

IMPROVING STUDENTS' VOCABULARY MASTERY USING JIGSAW TECHNIQUE AT EIGHT GRADE STUDENTS

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ABSTRACT

The aim of this research is to improve vocabulary mastery of Grade VIIID of SMPN 2 Baleendah using jigsaw technique. This research applied the principle of experimental research. Vocabulary is the core of the language that students must master. In which fact many students in the school are lack of vocabulary. There are many methods can improve their vocabulary mastery, and the researcher applied jigsaw technique. The steps of this research were giving pre-test, four times treatments, and post-test to collecting data. Giving questionnaire to students in the last section was to find out students' responses about studying English using jigsaw technique. The participants of the research were the students of Grade VIIID of SMPN 2 Baleendah. The quantitative data were obtained from the students' vocabulary mastery score of pre-test and post- test. T-test is used in this research to count the data. The results of the research show that using jigsaw technique can improve the students' vocabulary mastery and the students' responses are good because the findings reveal two results. First, the use of jigsaw can improve students' vocabulary mastery which is 13.725 exceeds the table critical value of $t = 2.021$, at $p = .05$ with $df = 40$ ($13.725 > 2.021$). Second, there were 95% of students' responses said that they are happy to study English toward the application of jigsaw technique.

Keywords: jigsaw technique, vocabulary mastery, experimental research

ABSTRAK

Tujuan dari penelitian ini adalah untuk meningkatkan kemampuan kosa kata Bahasa Inggris siswa kelas VIIID di SMPN 2 Baleendah menggunakan teknik Jigsaw. Penelitian ini menggunakan prinsip penelitian eksperimen. Kosa kata adalah inti dari sebuah Bahasa yang harus dikuasai oleh para siswa. Pada kenyataannya, banyak siswa di sekolah yang masih rendah dalam penguasaan kosa kata. Ada banyak metode yang dapat digunakan untuk meningkatkan kemampuan kosa kata, dan peneliti menggunakan teknik Jigsaw untuk meningkatkan kosa kata. Langkah-langkah yang digunakan adalah pemberian tes awal, empat kali treatment, dan tes akhir untuk mengumpulkan data. Memberikan kuesiner kepada siswa di pertemuan terakhir untuk mengetahui respon para siswa terhadap pembelajaran Bahasa Inggris menggunakan teknik Jigsaw. Para partisipan dalam penelitian ini adalah siswa-siswi kelas VIIID di SMPN 2 Baleendah. Data kuantitatif digunakan untuk menghitung nilai kosa kata siswa pada tes awal dan tes akhir. T-test digunakan pada penelitian ini untuk menghitung data. Hasil pada penelitian ini menunjukkan bahwa penggunaan teknik Jigsaw dapat meningkatkan kemampuan kosa kata siswa dan respon dari para siswa menunjukkan bahwa mereka sangat puas terhadap teknik Jigsaw berdasarkan dua hasil yang ada. Yang pertama, penggunaan teknik Jigsaw dapat meningkatkan kemampuan kosa kata siswa yang mana 13.725 lebih besar dari nilai $t = 2.021$ dengan $df = 40$ ($13.725 > 2.021$). Yang kedua adalah 95% respon siswa mengatakan bahwa mereka sangat senang belajar Bahasa Inggris menggunakan teknik Jigsaw.

Kata Kunci: Teknik Jigsaw, Penguasaan Kosa Kata, Penelitian Eksperimen

INTRODUCTION

English has been considered as an essential language to be learnt in order to meet the communication needs in this globalization era. Taking into account the benefits of English, Indonesia has organized English to be taught in formal school as a compulsory subject. The teaching of foreign language, specifically English, is aimed to develop students' ability to communicate with world society. Therefore, it is taught in different kind of grade levels. The teaching includes the teaching of the four skills, listening, speaking, reading, and writing and each of the micro skills.

Vocabulary is one of crucial aspects to support those skills. As stated by Richards and Renandya (2002:255), vocabulary is a core component of language proficiency and provides much of the basis of how well learners speak, listen, and write. The vocabulary mastery will affect someone's ability in using the language either in spoken or written form. In listening skill, to be able to understand someone utterance, people should know what the meaning of words and sentences being said. Therefore, they know the intention of the utterance and are able to react through either action or answer it using spoken utterance, which here, they have to use words to do that. Additionally, to be able to understand what people is reading, they should be able to understand the meaning that is being conveyed through the written words. What needed in speaking, people should be able to arrange words to convey meaning in writing. Moreover, they should be able to spell the words and write them down. Although arranging words is not the only way in conveying meaning because there are also paralanguage and context which assist, but in languages, vocabulary will be the most crucial aspect.

As a matter of fact, the researcher wants to improve the students' vocabulary mastery, especially in junior high school students, is somewhat causing comprehension. After the observation had been done during the teaching practice (PPL) around November 2016 to February 2017, the researcher found out that students of grade VIII of SMP N 2 Baleendah were still considered having difficulties in vocabulary mastery. Thus, the researcher decides to do further action to overcome those problems by doing deeper research in this final task. The researcher conducts treatment to improve students' vocabulary mastery.

Other problem was related to the teaching method, teacher usually only use monotonous traditional method that is to translate words isolation from English to Indonesian. In the beginning of each meeting the teacher wrote ten words on the board and the students were asked to translate it to Indonesia. The students sometimes found it difficult and they also discourage in learning vocabulary. The students were also rarely given chances to practice the words that had been given in other activities. They learn the words naturally at the different opportunity of teaching-learning. Therefore, they merely knew the words meaning and forgot the words easily.

Since students often feel bored in learning, they need new activities which are more challenging and interesting. Harmer (2002:78) states that teaching English is taught from elementary school to university by using many kinds of methods applied by English teacher. Cooperative learning may be considerably more effective for the students than the attention of the teacher only in the class.

Jigsaw is one of the activities of cooperative methods which can solve this problem. Slavin (1995:111) says that in Jigsaw, most of working group include a procedure whereby students share information they have gathered with group mates and, in many cases, with the class as a whole. Students are quizzed on all topics and the quiz scores are averaged to

form team scores. If the team is to succeed, team members must not only accomplish their subtasks but also do a good job of sharing information with their teammates.

Based on the explanation above, teaching should encourage the students' cooperation, in expressing idea, sharing idea, asking and explaining each other in a group so that the learning process will achieve the better result. That is why a new strategy or method to improve the students' vocabulary is needed to overcome the above problems. Based on the background above, the researcher is interested in conducting a research to improve the students' vocabulary mastery using jigsaw technique.

LITERATURE REVIEW

The Vocabulary

Vocabulary consists of words that construct a language. Jackson (2000:11) argues that term vocabulary, lexis and lexicon are synonymous. That refers to the total stocks of words in a language. Brown (2001: 377) also states that words are basic building blocks of language. Along with Jackson and Brown, Todd (1987:49) argues that when we think of language we tend to think about words. Moreover, Nunan (2003:130) states that words are clearly vocabulary. She also adds that vocabulary is not only that, but it also words combination/ multiple units, word families, and core meaning also are counted as vocabulary.

Vocabulary conveys meaning. Spratt, Pulverness, and Williams (2005: 10) argue that lexis is individual words or sets of words, i.e. vocabulary items, that have a specific meaning. Kamil and Hiebert (2005:1) states that words represent complex and, often, multiple meanings. Moreover, she adds that furthermore, these complexes, multiple meanings of words need to be understood in the context of other words in the sentences and paragraphs of texts.

Vocabulary is used in contexts. In line with Kamil and Hiebert about the contextual use of words, Jackson (2000:15) cites that we shall consider the vocabulary of English as a package of subsets of words that are used in particular context. These context are geographical, social, occupation, and soon.

Vocabulary refers to words and its subsets that become one of crucial aspect in a language construction. It conveys meaning in the language that used in different kinds of context. In SMPN 2 Baleendah, the students have not mastered the vocabulary yet. The students get difficulty to know the meaning of the word or difficult to express the word in English subject.

Cooperative Learning

According to Brown (2001:47), cooperative learning is defined as students work together in pairs and groups, they share information and come to each other to get helps. They are a "team" whose players must work together in order to achieve goals successfully. Cooperative learning model is the opposite of individual learning. This method can motivate the students who have lack of vocabulary because the students who have rich of vocabulary will help them.

According to Slavin (1995:2), cooperative learning is a variety of teaching method in which students work in small groups to get helps from one student to another in learning academic content. In cooperative classroom, students are expected to help each other, to discuss and argue with each other, to assess each other's current knowledge and fill in gaps in each other's understanding.

The step in promoting successful group work, then, is to select an appropriate task. In other words, choose something that lends itself to the group process. There are some

tasks or activities in group work learning, those are: games, role play and simulations, drama, project, interview, brainstorming, information gap, jigsaw, problem solving and decision making, and opinion exchange.

Jigsaw Technique

Cooperative learning or group work method has several activities in the teaching learning. Jigsaw is one of the activities in the cooperative learning. In cooperative learning, students cooperate with their friends to discuss the topic they study but when the students are given to study their own topic, it is the danger because the students tend only to study their own topic and the students do not want to study their friends' topic. Jigsaw is one of activities of cooperative methods which can solve this problem. Slavin (1995:111) says that Jigsaw includes a procedure whereby students share information they have gathered with their group mates and with the other group mate in the class. Students are quizzed on all topics and the quiz scores are averaged to form team scores. So, if the team wants to be successful, the team members must not only accomplish their subtasks but also do a good job of sharing information with their teammates.

Slavin (1995:122) says that jigsaw is one of the working group or cooperative activities which are applicable in the teaching vocabulary mastery. It is one type of the simplest method of cooperative learning. It is developed by Elliot Aronson at the University of California. This is the way to give stimulus for the students to be motivated to learn so that they will be able to read better and get better achievement. Teaching vocabulary mastery will be easier because this way asks the students to be active in the class. They will be in the team consisting of various good students and weak students. Every team consist of 5-6 students and they will study together to get better achievement in the form of individual improvement scores after taking the individual quiz. Every member in a team should be responsible for her/his own material to the member of his/her own team.

Mary (1998:56) says that Jigsaw is one method which makes the independence of group members possible, promotes interaction and cognitive elaboration, and takes into consideration, the principle of the multiple perspective and context as well as the construction of common knowledge.

Kagan (2001:37) writes that Jigsaw is an effective strategy to use when you want to increase student's mastery or a topic at a hand, boost their concept development, and enhance targeted discussion among students, and foster group project participation and learning.

The jigsaw technique was first developed in the early 1970s by Elliot Aronson and his student at the University of Texas and the University of California. The Jigsaw classroom was first used in 1971 in Austin, Texas. Since that, hundreds of schools have used the jigsaw classroom with great success.

Jigsaw classroom is a cooperative learning technique that reduces racial conflict among school students, promote better learning, improve students' motivation, and increase enjoyment of the learning experiences.

RESEARCH METHOD

Ary et al (2010: 325) states "Experimental research design is to enable researcher to estimate the effect of an experimental treatment". Experimental research can be done in the laboratory, in the class and in the field. In this study, the experimental research is done in the class with taking students as population. A researcher chooses the design to determine the validity of conclusions can be drawn from the study.

Population and Sample

Fraenkel and Wallen (1993:79) stated that a population is the group to which the results of the study are intended to apply. Kountour (2008:6) stated that population is the large group about which the generalization is made. It is defined as all members of any well-define class of people, events, or objects.

The population in this research was the second grade of the students at SMPN 2 Baleendah, in which the total of class VIII are eleven classes (VIII-A, VIII-B, VIII-C, VIII-D, VIII-E, VIII-F, VIII-G, VIII-H, VIII-I, and VIII-K) the total number is 583 students.

Ary et al (2010:167) stated that sampling is technique taking sample which give opportunity for every element or population member to be chosen as sample. In this study, the researcher used purposive sampling technique. Because the students of the D class has homogeneity than other classes. In D class, there are 41 students consist of 15 boys and 26 girls.

The Data Collecting Instruments

Collection of data is an important activity in the research. The actual data obtained from this research. Because of this case, it needs to be explained the procedure of collecting data and the time of collecting data. The procedures of collecting data in this research are given test which are the vocabulary pretest and the vocabulary posttest to measure the students' vocabulary mastery before and after the treatment, and the questioner to know the students' respond of jigsaw technique in teaching vocabulary mastery.

The Data Analysis

The researcher determined the descriptive statistic namely mean and t-test. The data analysis presents below:

a. Mean

The first step is to find the mean of the variable X and Y. According to Sudjiono (2010:36), the mean of a series numbers is the total from all numbers divided with the quantity of the numbers themselves. The formula is as follow:

$$Mx1 = \left(\frac{\sum fX1}{N} \right) \quad Mx2 = \left(\frac{\sum fX2}{N} \right)$$

Explanation:

Mx1 : the mean of the pretest variable.

Mx2 : the mean of the posttest variable.

$\sum fX1$: the multiply between the score of variable pretest and the frequency in the each score.

$\sum fX2$: the multiply between the score of variable posttest and the frequency in the each score.

N : number of cases.

b. T-test

After the researcher gets the computation of two means, continues to the next step to get value of t-test (to/t-observed). To get value \overline{D} is from sum of D squared by sum of number matched pair.

$$t = \frac{\overline{D}}{\sqrt{\frac{\sum D^2 - \frac{(\sum D)^2}{N}}{N(N-1)}}$$

Explanation:

t : t-test

\overline{D} : Sum of D divided by sum of number matched pair

$\sum D^2$: The sum of the squares of the differences between the pre-test scores and post-test scores

$(\sum D)^2$: The sum of the sum of the differences between the pre-test scores and post-test scores

N : The number of pairs of scores

FINDING AND DISCUSSION

Pre-test is done before being taught using jigsaw technique to know their vocabulary mastery. It was held on 24 July 2017 in VIII-D of SMPN 2 Baleendah academic year 2017/2018.

The results show that the most of the students are still low in vocabulary mastery, it can be seen from the average score is only 45, the lowest score is 8, and the highest score is only 68. The researcher did pre-test to know students' vocabulary mastery before using jigsaw technique in the class VIII-D.

Post-test is done after being taught using jigsaw technique to know their vocabulary mastery. It was held on 02 August 2017 in VIII-D of SMPN 2 Baleendah academic year 2017/2018.

The results show that the most of the students have high score in vocabulary mastery, it can be seen from the average score is 80, the lowest score is only 44, and the highest score is 100. The researcher did post-test to know students' vocabulary mastery after using jigsaw technique in the class VIII-D.

There are four steps to compute the result to find out the students improvement in vocabulary mastery using jigsaw technique.

Step 1: subs-tract the pairs of scores from each other in the following manner.

Step 2: Calculate the mean of pre-test scores ($\overline{X_1}$)

$$\begin{aligned}\overline{X_1} &= \frac{\sum X_1}{N} \\ &= \frac{1864}{41} = 45\end{aligned}$$

Step 3: Calculate the mean of post-test scores ($\overline{X_2}$)

$$\begin{aligned}\overline{X_2} &= \frac{\sum X_2}{N} \\ &= \frac{3264}{41} = 80\end{aligned}$$

Step 4: Enter the values obtained from step 1-3 into the formula for dependent t-test.

$$\begin{aligned}t &= \frac{\overline{X_1} - \overline{X_2}}{\sqrt{\frac{\sum D^2 - \frac{(\sum D)^2}{N}}{N(N-1)}}} \\ &= \frac{45 - 80}{\sqrt{\frac{58456 - \frac{1960000}{41}}{41(41-1)}}} \\ &= \frac{-35}{\sqrt{\frac{58456 - 47804.88}{1640}}} \\ &= \frac{-35}{\sqrt{\frac{10651.12}{1640}}}\end{aligned}$$

$$\begin{aligned}
 &= \frac{-35}{\sqrt{6.49}} \\
 &= \frac{-35}{2.55} \\
 t &= -13.725
 \end{aligned}$$

As the derives $t = 13.725$ exceeds the table critical value of $t = 2.021$, at $p = .05$ with $df = 40$ ($13.725 > 2.021$), therefore H_0 is rejected and H_a is accepted. This means that there is improvement of students' vocabulary mastery of the grade VIII students of SMPN 2 Baleendah.

The Students' responses

To know the students' responses to jigsaw technique in teaching vocabulary mastery in the grade VIII students of SMPN 2 Baleendah, the researcher used questionnaire in nine questions. Do you join English course?

In this question, only one student join English course. It means only 2% of the students join English course out of the school. Therefore, it is really possible if most of the students do not know about the irregular verb, and their score in pre-test is low.

1. Do you like English?

There are 15 students like English before using Jigsaw technique. More than a half of the students in the class do not like English. Even though, they do not join English course, but they like English, it makes the students low in vocabulary mastery, but they want to study vocabulary. The researcher see them when doing the treatments, the students are really excited to study vocabulary using jigsaw technique.

2. Is English difficult?

There are 36 of 41 students said that English is difficult. Almost 100% said that English is difficult, so it makes the researcher have to make the students love English very much using jigsaw is the best way to make students active and love English. It can be seen from the post test that they have high score in vocabulary mastery after being taught using jigsaw technique.

3. Do you have low vocabulary mastery?

76% of the students do not have many vocabulary mastery before using Jigsaw technique. Low in vocabulary mastery is caused by some factors. Some factors are they do not join English course, they do not like English, or they feel English is difficult. This answer is related to pre-test because in pre-test the average score is only 45. After being taught using jigsaw they have average score 80.

4. Before treatment, do you know Irregular Verb concept?

Irregular verb concept is more difficult than regular verb, but there are 51% the students have understood irregular verb. A half of the students got score more than 50 and the others got score less than 50 in pre-test. The average score is 45, so it can indicate that some students have known irregular verb concept, but they still low in vocabulary mastery, not all vocabulary mastery in irregular verb mastered by the students. Using jigsaw technique in teaching vocabulary, the researcher makes the students share what they know and the others will learn and discuss what they have not known.

5. Are you happy studying English using jigsaw technique?

85% of the students said that they feel happy to study using Jigsaw technique. Only one student joins in English course, less than half of the students like English, mostly they are low in vocabulary, but as long as teaching vocabulary mastery using jigsaw, the researcher saw many students are happy, and very enthusiastic to

study English. It is proven by the result of the questionnaire that 35 students are happy to study English using jigsaw technique.

6. Is it easy to study English using Jigsaw technique?
Almost 100% of the students said that they study using Jigsaw technique is easy. There are 37 students give positive responses. Jigsaw technique is simple, the students only master in some vocabulary then they share to other group, and back to the home group. The students feel that it is very easy to study English using jigsaw technique, but the effect is big. They can get many vocabulary. The students were surprised when seeing their post-test vocabulary mastery.
7. Does Jigsaw technique help you to understand irregular verb concept?
Before treatment only 51% understand irregular verb, but after using Jigsaw technique it becomes 80%. It is increasing 29% of the students, from 21 students becomes 33 students. Jigsaw technique really helps the students to understand irregular verb. The other proof that mentions in the average of post-test that the score is 80. It means that most of the students now understand irregular verb.
8. Does your vocabulary mastery improve after being taught using Jigsaw technique?
In question number 2 showed that there are 31 students are low in vocabulary, after they study English using Jigsaw technique, there are 39 students feel their vocabulary improves. Not only their vocabulary is improved but also they feel enjoy to study English, they like English after being taught using jigsaw technique.

Therefore, based on the analysis above, overall the students feel satisfied using Jigsaw technique. Before they study irregular verb using jigsaw technique, they do not join English course, they have low vocabulary mastery, they do not know irregular verb. After studying irregular verb using jigsaw technique, they are happy to study vocabulary mastery using jigsaw technique, and their vocabulary mastery is improving.

CONCLUSION

The research is about improving students' vocabulary mastery using jigsaw technique. Based on the discussion in the previous chapter, it can be concluded that jigsaw technique can improve students' vocabulary mastery. This can be seen from the findings of the research during the experimental research.

After giving treatment, the researcher gave post-test the improvement of students' vocabulary mastery, and gave questionnaire to know students' responses. Using jigsaw technique is more effective by the fact that the students' post test score is higher than pre-test score. The pre-test mean is 45 while the post-test mean is 80. As the derive $t = 13.725$ exceeds the table critical value of $t = 2.021$, at $p = .05$ with $df = 40$ ($13.725 > 2.021$), therefore H_0 is rejected and H_a is accepted. This means that there is improvement of students' vocabulary mastery of the grade VIII students of SMPN 2 Baleendah.

Therefore, based on the analysis of questionnaire, overall the students feel satisfied using Jigsaw technique. Before they study irregular verb using jigsaw technique, they do not join English course, they have low vocabulary mastery, they do not know irregular verb. After studying irregular verb using jigsaw technique, they are happy to study vocabulary mastery using jigsaw technique, and their vocabulary mastery is improving.

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