THE EFFECTIVENESS OF USING ELECTRONIC DICTIONARY TO TEACH VOCABULARY VIEWED FROM STUDENTS' SELF-EFFICACY

Rohmatillah
Email: rohmatillahhbastomi@yahoo.com

Abstract

The objectives of the research are to find out whether: (1) Electronic Dictionary is more effective than Printed Dictionary in teaching Vocabulary; (2) the students with high level of self-efficacy have better vocabulary mastery than those with low level of self-efficacy; and (3) there is an interaction between teaching media and students' self-efficacy. The experimental research was carried out at Institut Agama Islam Negeri Raden Intan, Lampung in the Academic Year of 2012/2013, from October to December 2012. The samples which took two classes were done using cluster random sampling technique. Each class was divided into two groups students who have high and low self-efficacy. The techniques which were used to collect the data were questionnaire and vocabulary test. The two instruments were tried out to obtain valid and reliable items. The researcher analyzed the data using ANOVA or analysis of variance and Tukey test. The result of research findings leads to the conclusion that: (1) using electronic dictionary is more effective than printed dictionary to teach vocabulary for the first semester students of English Education of Institut Agama Islam Negeri Raden Intan, Lampung; (2) students having high self-efficacy have better vocabulary mastery than students having low self-efficacy; and (3) there is an interaction between teaching media and self-efficacy. Results indicated that an Electronic Dictionary is an effective learning tool that can enhance vocabulary learning.

Keywords: *electronic dictionary, conventional printed dictionary, vocabulary, self-efficacy, experimental study.*

INTRODUCTION

There are some language components in English namely pronunciation, grammar and vocabulary. All languages have words and people cannot do anything without words especially in learning a language. Vocabulary is the basic thing in language learning. People cannot read a book, newspaper and magazine; people can not write letter, poem, novel; communicate with other people and listen the other people without vocabulary. Moreover, in learning English as a foreign language, people need sufficient vocabulary to express themself and have to know a lot of words and they will not get stuck when they read, write, listen and speak. Wilkins

in Thornbury (2004: 13) states that without grammar very little can be conveyed, without vocabulary nothing can be conveyed. It means that even someone has good grammar but it will be useless if they do not know many vocabularies. In addition, it is supported by Ur (1996: 60) that vocabulary is one of important things to be taught in learning foreign language because it will be impossible to speak up without variety of words. Those statements imply the importance of teaching vocabulary as a foreign language. In line with the process of learning vocabulary, the students sometimes find some difficulties in mastering vocabulary, such as pronounce the words correctly, how to write and spell it, how to use it in grammatical pattern. By these difficulties, the teaching learning process does not run smoothly.

Therefore, teacher should use various teachnique and appropriate media to help the student in acquiring a new vocabulary. One of the media is by using dictionary. According to Merriam Webster dictionary, electronic dictionary is (1) a reference source in print or electronic form containing words usually alphabetically arranged along its information about their forms, pronunciations, functions, etymologies, meanings, and syntatical and idiomatic used; (2) a reference source listing alphabetically terms or names important to a particular subect or activity along with discussion of their meanings and applications; (3) a reference source listing alphabetically the words of one language and showing their meaning or translations in another language.

Therefore, dictionary use is very important tool or media in teaching and learning foreign language. The students can use bilingual or monolingual dictionary; electronic dictionary or printed dictionary. Both printed dictionary and electronic dictionary have their own advantages and disadvantages. One of the advantage of electronic dictionary is to access the word fast.

Electronic dictionary provides the way to pronounce the words in audibly way, so the students can listen the exact words from native speaker. In presenting the media the teacher does not need hard effort to spell the word. The students only listen the sound from electronic dictionary and they can predict the words that have been spelt. Electronic dictionary provides some types of an English accent, such as Cambridge advance Learner' dictionary, there are two types of

accents: British accent and American accent. In addition, the students can differentiate between British accent and American accent. Moreover, electronic dictionary provides some exercises such as grammar, vocabulary, pictures dictionary and exam-practice; study pages; thesaurus and verb endings.

Compared to electronic dictionary, printed dictionary is time consuming to access. The students need more time to find the word and they have to read the word in alphabetically order. Forget as cited in Pastor and Alcina (2009) affirms that electronic dictionaries differ from paper dictionary in facors such as use, presentation, search capability, technical aspects, and nature of content (multimedia elements). In using printed dictionary, the teacher needs hard effort to display the word. In conventional teaching, teacher tends to be a model in pronouncing the words. The teacher has to be good in pronouncing the words if they are not, it will be fossilization for their students. Sometimes, the teacher lack of knowledge in pronouncing the words. In line with the the statements above, electronic dictionary can help the students to find the words fastly and can hear right pronunciation of the words from native speaker.

Besides the media used by the teacher, students' self efficacy influences the students' learning achievements. Students having high self- efficacy will be able to perform better learning than students having low self-efficacy. Bandura as cited in Mohan and Sharma (2008: 15) states that self-efficacy is expectancy- a belief or expectation about how competently one will be able to act or to produce a certain response in a particular situation. He also explains that positive self-efficacy is the belief that one will be able to successfully perform the behavior without which a person achieve or to perform a certain task. It also determines that how long one may persists in the face of difficulty or failure and how the success or failure affects our future behavior. Self-efficacy also plays an important role in the process of self-regulation, setting goals, evaluating the success, and achievements or accomplishment.

Considering the background above, this thesis focuses on revealing whether: (1) electronic dictionary more effective than printed dictionary in teaching vocabulary; (2) the students who have high self efficacy have better vocabulary

mastery than those who have low self efficacy; (3) there is any interaction between teaching media and self efficacy in teaching vocabulary.

RESEARCH METHODOLOGY

In trying to answer the questions as mentioned above experimental study was used. Ary et al (2010: 26) define that experimental research involves a study of the effect of the systematic manipulation of one variable on another variable. The manipulated variable is called the experimental treatment or the independent variable. The observed and measured variable is called the dependent variable. In addition, Nunan (1992: 24) says that experiment is carried out in order to explore the strength of relationship between variables. As seen in table 1, research consists of two independent variables and one dependent variable. The independent variables are media and self-efficacy. The media are electronic dictionary and printed dictionary. The dependent variable is vocabulary.

Table 1. Research Design

Media \ Self-efficacy	Electronic Dictionary (A_1)	Conventional Printed Dictionary (A_2)
High Self-efficacy (B_1)	A_1B_1	A_2B_1
Low Self-efficacy (B_2)	A_1B_2	A_2B_2

The population of this research was the the first semester students of English Education of Institut Agama Islam Negeri Raden Intan Lampung in the 2012-2013 academic year, which consist of five classes. Those are class A until class E, which consist of 162 students. Meanwhile, the researcher only took two classes. One class was experimental group and the other class was control group.

The sample in this study was chosen randomly from the population of cluster which is usually called cluster random sampling. It means that all the members of cluster must be included in the sample.

RESULT AND DISCUSSION

Based on the result of analysis, it was found the data were normal because L_o (L obtained) is lower than L_t (L table) at the level significance $\alpha = 0.05$. The data were homogenous because $\chi_o^2 = 4.7330$ is lower than $\chi_t^2 = 7.815$ at the level significance $\alpha = 0.05$. After the data were normal and homogeneous, the researcher continued to test the hypotheses using ANOVA and Tukey test. The table of ANOVA can be seen in table 2.

Table 2. Multifactor Analysis of Variance

Source of variance	SS	df	MS	Fo	Ft 0.05
Between columns	101.40	1	101.40	5.491	4.00
Between rows	375.00	1	375.00	20.307	4.00
Columns by rows	653.40	1	653.40	35.383	4.00
Between groups	1129.80	3	376.60		
Within groups	1034.13	56	18.467		
Total	2163.93	59			

Table 3. Mean Score

Self Efficacy	Electronic Dictionary (A$_1$)	Printed Dictionary (A$_2$)	SUM
High	52.47	43.27	47.87

(B₁)			
Low (B₂)	40.87	44.87	42.87
Total	46.87	44.07	

a. ANOVA

Based on the result of ANOVA, it can be concluded that:

1. As seen in table 2, F_o between columns (5.491) is higher than $F_t(.05)$ at the level of significance $\alpha = 0.05$ (4.00), so the difference between columns is significant. It means that the null hypothesis (H_0) which states that there is no significant difference in vocabulary mastery between the students taught by using electronic dictionary and students taught by using printed dictionary is rejected. It can be concluded that teaching vocabulary using electronic dictionary to the first semester students of English Education of Institut Agama Islam Negeri Raden Intan Lampung is significantly different from the one using conventional printed dictionary. As seen in table 3, the mean score of students taught by using electronic dictionary (46.87) is higher than that of those taught using conventional printed dictionary (44.07). It means that teaching vocabulary using electronic dictionary to the first semester students of English Education of Institut Agama Islam Negeri Raden Intan Lampung is more effective than the one using printed dictionary.

2. As seen in table 2, F_o between rows (20.307) is higher than $F_t(.05)$ at the level of significance $\alpha = 0.05$ (4.00), so the difference between rows is significant. It means that the null hypothesis (H_0) which states that there is no significant difference in vocabulary mastery between the students having high level of self-efficacy and students having low level of self-efficacy is rejected. It can be concluded that students having high self-efficacy demonstrate a significantly different result in their learning from the ones having low self-efficacy. As seen in table 3, the mean score of students having high self-efficacy (47.87) is higher than that of those having low self-efficacy (42.87). It means that the achievement of teaching vocabulary to the students having high self-efficacy is better than the one to the students having low self-efficacy.

3. As seen in table 2, F_o between columns by rows (35.383) is higher than F_t(.05) at the level of significance $\alpha = 0.05$ (4.00), so it can be concluded that there is an interaction between the two variables, the teaching media and students' self-efficacy. It means that the null hypothesis (H_0) which states that there is no interaction between teaching media and students' self-efficacy in vocabulary is rejected. In this case, electronic dictionary is more suitable for students with high self-efficacy while printed dictionary is more suitable for students with low self-efficacy.

b. Tukey test

Table 4. The Summary of Tukey Test

Between group	qo	qt (0.05)	Meaning
$A_1 - A_2$	3.314	2.89	Significant
$B_1 - B_2$	6.373	2.89	Significant
$A_1B_1 - A_2B_1$	8.292	3.01	Significant
$A_1B_2 - A_2B_2$	3.605	3.01	Significant

The result of Tukey test reveals that:

1. q_o between columns (3.314) is higher than q_t (2.89), so the difference between columns is significant. It can be concluded that teaching vocabulary by using electronic dictionary to the the first semester students of English Education of Institut Agama Islam Negeri Raden Intan Lampung is significantly different from the one using printed dictionary. As seen in table 3, the mean score of students taught by using electronic dictionary (46.67) is higher than that of those taught by using printed dictionary (44.07). It means that teaching vocabulary by using electronic dictionary to the first semester students of English Education of Institut Agama Islam Negeri Raden Intan Lampung is more effective than the one using printed dictionary.

2. q_o between rows (6.737) is higher than q_t (2.89), so the difference between rows is significant. It can be concluded the students having high self-efficacy are significantly different in vocabulary mastery from the students having low self-efficacy. As seen in table 3, the mean score of students having high self-efficacy (47.87) is higher than that of those who having low self-efficacy

(42.87), so the students having high self-efficacy have a better vocabulary mastery than the students having low self-efficacy.

3. q_o between columns for students with high self-efficacy (8.292) is higher than q_t (3.01), so the difference between columns for students with high self-efficacy is significant. It can be concluded that teaching vocabulary by using electronic dictionary to the first semester students of English Education of Institut Agama Islam Negeri Raden Intan Lampung having high self-efficacy is significantly different from the one using printed dictionary. As seen in table 3, the mean score of students having high self-efficacy who are taught by using electronic dictionary (52.47) is higher than that of those taught by using printed dictionary (43.27). It means that teaching vocabulary using electronic dictionary to the first semester students of English Education of Institut Agama Islam Negeri Raden Intan Lampung having high self-efficacy is more effective than the one using conventional printed dictionary.

4. q_o between columns for students with low self-efficacy (3.605) is higher than q_t (3.01), so the difference between columns for students with low self-efficacy is significant. It can be concluded that teaching vocabulary by using electronic dictionary to the first semester students of English Education of Institut Agama Islam Negeri Raden Intan Lampung having high self-efficacy is significantly different from the one using printed dictionary. As seen in table 3, the mean score of students having low self-efficacy who are taught by using printed dictionary (44.87) is higher than the one of those taught by using electronic dictionary (40.87). It means that teaching vocabulary using printed dictionary to the first semester students of English Education of Institut Agama Islam Negeri Raden Intan Lampung having low self-efficacy is more effective than the one using electronic dictionary.

5. Based on the result of Tukey test at the point 3 and 4 above, it can be concluded that there is an interaction between teaching media and self-efficacy. It is due to teaching vocabulary by using electronic dictionary to the first semester students of English Education of Institut Agama Islam Negeri Raden Intan Lampung having high self-efficacy is more effective than the one using

printed dictionary, and students having low self-efficacy is more effective taught by using printed dictionary than the one using electronic dictionary.

Based on research findings, it can be concluded that (1) using electronic dictionary is more effective than using printed dictionary to teach vocabulary. Electronic dictionary has been recognized as a useful learning tool. Besides the real teachers who students can learn from in the class, dictionary is believed to be most reliable alternative they can have. Teaching vocabulary using electronic dictionary can arise the students' involvement in teaching learning process. Most students were amazed by electronic dictionary because it is a sophisticated dictionary with many kinds of applications, therefore the students showed their enthusiasm in learning process and they were much interested in learning vocabulary. They felt the use of electonic dictionary can help them to learn a new word as much as possible. In addition, the students can be an independent learner.

Electronic dictionary assists students to have clear and detailed information, the provision of word forms and examples of usage helps them understand new words clearly. Electronic dictionary is convenient, quick and easy to use since dictionary entries are inclusive and abundant. In short, electronic dictionary can be extremely motivating for language learning. According to Winkler (1998) the students showed increased capacity for sustained effort when working with computer-based dictionary as it encouraged browsing and vocabulary acquisition. Students spontaneously looked up a number of unknown word or unclear words, not just in case where the task made it necessary but also simply out of curiosity. They subsequently commented on how easy and satisfying it was to do so, and added that they would never have done it like the same extent with a printed dictionary.

Guillot and Kenning (1994) also noted another positive aspect of students working with electonic dictionary. Whereas looking up words in print-based dictionary is mainly private experience, the students were able to work in pairs or small groups in front of screen, which also allowed the teacher to monitor this process. Thus, dictionary consultation became more visible and open to discussion.

Different from electronic dictionary, printed dictionary used by the teacher is supposed to be less effective because it does not display how to pronounce the word audibly. The teacher should dictate the words by herself. The teacher can mispronounce the word and it can be fossilized to their students. During teaching learning process, students looked bored because they had to listen the explanation from their teacher. They only imititated the words from they teacher. When they looked up the definition or how to pronounce the words, they had to read IPA symbols.

(2) The students having high self-efficacy have better vocabulary achievement than those having low self-efficacy. Yang and Shmias as stated in Heidari et al (2012) in their research found that students with higher level of self-efficacy use more strategies, they more believe in their abilities in performing particular tasks, use more strategies, actively participate and ultimately achieve better. Besides, Bandura (1986) states that self-efficacy is the most influential one which plays a powerful role in determining the choices people make, the effort they will persevere in the face of challenge, and the degree of anxiety or confidence they will bring to the task at hand. It is this perceived self-efficacy that helps explain why people's behaviors differ widely even when they have similar knowledge and skills. In addition, Schunk (1990: 33) in Travers defines a sense of self-efficacy for performing well in school may lead students to expend effort and persist at task, which promotes learning. As students perceive their learning progress, the initial sense of efficacy is substantiated, which sustains motivation.

The students of the experimental group, to whom electronic dictionary is applied, were active, enthusiastic, creative, curious, confidence and having good participation in teaching learning process. It is because their efficacy helps them to perform well during the teaching learning process. Self-efficacy can affect the choice regarding behavior. The students with high self-efficacy in a task are more likely to make more of an effort, and persist longer. Even when the students found the difficult task, they were always enthusiastic in doing the task.

Meanwhile, in the control group, to whom the printed dictionary is applied, the researcher found that most of the students in this group were so bored in joining the lesson or in the material presented by the teacher. They were reluctant

to do some tasks the teacher asked. In addition, they were less active and also less enthusiastic during the lesson and they thought the tasks were difficult. Their low self-efficacy led them to believe tasks were harder than they actually were. The students with low self efficacy typically shied away from the academic instructions and isolated themselves in their study. It is beacuse they did not believe in their own capabilities.

(3) There is an interaction between teaching media and self-efficacy.The students having high self-efficacy tend to be more enthusiastic to learn vocabulary. They have high motivation to pay attention to all activities during teaching learning process and they have much more effort to do the task. In experimental class, the teacher implemented students-centered approach during the teaching learning process. When electronic dictionary is applied in vocabulary class, the students were much more interested in the learning process. There is no doubt that the selection of media is very important thing to teach vocabulary. In addition, the psychology aspect highly influences the students' achievement in teaching-learning process. Bandura (in Ormrod, 1998: 445) states that people's sense affect to several aspects of their behaviour, such as their choice of activities, their effort and persistence, and their learning and achievement. Everyone has a different level of self-efficacy, which affects their ways of thinking, their behaviour, and their competences in all aspects of life.

Printed dictionary is more effective than electronic dictionary to teach vocabulary for the students having low self-efficacy. The students having low self-efficacy tend to be passive, shy or timid, and afraid of doing something because they did not trust their own ability. They tended to keep silent and followed their friends' opinion during the teaching learning process.

Therefore, it can be concluded that there is an interaction between media employed by the teacher and students' self-efficacy. In other words, students with higher self-efficacy have a better suitability to be taught by using electronic dictionary, while students with lower self-efficacy are better taught by using printed dictionary.

CONCLUSIONS AND SUGGESTIONS

Based on the result of hypotheses testing, the research findings are as follows: (1) using electronic dictionary is more effective than printed dictionary to teach vocabulary for the first semester students of English Education of Institut Agama Islam Negeri Raden Intan Lampung in the academic year of 2012/2013; (2) students having high self-efficacy have better vocabulary mastery than students having low self-efficacy in the first semester students of English Education of Institut Agama Islam Negeri Raden Intan Lampung in the academic year of 2012/2013; (3) there is an interaction between teaching media and self-efficacy in teaching vocabulary for the first semester students of English Education of Institut Agama Islam Negeri Raden Intan Lampung in the academic year of 2012/2013. It can be seen from the findings of this study that electronic dictionary is an effective media to teach vocabulary. The use of electronic dictionary was able to attract students to be more active, and arouse their motivation and efficacy in mastering vocabulary. As a result, the students' vocabulary mastery improved optimally.

Having examined the research findings, there are some suggestions addressed to the following: (1) teachers are expected to use electronic dictionary to teach vocabulary; (2) electronic dictionary can enhance learning and retention of vocabulary. Therefore, by applying this the students are hoped to be more enthusiastic, active, creative, and can share ideas dealing with the task; (3) the other researchers can use the result of this research as a reference to conduct the similar research with different variables.

BIBLIOGRAPHY

Ary, Donald et al. 2010. *Introduction to Research in Education*. Belmont: Wadsworth Cengage Learning.

Bandura, A. 1986. *Social Foundations of Thought and Action: A social Cognitive Theory*. Englowood Cliff, NJ: Prentice Hall.

Guillot, Marie-Noelle and Kenning. 1994. Electronic Monolingual Dictionaries as Language Learning Aids: A Case Study. *Computer in Education, Vol 23*. Retrieved from http://www. sciencedirect.com.

Heidari, Farrokhlagha et al. 2012. The Relationship between Iranian EFL Learners' Self Efficacy Beliefs and Use of Vocabulary Learning Strategies. *Asian EFL Journal , Vol. 5*, No. 2.

Mohan, Manika and Sharma, Sonika. 2008. *Self-Efficacy and Parental Behaviour*. New Delhi: Pointer Publisher.

Nunan, David. 1992. *Research Methods in Language Learning*. Cambridge: Cambridge University Press.

Ormrod, Jeanne Ellis. 2003. *Educational Psychology, Developing Learners*. Ohio: Merril Prentice Hall

Pastor and Alcina. 2009. *Search Technique in Electronic Dictionary*. Retrieved from http://repositori.uji.es.

Thornbury, Scott. 2002. *How to Teach Vocabulary*. London: Longman

Travers N.L, Sheckley, B.G. 2000. *Changes in Students' Self-regulation based on Different Teaching Methodologies*. Paper presented at the 40th Association for Instutional Research Forum Information for the Next 100 Years. Cincinnati, Ohio: May 21-May 24, 2000.

Tuckman, Bruce W. 1988. *Conducting Educational Research*. Florida: Harcourt Brace Jovanovich Publisher

Ur, Penny. 1996. *A Course in Language Teaching, Practice and Theory*. Cambridge: Cambridge University Press.

Winkler, Birgit. 1998. Electronic Dictionary for Learners of English. In: *Proceedings of the Research Students' Conference*. Retrieved from http://www.warwick.ac.uk.