008). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research.* Upper Saddle River, NJ: Pearson Education, Inc.

Gairns, R., & Redman, S. (1991). *Working with Words. A Guide to Teaching and Learning Vocabulary.* Cambridge: Cambridge University Press.

Gu, W. L. (2008). Language aptitude—an important component of individual differences in foreign language learning. *Foreign Languages in China*, (06): 62-67.

Kocic, A. (2010). The effects of aptitude on language learning. Komunikacija i kultura online. *University of Niš, Faculty of Philosophy*. 1(1): 235-243.

Laufer, B. (2003). Vocabulary Acquisition in A Second Language: Do Learners Really Acquire Most Vocabulary by Reading? Some Empirical Evidence. *The Canadian Modern Language Review*, 59(4): 567-587.

Mistar, J. (2001). English Language Strategies of Indonesian University Students across Individual Differences. *Asian Journal of English Language Teaching*, 11(1): 19-44.

Nation, I. S. P. & Newton, J. (1997). Teaching vocabulary. In Coady, J. & Huckin, T. (Eds.). Second Language Vocabulary Acquisition. *New York: Cambridge University Press.* pp. 238-254.

Nation, I. S. P. (2001). *Learning Vocabulary in Another Language*. Cambridge: Cambridge University Press.

Nation, I. S. P. (2007). The four strands. *Innovation in Language Learning and Teaching*, 1(1): 1-12.

Paivio, A. (1986). *Mental Representations: A Dual-Coding Approach*. New York: Oxford University Press.

Pikulski, JJ., and Templeton, S. (2004). *Teaching and Developing Vocabulary: Key to Long-Term Reading Success*. Litho: Houghton Mifflin Company.

Wang, A. Y., Thomas, M. H., & Ouellette, J. A. (1992). Keyword Mnemonics and Retention of Second Language Vocabulary Words. *Journal of Educational Psychology,* 84: 520-528.

Wilkins, D. (1972). *Linguistics in language teaching*. London: Edward Arnold Ltd.

Zimmerman, C. B. *(Eds)*. (1997). *Historical Trends in Second Language Vocabulary Instruction. In J. Coady & T. Huckin (Eds,), Second Language Vocabulary Acquisition.* Cambridge: Cambridge University Press.