

ENHANCING STUDENTS' VOCABULARY THROUGH MIND MAPPING ACTIVITY IN THE SECOND SEMESTER STUDENTS OF ENGLISH EDUCATION PROGRAM

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ABSTRACT

This research aims to know (1) whether mind-mapping activity can enhance students' vocabulary (2) how is the classroom situation while mind-mapping activity is implemented in the second semester students of English Education Program. The researcher uses classroom action research with two cycles and each cycle has four meetings. There are four steps in conducting this research; planning, acting, observing, and reflecting. In collecting data, there are two kinds of data used in this research, quantitative and qualitative data. The quantitative data is analyzed by using descriptive statistics method in the form of students' score of pre-test, post-test 1, and 2, and t-test of non-independent is used to see the significant difference of students' improvement. While for the qualitative data they are collected from: observation, interview, and questioner by using triangulation method. The result of the research shows that there is improvement of students' vocabulary in three vocabulary indicators: form, meaning, and word in use. The average scores of pre-test is 67.27, 72.47 for post-test 1, and 74.88 for post-test 2. Furthermore, the improvement of classroom situation can be seen clearly from students' participation, interest, high-performance, and high-engagement. Briefly, it is recommended for educators to use mind-mapping activity to improve students' vocabulary.

Keywords: Mind-mapping Activity, Vocabulary, English Learning

ABSTRAK

Penelitian ini bertujuan untuk mengetahui (1) apakah mind-mapping dapat meningkatkan kosa kata mahasiswa (2) bagaimana situasi kelas ketika mind-mapping digunakan pada mahasiswa semester dua Program Pendidikan Bahasa Inggris. Peneliti menggunakan penelitian tindakan kelas dengan dua siklus dan setiap siklus memiliki empat pertemuan. Terdapat empat langkah dalam pelaksanaan penelitian ini; perencanaan, tindakan, pengamatan, dan refleksi. Dalam pengumpulan data, terdapat dua jenis pengumpulan data, kuantitatif dan kualitatif data. Kuantitatif data dianalisis menggunakan metode statistik deskriptif dalam bentuk nilai pre-test mahasiswa, post-test 1, dan post-test 2, serta non-independent t-test digunakan untuk mengetahui perbedaan perkembangan mahasiswa yang signifikan. Sedangkan untuk data kualitatif dikumpulkan dari: observasi, wawancara, dan kuesioner dengan menggunakan metode triangulasi. Hasil dari penelitian ini menunjukkan adanya perkembangan kosa kata mahasiswa dalam tiga indikator: bentuk, makna, dan penggunaan kata. Nilai rata-rata dalam pre-test 67.27, 72.47 untuk post-test 1, dan 74.88 dalam post-test 2. Kemudian, perkembangan situasi kelas dapat dilihat dengan jelas dari partisipasi mahasiswa, ketertarikan, peningkatan performansi, dan peningkatan keterlibatan mahasiswa. Singkatnya, mind-mapping direkomendasikan untuk para pengajar dalam mengembangkan kosa kata mahasiswa.

Kata Kunci: Mind-mapping, Kosa Kata, Pembelajaran Bahasa Inggris

INTRODUCTION

English has been used as international language for a long time which mostly used by people around the world. It is a tool for communication among people from different background of language, country, and culture. The using of English in many sectors, encourage Indonesia government to take this as an important matter. English has been used as a foreign language in Indonesia for a long time, specifically since the independence of Indonesia. As clearly stated by Sadtono (1997) and Huda (1997) in Saukah (2003) *“Sejak awal kemerdekaan bahasa Inggris sudah diberi status sebagai bahasa asing pertama yang wajib diajarkan di sekolah lanjutan.”* Seeing this fact, the government has imposed to put English in national education curriculum starting from elementary school to university level.

Currently many students interest and aware how important of learning English by taking English as their study major. It can't be denied that English is the language of science, aviation, computers, diplomacy, and tourism. Knowing English may increase the chances of getting a good job in a multinational company within home country or finding work abroad. Furthermore, we are facing Masyarakat Ekonomi ASEAN (MEA) the fierce competition in getting jobs is getting harder. Therefore, university plays an important role in creating knowledgeable, competent, independent, creative, and professional students for facing today's globalized world.

To encourage students to have the ability of using English effectively, students need to master some basic vocabulary to understand the spoken and written English. Vocabulary is the essential part of learning a language in order to communicate each other. A message could be conveyed without the correct grammatical usage but without vocabulary nothing can be conveyed. The researcher found that the problems come from the internal factors, there are: (1) the students don't know the form of words (for example; the root of the word, prefix, suffix, word-noun, verb, preposition and etc) and how they are spelled (2) they don't know the meaning of the words. They slowly comprehend the material which is delivered in English; (3) they have difficulty in using the word based on its context. To deal with those problems, the researcher makes an attempt to enhance students' vocabulary through mind-mapping activity.

Vocabulary is one of language elements as the main partial in learning language. Vocabulary acquisition is crucial in learning the foreign language as without a word people' communication may breakdown. According to Quirk, et al. (1991: 1177) *“Vocabulary is a list of words, usually in alphabetical order and with explanation of their meaning, less complete than dictionary.”* While Ur (1996: 60) states that *“vocabulary can be defined, roughly, as the words we teach in the foreign language.”* Redman (1997: 12) said that *“learning vocabulary is the learning of words building, pronunciation, spelling, words using, words meaning, and a bit about some grammatical features (prefixes, noun suffixes, verb patterns etc).”*

Nation (2000: 40) proposes what learners need to know about the word. First, he said that if the word to be learned is only receptive use (listening or reading), there is one set of answers. Second, if the word to be learned is for

receptive and productive (listening, speaking, reading, and writing), there will be additional set of answers. Furthermore, according to Gower, Philips and Walters (1995: 144) define some aspects of a vocabulary item should the teacher known as the following:

a. The Form

- 1) What part of speech is the word-noun, verb, preposition, etc?
- 2) How is it spelled- is it regular or irregular?
- 3) Does it belong to a family of words; for example, electricity, electrical electrician.
- 4) How is the word or combination of words, pronounced and, in word or more than one syllable, where is the stress?
- 5) How does the word collocate with surrounding words? Is it part of set expression?

b. The Meaning

- 1) Many words have more than one meaning. What exact meaning in which context do you want to focus on?
- 2) What is the connotation of the item?
- 3) Could the vocabulary item have different meanings for different people?

c. The Use

- 1) How is the vocabulary item used?
- 2) Does it have a restricted use? Does it belong to a particular style or register?

Mind-mapping was originated by Tony Buzan and today's are used by millions of people around the world from the very young to the very old whenever they wish to use their minds more effectively. Buzan (1993: 1) states that 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 topic back and forth. Map is a graphic organizer in which the major categories radiate from a central idea and sub-categories are represented as branches of larger branches. It is a visual tool that can be used to generate ideas, take notes, organize thinking, and develop concepts (Budd, 2003; Murley, 2007; Siriphanic & Laohawiriyano, 2010; Al-Jarf, 2011). It is quoted from *Mind-Mapping: Scientific Research and Studies*. *ThinkBuzan.com* there are benefits in using mind-mapping, they are:

- 1) Murley (2007:15) notes that it is easy to understand the maps drawn on mind-maps. This benefits the students as it saves time and increases productivity. Different learning styles in vocabulary class can also be accommodated.
- 2) Mind-maps are especially helpful for strong visual learners who absorb information better when it is presented via diagrams and similar visual aids than through written text.

- 3) Mind-mapping also help students see connections between prior knowledge and new information, which helps them transfer what they learn and apply it to new situations. Mind-mapping technique proves to be a powerful tool for improving students' ability to generate, visualise and organise ideas in learning (Al-Jarf, 2009: 71).
- 4) Mind-mapping promote group collaboration. When used for group brainstorming sessions, Mind-mapping was seen to enhance critical thinking and co-operation and provided a solid basis for collaborative problem-solving. Students involved in the sessions reported that they enjoy expressing their opinions in a participative and open climate (Paykoc et al, 2004).
- 5) Mind-mapping improve memory: 90% believe that they remember presentations and documents better when colour is used (Xerox study, 2003).
- 6) When used for group brainstorming sessions, mind-mapping was seen to enhance critical thinking and co-operation and provided a solid basis for collaborative problem-solving. Students involved in the sessions reported that they enjoyed expressing their opinions in a participative and open climate (Paykoc et al, 2004).

METHODOLOGY

In this research, the researcher used Classroom Action Research (CAR). Millis (1997: 21) states that "CAR is systematic inquiry done by the teacher (or other individuals in the teaching/learning environment) to gather information about and subsequently improve the ways their particular schools operate, how they teach and how well their students learn." According to Kurt Lewin in McNiff (1992: 19) the basic steps of Action Research are planning, acting, observing, and reflecting. In collecting quantitative data, the researcher uses pre-test and post-test scores achievement to see the students' improvement. Then t-test non independent is used to see the significant difference of the improvement. While for qualitative data, triangulation is used to check the credibility and validity of data by having observation, interview, and questioner.

RESULT AND DISCUSSION

RESULT

1. The Process of the Research

The research is conducted into two cycles. Each cycle consists of four meetings by following the steps of Classroom Action Research there are: planning, acting, observing, and reflecting. In the previous meeting, the researcher did a pre-test to get to know the basic ability of students' vocabulary. From the preliminary research, the pre-test result showed that the students' understanding about vocabulary based on three vocabulary indicators, the average scores are: form with 68,37, meaning 65,63, and word in use 67,67.

According to the pre-questioner there are 46.67% students who often have difficulty in knowing the form of English words, 76.67% students often don't

know the meaning, and 60% students who often get difficulty in using vocabulary correctly. Following the theory of Gower, Philips and Walters (1995: 144) and Wollacott (2012,) researcher focuses on three main aspects in learning vocabulary, there are: word form, meaning, and word in use.

The Implementation of the Research

This classroom action research of improving vocabulary was conducted in two cycles. Each cycle consisted of four meetings. Each meeting had 90 minutes.

a. Cycle 1

1) Planning

Planning is the first step in doing a classroom action research. Therefore, the researcher planned to arrange the important things such as time allotment, teaching material, and worksheet.

a) Time allotment

The time allotment in each meeting was 150 minutes. There were four meeting in each cycle including post-test.

Pre-test on March 24, 2016

Cycle I

(1) On March 31 and April 7, 14 and 21, 2016

Cycle II

(2) On April 28, and May 5, 12, and 19, 2016

b) Teaching material

The researcher used mind mapping activity to improve the students' vocabulary by following the material from the syllabus and the exercise is from book recommended by the university. The materials are: prefix and suffix (in form of noun, verb, and adjective), understanding sentences including identifying the core parts (part of speech in sentence), understanding paragraph and passage (topic, main idea, topic sentence, and supporting detail), and connectives. The main purpose of mind mapping activity is to improve students' vocabulary in Reading class. Because of vocabulary in reading is a receptive activity therefore the researcher had prepared some important material as in the following:

- (1) Material for the language function.
- (2) Questioner, interview' question, pre-test, and post-test questions.
- (3) Worksheet, videos, and dictionary.

2) Acting

The researcher carried out the action of cycle 1 in four meetings. The materials were prefix and suffix. The data were collected through classroom observation, test, worksheet, and students' interview at the end of cycle 1.

a) Meeting 1

(1) Pre-activity

The lesson started at 7.30, in the first meeting the researcher began the activity by greeting the students and explaining the material for today. The researcher underlined the main points for the material.

(2) Main activity

The researcher started the activity by asking the students about prefix and suffix. Some students gave the meaning of prefix and suffix, and the others gave examples of them. However, some students had no idea about them. The researcher gave the time to think about prefix and suffix, and asked them to think about examples as well before divided them into groups. Then, the researcher divided them into some groups to share the information they got. Then, the researcher explained about main mapping activity and asked each group to make it in a piece of paper (prefix, suffix and its meaning, the example of the words in sentences). The students might open their book or searched via internet. Furthermore, the researcher asked each group to share the information to the class by asking some of them to explain. After the class discussion, the researcher explained about the material. The last, the students were asked to do exercise from the book. When they finished, we discussed the answer together.

(3) Post activity

In the last few minutes, the researcher asked whether the students understood about today's material or no. Some students still got confused with the material. Then, the researcher told them we repeated the same material for the next meeting.

b) Meeting 2

(1) Pre-activity

The researcher came on time at 7.30 am and some of the students already in class. Then the researcher greeted the students before the class started. The class started by asking some students about the material from the previous meeting. It was something like a warming up to recall the previous material.

(2) Main Activity

After asking some students, the researcher asked the students to join to their group for today's activity. The researcher asked the students to make a mind mapping from video showed. The task instructed them not just to find prefix and suffix but also find the meaning and the function of the words (part of speech). The students didn't need much time to do their task. After that, the researcher asked each group to share about their work.

From the class discussion some students seemed still confused in the form of prefix or suffix. For examples they wrote 'implemented' that contains suffix, 'endanger' with prefix, and 'encourage' with its prefix.

To make all clearer the researcher explained the students about part of speech and the root of the words. Then, showed them the second video and asked them to find part of speech, and underlined the words that contained prefix or suffix. Then again, discussed it in class.

(3) Post activity

At the end of the class, the researcher asked the students whether they understood or not. Then the last activity, the students were asked to do the homework from the book at home.

c) Meeting 3

(1) Pre-activity

The third meeting in doing the research, the researcher did the warming up by asking the students about the previous material. Then, discussed the homework together before continuing the next lesson.

(1) Main Activity

As the previous meeting, the students already had groups. The researcher, explained the material which discussed today. It was about 'understanding sentences.' The researcher asked the students to read the material from the book and discuss within their group. Before the researcher explaining the material, the students were asked to make a mind mapping about 'understanding sentences.' In this chapter the students were encouraged to differentiate complete and incomplete sentence. In analyzing the complete sentences, the students needed to understand about core parts of a sentence by knowing which one is the subject, verb, adjective, adverb, and object.

The students made mind mapping about this chapter by writing down the important parts from the chapter and needed to write down the words they don't know and its meaning. Students were given some time to discuss within their group before they needed to explain in front of the class.

(2) Post activity

At the end of the class, the researcher repeated the material today and asked the students to do the homework from the book. The students were informed as well to review at home for next meeting quiz (post-test1).

d) Meeting 4

(1) Pre-activity

The researcher came to class but some students came late at that day. As always, the class started by asking some students about the previous material. Then, the researcher gave some time for students to read their previous materials before the quiz (post-test 1).

(2) Main activity

Today, the students were given their first quiz after learning the materials. Students got their paper to answer the questions. The questions were about form, meaning, and word in use about the previous

vocabulary they learned. Then we discussed the answers so everyone knew their incorrect answers.

(3) Post activity

Approaching the end of class, the students were asked to return their mates' papers that they had been checked. In order to see and know their progress in vocabulary. Then the papers were submitted to the researcher.

(3) Observing

The observation of cycle one was done and the purpose of the action was to solve the students' vocabulary problem in reading vocabulary. The observation was done in three ways; observing the situation of the classroom when mind mapping was applied, interviewing the students after applying mind mapping, and the test which was given to know the improvement of the students' vocabulary.

In conducting this action research, the researcher acted as the lecturer in teaching vocabulary in reading class. From the observation above the researcher noted that mind mapping was effective and the researcher got some important results dealing with the implementation of mind mapping activities in cycle 1. There was an improvement on the students' English vocabulary, compared with the data obtained from the pre-test score. The summary of the result of the improvement can be seen in the following table below with lowest (L) and highest (H) score.

Table 1. The result of students' vocabulary pre-test and post-test 1 in each indicator

No	Indicators	Pre-test		Post-test 1		Mean	
		L	H	L	H	Pre	Post 1
1.	Form	61	79	66	81	68.37	72.87
2.	Meaning	60	78	68	84	65.63	72.8
3.	Word in Use	62	77	67	83	67.67	72.4

The student said:

Student S: *I like this mind mapping activity because we were encouraged to read and make notes about the chapter discussed as we never read the material before the class started at home.*

(4) Reflecting

The students felt that mind mapping helped them to be able to understand the material easier. While they were making mind mapping, they discussed within their groups and they had time to ask something they don't understand.

Based on the researcher, there were two important aspects noted from the observation cycle 1. They were; (a) the weakness of cycle 1, and (b) the strengths of cycle 1.

a) The weaknesses of cycle 1

In applying mind mapping, the researcher found some weaknesses. On the first time applied mind mapping the students were asked to make their own groups consists of five students. Not all the members helped in making mind mapping and read their book about the chapter was being discussed. Furthermore, the researcher, noticed that some students remained passive.

b) The strengths of cycle 1

From the pre-test and post-test 1 scores, it can be seen there was improvement in students' vocabulary but not much. The average of vocabulary score from 67,27 became 72.47. The students' motivation was improved in reading their book. Even though some were still passive and lazy. Moreover, from mind mapping activity the students were boosted to be active and had self-confidence when the researcher asked them to explain in front of the class.

(5) Revising the Plan

To solve the problems which appeared in cycle 1, the researcher revised the plan to reduce the weaknesses of mind mapping implementation. The first problem that the researcher noticed was the students' participation in mind mapping. The researcher had an idea to reduce the members of each group and make it as pair works or at least three students for each group. That idea may motivate the students to pay attention and be responsibility to their group works. The researcher also asked all the students to write their name on their paper which explained which part they made in their group.

b. Cycle 2

a) Meeting 1

(1) Pre-activity

The researcher came and some students were already in class. The researcher greeted the students and asked them to start the class. As always the researcher reviewed the material from the previous meeting by asking some students.

(2) Main Activity

The researcher asked the students to read their book about 'understanding paragraph' and asked them to make a mind mapping with their peers. For this time, the researcher changed the number of each group, three/four students for each group. Having some minutes in discussing the material, the researcher checking their works one by one. In this meeting, the students were asked to make a note in form of mind mapping and jotted down any important thing on their papers. All the

explanation was must be in English. The material was about identify subject, central thought, and supporting ideas.

The students didn't need much time to make mind mapping. The researcher, asked some students to come to the front to explain the material by showing their mind mapping. After the class discussion was over, the researcher re-explained and added some information about the material given. To make the students clearer about the material, the researcher asked them to work with their mates the exercise from the book. The exercise was about some paragraphs which had to be analyzed to find the subject, central thought, and details. Then we discussed the answers together.

(3) Post activity

After the task, the researcher asked the students to do the homework from the book. The homework was given to practice the material.

b) Meeting 2

(1) Pre-activity

As always before the class was started, the researcher asked some students about the previous meeting material. Some students still got confused how to distinguish subject and central thought. Therefore, the researcher focused on giving exercises for today's meeting.

(2) Main activity

For the main activity, the researcher asked the students to do one of exercises from the book related to the previous meeting material. Then we continue the lesson, the students were asked to make mind mapping about chapter 5 'understanding passage.' The material was almost same as the previous meeting finding subject, central, and supporting ideas. For this time, the researcher asked the students to add on their mind mapping about the words they don't know to find the meaning and classify them into the words functions; verb, adjective, adverb, or etc. In order to make them comprehend the text easier they had to find the meaning of those words. After making mind mapping and discussed about the chapter. The students did exercise from the book with their groups.

(3) Post activity

At the end of the class, the researcher asked some words that the students found the meaning from the exercise. It was done just to make them remember the words they learned.

c) Meeting 3

(1) Pre activity

In the third meeting of cycle three, as always before the class was begun the researcher asked some students about the previous material. Then, the researcher introduced the students about next material which was about 'references and connectives.'

(2) Main activity

The students were asked to read chapter six and had discussion within their groups. After that, they made mind mapping about what they had read. On their mind mapping, the researcher asked them to write the meaning for each connective. For examples to indicate 'contrast' the connectives are although, on the other hand, nevertheless, instead of, and etc. The students didn't have to find all the meanings of the words but only some they don't know. When the students were done, they needed to explain or share in front of the class what they had read and understood about the chapter. Furthermore, after some students explained to the class, the researcher re-explained and added some information about it.

(3) Post activity

At the end of the class, the researcher reminded the students to give them quiz (post-test 2) in the next meeting and asked them to review the previous materials.

d) Meeting 4

(1) Pre activity

The researcher came in to the class and greeted the students. The researcher gave them some minutes to read the previous material before the 2nd post-test.

(2) Main activity

The researcher asked the students to put down their books or put inside their bag. The time started to do the quiz. The students were given the papers and asked to read the instruction carefully. After more than an hour did the quiz, the researcher asked the students to switch their papers to their mates who sit behind them. We discussed the answers together in order the students know their mistake.

(4) Post activity

At the end of the class, the researcher asked the students to return the papers to their mates that had been checked and given the score. Then the students checked their mistakes on the paper, after that they needed to submit the papers.

(3) Observing

The second cycle observation was done in three ways; observing the situation of the classroom when mind mapping applied, interviewing the students after applying mind mapping in each cycle, and giving the test to see the students' improvement.

From the observation, the researcher noticed that mind mapping was able to enhance students' vocabulary and the researcher got some important results dealing with the implementation of mind mapping activities in cycle 2. There was an improvement in students' English vocabulary, compared with the data obtained from the pre-test, post-test 1 and post-test 2' score. The result of the improvement can be seen in the following table below with lowest (L) and highest (H) score.

Table 5.2 The result of students' vocabulary pre-test, post-test 1, and post-test 2

No	Indicators	Pre-test		Post-test 1		Post-test 2		Mean		
		L	H	L	H	L	H	Pre	Post 1	Post 2
1.	Form	61	79	66	81	69	87	68.37	72.87	75.13
2.	Meaning	60	78	68	84	70	87	65.63	72.8	75.47
3.	Word in Use	62	77	67	83	69	86	67.67	72.4	74.1

The students said:

Student ETH: *this mind mapping activity forces myself to read and take a note to what I've just read. Then we have to share what we read to others.*

(5) Reflecting

The students said mind mapping help them to think what actually they are learning in class. It can boost students to be more active and take part to the class activity. Students can share what they had just read and others may ask question to the presenter if they don't get it. It created two ways communication in class. Based on the researcher, there were two important aspects noted from the observation cycle 2. They were; (a) the weakness of cycle 2, and (b) the strengths of cycle 2.

a) The weaknesses of cycle 2

In the second cycle the researcher found that the topic discussion had the role to create a fun learning class. When the topic or material was quite hard to understand the students easily got bored. They tended to wait other students' result after reading the chapter. As the consequence only some students who remained active.

b) The strengths of cycle 2

The researcher found some strengths in using mind mapping activity. It can be seen there was improvement in students' vocabulary. Some students showed much improvements in this cycle. Moreover, the classroom situation was much more controllable and manageable as each student must bring their book, dictionary, and prepare themselves before each new lesson given. Students were easily to understand the material and did their tasks. Students were used to get more active in class as the result the class atmosphere was much more communicative and effective.

(6) Revising the Plan

In second cycle, the revising of making students into smaller groups was effective. They tended to focus on what they were doing and chatting in-useful things can be reduced. As the students' improvement was quite significant, the researcher decided to finish the research at this cycle.

The goals of this research can be seen from the students' score improvement in each cycle. Then the classroom situation was totally different from before and after using mind mapping activity. The situation was manageable as the students were encouraged to follow the class' rules and each step of mind mapping process.

a. The Improvement of Students' Vocabulary

From the observation, there was improvement in students' vocabulary. It can be seen clearly in the table below. From three vocabulary indicators; form, meaning, and word in use, the average score of meaning in pre-test was the lowest with 65.63 but it increased in the second cycle with 75.47. Students showed significant improvement in learning vocabulary.

Table 5.3 The result of students' vocabulary pre-test, post-test 1, and post-test 2

No	Indicators	Mean		
		Pre	Post 1	Post 2
1.	Form	68.37	72.87	75.13
2.	Meaning	65.63	72.8	75.47
3.	Word in Use	67.67	72.4	74.1

b. The Improvement of Classroom Situation

For the classroom situation there was improvement before and after using mind-mapping activity. As the first meeting of this activity applied, the researcher introduced the class regulations such as bring the book, dictionary, coming on time, additional score given if they want to share to their classmates in front of the class, and submitting their mind-mapping on time. Before applying this activity, the classroom situation was disorganized.

In the first trial it was quite hard for some students to get used to the class regulation and follow each step of class activity by using mind-mapping. However, they were getting easy to do it day by day and the classroom situation was more controllable. The significant improvement in classroom situation can be seen clearly in the table below:

Tabel 1. The Improvement of Classroom Situation

No.	Pre-research Condition	After post-test 1	After post-test 2
1.	Students didn't understand about the material given because some of them were lazy to read their books even forgot to bring it. Moreover, only some of them brought dictionary. There was no effective communication (one way communication) between	Students easily caught up the material given as they were encouraged to read their book before they made mind mapping. They listened and to be more focus to the topic discussed.	Students understood easily the material given even some were able to explain to their classmates. Students were able to collaborate the main subject to the larger branches to get new vocabulary.

	lecturer and student or student and student.		
2.	Students didn't participate to the class activity and some of them were sleepy in class. They didn't take notes to the topic discussed and tended to be busy on themselves.	Students may discuss within their groups and had responsibility to read the material. Because they were asked to share what they read and showed their mind mapping in front of the class.	Students discussed and cooperated with their mates in making mind mapping, actively participated in class discussion, and two ways communication were built up.

DISCUSSION

Choosing the suitable teaching method gives a huge impact in students' learning improvement. Mind-mapping help students learn information by planning and organizing ideas by using symbol or graphics. Mind-mapping is a creative note-taking method, which eases us to remember much information (De Porter, Readon, and Nourie 1999: 175). The best mind mapping is colorful and used many pictures and symbols usually like an art, it's interesting and engaging. Goodnough and Woods (2002) discovered that partakers in their study perceived mind mapping as a fun, interesting and motivating approach to learning. Several of these participants attributed the fun aspect to the opportunity to be creative when creating mind-maps through lots of choice in colors, symbols, key words and design. By using mind-mapping in improving vocabulary, students directly learn other English skills such as listening, writing, reading, and speaking. In fact, specifically it improves three vocabulary indicators; form, meaning, and word in use. Furthermore, the average score from pre-test, post-test 1, and post-test 2 increased significantly, starting from 67.27, 72,47 in post-test 1 and 74.88 in the last post-test. Generally, the average score of students' vocabulary improvement can be seen at the table below.

Table 6.2 Students' Average Score

No	Pre-test	Post-test 1	Post-test 2
1.	67.27	72.47	74.88

CONCLUSION

1. Mind-mapping helps students to be able to understand the material given in class easier. It helps students to be more creative in note-taking by organizing ideas. Mind-mapping connects the central idea (the topic discussed in class) to larger branches, this visual tool helps students to understand concept. Students are easier to memorize new words; the form, meaning, and when the words used. It encourages students to be actively involved in learning process, as todays

students' tend to be passive and they prefer to borrow their friends' note. As the result, they don't understand the material discussed in class and they don't focus on what they are learning. In fact, mind-mapping indirectly encourage students to be more independent in learning process. Furthermore, it helps students to recall the subject matter, help them to know each topic discussed, and trigger new words or information relevant to the subject.

2. The classroom situation while mind-mapping implemented is much more controllable, interactive, and organized. Mind-mapping can be used as classroom exercise as well as personal notes which is far more effective in term of understanding the topic. However, note checking must be done by teachers to control and evaluate the exercise or topic given. Feedback need to be given to improve students' understanding to the subject.

3. There is improvement in students' average score from pre-test 67,27, 72,47 and 74,88 in post-test 2. It can be said that mind-mapping is an effective activity in teaching and learning process.

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