

JIGSAW TECHNIQUE AND MIND MAPPING TECHNIQUE IN INCREASING STUDENTS' VOCABULARY

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Abstract

The objectives of this research were: (1) to find out the use of jigsaw technique significantly to improve students' vocabulary of the second semester students at English department students of Cokroaminoto Palopo University (2) to find out the use of mind mapping technique significantly to improve students' vocabulary of the second semester students at English department students of Cokroaminoto Palopo University (3) to find out which is technique and improve students' vocabulary cooperative learning jigsaw technique and mind mapping technique. This research employed true experimental design. The population of this research was the second semester students of English department of Cokroaminoto University Palopo in academic year 2013/2014. The sample of this research was the second semester students in academic year 2013/2014 where consisted of 80 students. This research used cluster random sampling technique. The research data were collected by using two kinds of instrument namely: vocabulary test for the students. Data on the students' vocabulary skills were analyzed by using independent t-test. The results of the research were: (1) jigsaw technique can improve vocabulary of the students of English department of Cokroaminoto Palopo University, and (2) mind mapping technique can improve vocabulary of the students of English department of Cokroaminoto Palopo University (3) jigsaw technique and mind mapping technique were effective in learning vocabulary. It can be concluded that the jigsaw technique and mind mapping technique in the teaching process is effective to be implemented in improving the students' vocabulary.

Keywords: Jigsaw technique, Mind Mapping Technique, Increasing Student's Vocabulary

A. Introduction

Language is one of the most important things in our daily life. It is used as a tool of human communication all over the world. As an international language, English is very important and has many relationships with various aspects of human life. In Indonesia, English is considered as the first foreign language and taught formally from elementary school up to the university level. Vocabulary has not received that recognize and it has been characterized by any neglect in terms of quantity in classroom. The simple fact is that vocabulary, that vocabulary seems arise in the classroom regardless of the choose activity, and spite of any conscious design on the teacher's part we have choose one word to simbolize the changes in English language teaching vocabulary is one of the crucial elements of a language from all aspects of foreign language. Vocabulary is considered as the most significant factor. Without mastering it people will not be able to use the language effectively (Gairan and Redman 1986: 1). Most of the students who learn English want to speak English fluently they have a high motivation to convey their ideas but some of them will face an obstacle which can reduce their motivation that make students lack of vocabulary.

All language teaching techniques make the oversimplified assumption that what teachers do in the classroom can be conventionalized into a set of procedures that fits all contexts. It means that a set of procedures or the techniques in teaching have an influence to the student's learning result.

In learning and teaching English process there are many method or technique that uses in classroom activities but the researcher will appropriate the technique and will describe;

Cooperative Learning arises in mainstream education as an effort to address such problems and to generally facilitate students interaction. In this case elsewhere in education. Johnson and Holubec, leader of cooperative learning since the 1970s, offer the following definition: "Cooperative learning is the instructional use of small groups so that students work together to maximize their own and each other's learning. In learning and teaching process the memory sensory has important value for vocabulary subject because the students need balancing in usage of the left brain and right brain.

Mind mapping is a powerful graphic technique which provides a universal key to unlock the potential of the brain. It is visual map of ideas, laid out in a radial format around a central thought and it involves a unique combination of imagery, colour and visual-spatial arrangement which is proven to significantly improve recall when compared to conventional methods of note-taking and learning by rote. It needs imagination and association to activate our brain in remembering something. The factors influence of the low achievement in language class has been explain by the expert, such as low motivation and interest. The researcher suggests that teachers should be more creative in teaching English especially vocabulary. The researcher applies cooperative learning jigsaw technique and mind mapping technique to increase students' vocabulary.

Based on the background of the study above, the researcher formulate the following research questions: 1) Does the use of jigsaw technique significant to increase students' vocabulary of the second semester at English Study Program of Cokroaminoto

Palopo University? 2) Does the use mind mapping technique significant to increase students' vocabulary of the second semester at English Programe Study of Cokroaminoto Palopo University? 3) Which is more effective technique to increase students' vocabulary jigsaw technique or mind mapping technique?

B. Review of Related Literature

Qaisara Parveen (2011: 154) in his research was explored the effects of cooperative learning on General Science achievement among 9th class students. Base on his previous research literature it is hypothesized that significant difference existe between the mean posttest scores of General Science achievement of experimental group and control group. The pretest posttest control group design is chosen for the experiment. The study sample consisted of 36 students of 9th class who are equally distribute among experimental group and control group. The dependent variable of General Science achievement is measured through self-constructe 30 items achievement test use as a pretest as well as a posttest. The experiment group was taught through cooperative learning while control group was taught through traditional teaching. The data analyzed through mean, standard deviation and t-test and .05 was the selected level of significance. The result of the his research was that cooperative learning method is superior to traditional method in general science achievement of 9th grade students.

Slavin (1995) examined tl 8 inety nine studies that faste for four or more weeks and that use as varieties of the ninety nine experimental method (64%) of the ninety nine experimental control apply cooperative learning only five 5% significantly, overall

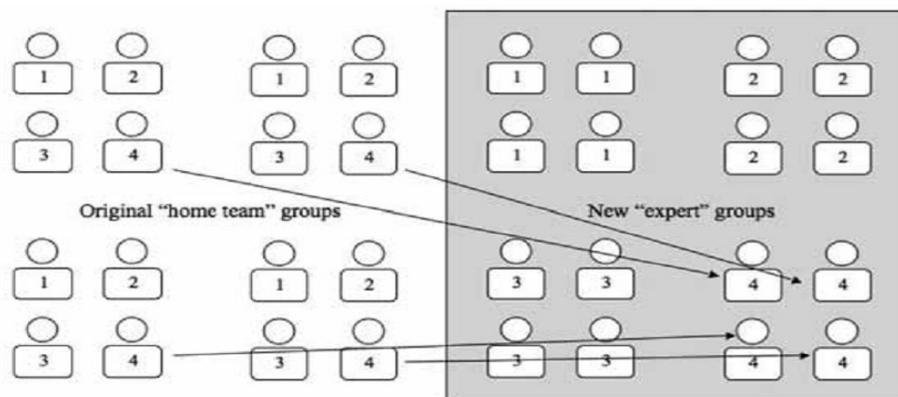
students in cooperative learning group scored about one fourth of a standard deviation higher on achievement tests than the students taught conventionally. Amiri and Adham (2013) found that the interaction between the two independent variables was significant and cognitive style of reflectivity and impulsivity interacted significantly with the two modalities of learning. It can be concluded that, the effect of the teaching technique depends on the cognitive style of the learners. However, it was also revealed that each of the independent variables alone was significantly effective on writing ability of the learners. Baniabdelrahman and Al-shumaimeri (2013) investigated the strategies which first-year Saudi university EFL students used to derive the meaning of unfamiliar words while reading English texts. Results revealed that the students are weak in using the right strategies in guessing the meaning of unknown vocabulary. The use of a combination of two or more strategies was found to result in a better correct guessing rate, but few students tended to use determine the meaning of English words technique. Lynne Barcus, B.S. (2011: 35) presented study addressed use of fast mapping for vocabulary acquisition in children with autism. Fast mapping has been show to be a valid technique to facilitate vocabulary acquisition. The concrete nature of fast mapping is beneficial for children with cognitive impairment, including with autism. Learning occurs after brief of structured exposures and it can be used with children of varying levels of receptive and expressive language

1. Defenition of Jigsaw Technique

Steven G. McCafferty et al (2006 : 9-12) stated that jigsaw is a cooperative learning strategy that enables each student of a "home" group to specialize in one aspect of a topic (for example, one group studies habitats of rainforest animals, another group studies predators of rainforest animals). Cooperative learning is a method that advises teachers to consider their students as "whole person". Whole person learning means that teachers consider not only their students' feeling and intellect, but also have to understand the relationship among students' physical reaction, it will help the teachers know how far the students act to the subjects, their instinctive protective reactions and their desire to learn. This occurrence discovered that adults often feel threatened by a new learning situation. They are threatened by the change inherent in learning and the fear they will appear foolish. So the teacher should be conducting the situation by using appropriate technique in teaching and learning process. Clarke, 1994 states "The jigsaw structure is somewhat complex. It may be best suited for when the students are comfortable with group work. There are high expectations and responsibilities placed on the students. Teaching the students in the original group can be having experience for each student. This situation will increase if the jigsaw structure both of two or more group members share the same material and then join with another pair of students, if the sections are more open-ended so there is no single right answer, or if students are encouraged to take notes during the focus groups to provide a support when the original groups reassemble". When the students are in their original groups, they discuss the material to increase the chances that each report will be accurate, the students

doing the research do not immediately take it back to their jigsaw group. Instead, they meet first with students who have the identical assignment in one from each jigsaw group. For example, students assigned to the noun topic meet as a team of specialists, gathering information, becoming experts on their topic, and rehearsing their presentations. We call this the "expert" group. It is particularly useful for students who might have initial difficulty learning or organizing their part of the assignment, for it allows them to hear and rehearse with other "experts." The figure 2.1 is the sample of the way to organize the students in the class room.

Figure 2.1 The Jigsaw technique



Jacobs, Power, and Loh,
(2002)

a. What is the purpose of jigsaw?

Jigsaw technique in learning, to allows students to be introduced material and maintain a high level of personal

responsibility. The purpose of Jigsaw is to develop teamwork and cooperative learning skills within all students. In addition it helps develop a depth of knowledge not possible if the students were to try and learn all of the material on their own. Finally, because students are required to present their findings to the home group, jigsaw technique in learning will often disclose a student's own understanding of a concept as well as reveal any misunderstandings of each students in group.

2. Definition of Mind Mapping Technique

Buzan (1993: 1) stated mind mapping is a powerful graphic technique, which provides a universal key to unlock the potential of brain. Mind mapping technique imitates the thinking process, namely possible us to move from one topic to another topics back and forth. De Porter et al (1999: 175) stated that Mind mapping is creative note taking method, which eases us to remember much information, the best mind mapping is colourful and used much pictures and symbols; usually like an art. Based on DePotter and Hernacki as translated into English in Abdurrahman (2008: 153), "Mind Mapping is the use of whole brains technique by using the visualization and other graphic infrastructure to make an impression". Besides, mind mapping is one of techniques which can make the students more enjoyable and interesting in studying vocabulary. Figure 2.2 is example of map in teaching and learning

Figure 2.2 Mind Mapping



Buzan (1993)

3. Vocabulary

a. Definition of vocabulary

Charles in Asmah (2006) described the importance of the vocabulary in language learning process. He says that learning in language particularly always means primarily learning the “word” of the language. Vocabulary learning is essential to the development of language skills; and in order to acquire the language skills, teachers need to help students with developing their vocabulary knowledge, Mart (2012). Asmah (2006) stated that vocabulary is very important in a language when we learn in language including English it always mean that we learn the word of the language. According to Davis in Jenet (1999: 5-6) “vocabulary knowledge is related to and affects comprehension. The relationship between word knowledge and comprehension is unequivocal.” Recent research showing the connection between word knowledge, concept development, and prior knowledge and the impact these have on reading comprehension indicates that some drastic changes in our teaching methods are warranted.

C. Research Method

The research had conducted by using Quasi-Experimental method with two groups of the students had involved. There was not control group, both groups had been give pre-test and post-test. A pre-test had held before treatment and post-test after treatment. The researcher takes two classes namely: class A had been give jigsaw technique and class B had been give mind mapping technique, because the researcher saw the effectiveness of jigsaw technique and mind mapping technique in increasing students' vocabulary.

Figure 3. Research design

R ₁	O	X ₁	O
R ₂	O	X ₂	O

(adapted, Gay et al, 2006).

Where: R₁ = a group for jigsaw technique

R₂ = group for maind mapping technique

O = the pre-test / the post-test

X₁ = the treatment for jigsaw technique

X₂ = the treatment for mind mapping technique

1. Operational Definitions

- a. Cooperative learning is the instructional that use in small groups where students work together to increase their own vocabulary.
- b. Jigsaw is technique that divided students in several groups and the studtens work together in solving problem. And

also, it will give the students good feel in learning and teaching process.

- c. Mind Mapping is a technique how to drawing or mention of particular area/place in gaining word of the students
- d. Technique is a particular method of doing an activity in particular skill.
- e. Strategy is a general plan or set of plans intendd to achieve something
- f. Method is a particular way of doing something.
- g. Increasing is the student vocabulary achievement become great in number.
- h. Achievement is the students' success in get a high score after treatment
- i. Students' vocabulary means the vocabulary achievement of the students after the treatment by using jigsaw technique and mind mapping technique.

D. Findings

The researcher has stated in the previous chapter that the way to collect data in this research is by using tests; pre-test and post-test. These tests aimed at collecting data of the students' vocabulary in using jigsaw technique and mind mapping technique, the class A was applied jigsaw technique and the class B was applied mind mapping techning in treatment.

1. Scoring classification of students` pretest and posttest in Jigsaw class.

The result also can be showed on chart below:

The students mean score can be seen on the table below:

Table 4.2 Students' mean score in jigsaw technique

Mean score	Pretest	59.75
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Posttest

84.48

The table 4.2 shown that, the mean score of students' pretest in jigsaw class is 59.75, it is classify as fair level, after have the treatment in posttest is 84.48, it was in the good classification. Based on the data above indicated that the students' mean score of pretest is lower than the students' score of posttest. After the researcher conducted the treatment (jigsaw technique) in taught vocabulary. It can be concluded that the use of jigsaw technique is effective in inreasing students' vocabulary.

Table 4.3 Test Significant

Variables	P-Value	(α)	Remarks
Pretest and posttest of Jigsaw class	0.00	0.05	Significant Difference

Based on the table 4.3, the result of the data analysis on pretest and posttest of Jigsaw class, the researcher found that the Probability value (0.00) is lower than the level of significance at t-test (α) (0.05) and the degree of freedom (df) 39, where N-1 (40-1). It means that the alternative hypothesis (H_1) was accepted and the null hypothesis (H_0) was rejected. In the other words, there were significance difference between the students' score in pretest and posttest after treatment (jigsaw technique). It means that the use of Jigsaw technique is significant difference in increased the students' vocabulary.

2. Scoring classification of students' pretest and posttest in mind mapping class

Table 4.5 Students' mean score in mind mapping technique.

Mean score	Pretest	60.03
	Posttest	82.35

The table 4.5, it shows that the mean score in pretest is 60.03, it was classify as fair level and in posttest is 82.35, it was in the good classification. It can be indicated that there is improvement of students' meanscore after treatment was given through mind mapping technique. It can be concluded that the use of mind mapping technique is effective in increasing students' vocabulary. It prove by the mean score in table 4.5.

Table 4.6 test Significant

Variables	P-Value	(α)	Remarks
Pretest and posttest of Mind mapping class	0.00	0.05	Significant Difference

Based on the table 4.6, result of data analysis on pretest and posttest of class B, the researcher found that the Probability value (0.00) is lower than the level of significance at t-test (0.05) and the degree of freedom 39. It means that alternative hyphothesis (H_1) is accepted and null hyphothesis (H_0) is rejected. In the other words, there is significant difference between the students' score in pretest and posttest after treatment. It means that, the application of mind mapping technique is significant different in increasing the students' vocabulary.

3. The mean score and the standard deviation of the students' vocabulary achievement in pretest and posttest between Jigsaw technique and mind mapping technique.

Table 4.8 test Significant (T-Test)

Variables	P-Value	(α)	Remarks
Pretest of Jigsaw and Mind mapping	0.80	0.05	No Significant Difference
Posttest of Jigsaw and Mind mapping	0.05	0.05	No Significant Difference

Base on the table 4.8, result above, the data showed on pretest before applied the techniques of jigsaw and mind mapping, the scores p-value 0.80 and α 0.05, it means that there is not significantly different in pretest. After treatment the scores p-value 0.05 and α 0.05, it indicates that there is not significantly different between jigsaw technique and mind mapping technique by the degree of the freedom 39. It was indicated that null hypothesis (H_0) was accepted and the alternative hypothesis (H_1) was rejected. there for use of jigsaw technique and mind mapping technique is not significant different in increasing students' vocabulary.

E. Conclusion

The researcher compares the t-test both of jigsaw technique and mind mapping in pretest is not significant difference ($0.08 > 0.05$), and in posttest also there is not significant difference ($0.05 = 0.05$). Based the data in table 4.7 showed, both of the technique are not significant difference in increasing students' vocabulary. Although, both of the techniques are effective in increasing students' vocabulary, but jigsaw technique more effective than mind mapping technique in increasing students' vocabulary of the second semester at English department of Cokroaminoto Palopo University.

F. Suggestion

Based on the conclusions above, the researcher put forwards some suggestions and recommendations as follows:

1. It is strongly suggest that teaching vocabulary in terms of noun, verb and adjective level through jigsaw technique and mind mapping technique should be continually implement not only in English Study Program of Cokroaminoto Palopo University but also in other Universities, and it can also be used in the school level.
2. The researcher suggested to the lecturers or teachers to use jigsaw and mind mapping as techniques in teaching english especially to increase the students' vocabulary.
3. As the researcher stated in the scopes of the research that focused on the use of jigsaw technique and mind mapping technique in teaching vocabulary in terms of noun, verb, and ajective. So, the researcher recommends to the future researchers to conduct a research in using jigsaw and mind mapping but different kind of objects. for the next research, the researcher hopes that, this research finding will give some advantages to the further researchers about jigsaw and mind mapping and it can be used as a reference and empirical evidence.

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