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Mind Mapping Technique with Students Team Achievement Division to Increase the Students' Interest and Vocabulary Achievement to Tenth Grade Students at Smk Aku Cinta Indonesia Metro

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ABSTRACT: The present study is aimed to find out whether there is a significant difference of students' vocabulary achievement between students who are taught by using mind mapping technique with students team achievement divison and original mind mapping technique, and whether there is an increase in the students' interest of English vocabulary learning through mind mapping technique with students team achievement divison. The subjects of this research were the tenth grade students of SMK Aku Cinta Indonesia Metro. This study is quantitative research. The data were obtained from the pre-test, post-test, and questionnaire. The data were analyzed by using Independent group t-test and Paired sample t-test in SPSS (*Statistical Program for Social Science*). The results show that the students' vocabulary achievement in experimental class increased from 54.07 to 81.87 and there is a significant difference with the sig. (*2 tailed*) of 0.00 < 0.05. The result of students' vocabulary achievement in control class also increased from 53.40 to 68.73 and there is a significant difference with the sig. (*2 tailed*) of 0.01 < 0.05. Meanwhile, the result of the significance value of the experimental class and the control class are $0.00 < \alpha = 0.05$. It means that the p value is less than 0.05. This indicates that there is a significant difference in students' vocabulary achievement between the students who were taught using mind mapping technique with students team achievement divison and original mind mapping technique. Furthermore, the results show that students' interest increased from 30.07 to 42.30 with a significance value of $0.00 < \alpha = 0.05$. It can be concluded that H1 is accepted which states that there is an increase in students' interest in learning vocabulary using mind mapping technique with students team achievement divison. In conclusion, learning using digital mind mapping technique has a greater influence on students' vocabulary achievement and it is also able to increase students' interest in English vocabulary.

KEYWORDS: Vocabulary, Mind Mapping, Mind Mapping with STAD, Students' Interest

I. INTRODUCTION

English is one of the International languages spread across the world. This language is very popular in many countries because the people think that English facilitates them communicate with people from other countries. Because of such a reason, people who do not speak English as their first language must learn English in order to compete in this global competition. Every country in the world has English classes. English is taught in Indonesia from junior high school onwards, and in some areas, it is even taught in primary schools. Listening, speaking, reading, and writing are the four language skills that make up English. The goal of the English subject in senior high school, according to K-13 Curriculum, is to: The ability to understand or produce spoken and written texts, which is realized in four skills, is referred to as expression ability. To reach the level of functional literacy, they combine listening, speaking, reading, and writing. Reading is a very important skill for both our lives in general and language learning in particular. For our lives, it enables us to access written worlds of ideas (Hood et al., 1996, p. 33), feelings, and knowledge of the ages and vision of the future (Alderson, 2000, p. x). It also facilitates us to gain access to science in various fields of study, to sense others' feelings, attitudes, or behaviors, and to know what has happened in the past or what may happen in the future. Reading is an essential part of the learning process since it is a primary learning component.

In the English teaching and learning process, it has been discovered that the technique used in teaching reading is the traditional one, which only focuses on cognitive aspects such as translation and vocabulary without taking affective and psychomotor factors into account. Students' motivation and participation in the teaching and learning process will be harmed as a result of this. It is the cause of the students' poor reading comprehension abilities. In light of this, it is necessary to employ appropriate reading teaching techniques in order to improve students' reading comprehension abilities.

Considering the conditions above, the writer is interested in applying the Mind Mapping with Student Teams-Achievement (STAD) model (Slavin, 1989; 1995). One of the effective techniques offered by English reading experts is mind mapping. It was

popular. Previous findings show that both mind mapping and student team-achievement division have their own benefits for teaching reading comprehension. by Tony Buzan, who has written extensively on maximizing one's mental abilities, growing memory, and accelerating learning. Mind mapping, according to Murley, is a nonlinear visual outline of complex knowledge that can help with imagination, planning, efficiency, and memory (Diane Murley, „Mind Mapping Complex Information, 2007, p. 175).Mind maps graphically represent ideas in a relational sense, with the main topic in the middle, major subtopics on branches radiating from the main topic, and sub-subtopics surrounding each subtopic, and so on.

According to Buzan, mind mapping is an innovative thought technique that reflects the brain's way of working. It allows the brain to use all of its images and associations in a radial and internal pattern. It is the easiest way to position information that goes out of the brain (Tony Buzan, Mind Map: Buku Pintar, Jakarta: PT Gramedia Pustaka Utama, 2005, p. 103). On one hand, STAD can improve reading comprehension (Slavin, 1995; Jhonson et al., 2000; Wichadee, 2005; Norman, 2005; Jalilifar, 2010) and achievement (Jhonson et al., 2000). Student Team Achievement division (STAD) is one of Slavin's basic methods of cooperative learning (Roy Killen, 1996) in Anto et al (2013) . He states STAD is better and easier ways for teacher teach the student in the group because in the group the student more active and they can share their knowledge each other in solving the problems. Student Team Achievement Division (STAD) is a cooperative teaching method which developed by Slavin (1978) in Tohamba (2017) as part of a student learning approach program along with other cooperative methods such as Teams-Games Tournaments, Jigsaw II, and Team Assisted Individualization. Besides that, this technique can also increase students' self-esteem and motivate the students to learn more. Gross (1991, p. 56) in Yusuf et al (2015), mentioned that STAD is a technique in the teaching learning process that is effective to increase students motivation and enthusiasm, and it can develop their responsibility in their own group". It is considered a good model because as one the CL techniques, it can raise students' motivation in learning by exchanging and sharing information, reinforcing each other, giving feedback and having the responsibility for their tasks in group work.

Considering the benefits of Mind Mapping and STAD above, this study attempts to shed light on the effects of Mind Mapping with STAD on students' vocabulary achievement in reading comprehension levels.

II. METHOD

The researcher used quantitative research. It was used to find out Is there any significant difference of students' vocabulary achievement between students taught through by using mind mapping technique original and mind mapping technique with STAD and to find out Is there an increase of students' interest in English vocabulary learning through mind mapping technique with STAD. Furthermore, the researcher used control class pre-test and post-test design in conducting the research. In this design, one class was an experimental class that was taught mind mapping technique with STAD while the other class was a control class that was taught with original mind mapping technique. The class was selected nurse asisten and hospitality. The researcher conducted the initial data collection time (T1) in the form of a pre-test before treatment (X) and conducted the final data collection time (T2) in the form of a post-test after treatment in the two classes. A pre-test was given to students to determine their interest and vocabulary achievement before they were given treatment, then a post-test was given to students to see their interest and vocabulary achievement after they were given treatment. This pattern was formulated (Setiyadi, 2013):

K1: T1 X T2
K2: T1 O T2
K1: Class 1 (Experimental Group)
K2: Class 2 (Control group)
T1: Pre-test
T2: Post-test
X: Treatment (mind mapping technique with STAD)
O: Treatment (original mind mapping technique)
Notes: This pattern was formulated (Setiyadi, 2013).

This research will be conduct in five meetings in each group with the presentation as follow:

1. The first meeting is for pre – test
2. The second to fourth is for the treatments
3. The Fifth meeting is for the post – test.

The researcher used this design because the pre-test (TI) is a test that will measure the students' ability in the first In the beginning, the students were given a standard test that appeared to be a good measure of their score before being given treatments. After conducting the pre-test, the researcher gives the results (X) to the students. Eventually, at the end of the treatment, the researcher gives a pot-test (T2) to measure the difference score before and after treatment.

III. FINDING

As shown by the results obtained by the participants in the pretest (Table 1), almost a half of the participants (48%) had low performance in reading comprehension, and only4% had the excellent category. The mean score obtained by the students was 54.4.

Table 1: ***Score Range of Students' Pretest***

Category	Score Range	Frequency	Percentage (%)
Excellent	90 – 100	1	4%
Good	70 – 89	6	24 %
Fair	50 – 69	6	24 %
Low	0 – 49	12	48 %
	Total	25	100%

In addition to the participants' low reading comprehension performance, most of the students also found reading difficult and uninteresting. Based on their responses to the questionnaire administered before the action research, 80% or more of them viewed reading skills difficult (see table 2).

Table 2: Data Obtained through the Pre-Action Questionnaire

NO	STATEMENTS	TOTAL	YES	TOTAL	NO
1	I feel reading english text is easy	5	20%	20	80%
2	To get mind idea from english text is easy	4	16%	21	84%
3	To get topic sentence from English text is easy.	2	8%	23	92%
4	Getting detail information from English text iseasy.	1	4%	24	96%
5	I enjoy in reading English text.	5	20%	20	80%

Report of Cycle 1

1. Planning

The plan of cycle 1 was focused to overcome the problems discovered during the initialobservation and the results of the pretest and information obtained from the questionnaire administered in the pre-cycle. As previously described, that the participants generally had poor performance in reading comprehension, found reading skills difficult and were uninterested in reading.

2. Action

The actions of cycle 1 were conducted in three meetings. The first meeting began by introducing the mind mapping technique to the students. Then the researchers explained the material about "descriptive text". After that,the researchers asked the student to read the text of "Family Activity at Home", find anddiscussing the meaning of difficult words, and make a mind mapping based on the text.After the students knew how to make a mind map, they were asked to read another text,"My Best Friend". When they finished reading it, they made a mind map based on the text. Then, using their mind map, they ask and answer questions concerning the text

The same procedure was done in the next meetings. As the students could makea mind map better and better, the action research ran better and better from session to session. At the end of the third meeting, the researchers reviewed the material for a while and gave posttest I. This session was ended by asking the participants to fill in thesame questionnaire they got in the pre-cycle.

3. Observing

As shown by Table 3, the learning activities using mind mapping in cycle 1 managed toimprove the participants' reading comprehension skills. After completing cycle 1, no more student got the low-level score. The mean score had even increased to 70 (from 54.4in the pretest). However, 44% of the participants still got a fair level score. That's why cycle 2 was planned.

Table 3.Score Range of Students' Posttest 1

Category	Score Range	Frequency	Percentage (%)
Excellent	90 – 100	3	12%
Good	70 – 89	11	44 %
Fair	50 – 69	11	44 %
Low	0 – 49	-	0 %
		25	100%

In line with the improvement of their reading comprehension performance, their view of reading skills also changed. The majority

(80%) now perceived reading English texts and to get the topic sentence is easy. A greater number (84%) had even viewed reading unenjoyable. However, almost half of them still considered getting the main ideaand detail information difficult (See table 4).

4. Reflecting

Based on the data obtained in cycle 1, the researchers reflected that mind mapping wasvery potential to employ to improve respondents' reading comprehension. It managed toincrease the participants 'reading comprehension performance and changed the negative views of most of them to a positive one. However, since the number of the participants who had negative views to reading skills was still big, the researcher plannedto carry out cycle 2. To make the activity in cycle 2 more effective, the researchers Planned to ask the participants to collaboratively make their mind maps colorful. This might make the learning process more interesting.

Table 4: *Data Obtained through* the Questionnaire in Cycle 1

NO	STATEMENTS	TOTAL	YES	TOTAL	NO
1	I feel reading english text is easy	20	80%	5	20%
2	To get mind idea from english text is easy	14	56%	11	44%
3	To get topic sentence from English text is easy.	20	80%	5	20%
4	Getting detail information from English text iseasy.	13	52%	12	48%
5	I enjoy in reading English text.	21	84%	4	16%

Report of Cycle 2

1. Planning

As indicated previously, the action plan of cycle two was designed similar to that of cycle 1. However, different from cycle 1 which used the mind maps made in black ink only, thecycle 2 used Mind mapping technique with STAD were planned to be colorful. The intention was to increase the participants' interest to make them. In addition, the mind mapping with STAD in cycle 2 will be createdcollaboratively in groups of three to four students.

2. Acting

Cycle 2 consisted of three meetings. The topics of the second cycle were *Profession*, *The Island of Wingo*, and *Kediri.* Thefirst meeting was started by overviewing the use of mind mapping with STAD and exposing that it could be made in colors. After that, the researchers asked the student to read the text and find the difficult word, and then the researcher asked them to make groups consisting of three to four members. Each group was provided with similar texts and colorful markers. Each group was assigned to read the text and make a mind map basedon the text. After that, each group presented the mind map in front of the class and answer the questions from the other group. The learning process during cycle 2 was more conducive than in cycle 1. The students were also more enthusiastic.

Table 5: Score Range of Students' Posttest 2

Category	Score Range	Frequency	Percentage (%)
Excellent	90 – 100	17	68%
Good	70 – 89	8	32 %
Fair	50 – 69	-	0 %
Low	0 – 49	-	0 %
		25	100%

3. Observing

As shown by Table 5, the learning activities using mind mapping with STAD in cycle 2 managed to improve the participants' reading comprehension skills. After completing cycle 2, no more student got the low and fair level score. More than two-thirds (68%) had even got an excellent level, while the rests got a good level. The mean score had even increasedto 90 (from 70 in posttest 1).

The participants' view of reading skills also changed drastically. The majority (80%or more) now perceived all the reading skills listen in the questionnaire easy. All of the participants (100%) even viewed reading in enjoyable (See table 6).

Table 6: *Data Obtained through* the Questionnaire in Cycle 2

NO	STATEMENTS	TOTAL	YES	TOTAL	NO
1	I feel reading english text is easy	23	92%	2	8%
2	To get mind idea from english text is easy	20	80%	5	20%
3	To get topic sentence from English text is easy.	24	96%	1	4%

4	Getting detail information from English text iseasy.	22	88%	3	12%
5	I enjoy in reading English text.	25	100%	0	0%

4. Reflecting

Based on the data obtained in cycle 2, the researcher reflected that mind mapping is a very effective tool for improving students' reading comprehension. Although this action research was conducted only in two months, it managed to increase the participants' reading comprehension performance and totally changed their views of reading from a negative to a positive one. Since the success criteria had been attained, the action research ended.

IV. DISSCUSION

The results of this study revealed that mind mapping with STAD could effectively enhance the students 'reading comprehension. Before participating in the action research, 72% of theparticipants got "fair" and "poor" score categories. This was in line with their responses through the pre-action questionnaire which revealed 80% or more of them viewed reading skills difficult, and 80% did not enjoy reading English texts. After they participatedin the reading activities using mind mapping in cycle 1, no more student got a low-level score, although 44% still got the fair level score. Their mean score also increased from 54.4 in the pretest to 70 in the posttest. The learning activities in cycle 1 did not only enhance their reading comprehension performance but also their attitude. If in the pre- action survey 80% of them did not enjoy reading, at the end of cycle 1 the majority (84%)viewed reading enjoyable.

The implementation of mind mapping in cycle 2 became more effective when the mind maps were made colorful and done in groups. It seemed the use of colors increased the students' interest and the inclusion of collaboration enhanced their involvement in the learning process. After completing cycle 2, no more student got the low and fair level score. More than two-thirds (68%) had even got an excellent level. Themean score also increased to 90 (from 70 in posttest 1). In addition, the data obtained from the questionnaire administered at the end of cycle 2 revealed the whole students enjoyed reading English texts, more than 90% found reading English texts and getting.

By comparing the three mean scores obtained from the three tests assigned in this study(see Figure 1), it is very obvious that mind mapping is a very effective tool teacher coulduse to improve the students' reading comprehension. The more skillful the students in making a mind map, the better their reading performance. The implementation of mind mapping abridged the students to get information from the texts they are facing, helpedthem to connect their background knowledge and the new ideas obtained from the texts,and improved their memory retention. This is in line with the findings of Moi and Lian's (2007), Rizqiya (2013), and Cain (2001). In addition, the use of mind mapping, especiallythe colorful ones, attracted the students' interest to read.

V. CONCLUSIONS AND SUGGESTION

Based on the findings on the research, the researcher comes to these following conclusions. The objectives of this research are to investigate (1) the significant difference of students' vocabulary achievement between students who are taught by using mind mapping technique with STAD and original mind mapping technique, (2) the increase of students' interest in English vocabulary learning through mind mapping technique with STAD. In relation to this, the researchers suggest teachers to use mind mapping with STAD technique as an alternative in teaching reading comprehension.

Briefly, those are the conclusion of the research finding and suggestions for the students to be better in Reading class, English teachers who want to implement mind mapping technique with STAD in teaching reading, and for further researchers who want to investigate the reseach about this strategy.

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