

The Effect of Jigsaw Method to Improve EFL Students' Vocabulary Ability

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Abstract

This study was aimed to improve students' ability in learning vocabulary through jigsaw method at Timor University in, Timor Tengah Utara regency (TTU), NTT Province, Indonesia. The main purpose of this study is to know the effect of using jigsaw method to improve students' vocabulary ability. This study belongs to pre experimental method with the one group pretest - posttest design. This study was conducted in one class which was given the treatment. The treatment of this study is teaching and learning process by using jigsaw method. The population of this study was second semester students of English study program of Timor University in academic year 2017/2018. The total members of second semester students were 120 who were divided into three (3) classes. Every class consisted of 30 students. The writers used purposive sampling technique to take the data. The writers only determined one class because the writer assumed that in this class, students have sufficient knowledge of English. Hence, the sample of this study was 30 students. The writers had conducted pre test before gave the treatment to the students. Finally, the writers gave the posttest to measure students' vocabulary ability in the end of teaching and learning process. From the data analysis, the writers found that the average of the students' vocabulary was improvement. The average of students' score in pretest was 65% and posttest was 79%. After the writers conducted the research, the writers concluded that (1). Jigsaw method can improve students' vocabulary ability. (2). Jigsaw method can improve the students' interaction with the teacher and other students.

Key words: Jigsaw Method, Vocabulary Ability

Introduction

By and large, English has four two abilities. They are main and sub skill. Main skill consists of speaking, writing, listening and reading abilities and sub skill consist of grammar, pronunciation and vocabulary abilities. EFL Students have to master main abilities in learning English. But, the fourth main abilities are difficult to master by the EFL students if they do not apply with some sub skills. It cannot be argued that sub skill consists of grammar, pronunciation and vocabulary abilities. In order to master the main abilities, students have to master sub skill because the application of main ability depends for students' comprehension



toward the sub skill. For example, if the students want to improve their speaking ability, they have to master grammar, pronunciation and vocabulary. Then, they can speak fluently in English without hesitant. From this short example above, it is proved that sub skill is also very important skill in learning English.

Kimble and Garmezy, (1963: 133) stated that learning is a relative permanent change in a behavioral tendency and is the result of reinforced practice. Similarly, teaching, which is implied in the first definition of learning, may be defines as showing or helping someone to learn how to do something, giving instruction, guiding in the study of something, providing with knowledge, causing to know or understand.

Teaching cannot be defined apart from learning. Teaching is guiding and facilitating learning. Enabling the learner to learn, setting the conditions for learning. Teacher's understanding of how the learner learns will determine his or her philosophy of education, teaching style, approach, methods, and classroom techniques. Theory of teaching will spell out governing principles for choosing certain methods and techniques, a theory of teaching, in harmony with the teacher integrated understanding of the learner and the subject matter to be learned, will pint the way with successful procedure on a given day for given learners under variant – constraints of particular context of learning. In other words the teacher's theory of teaching is the teacher's theory of learning.

In this study, the writers focus on vocabulary skill because they found that students had lack of vocabulary. It is proved by the students' ability in vocabulary lecture in Intensive English Course lecture. Only several students had good scores. After one of the writers taught vocabulary lecture in the second semester, the writer found that there were some difficulties that faced by the students in following Intensive English Course lecture. They are presented below. They were difficult to understand about the prepositional phrasal verbs, they were difficult to use the English word in appropriately context, they did not memorize well the vocabulary, they were difficult to identify word classes, etc.

It has generally known that language is produced by using some sentences. A sentence consists of some words. In this era, there is a lecture in English Foreign Language (EFL) class which learns about words. It is vocabulary lecture. Vocabulary is a lecture which study about a list or collection of words usually alphabetically arranged and explained or lexicon, stock of words use in language or by class, individual, etc" (Webster Dictionary, 1985:1073 in Jr (2012). Students learn vocabulary lecture to improve their comprehension above some types of words in English. It is purposed to improve students' main skill. By and large, there are two main skills in English. They are productive skills and receptive skill. Productive skill consists of speaking and writing and receptive skill consists of listening and writing. In other words, if students want to improve main skill (productive and receptive skill), they have to master sub skill. There are 3 sub skills in English. They are grammar, pronunciation and vocabulary. For example, study this situation below; students can improve their speaking skill by having many vocabulary, good grammar and good pronunciation. So, they can speak well without hesitant. Another example, if students want to improve their writing skill in writing a scientific writing, they have to have good grammar and good vocabulary. So they can produce a good writing. Based on the example above, it



can be concluded that sub skills are very important to improve students' main skill. In this study, the researcher concerned of vocabulary skill.

According to Pikulski and Templeton (2004: 4) there are several components of a comprehensive approach to teach and develop students' vocabulary. They are (1). Use Instructional read aloud events; (2). Provide direct instruction in the meanings of cluster of words and individual words; (3). Systematically teach students the meaning of prefixes, suffixes, and root words; (4). Link spelling instruction to read and vocabulary instruction; (5). Teach the effective, efficient, realistic use of dictionaries, thesauruses, and other reference works; (6). Teach, model and encourage the application of a word – learning strategy; (7) encourage wide reading; (8). Create a keen awareness of and a deep interest in language and words. Those components can encourage students to master vocabulary.

Beside those approaches, teachers have to use teaching method in order to improve students' vocabulary because teaching method can guide teachers to teach students in classroom. Teachers are hoped to use some methods in developing students' vocabulary skill. In this decade, there are some methods to teach vocabulary in EFL class. According to Richard and Rogers (1986), there are some English Foreign Language (EFL) methodologies such as, Direct Method focuses on listening and speaking. It also concerns on grammar rules and vocabulary lists. The goals of this method is to teach students usually adults, how to converse in everyday situations in another language. The Audio - lingual Method is a method for foreign language teaching which emphasized the teaching of listening and speaking before reading and writing. This method is combination between behavioral psychology and linguistic. Presentation – Practice – Production, or PPP, is a method for teaching structures (e.g. grammar or vocabulary) in a foreign language. PPP focuses on oral skills (speaking skill). Activities in Communication Language Teaching (CLT) typically involve students in real and realistic communication. This method helps students develop their communicative competence in an authentic context is considered an acceptable and beneficial form of instruction. This explanation proves that the main focus of CLT is speaking and listening. Grammar Translation Method (GTM) used in teaching English as a foreign language (TEFL) focuses on reading and writing. Grammar Translation Method focuses on sentence structure, grammar, vocabulary and direct translations of the native language to English. GTM is appropriate in teaching writing to improve students writing skill but it is very old and it is familiar used by other researchers. Task based language teaching is a method for foreign language teaching which emphasized some tasks to improve students' ability. Jigsaw is a type of cooperative learning which consists of some members in a heterogenous group that have responsibility for mastering a part of material and have an ability to teach them to the other member from their group (Arends , 1997). Jigsaw has designed to improve the students' responsibility to their own learning and other learning. They are not only learn the given materials, but also they have to be ready to give and teach them to another group's member. So, they depend on each other and work together cooperatively. (Lie, A, 1994). Some more information about jigsaw will be elaborated in detail below.

The writers assume that beside of students' difficulties, there is another aspect which influences the students' ability in learning English vocabulary. One of them



is teaching method. Teaching method is one of another aspects that also influences the students' achievement. By and large, teaching and method cannot be separated each other because methods could support teaching and learning process in the classroom. In this decades, there are some teaching methods need to be applied in teaching and learning process. Those methods can be assisted teachers to teach well in the classroom. The methods can be facilitated teacher to explore their teaching ability. Method is the process of planning, selecting and grading language materials and items, techniques of teaching, etc (Patel and Jain, 2008: 71). Moreover according to Anthony (1963 in Patel and Jain, 2008: 71), method is a particular trick, strategy or contrivance used to accomplish an immediate objective. It might be consistent with a method and harmony with an approach as well. Therefore, teachers always have to apply a good method to support the material in teaching and learning process. After one of the writer evaluated her teaching method in the previous semester, the writer found that she has to change the teaching method which is approximately with vocabulary lecture. Therefore, the writer works together with her friend in using the new teaching method which has ever used by another researcher in this university. Therefore, the writers agreed to choose the jigsaw method to improve students' vocabulary. The writers assume that jigsaw method can improve students' vocabulary.

Jigsaw has first introduced and experimented by Elliot Aronson and colleagues in Texas University then have been adopted by Slavin and colleagues in John Hopkins University (Arends, 2001). This teaching technique has been developed as the cooperative learning method which is used to teach speaking, reading, listening and writing. Besides that, the language components can be taught by using this technique.

There are many benefits of using jigsaws in the classroom including the following:

1. Jigsaw can Improve team and class dynamics by helping to build trust, creating a space for candor and for
2. Jigsaw can give some respectful disagreement and making a safe space for taking emotional risks.
3. Jigsaw can help in building cohorts (i.e., within majors) by enabling students to really get to know each other in
4. One class, which can translate to more interactions outside of class in departmental and campus activities.
5. Jigsaw can foster student engagement through peer learning and more equal participation by everyone in the group by empowering individual students to share their own "expertise" or contribution to the jigsaw group.
6. Jigsaw can require students who are shy or quiet to participate more fully in active ways.
7. Efficiency (time saving): possible to cover more material rapidly when students are assigned different readings/roles/etc. and then teach each other in the jigsaw.



There are some important criteria that should be applied to classroom tasks in order to make group work effective. This list of five basic principles forms the core of Together We Learn (Clark et al., 1990):

1. Students work in small heterogeneous groups.
2. Students work in positive interdependence
3. Students are accountable both as individuals and as a group
4. Students learn through ample opportunity for purposeful talk
5. Students learn and practice cooperative skills as they study and explore the subject matter together.

Jigsaw is one of the cooperative learning techniques, is based on group dynamics and social interactions (Sahin, 2010). It means that the student must study in a group (Anonymous, 2010:30). The steps of jigsaw technique in classroom are as follows.

First, teacher divides the students into small groups. Each group consists of three to five students. These groups are called jigsaw group. Teacher gives a passage consists of some segments of the material to all students in jigsaw group.

Second, each student in Jigsaw groups is assigned to choose a section or portion of the material. After that, students who choose the same section gather and make a new group called expert group. In this step, the researcher gives time to these "Expert Group" to discuss the main point of their segment. They may share ideas, opinions, and comprehension about the material and try to solve their problem. After that, they return to their jigsaw groups and explain the material to each other, until all of them in jigsaw groups comprehend the material. Finally, give a quiz based on the material to find out students' achievement (Slavin, 2005; Mengduo and Xiaoling, 2010; Hersulastuti, 2010).

As the writers explained before in the previous paragraphs that there are some difficulties that faced by the students in mastering vocabulary on Intensive English Course lecture. Based on the writers' experience, almost all students were difficult to understand the prepositional phrasal verbs. They made mistakes in arranging prepositional phrasal verb. Therefore, the writers intend to conduct a research to improve students' vocabulary above prepositional phrasal verb. Furthermore, the researchers assumed that jigsaw method should be a good method, if it is combined with the experimental study with the one group pretest - posttest design. Therefore, the writers intend to conduct a research using experimental study on applying jigsaw method in teaching learning process to improve student' vocabulary. Thereby, the title of this study is "The Effect of Jigsaw Method to Improve EFL Students' Vocabulary Ability".

Method

This study belongs to pre experimental method with the One Group Pretest - Posttest design. This study was conducted in one class which was given the treatment. The treatment of this study is teaching and learning process by using jigsaw method. The writers conducted this study in Timor University (UNIMOR). It is located in Kefamenanu, East Nusa Tenggara Province. This study was conducted on March 2018 in the academic year 2017/2018. The population of this study was second semester students of English study program of Timor University in academic year 2017 / 2018. The total members of second semester students



were 120 who were divided into three (3) classes. Every class consisted of 30 students. The writers used purposive sampling technique to take the data. The writer determined one class because she assumed that students had sufficient knowledge of English in this class. Therefore, the sample of this study was 30 students.

The instruments were used to obtain the data in this study were in form of test. The writers had conducted pretest before gave the treatment to student. Finally, the writers gave them test to measure their abilities in learning propositional phrasal verb by using jigsaw method. To collect the data in this study, the writers also used library research and test. (1) The writers collected the theory of jigsaw method to guide them in conducting this study. (2) The writers also corrected students' test and gave the score based on the classical standard measurement that applied in this university.

This study used some procedures to collect the data. This study used three (3) steps. They are presented below.

1. The writers recapitalized the students' test (pretest and posttest). Then, the writers began to analyze the data.
2. The writers classified the score based on the classical standard of measurement which was used in this university.
3. The writers analyzed the average of students score. In analyzing the students score, the writers used simple descriptive statistic analysis. The writers used simple formula to measure the average of students' ability. In giving grades to the students both as an individual and as a class, two formulas were used. The first was for counting grade or score showing their ability level of each student. The second was for counting grade or score showing their level ability as a class.

The writer used two formula in this research. The first formula was used to compute the individual ability level. Below are the formulas:

$$\text{Score} = \frac{\text{Total score of all numbers}}{\text{Total numbers}}$$

The individual ability level of students is achieved if he or she gets 66% or 6, 6 score in the lecture.

The second formula was used to compute the student's ability level as a class. The formula is as follows:

$$\bar{X} = \frac{\sum X}{n}$$

Where:

\bar{X}	= Mean / the average of students' score
$\sum X$	= The sum of every data / total score
n	= The sum of data/ the number of students (Riduwan, 2012: 84)

The students' ability level as a class is achieved if 85% of all students get score more than 66% or 6, 6 score ($\geq 6, 6$) in the lecture.



Findings and discussion

Pre Test Activities

In this section, the writers described the effect of jigsaw method to improve students' vocabulary ability in learning prepositional phrasal verbs. The pretest was conducted on Tuesday / 7th March 2018. The steps of this activities began with the writers had came to the class and gave the pretest for the students without giving the treatment. Directly, the writers asked the students to prepare their self well in answering the pre test. The pretest was conducted to know the students' vocabulary ability before giving the treatment by using jigsaw method in teaching and learning process. The score of students' pre test are described in detail in the table below.

Table I. Students' Pre test Score

No	Students' Name	Pre test (O1)	Level of Ability
1	Student 1	40	Poor
2	Student 2	40	Poor
3	Student 3	40	Poor
4	Student 4	55	Below average
5	Student 5	50	Below average
6	Student 6	53	Below average
7	Student 7	65	Average
8	Student 8	70	Fairly good
9	Student 9	65	Average
10	Student 10	60	Average
11	Student 11	70	Fairly good
12	Student 12	60	Average
13	Student 13	62	Average
14	Student 14	55	Below average
15	Student 15	50	Below average
16	Student 16	65	Average
17	Student 17	40	Poor
18	Student 18	66	Fairly good
19	Student 19	40	Poor
20	Student 20	50	Below average
21	Student 21	55	Below average
22	Student 22	70	Fairly good
23	Student 23	40	Poor
24	Student 24	60	Average
25	Student 25	70	Fairly good
26	Student 26	64	Average
27	Student 27	40	Poor
28	Student 28	60	Average
29	Student 29	50	Below average
30	Student 30	67	Fairly good
Total		1672	
Average		55,7	
Maximum Score		70	
Minimum Score		40	



The average of students' score as follow:

$$\begin{aligned}\bar{X} &= \frac{\sum X}{n} \\ \bar{X} &= \frac{1672}{30} \\ &= 55,7\end{aligned}$$

From the analysis of students' vocabulary pretest, the writers found that the average of the students' vocabulary was not good. The average of students' score was 55,73. It was proved by the data. Almost all students obtained the low score in answering the test of prepositional phrasal verb topic. From the table above, it can be seen that only seventh (7) students who fulfilled classical standard measurement but twenty three (23) students did not fulfill the standard measurement that applied in this university. In other words, students did not master about prepositional phrasal verbs. It means that their comprehension about prepositional phrasal verbs was very poor. That is why the writers used experimental method especially one group pretest – posttest in order to know their comprehension about prepositional phrasal verbs after accepting the treatment by teaching them about the topic. Therefore, students can understand more deeply about prepositional phrasal verbs.

Treatment

In this section, the writers gave the treatment to the second semester students by teaching them about prepositional phrasal verbs. The treatment was conducted on 19th March 2018. The writers used Jigsaw method in giving the treatment. The steps of this study began with the writers had came to the class. Then, directly the writers gave treatment by using jigsaw method in learning prepositional phrasal verb topic. In other words, the treatment of this study was jigsaw method. There were some procedures of jigsaw method on teaching and learning process in the classroom. They are presented below.

1. Teacher divided the students into small groups.
Each group consisted of three to five students. These groups were called jigsaw group. Teacher gave a passage consists of some segments of the material (preposition phrasal group) to all students in jigsaw group.
2. Each student in Jigsaw groups was assigned to choose a section or portion of the material. After that, students who choosed the same section gather and make a new group called expert group. In this step, the researchers gave time to these "Expert Group" to discuss the main point of their segment. They may share ideas, opinions, and comprehension about the material and try to solve their problem. After that, they returned to their jigsaw groups and explained the material to each other, until all of them in jigsaw groups comprehend the material.
3. Finally, the teacher or researcher gave a text based on the material to find out students' achievement (Slavin, 2005; Mengduo and Xiaoling, 2010; Hersulastuti, 2010).



Post Test Activities

This study belongs to pre experimental method with *the One Group Pretest – Posttest* design. It means that the writers had to conduct the post test in the end of teaching and learning process. The test was used to know the effect on applying jigsaw method in teaching and learning process. The score of students' test are described in detail in table below.

Table 2. Student's Post test Score

No	Students' Name	Posttest (O2)	Level of Ability
1	Student 1	67	Fairly good
2	Student 2	75	Fairly good
3	Student 3	68	Fairly good
4	Student 4	70	Fairly good
5	Student 5	67	Fairly good
6	Student 6	88	Very good
7	Student 7	88	Very good
8	Student 8	93	Fairly good
9	Student 9	89	Very good
10	Student 10	87	Fairly good
11	Student 11	93	Good
12	Student 12	87	Fairly good
13	Student 13	85	Fairly good
14	Student 14	76	Fairly good
15	Student 15	78	Fairly good
16	Student 16	86	Very good
17	Student 17	69	Fairly good
18	Student 18	87	Fairly good
19	Student 19	74	Fairly good
20	Student 20	78	Very good
21	Student 21	78	Fairly good
22	Student 22	93	Fairly good
23	Student 23	75	Very good
24	Student 24	84	Very good
25	Student 25	94	Fairly good
26	Student 26	85	Good
27	Student 27	76	Good
28	Student 28	86	Very good
29	Student 29	76	Fairly good
30	Student 30	85	Good
Total		2437	
	Average	81,2	
	Maximum Score	94	
	Minimum Score	67	



The average of students' score as follow:

$$\begin{aligned}\bar{X} &= \frac{\sum X}{n} \\ \bar{X} &= \frac{2245}{30} \\ &= 74,8\end{aligned}$$

From the analysis of students' vocabulary posttest, the writers found that the average of the students' vocabulary was good. The average of students' score was 81,2. From the table above, it can be seen that all students fulfilled classical standard of measurement that applied in this university. Therefore, from the analysis of students test result in posttest, it can be said that there was an improvement from the pre test. The writers concluded that the problem has been solved on using jigsaw method.

The writers also found that the majority of students joined the class enthusiastically and the teacher as a researcher was good on teaching prepositional phrasal verb by using jigsaw method. In other words, students interested on learning vocabulary lecture through jigsaw method. Jigsaw method could motivate students to be active and had a great participant on learning vocabulary lecture during teaching and learning process in classroom. It can be seen from their responses during teaching and learning process. The majority of the students took good involvement on working together with his or her partner in pairs. They could try to develop their critical thinking while they worked together in pairs. Students were not hesitant to speak and gave the idea while they discussed with their friends. Therefore, jigsaw method helped students to develop their critical thinking.

The Analysis of Pretest and Posttest

The analysis of students' pretest and posttest vocabulary score after giving the treatment in teaching and learning process can be seen briefly in this table below:



Table 3.
 The Comparison between Students' pretest and Students' posttest

No	Students' Name	Pretest (O1)	Treatment (X)	Posttest (O2)	Level Improvement
1	Student 1	40	X	67	27
2	Student 2	40	X	75	35
3	Student 3	40	X	68	28
4	Student 4	55	X	70	15
5	Student 5	50	X	67	17
6	Student 6	53	X	88	35
7	Student 7	65	X	88	23
8	Student 8	70	X	93	23
9	Student 9	65	X	89	24
10	Student 10	60	X	87	27
11	Student 11	70	X	93	23
12	Student 12	60	X	87	27
13	Student 13	62	X	85	23
14	Student 14	55	X	76	21
15	Student 15	50	X	78	28
16	Student 16	65	X	86	21
17	Student 17	40	X	69	29
18	Student 18	66	X	87	21
19	Student 19	40	X	74	34
20	Student 20	50	X	78	28
21	Student 21	55	X	78	23
22	Student 22	70	X	93	23
23	Student 23	40	X	75	35
24	Student 24	60	X	84	24
25	Student 25	70	X	94	24
26	Student 26	64	X	85	21
27	Student 27	40	X	76	36
28	Student 28	60	X	86	26
29	Student 29	50	X	76	26
30	Student 30	67	X	85	18
	Total	1672	X	2437	765
	Average	55,7	X	81,2	25.5
	Maximum Score	70	X	94	36
	Minimum Score	40	X	67	17

Based on the table above, it can be concluded that students mastered the prepositional phrasal verbs after the teacher had taught them in teaching and learning process. It proved by their' post test score. There were some points or information dealing with the table above. Those points will be elaborated in detail below.



1. Students' score improved significantly in post test. The average of students score in pretest was 55,7% and the posttest was 81,2%. It means that there was an improvement after giving the treatment. The level improvement was 25,5%.
2. All second semester students passed the post test. In other words, students fulfilled standard measurement that applied in this university.
3. The minimum score was 40 in pretest and 67 in posttest. There was an improvement after giving the treatment by using jigsaw method. The level improvement was 17.
4. The maximum score was 70 in pretest and 94 in posttest. There was an improvement after giving the treatment by using jigsaw method. The level improvement was 36.

The analysis of pretest and posttest of students' vocabulary score can be seen in this chart below.

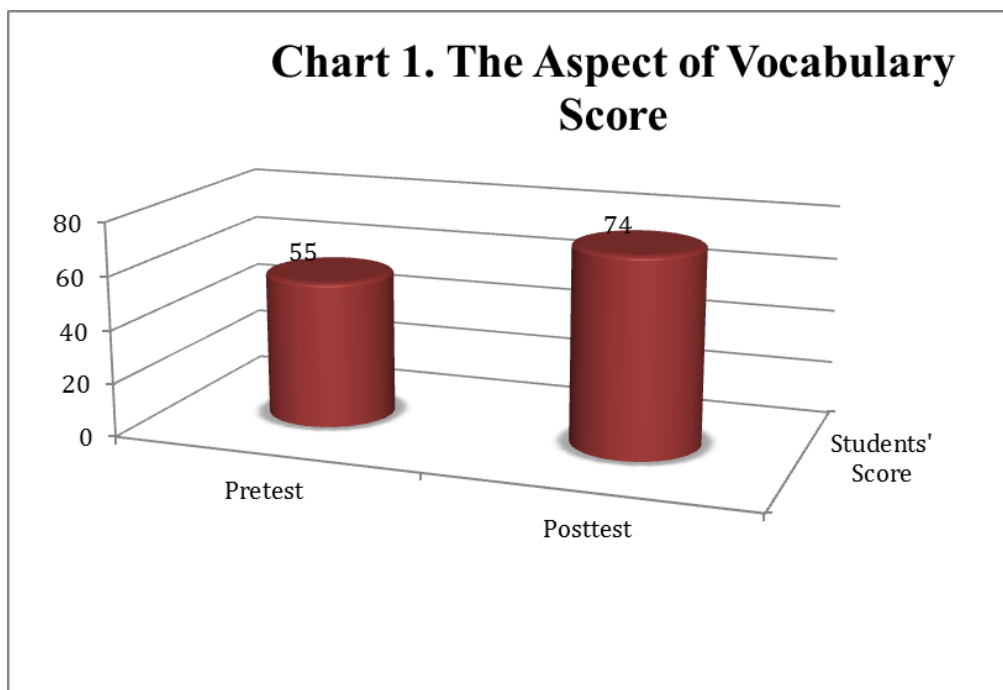


Figure 1. Chart of the Aspect of Vocabulary Score

Conclusion

The conclusion of this study is presented according to the data which have been analyzed in the previous chapter. From all the data analysis toward the effect of jigsaw method to improve students' vocabulary ability in mastering prepositional phrasal verb, it can be concluded that the effect of jigsaw method can improve students' vocabulary ability. It can be seen by students' achievement in vocabulary test. The result of this study showed that the students' vocabulary ability improved efficiently and effectively after following the teaching and learning process by using jigsaw method. Moreover, the effect of jigsaw method can improve the students' interaction with the teacher and other students. Based on explanation above, the writers conclude that the effect of jigsaw method can



improve second semester students' vocabulary achievement of English study program of Timor University in academic year 2017 / 2018.

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