

The Application of Mind Mapping Technique to Increase Students' Reading Comprehension at the Seventh Grade of SMP

Devilito P. Tatipang, Elisabeth Z. Oroh and Nihta V. F. Liando

English Education Department

Faculty of Language and Arts

Universitas Negeri Manado

Email address: devilitoprasetyotatipang@gmail.com

Abstract : The purpose of the study was to find out whether the application of Mind Mapping Technique can increase Students' Reading Comprehension or not. This study was conducted at SMP N 3 Sangtombolang. The design of this study was pre-experimental with one group pre-test and post-test design. The subject in this study was class VII in academic year 2020/2021, which consisted of 15 students. The data of this study were collected through cloze test. The data were analysed by comparing the mean score of the tests. The mean score of the post-test (T2) is higher 83.7 than those of the pre-test (T1) 26.6. This heads to the conclusion that the application of mind mapping technique could increase students' reading comprehension.

Keywords : *Reading Comprehension, Mind-Mapping, Increasing, EFL, Junior High School*

1. INTRODUCTION

Learning a language is a demand and desire for those who want to be progress because language is an important aspect of human life. (Liando and Lumettu, 2017) stated, "As a tool of communication, language is an essential part of human life". Because with language everyone can connect with one to another, can share various experiences and information, and become an important means of communication, without language a person cannot develop because there is no interaction that occurs with the people around.

English is an international language that is widely taught in Indonesia. "For most Indonesian, the purpose of learning English as a foreign language is to be able to communicate in English" (Maru, 2009). As an international language, English become an important subject and it's already taught in Indonesia, especially in school. Learning English is a demand or desire to be able to progress or develop for those who are not native English speakers, so it is uncommon for many people who want to learn and want to master various skills in English.

(Palenkahu, 2014). "Those who are learning English must be mastered four language skills, namely listening, speaking, reading and writing".

Reading as one of the four language skills must be taught to the students in the classroom especially for junior high school students. "Reading is one of the essential skills for learning language" (Farha & Rohani, 2019:1). From this quotation, it can be seen how important it is to read it in the process of learning languages in this case English. "Reading is the process of learning. Through reading, people can obtain information, ideas and knowledge" (Mogea 2019:2). By reading students can gain new knowledge besides, reading is one of the important keys that can determine the success or failure of learning English. In school, students often consider that reading as the difficult skill. Students cannot get the reading achievement which is the most important aspect in reading comprehension.

Reading comprehension plays an important role in students' learning process. "Reading comprehension is considered as one of prominent English skills for learners". (Nurjanah, 2018:1). Where reading

comprehension can open up new knowledge for students, with good comprehension students will get information from what the author conveyed through the text that students read and the students can use this information to improve the intellectual abilities especially in English. Although, reading comprehension is very important for students, there are still many other students who are able to read aloud some text accordingly pronunciation but they don't know what they are reading about. This is very important to the teacher to find out the technique or method to solve the problem.

Related to this study, mind mapping technique is the chosen technique used in increasing students' reading comprehension. "Mind mapping technique is one of the techniques that can improve the English ability of the students" (Wirda, Sulaiman, Wahyudin, 2014:2). This quotation said that mind mapping is very useful to increase students' English skills. After reading there must be some information or key words from the text stored in students' memory, it is the initial stage of acquiring knowledge through reading. This information or key words can be applied in mind mapping so that it will be easier for students to learn, where mind mapping has a shape like map that can quickly stimulate the mind of students after reading.

Research question

The research question formulate as follow: Can the application of mind mapping technique increase the students' reading comprehension?

The Purpose of the study

Based on the research question, the purpose of this study is to find out whether or not mind mapping technique can increase students' reading comprehension.

2. REVIEW OF LITERATURE

Reading Comprehension

Reading comprehension is one of the skills in reading that needs to be increase during the student learning process in this

case learning English. "Reading comprehension is a process of obtaining information from the context and combining different elements into a new whole" (Lambe, 2017). In the process of student learning, a good understanding of reading students will greatly assist them in understanding the various types of reading texts provided by the teacher.

The Nature of Reading Comprehension

Harris and Graham (2007) pointed out that meaning, learning and pleasure are the ultimate goals of learning to read. Reading comprehension is a multi-component, highly complex process that involves the content of the text (previous knowledge, use of strategies) brought to the text by the reader and the reader, and variables related to the text itself (interest in the text, understanding of the text type) Many interactions between.

Descriptive text for reading comprehension

Descriptive Text is one of the several types of text in English that has a special characteristic that is to clearly describe the properties inherent in something (Maru, Nur, Lengkoan, 2020). It can be human, animal, plant or inanimate object. The purpose of this text is to provide clear information about the object described to the reader so that what is read by the reader can be clearly described in the reader's mind.

The procedures of teaching descriptive text:

1. Show a video of someone/person to the students, such as a cartoon or animation and then ask them to describe the things that they can see of the video. For example the characteristics of the person, etc. It aims to provide students with an initial description of the descriptive text material and also to see the extent of their ability to describe something.
2. Taking the name of one type of animal to be used as a reading topic, for example cats. Or invite students observe things around the classroom. This aims to make it easier for students to describe something, because the topic taken is

very relevant to the student's life. Besides that, the combination with authentic material will make students more active in describing things that have been observed.

3. Ask students to describe things related to what has been observed. This is a step where students' descriptions can be seen, what are observed and what students think can be seen in this step.

Mind mapping

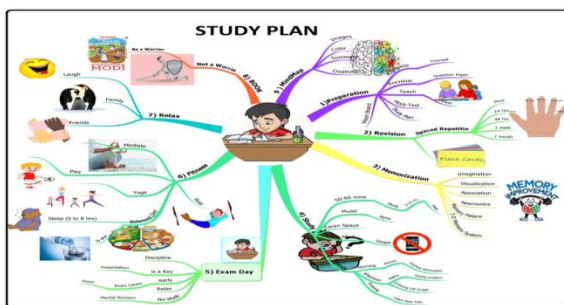
Mind mapping is one of the techniques that can be applied in the learning process to improve students' reading comprehension. By using mind mapping, all learning materials can be broken down into simpler parts or ideas so that the learning process or the process of transferring knowledge can occur or be carried out more effectively.

The advantages of mind mapping as mentioned by Olivia (2008) are:

Help students concentrate on remembering information, improve students' creativity, briefly summarize the course, guide students to pass with high scores, let students enjoy the learning process and instruct the right brain and left brain to work together.

The disadvantages of this technique only involve creative students, making teachers tired and unable to check the type of mind maps made by students.

The sample of Mind Mapping



Teaching Descriptive Text Using Mind Mapping Technique

In increasing students' reading comprehension The researcher applied mind

mapping technique in teaching descriptive text with two topic in the same way:

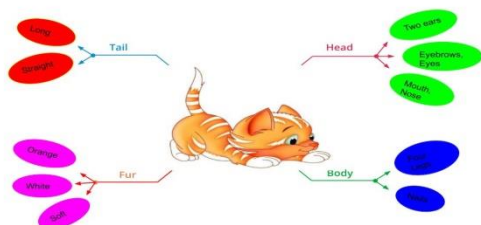
1. Before applying mind mapping techniques in the learning process, the researcher provides descriptions and examples of descriptive text to students. This aims to provide a little description of the descriptive text to students.
2. Then, the researcher started in the center white board to give more freedom to the students' brain to spread all the directions to free and natural in expressing something.
3. From the explanation of descriptive text given, the researcher writes down one of the general topic in the center as a central idea for the example, "Lovely Cat". This topic "Lovely Cat" as central idea will be more interesting because cats can be found around students' environment and the important one it is not difficult to describe.
4. After that, the researcher used attractive colours of markers for the lines to connect with the central idea (Lovely Cat), using different colours would be interesting for the students, because colours makes mind mapping look more alive, beside adds energy to creative thinking, and is fun.
5. The researcher connect the main branches to the centre idea "Lovely Cat" and connect the second, third branch and another branch. If all branches already connect, these will be easier to understand and remember the things related to the topic or central idea. Then, the researcher asking the students to mention the characteristics or things related to the topic which is cat.
6. Each student's answers are written in each branches, in the end of the branches are formed into a large circle to make it a little easier to fill in the answer. Each circles are connected by line to the main idea or topic (Lovely Cat). When each branch connected, it gives students a better imagination of the topic to find out things related with the topic.
7. The expected results could be obtained in this mind mapping learning, were students could understand the text well so that students can pour the results of their thoughts on the Mind Mapping.

EXAMPLE OF DESCRIPTIVE TEXT

My Lovely Cat

I have a stray cat as my pet. He is really playful, He loves to play with me and the new things he found. He has orange and white fur, his fur is so soft and I like to rubs it for him. He has a long straight tail. He is also always tries to catch his tail sometimes. He has four legs, eyebrows, mouth and nose. I also like to hold him in my hand, when i hold him like that he will fall asleep.

Topic of “My Lovely Cat” in form of Mind Mapping



My Beautiful House

My house is neither small nor big. It has three bedrooms, a bathroom, a livingroom, and a kitchen/dining room. In front of the house, there are two large mango trees. There are some flowers and plants. In the back of the house there is a garden and a river. The house is clean and comfortable.

Topic of “My Beautiful House” in form of Mind Mapping



3. RESEARCH METHODOLOGY

In this study, the researcher used quantitative research through pre-experimental design with one group pre-test and post-test (Arikunto, 2010).

Pre-Test	Treatment	Post-Test
T ₁	X	T ₂

The researcher gave a pre-test to the treatment group, then conduct the treatment. After finishing treatment, the researcher gave a post-test. The subject in this research was seventh grade students of SMP Negeri 3 Sangtombolang, consisted of 15 students. In collecting the data, the researcher used test. This test was in cloze-test format. The instrument of the test consisted of 25 questions for students on pre-test and post-test. In analysis the data, the researcher used Mean Score Formula by Sudjana (1996:67) as follow:

$$\bar{x} = \frac{\sum x}{N}$$

Where:

\bar{x} = the mean score

$\sum x$ = all score of the sample

N = total number of students

4. FINDINGS AND DISCUSSION

Research application and data acquisition of the results in this study is based on the lesson plan formulated by the researcher which is divided into three meetings.

The first meeting: The researcher started the class with greeting and prayer, checked the attendance list of students and after that continued with reviewing (apperception) previous material that had been studied by the students. After making an apperception, the researcher gave a pre-test to see the extent of students' knowledge regarding the material that will be provided by the researcher and after that collect the test results.

Furthermore, the researcher gave a description of the material and examples of descriptive text to students in the form of explanations and text then divided the students into two groups to be able to choose and discuss and verbally present the text given. At the end of the meeting, the researcher provided examples and descriptions of mind mapping to students as well as reflecting on all the material that had been studied then asking one student to lead a prayer and give greetings.

The second meeting: The researcher started the class by asking one student to pray and give greetings and not forgetting to check the attendance of the students, continued to provide an explanation of what mind mapping is and examples, then show a video descriptive text regarding descriptions of people, animals and objects and ask students to watch the video. After that, the researcher wrote a big title on the board related to the video that had been watched in the form of mind mapping and asked the students to describe the title based on the video that was watched as well as providing opportunities for some students to participate in writing answers on the board. Then correct each wrong answer and at the end of the class reflect on each material, asking one student to pray and greet.

The third meeting: The researcher started the class as usual, continues by giving an explanation again of descriptive text and mind mapping, after that invites students to look at the objects in the class and asks them to select and describe one object in the form of a mind mapping on their sheet and then collect their work. Furthermore, the researcher gave a post-test to see to what extent the applied techniques worked followed by collecting students' work. At the

end of the meeting the researcher reflected on all the material from the beginning of the meeting to the end and asked one student to lead a prayer and then greetings.

The data obtained of pre-test and post-test were put into the following table of frequency distribution and were computed with mean score formula. In analyzing the data, the researcher followed the steps below:

The first step is to analysis students' score. In this step the researcher analyzed each students' test results from the pre-test (T₁) and post-test (T₂), where the researcher calculated each correct answer from each student based on two tests then multiplied it by 4. The results of the pre-test (T₁) and post-test (T₂) analysis can be seen in table 1.

Table 1. The score of students in T₁ and T₂

STUDENTS	SCORE (T ₁)	SCORE (T ₂)
1	24	84
2	12	80
3	32	80
4	20	92
5	32	84
6	16	76
7	24	84
8	36	84
9	20	80
10	36	88
11	36	84
12	32	80
13	24	88
14	32	80
15	24	92
N=15	$\sum x = 400$	$\sum x = 1.256$

Based on the table score of students above, the highest score in pre-test was 36

and post-test was 92. While the lowest of pre-test is 12 and post-test is 76.

The second step in analyzing the results of data acquisition in this research is to see the Gain from the results of each test. The Gain showed the difference between the results of the pre-test and post-test. Gain serves to show the susceptibility or progression rate of the pre-test after treatment is applied. The progression showed that the treatment applied, is work. The researcher sequenced each score from the students' pre-test (T₁) and post-test (T₂) according to their acquisition in each test. This Gain analysis can be seen in table 2.

Table 2. The score of students in T₁ and T₂ Gain

STUDENTS	SCORE (T ₁)	SCORE (T ₂)	GAIN
1	24	84	60
2	12	80	68
3	32	80	48
4	20	92	72
5	32	84	52
6	16	76	60
7	24	84	60
8	36	84	48
9	20	80	60
10	36	88	52
11	36	84	48
12	32	80	48
13	24	88	64
14	32	80	48
15	24	92	68
	400	1.256	856

The next step is to analyze the frequency distribution matrix from the pre-test (T₁), where the researcher sequenced the results of the calculation of the students' scores from the pre-test (T₁) which have been calculated based on the first step, the researcher

sequence them from the highest to the lowest score along with the number of students who got each score. Then the researcher subtracts the number of each students based on the acquisition of the score by the number of research subjects to get the cumulative frequency, after that this sequence is further divided by the research subject to get the proportion. And the last one is this proportion multiplied by 100 to get the percentage. This Frequency distribution analysis of pre-test (T₁) can be seen in table 3.

Table 3. The frequency distribution matrix of pre-test (T₁)

Score	Tally	Frequency	Cumulative Frequency	Cumulative Proportion	Cumulative Percentage
36	III	3	15	1	100
32	IIII	4	12	0,8	80
24	IIII	4	8	0,53	53
20	II	2	4	0,26	26
16	I	1	2	0,13	13
12	I	1	1	0,06	6

Table 3 shows that there were fifteen students follow the pre-test. The result of pre-test in which three students was obtained the highest score 36, four students obtained 32, four students obtained 24, two students obtained 20, one student obtained 16, and one student obtained the lowest score 12.

Next step is frequency distribution matrix from the post-test (T₂). The researcher sequenced the results of the calculation of the students' scores from the post-test (T₂) which have been calculated based on the first step, The researcher sequence them from the highest to the lowest score along with the number of students who got each score. Then, the researcher subtracts the number of each students based on the acquisition of the score by the number of research subjects to get the cumulative frequency, after that this sequence is further divided by the research subject to get the proportion. The last one is

this proportion multiplied by 100 to get the percentage. This Frequency distribution analysis of post-test (T₂) can be seen in table 4.

Table 4. The frequency distribution matrix of post-test (T₂)

Score	Tally	Frequency	Cumulative Frequency	Cumulative Proportion	Cumulative Percentage
92	II	2	15	1	100
88	II	2	13	0,86	86
84	IIII	5	11	0,73	73
80	IIII	5	6	0,4	40
76	I	1	1	0,06	6

Table 4 shows that there were fifteen students follow the post-test. The result of post-test in which two students was obtained the highest score 92, two students obtained 88, five students obtained 84, five students obtained 80, and one student obtained the lowest score 76.

In addition, related to those analysis above, it can be seen in the findings that the result of the post-test (T₂) were higher than the pre-test (T₁). These results were analyzed based on the students' scores from each given question. The number of questions in the pre-test (T₁) and post-test (T₂) is 25 questions with the cloze test format, each question are made in the form of descriptive text. The answers of each student in the pre-test (T₁) varied with different levels of correctness, some got the lowest score (12) obtained by one (1) student and the highest (36) three (3) students.

In the pre-test (T₁) the most correct questions were at the beginning of numbers 1, 2, 3 and 4. While the least correct answers in the middle of the questions were from numbers 11-20. In the post-test (T₂), there were two (2) students who got the highest score (92) and the lowest (76) one (1). On the question of post-test (T₂), the most correct answers are spread at the beginning

to the middle, which 5-21, while the those wrong are spread in numbers 1,2,3 also in the end 23-25.

Furthermore, there is one (1) student who has a quite significant development from pre-test to post test, which is student number 2 (table 2). This student is the only one who got the lowest score (12) in the pre-test (T₁) but can make progress (80) in the post test (T₂) because of the application of mind mapping technique. "Mind mapping technique is one of the techniques that can improve students' English ability especially their reading comprehension" (Wirda, wahyudin, sulaiman, 2014).

Therefore, related with those explanation and analysis above, the last step of this analysis is to calculate the total score of the pre-test (T₁) and post-test (T₂), then divide it by the research subjects or the number of students to get the mean score (x) of each test.

Result of Mean Score

	Pre-test		Post-test
$\sum x_{(T1)}$	1.256	$\sum x_{(T2)}$	400
N	15	N	15
Mean score	26.6	Mean score	83.7

The result of the analysis showed that there were fifteen (15) students took part in test. In pre-test, the highest score was 36 achieved by three (3) students, and the lowest was 12 achieved by one (1) student. In the post-test, the highest score was 92 achieved by two (2) students, and the lowest was 76 achieved by one (1) student. The mean score (x) of pre-test (T₁) 26.6, and the mean score (x) of post-test 83.7. The result of pre-test showed that the students' Reading Comprehension is still low before applying *Mind Mapping Technique* and the result of post-test showed that the students' Reading Comprehension could increase by applying *Mind Mapping Technique*.

Mind mapping technique gave a significant affect to students when its applied and this can be seen in each student's

pre and post test results because mind mapping is a useful technique that could help students to learn effectively (Buzan, 2007) with some advantages mentioned by Olivia (2008) which are could make students enjoy the learning process, could summarize the lesson and could improve the creativity of the students when it's applied in teaching process.

Finally, the result of this research showed that *Mind Mapping Technique* was an effective technique to increase students' Reading Comprehension.

5. CONCLUSION AND SUGGESTION

Based on the analysis of each data in previous pages, the researcher would like to make a conclusion. The result of this research showed that the mean score of the post-test is higher (83.7) than the pre-test (26.6). This means that Mind Mapping Technique was considered effective technique to increase students' Reading Comprehension.

The researcher concluded that the students enjoyed learning because of the application of Mind Mapping Technique. Mind Mapping Technique could make the lesson more interesting. Mind Mapping Technique can be applied in teaching process to overcome the students' problem in Reading Comprehension and to increase the students' Reading Comprehension as well.

Based on the conclusion above, it can be suggested that Mind Mapping Technique can be apply in teaching learning process by the English Teacher to increase students' Reading Comprehension. In order to make the students more interested in learning English especially Descriptive Text.

It is also possible that this research can be useful and can be used by other researchers as a source for conducting research in other school environments because many students in Indonesia experience almost similar problems.

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