The Implementation of Mind Mapping Technique to Improve Student's Reading Comprehension

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ABSTRACT

The problem of this research is students' difficulties to comprehend the text because they had a weak vocabulary, lack interest in reading, and looked bored reading the text. By applying mind mapping techniques to narrative material, this study seeks to increase students' reading comprehension. In order to help students learn new vocabulary, access information from texts, and increase their memory for reading comprehension, this research employed class action research (CAR) with two cycles. The subjects of this research were students of the second grade at SMA S Panca Jaya Galang in the 2022/2023 academic year, totaling 25 students. This research uses data collection techniques in the observation sheet, tests, and documentation. This data was obtained from the pre-test and post-test results by applying the mind mapping. It has been found that teaching students how to use mind maps helps improve their reading comprehension. It can be seen from the data that in cycle I, 14 of 25 students only achieved a score of 75 or higher, the average student score was 66,4, with a total student score of 1660, and the proportion of pupils that succeed the KKM was approximately 56%. In cycle II, on the other hand, there were 21 of 25 students who achieved a score of 75 or higher, the average student score was 83,4, with a total student score of 2085, as well as the pass rate for students. The conclusion of this research is mind mapping techniques can improve students' reading comprehension.

Key words: Mind Mapping Technique; Reading Comprehension

INTRODUCTION

Language is the ability of human to communicate with other human by using signs or other gestures. In language, language has 4 fundamental types of language skills, namely writing, speaking, listening and reading. One of the four language skills that are taught during the learning process is reading. Nonetheless, reading is crucial to learning English since it allows you to understand written English. Throughout the reading exercise, the reader must analyze the text's meaning and search for the text's major point. "Reading comprehension is a sophisticated cognitive process in which a reader decodes a symbol or printed word into sound," claimed Grabe and Stoller (2002). (Karawang, n.d.). In conclusion, Understanding the relationships between the words on a printed page in order to comprehend the ideas, information, and author's point of view is the process of reading comprehension. Reading in one's first language can be very different from reading in another in a second language in various circumstances. Fact: Reading in a second language is more challenging than reading in your native tongue. Similar to Indonesia, students learn a regional language as their first language, followed by an Indonesian or foreign language as their second. According to Nuttal, Cristine (1996), Indonesian students who are learning a foreign language experience reading difficulties such as having to read slowly word by word, being unable to apply reading strategies, becoming easily frustrated and dissatisfied, especially when they encounter difficult words, reading the text aloud, which may impair comprehension, and having trouble reading authentic text in a foreign language (Pendidikan et al., 2021).

Based on the result of observation that has been at school SMA S Panca Jaya Galang, researchers discovered various issues with text-reading instruction. There are several reasons why a pupil doesn't comprehend a text. First of all, several pupils had trouble understanding the text since they lacked strong vocabulary and reading comprehension skills, and they appeared bored while reading. Second, the researcher infers from the teacher that the technique utilized at the time was a typical or uniform technique used by the teacher. The reading class became boring as a result, and the kids' reading exam scores suffered. Conclusion: These two elements had an impact on the students' motivation and reading success. Researchers contend that appropriate reading instruction strategies should be used to encourage students to read all texts so they can comprehend the content thoroughly in order to address the aforementioned issues. The ability of students to comprehend what they read can be increased in a variety of ways. One of these is using the mind-mapping technique. The mind mapping is a natural process of the human mind since it is a manifestation of brilliant thinking. According to Buzan, mind mapping is a successful tactic to store data into our brains (Buzan, 2008). Mind mapping strategy is a graphic technique that involves words, colors and images. The right and left halves of the human brain can be balanced by using the brain. It implies that because of the strength of their minds, humans can make the most of it to produce meaningful things.

In actuality, utilizing mind maps to teach reading is nothing new in English. Several students have used the mind mapping technique, which enables all students to communicate their thoughts. Moreover, mind mapping is a cognitive technique that enhances pupils' reading comprehension and memorization skills by summarizing the important material (Pendidikan et al., 2021). Mind mapping is a creative and useful method of taking notes and actually "mapping" our minds. It is the simplest way to get information into the brain and get it out of the brain (Buzan, 2008). Students in the classroom can have meaningful reading experiences thanks to the use of mind maps. A simple tool that can be used to adapt is mind mapping various teaching philosophies and give teachers a chance to improve the learning process for all students.

The researcher's primary interest in this study is reading comprehension of narrative content. A narrative text is some sort of retelling of an event, typically in words (although a story can be mimed) (a story). The recounting of the tale, rather than the story itself, is what constitutes the narrative. Fables, legends, and folktales are examples of narrative texts that inform readers about historical occurrences (Estu Widodo Universitas Muhammadiyah Malang, Indonesia., 2019).

LITERATURE REVIEW

Definition of Reading Comprehension

Reading and comprehension go hand in hand since the goal or outcome of reading is to understand what has been read. Reading is meaningless if you don't comprehend what you've read. "Reading comprehension is process of acquiring information from context and using schema to interpret the text in order to generate meaning," claims Mukhroji (2011:57). (Estu Widodo Universitas Muhammadiyah Malang, Indonesia, 2019).

According to the description provided above, reading comprehension is the act of deriving meaning from discourse with the goal of fully comprehending the subject matter of the text, as apposed to only deriving meaning from a select few words or sentences. With the activities that have been carried out, readers will get new knowledge from that they have read. Because it is related to the information and knowledge that readers want from existing texts, so they can use new knowledge to add insight and reading comprehension better that before.

The reading comprehension understanding is the knowledge of what has been read, claim Rainking and Scenary in Dirham (2011:18). (Training 2015). Understanding vocabulary is part of the active thinking process that depends on the student's prior knowledge, experience, and comprehension abilities. Word recognition and comprehension are two connected reading processes. Lems defines comprehension as

the process of understanding meaning or information, while word recognition is the process of accessing and recognizing individual words Miller, and Soro (Aprillia, 2019).

Techniques in Teaching Reading

Techniques reading how to comprehend is not easy. Teachers should have some knowledge of techniques to make students able to interpret or understand the concepts throughout the entire text implementation is the technique-what actually occurs in a classroom. It is a specific technique, tactic, or device employed to achieve a certain goal right away (Kurniawan, 2018).

According to Ikandaewassid an Sunendar (2008) state that there are various techniques that can be applied in teaching reading comprehension, they are Brainstorming, Summarizing Technique, close Produce, Group Work Technique and Technical Communication, Semantic Mapping.

The Definition of Mind Mapping

Mind mapping is a method or technique of grouping several ideas in a structured framework to help remember or analyze a problem. Explains how mind mapping can be used to make tedious chores engaging and pleasurable in order to improve focus and memory (Zempetakis et al., 2007). The active learning and memory skills of students will improve through mind mapping.

The mind mapping enables all students to communicate their ideas. Students can record the raw data included in typical notes as well as rapidly identify and comprehend the subject's structure and how different pieces of information fit together by using mind maps. According to Buzan there are seven processes to properly building mind maps :
  a. Start writing the main topic in the center of the paper
  b. Use graphic illustrations, symbols, and codes throughout the mind mapping
  c. Select keywords for each branch developed
  d. The branches created must be related to the topic main in the middle of the paper
  e. Make lines/branches that are the same length as the words
  f. Use colors in a mind mapping at the very least
  g. Develop a suitable mind mapping shape individual style or creativity.

How To Draw The Mind Mapping

For each of the primary points, draw arms out from the main arms and write the sub-points or examples for the sub-points. It is best to write the topic in landscape position. There are various phases to creating a mind map.

The Advantages and Disadvantages of the Mind Mapping Technique

Mind mapping techniques really help improve students' reading comprehension because they make it easier to take notes and are very useful for recording a lot of information in a very short time. Students can be more creative by working in groups while learning, which will help them understand the text's contents. Mind mapping is also very simple to learn and read. The dis advantage of this mind mapping technique is that only covers students' creativity and makes Seeing different student mind maps generated in various formats made the teacher feel a little worn out.

METHOD

Design and Samples

The research employed classroom action research (CAR) to gain a thorough understanding of The Application Of Mind Mapping Method To Enhance Student's Reading Comprehension, The goal of this projects us of classroom action research is to raise the standard of teaching practice. The research expected by using classroom action research also could enhance research habits for teachers and teaching-learning process. In this study, the researcher were class XI students of SMA S Panca Jaya Galang, especially class XI for the 2022-2023 academic year. There are 25 pupils in this class as a whole. The researcher chose Class XI since it was the best class for studying, Class X was still going through school adaption, and Class XII was concentrated on getting reading for the National Exam

Instrument and Procedure

According to McNeiff (2001:87) action research, also known as practitioner based research, is a term that describes a practical approach to evaluating your own work because it entails (Alek, 2016). Teachers' teaching abilities will improve because to classroom action research's straightforward implementation of methodological research. The researcher was pressed to take notes about the activities in the classroom, as well as about her actions, observations, and reflections. Two cycles of it are run. Planning, action or execution, observation, and reflection make up each cycle.
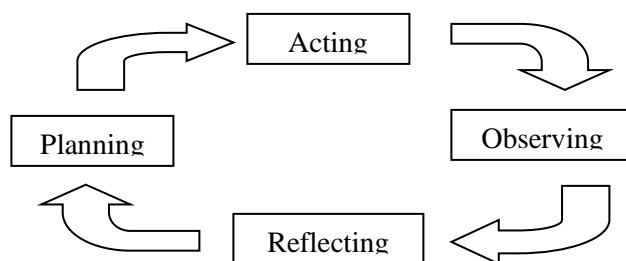
Data Analysis

Result findings on Application of Mind Map Technique to Improve Reading Comprehension of Second Grade Students in SMA S Panca Jaya Galang. Using qualitative and quantitative designs, several data kinds were examined. Qualitative information was gathered from documentation and observation logs (photos). This information was gathered from 25 second-graders. The mean scores of the students who took the test during the study were also used to gather quantitative data. The pre-test and the post-test are the two cycles that make up the test. The four guiding principles of classroom action research—plan, act, observe, and reflect—direct the researcher's actions in each cycle.

RESULT AND DISCUSSION

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Cycle I Report

The researcher went through four stages in this cycle: planning, acting, observing, and reflecting. Researchers analyze both qualitative and quantitative data, which fall into two categories.

Qualitative Data

The findings of researchers regarding the application of mind mapping techniques to improve the reading comprehension of second-grade students at SMA S Panca Jaya Galang are discussed below :

a. Application of the mind map technique in Cycle I

The actions from Cycle I were completed in a meeting on January 18, 2023. The researcher started using the mind mapping approach. The researcher carried out a number of tasks, starting with greeting the pupils with the phrase "Good morning/afternoon, my students." The researcher was then told to, before beginning The mind map technique was presented and used with pupils who were being taught and learning to read in the first cycle. Using mind mapping can increase reading comprehension and assist pupils in understanding reading assessments. During the next exercise, the researcher instructed the students to first make a mental map for each reading assignment. For the pre-test, the researcher gave copies of "The Fox and the Grapes" to each student, along with the text. The researcher then instructed the students to read and debate the provided text in order to develop a mind map. The researcher oversaw the students' work and assisted them in developing and debating moral principles and narrative text structures. In each test, the researcher asked the students to work on the given tasks in groups, where each student wouldwork together to make the student's work more effective.

b. Problems after applying the mind map technique

After using the mind mapping technique to increase students' reading comprehension of narrative texts in Cycle I, the researcher discovered that there were a number of problems, including that students could not understand the text, students had a limited vocabulary, and the teaching method when transporting material was too monotonous.

Quantitative Data

Quantitative data come from test scores given to students. Tests must be relevant to the topics covered and discussed in class. It is 75 in accordance with the Minimum Standard of Completeness Criteria (KKM) for school-based English courses.

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

Where   : M   = the average student score

$\sum x$ = total score

N   = the number of students

Based on the pre-test findings, data was acquired revealing that 14 pupils, with a total

student score of 1660 and an average class score of 66.4, passed the minimum completeness criterion, or KKM. This indicates that the reader's ability to understand students is not significant or is still low.

Reflection

After performing three actions in the first cycle, the researcher made several considerations. It was made from observations in the teaching-learning process. Applying the Mind Map technique in Cycle I was not easy. Therefore, the researcher reflects on the implementation of the measure. Staff and researchers analyze the data from the observation sheets to evaluate the interventions and find out what works and what doesn't in the interventions. All subjects fill in the observation sheet after conducting the pre-test, ad the researcher finds out whether Using the mind-mapping method can either increase or decrease pupils' reading comprehension. The researcher moves about the class while they work to make sure students receive the assistance they need to accomplish classroom assignments. Quantitative data on students' learning outcomes at the end of Cycle I show that students still need to take tests to improve reading comprehension. Based on the problems faced by researchers in Cycle I, researchers are trying to find solutions to overcome the problems faced by Cycle II as follows ;- Teachers should use more interesting methods in the learning process so that the students are happy and interested in learning; - The teacher asks the students to always carry a dictionary with them; - The researcher asks the students to memorize the newly learned vocabulary.

Cycle II

Report The three actions carried out in Cycle I was highly effective in enhancing reading comprehension among students as demonstrated by mind maps and reading attitudes among students as part of the procedure for teaching and learning. Students still have trouble distinguishing between various text types and understanding the vocabulary employed in English works. to allow Cycle II study participants to use mind maps. Addressing Cycle I's flaws is the goal of Cycle II. The same as in Cycle I, the action focus for Cycle II is jointly planned.

Qualitative Data

The findings of researchers regarding the application of mind mapping technique to improve the reading comprehension of second grade-students at SMA S Panca Jaya Galang are discussed below :

a) Application of mind-mapping techniques in Cycle II

Cycle II actions were implemented at the 21 January 2023 meeting. The actions identified in the implementation cycle were mind-mapping techniques and mind-mapping principles. The researcher serves as the instructor in this cycle, and Outside of the classroom, the English instructor collaborates by keeping an eye on the teaching and learning process. Cycle II planning is built on the problems from Cycle I. Once the action is being prepared, the researcher and the English teacher go on to the next stage. Cycle II featured a variety of acts, and the researcher provided visual evidence to back up her claims. The researcher instructs the students to create a simple mind map. Also, the students responded favorably, expressing an interest in using mind maps to help them comprehend the text more quickly, as seen by an improvement in their capacity to respond to questions. Good morning/Good afternoon, my kids," the researcher said to the pupils before starting to use the mind mapping technique." They instruct students to pray before beginning the learning process, check attendance and remind students to memorize vocabulary and bring dictionaries, and provide the same theme in each meeting, especially in Cycle II "The Fox and the Grapes". The students were given a piece of blank mind-mapping paper, and the researcher established a time limit. Then, using simple drawing methods, pupils were instructed to quickly design a mental map. As the students completed their respective assignments, the researchers monitored the students' work, some first sketching mind maps with a pencil and some immediately jotting down their ideas with colored pencils. The use of images in Cycle II has been successfully performed. After receiving the text, the students reacted very actively to the researcher's questions. While reading the text, the researcher asked the students to look up the meaning of the foreign vocabulary using the dictionary they had brought with them. Students discuss text and word structures together using mind maps to help students improve their vocabulary and reading comprehension.

b) Problems after using Mind Maps in Cycle II

After applying mind-mapping techniques to improve the reading comprehension of the Cycle II students. The researcher identified a problem with the pupils' vocabulary, but only those who had not brought a dictionary had brought it up. The pupils had trouble locating and deciphering the vocabulary they had read because five out of twenty-five students had forgotten their dictionaries. For this reason, the researcher believes that carrying a dictionary is one of the solutions to

overcome vocabulary problems the students do not understand or are unfamiliar with.

Quantitative Data

After creating a mind map, the researcher identified the task as a production task. The work served as a final assessment, based on the results of the reading comprehension test in Cycle II, There were 25 students who took the exam. The quantitative outcomes of the second exam in Cycle II revealed that the students' aggregate score was 2085 and that their overall test score was 83.4. The students' grades have increased, as can be seen. This means that the students can do the assignments well and the classroom conditions are very good. After applying The classroom atmosphere encourages students' interest in learning and their ability to actively participate through the use of the mind mapping technique and their active participation in the activities that the teacher assigns. According to the aforementioned qualitative and quantitative data, it can be inferred that mind mapping can improve the reading comprehension of children who are learning English in a classroom setting. to evaluate the difference between the pupils' pre- and post-test scores. The following is what the researchers attempt to depict in the table:

Table 2. Result of Improvement of Student's Reading Comprehension

Indicators	The Improvement of Student's Reading Comprehension		Percentage Improvement	
Students who got ≥70	Cycle I	Cycle II	Cycle I	Cycle II
	14	21	56%	84%

From the table above it can be seen that student scores increased from the pre-test in Cycle I to the post-test in cycle II. In the pre-test, 14 out of 25 students (56%) achieved 75 or more points, while in the post-test 21 out of 25 students (84%) meant an increase of around 28%. After 21 students passed the Minimum Completion Criterion (KKM) after achieving a gain instudent reading comprehension, the researcher decided to stop CAR because the reading comprehension performance of students increased through the mind mapping technique. This means that the investigator does not have to review the plan.

Reflection

The application of the Mind Maps technique in Cycle II is inextricably linked with

many obstacles. Therefore, the researcher reflects on the implementation of the measure. In this phase, The outcomes of the observation sheets, paperwork, and assessments provide feedback to the teaching and learning process. Researchers' findings are as follows: The researchers looked at the student examinations and discovered that the students' scores improved. Using CAR to teach reading comprehension utilizing the mind mapping method is congruent with the approach she described, according to the results of the data the researcher gathered.

CONCLUSION

From the result of the investigation conducted and completed at SMA S Panca Jaya Galang from January 18th to 21st, 2023 it can be concluded that:

1. The pre-test and post-test are two cycles that can be used in a group reading technique to increase students' reading comprehension.
2. With a total student score of 1660 and a minimum pass category, the average student score in Cycle I (the pre-test) was 66,4 (not good) (75). The percentage of pupils who passed the KKM in Cycle I was only 56%, according to the data. It is qualitatively true of Cycle I pupils that they struggle greatly with English reading.
3. Students' reading comprehension continued to improve in Cycle II (post-test), with an average post-test score of 83,4 (very good) and an overall grade of 2085. Almost 80% of students passed the KKM at this time. It was deemed successful in improving students' reading comprehension in Cycle II.
4. Using mind mapping techniques in the learning process of pupils helps them retain terminology, understand information from the text more quickly, and improves their memory.
5. It can be qualitatively concluded from a comparison of Cycle I and Cycle II that the learning process is very effective and that the application of mind mapping techniques can improve students' understanding of what they read and arouse more passion for learning English.

REFERENCES

Alek. (2016). *Classroom Action Research BOOOK BY.DR.ALEK MPD*. 1–78.

Aprilia, F. (2019). Improving students' reading comprehension through mind mapping technique at the second grade of. *Education*, *5*(6), 379–385.

Buzan, T. (2008). *Buku Pintar Mindmap*. 1–23.

Dalam, K., Bahasa, B., Dan, I., Ayu, I. G., Dian, A., & Warmadewa, U. (2021). *MENGATASINYA*. *1*(2), 64–70.

Estu Widodo Universitas Muhammadiyah Malang, Indonesia. (2019). *7*(2), 65–74.

Hasan, H. A. (n.d.). *Comprehension Skills of Iraqi Esp Learners*. 1–23.

Karawang, S. M. A. N. (n.d.). *No Title*. *Dl*, 19–26.

Kurniawan, D. (2018). *Teachers' techniques in teaching reading comprehension at sman 1 kota sungai penuh in academic year 2017/2018 deni kurniawan (a1b213006)*. 1–15.

No Title. (2015).

Pendidikan, I., Hendrita, R., & Dewi, S. P. (2021). *IMPLEMENTATION OF MIND MAPPING TECHNIQUE TO IMPROVE STUDENTS ' READING COMPREHENSION IN*. *8*(1), 29–35.

Roinah, R. (2019). Problematika Dalam Pembelajaran Bahasa Inggris Di Stain Bengkalis. *Quality*, *7*(1), 153–166. https://doi.org/10.21043/quality.v7i1.4966

Sudrajat, H. N., & Herlina, H. (2015). Meningkatkan Pemahaman Kosakata Bahasa Inggris Melalui Metode Permainan Bingo. *JIV-Jurnal Ilmiah Visi*, *10*(2), 114–121. https://doi.org/10.21009/jiv.1002.6

Training, T. (2015). *IMPROVING THE STUDENTS READING COMPREHENSION IN*. *4*(2).

Zampetakis, L. A., Tsironis, L., & Moustakis, V. (2007). Creativity development in engineering education: The case of mind mapping. *Journal of Management Development*, *26*(4), 370–380. https://doi.org/10.1108/02621710710740110