

## THE COMPARISON OF USING KEYWORD AND ROOT WORD ANALYSIS METHODS TOWARDS STUDENTS' VOCABULARY MASTERY

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### Abstract

Two methods are used to know the different result of students' vocabulary mastery in this research. Those are keyword method and root word analysis. In this research, the researcher used quasi experiment design. The research was conducted at the second semester of English Department of Muhammadiyah University of Metro in academic year 2015/2016. The researcher took all of the students of second semester as the sample, 23 as the experiment class 1 and 23 were included as experimental class 2 which were taken by using disproportionate systematic purposive sampling. In collecting the data, the researcher used pre-test and post-test. In analyzing the data, the researcher used non-parametric formula. After analyzing the result of data by using non-parametric formula, the researcher gets the result of  $t_{ratio}$  is 5,096 and  $t_{table}$  2,02 (on criterion 1) and 2,69 (on criterion 2). It means that  $t_{ratio}$  is bigger than  $t_{table}$ , then the criterion of  $t_{ratio}$  is  $H_a$  is accepted if  $t_{ratio}$  is bigger than  $t_{table}$ . So, there is the significant difference of learning vocabulary between using keyword method and root word analysis toward students' vocabulary mastery at the second semester of English Department of Muhammadiyah University of Metro in academic year 2015/2016 and keyword method is more effective than root word analysis toward students' vocabulary mastery. Keyword method can be used for increasing the students' vocabulary mastery.

**Keywords:** keyword method, root word analysis, vocabulary mastery

### 1. Introduction

English has been the first foreign language in Indonesia. Indonesia has been carrying out teaching EFL (English Foreign Language) in level of schools, starting to be taught in basic primary school until secondary school. English has four skills that should be mastered by learners until they can use it for communication. Those skills are listening, speaking, reading and writing which need some components namely structure, grammar, spelling and vocabulary. Vocabulary is one of the important

components in language learning which cannot be ignored. Without learning vocabulary, students cannot master English perfectly. EFL learners should know the appropriate words, how to spell, how to pronounce, what the meaning is, etc., to express the idea. In another hand, students need something different to make vocabularies accepted easily. Under scoring the importance of vocabulary acquisition, Schmitt (2000 :55) declares that “Lexical knowledge is central to communicative competence and to the acquisition of a second language”. Nation (2001: 26) further describes that “There is relationship between vocabulary knowledge and language use as supplement: knowledge of vocabulary enables language use and opposite, the use of language aims to an increasing in vocabulary knowledge”. The importance of vocabulary is demonstrated in the students’ daily. “In English as a second language (ESL) and English as a foreign language (EFL) learning vocabulary fiddles important role in all language skills (i.e. listening, speaking, reading, and writing” (Nation, 2011: 56). In a real English learning process, most of the students only found vocabularies intuitively on the text they ever read, without learn them intensively. In giving method to the L2 learners for learning vocabulary need other way from the habitual learning process ever done. The researcher finds the problems on the vocabulary learning of EFL students. In the fact, the lecturers only focus on the finishing of materials in the class. The lecturers ignore the methods that should they use for teaching vocabulary to be interesting. The most important thing they did is giving the students task for remembering the new words. The lecturers do not have any interesting method to make their students get new vocabularies easily.

The problem formulations in this research are: (1) Is there any significant difference between keyword method and root word analysis toward students’ vocabulary mastery? (2) Which one is better of keyword method and root word analysis toward students’ vocabulary mastery. The purposes of this research are : (1) to know the significant difference between keyword method and root word analysis toward students’ vocabulary mastery.(2) to identify which one is better of keyword

method and root word analysis toward students' vocabulary mastery. The benefits of this research are to give some information about the comparison of keyword method and root word analysis toward students' vocabulary mastery, can be used to improve the quality of learning vocabulary, can be used as reference for other researchers who want to conduct research about the differences between keyword method and root word analysis towards students' vocabulary mastery.

## **2. Theoretical Background**

Keyword method, also known as the keyword mnemonic, is among the most widely researched mnemonic strategies. It is one of the most powerful methods for learning the meaning of foreign language vocabulary, and can also be used for remembering the pronunciation of a foreign language word when given a word in one's native language. Other uses include new terminology and facts in one's own language. Based on Helmut (2012), he argues that keyword method has important role as tool in the personal language learning toolbox. Onur Köksal and Ahmet Çekiç (2014: 1031) conclude as follow :

Mnemonic refers to systematic procedures designed to improve one's memory. It is essentially a mnemonic technique. In this technique, a new word is associated to a similar sounding familiar word or keyword. After, a mental image is formed to link the unfamiliar word to the keyword. The learner generates or is provided pictorial association of the definition referent that interacts with the keyword.

Chen & Hui-Jing (2006: 14) declare that “keyword method is effective for ESP learning because it provided a meaningful visual image upon which to base memory for the meaning of new words”.

In conclusion, the researcher argues that keyword method is one of important strategies to build students' memory by imagine the words which can be constructed in systematic procedures.

Thus, One way in which vocabulary knowledge can be enhanced so that they are able to comprehend a reading text through the use of morphological analysis to predict the meaning of novel vocabularies.

Farsi (2008: 52) declares morphological analysis as follow:

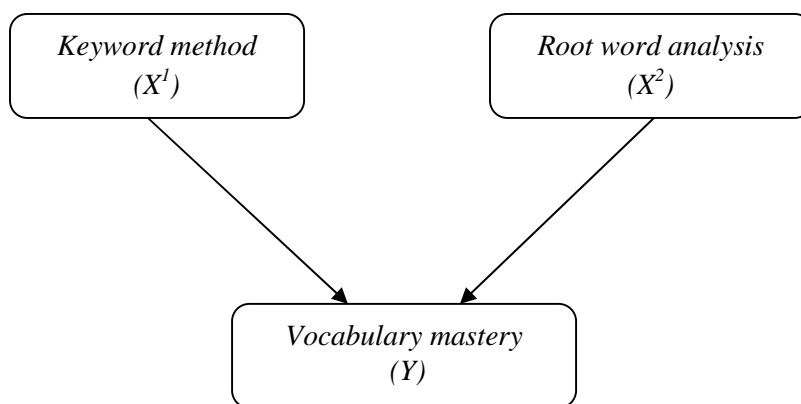
Morphological analysis is the process of disassembling complex words into meaningful parts (prefix, suffix, and root), such as *childhoods* = *child* + *-hood* + *-s* and reassembling the meaningful parts into new meanings (*motherhood*, *fatherhood*, *brotherhood*).

It is also supported by Arnoff and Fudeman (2005: 15) who state there are two approaches of morphological analysis, they are the analytic approach which is concerned with morpheme identification or breaking words down into its meaningful components and the synthetic approach which is concerned with productivity of morphological structure or bringing the smallest pieces (morphemes) together to form words.

Morphological analysis involves three skills: (a) breaking a new word into its morphological parts, (b) connecting a meaning to each of those parts, and (c) combining the meaning of the parts to determine the word's definition. When learners have those skills, they may be able to predict the meaning of morphologically complex difficult word. This is because having an awareness of morphological structure and the ability to break down morphologically complex words into their constituent parts may help learners assign meaning to new words they encounter in text. Kuo and Anderson (2006 :161) also state that "learners who are provided with morphological knowledge including the knowledge of how words are formed, by combining prefixes, suffixes, and roots have larger vocabulary repertoire and better reading comprehension". Therefore, morphological analysis may turn to be one of fruitful strategies to uncover the meaning of new words for promoting learners' vocabulary knowledge.

Based on some explanations above, the researcher can show off the conclusion that root word analysis is disassembling complex word to be some parts which can become new words or identifying morpheme word become new meaningful words then it can affect vocabulary mastery and one of English skill especially in reading comprehension.

Based on the conceptual of those methods, the researcher compares them to know the result of students' achievement in vocabulary mastery by using both of methods. The researcher shows the thinking framework of this research as follow:



In this research, the thinking framework is keyword method and root word analysis as independent variable and vocabulary mastery as dependent variable. Keyword method is different from root word analysis. Although both of them have a relation but the use of them are different. Keyword method used to construct someone's image to link a keyword to be some words and appears the meaning. As Onur Köksal and Ahmet Çekiç (2014 :165) said that "mnemonic keyword method refers to systematic procedures designed to improve one's memory". Shapiro and Waters (2005: 48) indicated that the "keyword method of vocabulary learning is a mnemonic method to help students learn foreign vocabulary". The keyword method was effective for that, because it provides a meaningful visual image upon which to base memory for a new word's meaning. He argues that in this method a foreign word is

connected to its English translation by a chain of 2 links-similarity in sound (acoustic link) and a mental image of the interaction between the 2 words (imagery link).

While, the root word analysis is breaking process on one word by dividing one complex word into some words which have more than one meaning. Stahl (2000: 99) states that “knowing a word means not only knowing its literal definition but also knowing its relationship to other words, its connotations in different contexts, and its power of transformation into various other forms”. According to Nation (2005: 55), “morphological analysis involves three skills: (a) breaking a new word into its morphological parts, (b) connecting a meaning to each of those parts, and (c) combining the meaning of the parts to determine the word’s definition”.

So, the difference of using keyword method and root word analysis is in process. Keyword method is building new words from one keyword and constructing someone’s image. From its keyword will make new meaning. Then root word analysis is analyzing one complex word into some parts of the word and building up the new meaning from its part.

### **3. Method**

This reasearch is included as an experimental research. According to Sugiyono (2013: 109) “Experimental research is research methodology which is used to find out the effect of the treatment to other in a restrained condition”. The researcher uses comparative research which is belonging to quantitative research. The type of experiment research which is used in this research is quasi experimental design, it is the developing of a true experimental design. The researcher uses simple random sampling. The researcher takes one class on second semester of English Department of Muhammadiyah University of Metro academic year 2015/2016 to be divided into two classes. They were experimental class 1 and experimental class 2. The researcher divided them from 47 students by disproportionate stratified random sampling, because those classes consist of some boys and girls randomly. It is also included as

systematic sampling because the way to divide them into two classes used odd and even SRN. Whoever had odd SRN were included as experimental class 1 and students who had even SRN were included as experimental class 2. So that, each class consists of 24 and 23 students which got the different treatment from the researcher. But, the amount of those classes is not balance. Experimental class 1 has 24 students and experimental class 2 has 23 students. So, it should be balanced to be 23 students for each class in counting the data. Dividing into balance amount is using purposive sampling which relieve one sample from the data of experimental class 1. In this research the researcher used all the population as sample of the research. But, one of students' data from experimental class 1 was not included into the calculation result even that student was given the treatment like others. After dividing the sample into each class, the treatment were given to them which experimental class 1 was given the treatment through keyword method and control class got the treatment through root word analysis. For collecting the data the researcher used pretest, treatment and posttest. Pre Test is a first round test manages to determine a student's knowledge or preparedness for an educational experience or course of study. This step is given before presenting the treatment to know how far the student's vocabulary mastery. Pre-test consist of 30 items which is served into multiple choices with four choices those are a, b, c, and d. The students must answer the question as suitable as their own capability. When the students can answer all of the questions correctly, they get score 100 from 30 multiple choice questions. But, researcher makes sure that not all of the students can answer the questions correctly.

Treatment is an activity in giving lesson by method, technique or some games. The treatment conducted after pre-test and before post-test to know the students accomplishment on vocabulary mastery. The treatments are used by the researcher are keyword method for experimental class and root word analysis for control class.

In Post Test offered after a lesson or a period of instruction to conclude what the students learned, and to recognize the effectiveness of the technique which is utilized. After giving the treatment, the researcher presents the post test and asks the students for answering the test based on the treatment which has given by the researcher. Actually, there is no difference between pre-test and post-test questions. The post-test consist of 30 items which is served into multiple choices with four choices those are a, b, c, and d. The students must answer the questions as can as their own ability. While the students answer all questions correctly, they get score 100 from 30 multiple choice questions. So that, the researcher can conclude which one better between keyword method and root word analysis.

The researcher gives the measuring to the students by giving some test appropriate amount of the variable and this research has two variables. So, the researcher gives 2 measuring for each variable. The instrument which is given to the sample is multiple choices which contain a, b, c and d. the instrument is constructed by matching with the syllabus of two variables (keyword method based on syntax course and root word analysis based on morphological subject). There are 30 questions which is given to get the data.

#### **4. Result and Discussion**

This research has some results in every measurement. The first result is in validity of instrument. In this research, there are two instruments. They are the instrument of pre-test and post-test. The researcher uses content validity which compares the content of Syntax and Morphology material to the content of the material which have been taught to the research sample. There are 30 (thirty) items for students' vocabulary mastery. The result of the validity is 0,992 it means that the instrument items are valid.



The second is result of reliability of instrument. To test the reliability of multiple choice questions, the researcher uses Cronbach Alpha and the result shows that the reliability is 0,941. It means that the reliability is very high as it can be seen in the classification Very high (0,80 – 1,00), High (0,60 – 0,80), Sufficient (0,40 – 0,60), Low (0,20 – 0,40), and Very low (0,00 – 0,20).

Third, for measuring of the normality, the researcher uses non-parametric formula by using Liliefors method to measure the data is come from normal population or not. The data normality of the test accepted  $H_0$  if  $t_{count} < t_{tab}$  for the significance level 5% ( $=0.05$ ) and also the significance level 1% ( $=0.01$ ). on the table bellow it is obtained that  $L_o$  post test are lower than  $L_{tab}$  in the significance level of 5% ( $= 0,05$ ). So, the hypothesis  $H_0$  is accepted. It means that both of the samples in this research come from the population which have normality distribution.

**Table 5. The Result Data of Normality Distribution Test**

Test	Variable (X)	$L_o$	$L_{tab}$	Conclusion
			Significance level 5% ( $= 0,05$ )	
Pre-test	Class A	0,1251	0,173	Normal
	Class B	0,1485	0,173	Normal
Post-test	Class A	0,0293	0,173	Normal
	Class B	0,1642	0,173	Normal

*Source : The Students' Result of Normality Test*

Fourth is the result of measuring the homogeneity. The data homogeneity of the test accepted  $H_0$  if  $F_{ratio} < F_{table}$  for the significance level 10% ( $=0.05$ ) and also the significance level 2% ( $=0.01$ ). on the table bellow can be seen it is obtained that  $F_{ratio}$  of pre-test and post-test is lower than  $f_{tab}$  in significance level of 10% ( $= 0,05$ ) and 2% ( $= 0,01$ ). So that, the hypothesis  $H_0$  is accepted, it means that both samples in this research come from the population which have the variance equality.

**Table 6. The Result Data of Homogeneity Distribution Test**

Test	$F_{ratio}$	$F_{table}$		Conclusion
		Significance level		
		10%	2%	

		( $\alpha = 0,05$ )	( $\alpha = 0,01$ )	
Pre-test	1,12	2,02	2,77	Homogenous
Post-test	1,20	2,02	2,77	Homogenous

Source : The Students' Result of Homogeneity Test

Fifth is counting of balancing data in pretest.

**Table 7. The Calculation Hypothesis of Pre-Test**

Class 1	Experiment	$n_1 = 23$	$n$	$X_1 = 60$	$s_1^2 = 12$
Class 2	Experiment	$n_2 = 23$	$n$	$X_2 = 62$	$s_2^2 = 12,9$

Source : Table data results of Hypothesis Pre test at English Department

The table above shows that  $t_{count} = 0,17$  and  $t_{df}$  on significance level  $5\% = 2,02$  it is gotten  $t_{tab} < t_{count} < t_{tab}$ . So,  $H_0$  is accepted and  $H_a$  is rejected. It shows that there is no difference of using Keyword method and Root word Analysis toward students' vocabulary mastery at the second semester of English Department of Muhammadiyah University of Metro.

The last is the hypothesis test of comparison. The data which is gotten is as bellow:

Variable	N	Average score	$S^2$	S	$T_{ratio}$	$T_{table}$	Conclusion
$X_1$	23	74	12,05	3,47	5,096	2,02	Different
$X_2$	23	60	14,3	3,78			

Source : Table data result of Hypothesis of Post Test

From the table above, it is shown that  $t_{ratio}$  higher than  $t_{table}$ . On significant level  $0,05$  is  $2,02$  based on the criteria above,  $H_0$  is rejected and  $H_a$  is accepted. It means that, there is different result of using Keyword method and Root word Analysis toward students' vocabulary mastery at the second semester of English Department of Muhammadiyah University of Metro in academic year 2015/2016.

In this research, the researcher uses daily vocabulary in multiple choice test as the instrument of the research. Then, the average score of post-test from each class using keyword method and root word analysis is compared to find the differences of both scores. The result calculation shows that the score of post-test in experimental class 1

is higher than experimental class 2. It also can be seen from the pre-test score which is compared with the post-test score.

Considering the different result of the use of those methods in this research, the researcher agrees with some theoretical reviews which are declared by some experts about keyword method and root word analysis. First, the theory which showed that keyword method is important by Helmut (2012) “keyword method has important role as tool in the personal language learning toolbox”. The result shows that every student should have the tool to improve their language learning. Keyword method as the method can be the tool to improve someone’s vocabulary mastery. It is also supported by Onur Köksal and Ahmet Çekiç (2014: 1031) who conclude that mnemonic refers to systematic procedures designed to improve one’s memory. It is essentially a mnemonic technique. In this technique, a new word is associated to a similar sounding familiar word or keyword. After, a mental image is formed to link the unfamiliar word to the keyword. The learner generates or is provided pictorial association of the definition referent that interacts with the keyword. The students who studied vocabulary by using keyword method have some linking words and they can enrich their new vocabularies.

Second is for the theories of root word analysis which showed that it is process of disassembling complex words. The words which are analyzed are the complex words, so if the students or learners did not know the knowledge of morphological before will be difficult to learn. As Farsi (2008: 52) declares morphological analysis is the process of disassembling complex words into meaningful parts (prefix, suffix, and root), such as childhoods = child + -hood + -s and reassembling the meaningful parts into new meanings (motherhood, fatherhood, brotherhood). It is also supported by Arnoff and Fudeman (2005: 15) who state there are two approaches of morphological analysis, they are the analytic approach which is concerned with morpheme identification or breaking words down into its meaningful components and the

synthetic approach which is concerned with productivity of morphological structure or bringing the smallest pieces (morphemes) together to form words. So, need more morphological comprehension to use this method to learn vocabularies. Some students in experimental class 2 felt difficult when did the breaking words because their knowledge about morphological is not much yet. Even this method is not give the better result than keyword method, but this method has effected to increase students' vocabulary mastery.

The difference result of this research is there is different achievement in mastering vocabularies. The result calculation shows that the score of post-test in experimental class 1 is higher than experimental class 2. It also can be seen from the pre-test score which is compared with the post-test score. The result showed that there are the differences between pre-test and post-test (post-test > pre-test). From the pre-test calculation,  $t_{count} = 12,44$  and  $t_{tab}$  on significance level 5% = 2,02, on significance level 1% = 2,7 it is obtained  $t_{tab} < t_{count} < t_{tab}$  (2,02 < 2,7 < 12,44). So,  $H_0$  is accepted and  $H_a$  is rejected which has the meaning that there is no difference between using keyword method and root word analysis toward students' vocabulary mastery at the second semester of English Department of Muhammadiyah University of Metro in academic year 2015/2016. Afterwards, from the calculation of post-test, it is shown that  $t_{ratio}$  is higher than  $t_{table}$  on significant level 5% is 2,02. So,  $t_{ratio} > t_{table}$  (5,096 > 2,02). It proves that  $H_0$  is rejected and  $H_a$  is accepted. It can be said that there is different result between pre-test and post-test score in experimental class and control class. Moreover, the changing of students' post-test score is higher than their post-test value, especially in experimental class which used keyword method as the learning method. It means that, keyword method is more effective than root word analysis to increase students' vocabulary mastery in daily vocabularies. The result of calculation indicates that the students' post-test result of experimental class is better than control class. It is seen when students' post-test score are compared to pre-test

score. The result shows that there is significant difference between pre-test and post-test score (post-test > pre-test).

In conclusion, learning process for the students which used keyword method and root word analysis was different. They have medley ways to master something especially in vocabulary. In keyword method, students could build many new words for new meaning because it was not limited on the one word. While, root word analysis needs some knowledge to break up one word become many new words with new meaning. The researcher can say that by applying two methods could give the different result on mastering vocabulary. So, from the data of students' score on pre-test, treatment and post-test, it can be said that keyword method is more effective than root word analysis toward students' vocabulary mastery at the second semester of English Department of Muhammadiyah University of Metro in academic year 2015/2016.

### **5. Conclusion and Remark**

Based on description above, the researcher purposes to give some suggestion to improve vocabulary mastery in daily activities can use keyword method. It can enrich students' vocabularies and it also can show them the differences of word class all at once in using the words. By using keyword method, the students also can be active to find the new words by themselves. They have the innovative to enrich their vocabularies especially in daily activities verb. From one keyword, they can build up it into 3 up to 10 new words with new meaning. If they have 10 keywords, they can build the new words around 100 words. It also can be memorized easily because the new words still have the relation with the main word.

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