The implementation of Mind mapping technique in teaching reading comprehension

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ABSTRACT

Reading is one of the important skills which should be mastered by students. At the same time, the students have difficulties learning a foreign language. Also, it is believed that every student has a different capacity for learning a foreign language. Therefore, this research aims to find out whether there is a significant difference in students' reading ability after the implementation of mind mapping in learning reading comprehension and to find out the difficulties of students in learning reading comprehension through mind mapping as the media. In collecting the data the researcher used a reading comprehension test and interview, and the data were analyzed using SPSS program.The result of this research showed that the students' scores have increased and the T-test revealed that the results are significant; t (two-sided p) =001 at a significance level of 0.05 (p=001, p<0.05). The data shows that the degree of freedom is 27, the t-value is 6.091 and the t-table is 2.051 with a significance level of 5%, which means the T-Value is higher. It can be concluded that there is a significance improvement between pre-test scores and post-test scores of students' reading comprehension ability after implementation of the mind mapping technique in teaching reading comprehension.

Keywords: mind mapping, reading comprehension, foreign language, improvement

1 INTRODUCTION

Based on the student's problem with controlling reading, many students have difficulty understanding the meaning of a text, there are some problems with reading instruction namely methods, content, vocabulary, instructional materials, environment, ineffective instruction, lack of motivation, grammatical features, and language features. It is impossible to discuss all of the problems. Due to limited time, capability and funds, this study is only concerned with investigating the use of mind mapping in teaching reading. To have a good final product of this research, this research is trying to prove the implementation of the mind mapping technique in teaching reading comprehension that the mind mapping technique is able to improve students' reading comprehension capabilities, and then this research is expected to be a guide in teaching English, especially the teaching of reading through the mind mapping technique, based on the previous research that previous researchers have already done, they discussed and studied implementation in writing and reading while in this research aims to prove the implementation mind mapping technique in teaching reading comprehension

Dealing with these issues presented in the background, the research questions of this research are Does applying the mind mapping technique improve students' reading ability? and What difficulties do students have in learning reading through mind mapping as the media?

The objectives of the research are To find out whether there is a significant difference in students' reading ability after the implementation of mind mapping in learning reading comprehension. To find out the difficulties of students in learning reading comprehension through mind mapping as the media.
Certainly, this research focused on the influencer of the implementation mind mapping technique in teaching reading comprehension. The research focuses on teaching techniques in the English language of teaching reading comprehension by mind mapping, considering how the

students' ability capacity in reading comprehension and applying the mind mapping technique in teaching, which is expected to increase the students reading comprehension ability.

Reading comprehension is the desired result of reading and can be defined as the skill of combining background knowledge with reading texts. According to Kintsch (1998), van Dijk and Kintsch (1983), and pourhosein Gilakjani and Sabouri (2016), reading comprehension is the process of constructing meaning from text. The aim is to understand a text rather than to acquire meaning from individual words or sentences. Ahmadi , Hairul, and Pourhosein Gilakjani (2012) stressed that reading comprehension is one of the significance elements in language learning because it provides the foundation for a substantial amount of learning in EFL learners. However, reading skill, especially reading comprehension is a very important skill in English learning because, through reading, students can get information from a text or writing, but it does not preclude the possibility that still many students are having difficulty increasing their reading skills, students are having difficulty understanding the meaning and content of the reading so that students can not maximize their reading.

Reading Aspects

-Determining the main idea
Determining the main idea is a skill to finding the main point of the passage by summarizing the passage. According to Gallagher (2004), Determining the main idea is a skill to grasp and find the main point of a passage by summarizing it and looking for repetition of ideas/words. So, The finding main idea means finding the important things or points from a passage or a paragraph.

-Finding The Specific Information
Finding the specific information means The readers find the specific sentences that are related to the text. So, The readers can be concerned with finding specific information in a text, because that is one of the important things in a reading activity the reader can know the goal of the text exactly and the reader can understand the purpose of the text easier because the readers only read the relevant parts.

-Finding reference
Reference is the intentional use of one thing to indicate something else in which one provides the information necessary to interpret the other. Finding reference means interpreting and determining one linguistic expression to another. It is a remark that has a correlation of information somewhere in the text.

-Finding inference
The inference is good to guess or a conclusion is drawn based on the logic of the passage understand and conclude it logically. The reader will be able to do this by making use of the context in which the word occurred, in order to give a rough idea of its meaning.

-Understanding vocabulary
Understanding Vocabulary is comprehending the words and to know what the meaning of the words. Mastery of Vocabulary is one of the important aspects of reading comprehension, when Vocabulary mastery improves, comprehension will be deeper. Since comprehension is the ultimate goal of reading, the reader cannot overestimate the importance of vocabulary development. As indicated by harmer (2004: 153), the ability to determine the meaning of vocabulary items from context is one of the most important aspects of successful reading. Concerning those statements, indeed vocabulary is a basic skill in reading for anyone who intends to produce utterances for reading.

Teaching Technique

According to (Kuhn,1970), language teaching is a field where fads and heroes have come and gone in a manner fairly consistent with the kinds of changes that occur in youth culture. One reason for the frequent change that has been taking place until recently is the fact that very few language teachers have even the vaguest sense of history about their profession and are unclear concerning the historical bases of the many methodological options they currently have at their disposal. The field of second language teaching has undergone many fluctuations and dramatic shifts over the years.

Definition of Mind Mapping

According to (Erdogan, 2008) that the mind mapping technique can be used by hand and paper or computer. Using paper mind maps sem to be time-consuming because students need to erase many times and rewrite them again and again. According to Setianingsih, Rosihan , and Pardani (2018), mind mapping is based on imitating learners' thinking process in which they are asked to move from one topic to another topic back and forth. The process of recording information through symbols, pictures, or colors is the same as the process of learners' brains. According to Buzan (1964) (2007: 19), it is a chosen instrument that may help a person to share one's memory.

The Advantges and Disadvantages of Using Mind Mapping Technique

The advantages of the using mind mapping technique make teaching easier, enabling students to receive materials easily, and then the mind mapping technique also provides opportunities for the material they have been taught. The disadvantages of the mind mapping technique are that the types of links being made are limited to simple associations. The absence of clear links between ideas is a constraint. Mind maps have been said to be idiosyncratic in terms of their design. Often hard for others to read, representing only hierarchical relationships, inconsistent in terms of the level of detail, and often too complex and missing the "big picture". Mind mapping is also limited in dealing with more complex relationships. For example, mind mapping might be useful to brainstorm the things that are critical for students to recall in an exam, or presentation, as in the example provided (Eppler 2006; Zeilik nd). However, it is hard to see it being useful for a purpose that requires an understanding of how one concept is essential to understanding another.

Based on the theoretical assumption, the hypothesis formulated in this research was that there is an improvement between mind mapping technique toward reading comprehension ability and there is the percentage of influence between mind mapping technique in teaching reading comprehension.

2   METHODS

The study is a quantitative study that has the purpose to enhance understanding of student's reading comprehension skills, this research is trying to prove the implementation of the mind mapping technique in teaching reading comprehension that the mind mapping technique is able to improve students' reading comprehension capabilities, and then this research is expected to be a guide in teaching English, especially the teaching of reading through the mind mapping technique, based on the previous research that previous researchers have already done, they discussed and studied implementation in writing and reading while in this research aims to prove the implementation mind mapping technique in teaching reading comprehension. Does the mind mapping technique can improve reading comprehension skills and Is the using mind

mapping technique effective enough in teaching reading comprehension. To investigate the effectiveness of the mind mapping technique in teaching reading comprehension. to prove whether the mind mapping technique can improve students' reading comprehension ability.

In collecting the data, a pretest will be initiated then there will be treated before finally the post test.

$$T_1 \text{ x } T_2$$

<center><i>(Setiyadi 2006)</i></center>

T_1 Refers to the pre-test before the students are given treatment.

T_2 Refers to the post test after finally get the treatment.

This research used the design for both the research question. It is used to find out the effectiveness and how much significant improvement between mind mapping technique and reading comprehension while

Population and Sample

The populations to be retrieved in this study are senior high school students at SMA N 1 Rajabasa Lampung Selatan, they will be populations in research activities to prove that the use of the mind mapping technique can increase the reading comprehension ability of students, and then the sample to be derived in this study is only one class of the from some class of 11th grade (XI IPA) 28 students in this study because it is expected can make the process of this study is easier, more comfortable and conducive.

The technique sampling that is used in this study is a random sampling technique in which samples will be taken randomly not based on class or gender no additional information on sample skeletons such as the geographic region, and others, besides a comprehensive list of survey elements with information to be studied. The formula used is relatively easy to apply to small populations.

Instrument

The instrument that is used in this study is an instrument that can answer the research question in this study. The instruments to be used are pre-test, post-test, and interview. The pre-test means that the students will be given an activity that can reclaim or recall their background knowledge and previous knowledge without any teaching activity at the beginning. Then post-test is used after doing some learning activities, sure in learning activities are using mind mapping technique to answer research questions and investigate the effectiveness of mind mapping technique in teaching reading comprehension and prove the mind mapping technique can increase student's reading comprehension, after doing some learning activities the students are given a post-test that consist of several reading questions such as narrative text, descriptive text, recount text, and procedure text. The result of the post-test is done will be compared to the result of the pre-test, is there a difference between pre-test scores and post-test scores.

Data Collecting Technique

The research data collecting process will be conducted by following the given steps, they are determining population and sample, pre-observation, determining the research instrument, administering the reading comprehension test, analyzing the data, making a report, and discussing the more explanation below :

1. Determining Population and Sample. The population of this research was the 11th-grade learners of senior high school 1 Rajabasa Lampung Selatan. The researcher used random sampling to choose one class for being the sample.

2. Pre-observation. Pre-observation in this research was done by an interview with an English teacher of Senior High School 1 Rajabasa. It is basically to know the situation of the students in the school who are the subjects of the research.

3. Determining The Research Instrument. The instrument of this research was pre-test and post-test.

4. Administering the reading comprehension test was administrated to measure the effectiveness of mind mapping technique in reading comprehension.

5. Administering The Reading Comprehension Test. The Researcher gave the reading comprehension test in the form of multiple choices consisting of the aspects of reading in one class.

6. Analyzing the data. The result of the reading comprehension test was used to find the effectiveness of the mind mapping technique in reading comprehension. The data of the research were statistically examined by using regression analysis linear in The Statistical Package for Social Science (SPSS).

7. Making a report and Discussion. Gaining all the data, the researcher made a report and discussion the on findings the effectiveness of the mind mapping technique in teaching reading comprehension.

Data Analysis

In this research, there is one kind of data analysis technique, namely paired sample t-test. Paired sample t-tests indicate general tendencies in the data (mean, mode, median), the spread of scores (variance, deviation, range), or a comparison of how one score relates to others (Creswell, 2008). In this analysis, the interpretation was based on the mean and standard deviation. The data were computed by using the SPSS computer program. Inferential statistics were applied to analyze data from a sample to conclude an unknown population

Hypothesis Testing

In order to prove the hypothesis, the data were analyzed by using a simple linear regression analysis. First, the data were processed by using simple linear regression analysis in the statistical package for social science (SPSS) version 23 to obtain the effective mind mapping technique in teaching reading comprehension by using the table data, this research also to prove whether there is a significant improvement or no if the teaching use mind mapping technique, especially in teaching reading comprehension. From the table, the researcher knew that both of the variables have significant improvement by seeing the scores. The hypothesis was drawn as follows:

H_0 : Mind mapping technique has no significant effect in teaching reading comprehension.

H_1 : Mind mapping technique has significant effect in teaching reading comprehension.

H_0 : There is zero prcentage influence between mind mapping technique and reading comprehension.

3   RESULTS AND DISCUSSIONS

The Results of Pre-test and Post-test score after Implementing Mind Mapping

The Differences of Students' achievment Reading Ability in Pre-Test and Post-Test

No.	Students' Score	Pre-Test		Post-Test	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1	81-100	-	-	6	21
2	61-80	-	-	10	36
3	41-60	9	32	5	18

4	21-40	17	61	6	21
5	0-20	2	7	1	4
	Total	**28**	**100**	**28**	**100**

In the pre-test, none of the students reached the first interval score and the second interval score with range scores are 81-100 and 61-80, at the third interval score there are nine students who reached the third interval score with the range score 41-60, there are seventeen students got the fourth interval score with the range score 21-40 and there are two students who reached the fifth interval score with the range score 0-20. In the post-test, there are six students who reached the first interval score with a range score of 81-100, at the second interval score, there are ten students with a range score of 61-80, there are five students got the third interval score with the range score 41-60, at the fourth interval score there are six students, with the range score 21-40 and there is one student who reached the fifth interval score with the range score 0-20. In the post-test, there are six students who reached the first interval score with the range score 81-100.

Hereinafter, the table shows that there is a difference between students' pre-test scores and post-test scores in reading comprehension ability. There is an improvement in students' reading ability after being taught through mind mapping as the media in the learning process. It can be seen from the table frequency of pre-test scores and post-test scores. There is a decrease in the fifth interval score from two students to one student who scored between 0-20, at the fourth interval score there is a decrease from seventeen students to six students who scored between 21-40, and there is a decrease at the third interval score from nine students to five students who scored between 41-60, in the second and the first interval score there are improvements, there are teen students who reached the second interval score but in pre-test none students who reached the second interval score, there is an improvement at the first interval score from none students to six students who scored between 81-100.

The differences Students' Reading Ability

	Paired Samples Test							
	Paired Differences							
					95% Confidence Interval of the Difference			
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	Pre-Test Score - Post-Test Score	-26,000 0	22,5881 0	4,26875	-34,7587 5	-17,2412 5	-6,091	27	.001

Compare the results of the pre-test and post-test scores. It is obvious that the student's scores have increased and the T-test revealed that the results are significant; t (two-sided p) =001 at a significance level of 0.05 (p=001,p<0.05). The data shows that the degree of freedom is 27, the t-value is 6.091 and the t-table is 2.051 with a significant level of 5%, which means the T-Value is higher than the T-Table, and the hypothesis (H1) is accepted. It can be concluded that there is a sign between pre-test scores and post-test scores of students' reading comprehension ability after implementation of the mind mapping technique in teaching reading comprehension.

Discussion of The Findings
In general, most of the students experienced difficulties during reading learning through mind mapping, students find it difficult when they are first given reading questions, their difficulty is reading very long text, they don't like text that is too long so they don't read the text they feel bored when reading such long text if they read a long text they don't know the meaning so they are very difficult to find the answer. when researchers ask students about mind mapping most of

them do not know how to learn to use mind mapping, usually students learn only using the books given by the teacher, but some of them already know mind mapping techniques even though they already know mind mapping techniques but they have never applied it in learning reading.

4 CONCLUSION AND SUGGESTION

Based on the data analysis, the students are doing the reading comprehension test for measured the capacity of students knowledge of foreign languages. There are 6 students who got an almost perfect score, 1 student got a lower score, and other students got average scores.

Based on the results of this research, the researcher found that teaching reading comprehension through the mind mapping technique as media in the learning process proves that there is a significant reading comprehension ability which can be seen from the results of pre-test scores and post-test scores, the mean score of pre-test was 35 and the mean score of post-test was 61, the mean score increased 27 points, we can see from t-value that the t-value is 6.091 which means the T-Value is higher and significance . Based on the interviews that have been done, there are many difficulties experienced by students during the learning process using mind mapping, students have difficulties in understanding the meaning of sentences from several texts in English, although some of them already know how to learn using mind mapping they do not know how to develop it when they make summaries they just write from the book their teacher gives them from school, although still have some problem students are able to apply mind mapping in learning reading, then help them understand the text.

By considering the result and discussions, some suggestions for English teachers, students, and the other researchers are presented in this sub-chapter. The researcher suggests English teachers should create a more interesting way of learning, then of course the teacher must also measure the ability of students so that learners achieve what is expected. Then for students, the researcher suggests that students can continue applying the mind mapping method using mind mapping in every lesson, especially in reading learning. The researcher suggests to other researchers that other researchers should examine other ways of learning reading so that more interesting ways can be found and can improve students' English skills.

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