

# Improving Students' Reading Comprehension on English Text Through Semantic Mapping

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## ABSTRACT

This research aims to improve students' reading comprehension through the semantic mapping strategy on students of mathematics education program. This research used a classroom action research method which is carried out in two cycles with the stages of planning, implementing, observing, and reflecting. The data was collected by tests, the standard passing level was 70, and the proportion required was 60%. The results of the students' reading comprehension test in cycle 1 showed that 5 (20%) students who got D (<69), 10 (40%) students who got C (70-79), 7 (28%) students who got B (80-89), and 3 (12%) students got A (90-100). While the results of the students' reading comprehension test in cycle 2 showed that 0 (0%) students who got D (<69), 6 (24%) students who got C (70-79), 8 (32%) students who got B (80-89), and 11 (44%) students got A (90-100). The results showed that semantic mapping could improve students' reading comprehension.

**Keywords:** *English language teaching, reading comprehension, semantic mapping, classroom action research*

## 1. INTRODUCTION

Reading is one of the activities related to both physically and mentally in expressing meaning in written texts (Siskadamayanti & Agussalim, 2020). The expression of meaning in written texts requires a deep reading comprehension. Reading comprehension is not synonymous with being able to read text fluently but can understand content and obtain information from reading texts (Mentari, Rakhmat, & Indihadi, 2014; Gilakjani & Sabouri, 2016). Students in reading many texts have the same way but have different understandings. On the other hand, many students have the same understanding of reading the same text by reading differently (Namaziandost, Gilakjani, & Hidayatullah, 2020)

Reading comprehension is the ability to understand meaning text orally through writing or reading, either in the form of simple ideas, detailed ideas, and all understanding. The ability to read someone's understanding is said to be good if they are able to understand all the contents in the reading (Arham & Akrab, 2018). It is the process of constructing meaning and making sense of written text by relating what it is written on the page and the reader background knowledge (Nunan, 2003; Anderson, 2003). This means that in reading comprehension, there is simultaneous two-way concentration in the reader's mind in carrying out reading activities. The reader actively responds by

expressing the written sounds and the language used by the writer. Therefore, readers are required to be able to express the meaning contained in the text, namely the meaning that the author wants to convey. Three stages in carrying out reading comprehension learning activities, namely: 1) The pre-reading stage; 2) The reading stage; 3) Post-reading stage (Toprak & Almacioglu, 2009).

Many of the reasons for the lack of students in understanding text comprehension include students focusing more on understanding word structures and a lack of comprehension skills (Pratiwi, Astuti, & Handayani, 2015; Kustanti, 2016). In addition, Harida (2014) revealed that the level of reading comprehension in English text is still low due to a lack of knowledge about reading strategies. Many studies have been carried out in improving reading comprehension, including Maccagno (2019), which states that one of the ways to improve reading comprehension is by using semantic mapping. Another research conducted by Kasim and Wahyuni (2016) shows that a semantic mapping strategy is the most effective strategy in improving reading comprehension. Semantic mapping has a significant effect in improving reading comprehension (Sadeghi & Taghavi 2014; Puspa, 2016; Sasabone, Yassi, & Imran, 2018).

Harmer (2001) said semantic mapping is an extremely engaging way of building up vocabulary knowledge as well as provoking students into retrieving and using what they know. Semantic mapping is the

vocabulary teaching strategies which belongs to the category of graphic organizers (Vaughn & Edmonds, 2006). Semantic Mapping (graphic organizer) is a map of words that help struggling readers or students to identify, understand, and recall the meanings of words they read in the text (Yuliani et al., 2020). There are three components of semantic mapping technique; (1) core question or concept: this is the keyword or phrase which becomes the main focus of the map; (2) strands: subordinate ideas that help explain or clarify the main concept and these can be generated by the students; (3) supports: details, inferences, and generalization that are related to each strand, then supports to clarify the strands and distinguish one strand from another (Vacca & Vacca, 2006).

The characteristics of a semantic map as follows: a) the main theme or concept is at the centre of the map; b) ideas, concepts, and other important terms are highlighted in such a way by using squares, circles, or colours; c) use of lines to connect related ideas; d) the further the information is from the centre of the map, the more specific the information is; e) connected concepts are not organized hierarchically (Blachowicz & Fisher, 1996).

There are several steps for implementing the semantic map in classroom learning: 1) the teacher decides on a topic as instructions and words to teach, and the concept or topic is briefly introduced, and a key word is written on a whiteboard, transparency, or note / table paper; 2) students are asked to think about other new words as they read the keywords. Students record a list of the words they find; 3) students then share the various words they find; 4) after the word list has been completed, the words are grouped according to categories. Students then discuss why certain words are related. 5) A class map of the words is made on a large sheet of paper. The map is discussed, the teacher encourages students to add material to a category or even create a new category. 6) Other new words related to the topic were found after reading the text and then added to the map (Simarmata, 2013).

Thus, the action can be written down in the sequence as follow: a) the students are introduced the topic by drawing a large oval on the whiteboard and then write the topic inside of it. A concept or topic is briefly introduced, and a key word is written on a whiteboard, transparency, or note / table paper. b) The students are asked to think about other new words which are related to the topic. c) The students are asked to draw semantic mapping of the topic based on their knowledge that related to the topic, which was given on a large sheet of paper, then let them to discuss why certain words are related. d) After the word list has been completed, the words are grouped according to categories. Students then discuss why certain words are related. e) A class map of the words is made on a large sheet of paper. The map is discussed, then the students are asked to add material to a category or even create a new category. f) Other new words related to the topic were found after reading the

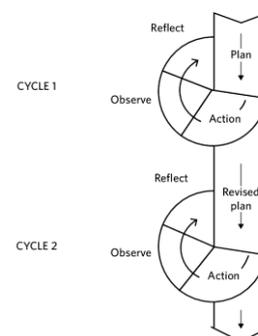
text and then added to the map. g) After that, a reading text is provided to the students to show the relationship between the verbal and visual. As they read, students are decided to add or eliminate from the map. New information is thereby integrated with prior knowledge. h) The last part, the students are asked to answer the questions based on the text to know whether the students really comprehend the text after doing the phase semantic mapping.

Semantic mapping is closely related to reading comprehensions. It helps students not only focus on keywords but also text structure. In addition, it helps students develop prior knowledge by looking at the relationships in a given topic. Semantic Mapping is most effective when used before, during, and after reading. When semantic mapping is done in the pre-reading activity, it will help to activate the students' prior knowledge. The use of semantic mapping in reading can help students to record information obtained from the text. According to Antonacci (2014), using semantic maps helps develop word knowledge, activate students' prior knowledge, and determine how much knowledge is needed.

Previous studies reported that applying semantic mapping technique in teaching reading comprehension gave a positive effect on students' reading comprehension achievement. Therefore, the aim of this study is to determine the improvement of students' reading comprehension in mathematics education study program.

**2. METHODS**

This research was a Classroom Action Research (CAR). Action research is aimed at improving the quality of the process and learning outcomes of a group students. The stages of classroom action research in each cycle consist of four phases, namely, planning, action, observation and reflection. This designed is according to Kemmis and McTaggart (Burns, 2010), as it follows:



**Figure 1** The Classroom Action Research (CAR) design.

The subjects of this research were the students of class RIE mathematics education study program, who took English 1 at Universitas Indraprasta PGRI. The

data were collected using a reading test. There were five indicators tested: identifying topics, finding the main idea, identifying supporting details, making inference and identifying writers' purpose. The results were given in the pre-test, post-test on different texts and analysed using descriptive statistics. The indicator achievement of this result was if the result of student test shows an improvement in every cycle that was 60 percent of students reach the standard passing level was 70.

The data were analysed using the following steps: 1) determining the individual student scores in each cycle; 2) Grouping students' scores into 4 categories, namely 90-100 (A), 80-89 (B), 70-79 (C) and 0-69 (D); 3) Make a percentage of the student's score for each category.

**3. FINDINGS AND DISCUSSION**

This classroom action research was conducted in class RIE Mathematics education study program. This classroom action research was conducted in two cycles to determine how to improve students' reading comprehension of English text through semantic mapping strategy. As for the stages carried out in each cycle are: 1) Planning: At this planning stage, prepare planning, teaching materials, learning media, and prepare test sheets. 2) Applying: In this stage, the word mapping concept is built into students. The lecturer drew a map on the whiteboard as a model to guide students on how to make a map. Then, distribute the text to be read, and the word mapping sheet, as well as the related students to identify words related to the text using the word map sheet. 3) Observe: Observe and complete the implementation of actions to obtain the required data and feel the test results. 4) Reflection: this stage is an evaluation of the learning process.

In the preliminary study, the students were given the reading comprehension test to obtain the data as measurement of students' reading comprehension. The result of students' reading comprehension test is shown in Table 1.

**Table 1.** Results of students' reading comprehension test in pre-cycle

Value	Grade	Number of Students	Percentage (%)
90 - 100	A	0	0
80 - 89	B	2	8
70 - 79	C	8	32
< 69	D	15	60
Total		25	100

The students' reading test result showed as many as 15 (60%) students got D (<69), 8 (32%) students got C (70-79), 2 (8%) students got B (80-89) and no one of students who got A (90-100) or 0 (0%). Based on the results of students' reading comprehension test in pre-cycle as shown in Table 1, it can be concluded that the

students' reading comprehension haven't improved yet. Therefore, the research continued to the cycles.

The implementation of the action in cycle 1, with the following action: 1) Planning: At this planning stage, the lesson plan, teaching materials, Module General English, and prepare reading test sheets. 2) Applying: In this stage, the action as follow: a) the students were introduced the topic about Trigonometry by drawing a large oval on the whiteboard and then write that topic inside of it. b) The Students are asked to think about other new words which are related to the trigonometry. c) The students are asked to draw semantic mapping of the topic based on their knowledge that related to trigonometry which was given on a large sheet of paper. d) After the word list has been completed, the words are grouped according to categories. Students then discuss why certain words are related. e) The semantic mapping is discussed f) after that a reading text is provided to the students to show the relationship between the verbal and visual g) students were asked to find other new words related to trigonometry were found after reading the text and then added to the map. As they read, students decided to add or eliminate from the map. 3) Observing: the students are asked to answer the questions based on the text to know whether the students really comprehend the text after doing the phase of semantic mapping. 4) Reflection: doing an evaluation of the learning process which is related to the result of students' on making semantic mapping which was related to the trigonometry.

After doing the action in cycle 1, the test of reading comprehension was conducted to students. The result of students' reading comprehension test is shown in Table 2.

**Table 2.** Results of students' reading comprehension test in cycle 1

Value	Grade	Number of Students	Percentage (%)
90 – 100	A	3	12
80 - 89	B	7	28
70 - 79	C	10	40
< 69	D	5	20
Total		25	100

Based on the Table 2, it was found that students' reading test was 5 (20%) of students who got D (< 69), 10 (40%) students who got C (70-79), 7 (28%) students who got B (80- 89), and 3 (12%) students got A (90-100). Based on the test results in cycle 1 showed that the students' reading comprehension test had not reached the standard, which was determined, reached 60 percent% grade C (70-79). Therefore, the research continued to the next cycle.

Implementation of actions in cycle 2 with the following actions: 1) Planning: At this planning stage, several revisions were made, namely by adding group work, 2) Applying: a) students were divided into five groups, which consist five students in each group, b) students are introduced to the topic, namely statistics, c) students are asked to make a semantic mapping of statistics in groups based on their knowledge related to statistics on a sheet of paper, d) Students discuss a list of words according to category. Students then discuss why certain words are related. e) After that the reading text is given to students with the topic of statistics to show the relationship between verbal and visual f) students are asked to discuss other new words related to statistics which was found after reading the text and then added to the map. As they read, students discuss adding or omitting from the map. g) students are asked to discuss questions based on the text, this is to find out whether students really understand the text after doing the semantic mapping stage, 3) Observing: observe the implementation of actions to get the data needed and evaluating the students' reading test result. 4) Reflection: the percentage of score achievement in learning reading comprehension use semantic mapping technique.

After doing the action in cycle 2, the test of reading comprehension was conducted to students. The result test is shown in Table 3.

Based on the Table 3, it was found that students' reading test was 0 (0%) of students who got D (< 69), 6 (24%) students who got C (70-79), 8 (32%) students who got B (80- 89), and 11 (44%) students got A (90-100).

**Table 3.** Results of students' reading comprehension test in cycle 2

Value	Grade	Number of Students	Percentage (%)
90 - 100	A	11	44
80 - 89	B	8	32
70 - 79	C	6	24
< 69	D	0	0
Total		25	100

**Table 4.** Results of students' reading comprehension test

No	Value	Grade	Pre-cycle (%)	Cycle 1 (%)	Cycle 2 (%)
1	90 - 100	A	0	12	44
2	80 - 89	B	8	28	32
3	70 - 79	C	32	40	24
4	< 69	D	60	20	0

Based on the test results in cycle 2 showed that the students' reading comprehension test had reached the specified standard, that is, more than 60 percent of the students reached grade C (70-79).

From the data before, it shown that semantic mapping strategy is able to improve students' reading comprehension as evidenced by the results of the student average score above 70 of all students (25 people) on the English text comprehension material exceeding 60%.

From the results of the students' reading comprehension test through the action of implementing semantic mapping strategy, it can be concluded that using semantic mapping strategy can improve students' reading comprehension, in mathematics education study program. It can be seen from the result test from the pre-cycle, cycle 1 and cycle 2.

Based on Table 4, From the results of analysis data above, the percentage of score achievement in learning reading through semantic mapping technique, there was an improvement on the students' reading comprehension test, from pre-cycle, cycle 1, & cycle 2. The percentage of students who got A (90-100) increased from 0%, 12 to 44%. So, the rate of improvement was 32%. The semantic mapping strategy depends on relating new ideas to students' prior knowledge. The purpose of semantic mapping is to give students the ability to use their prior knowledge formally and establish a basis for what they will learn and read.

**5. CONCLUSION**

The application of semantic mapping strategies can improve students' reading comprehension. This can be seen from the results of the reading comprehension test of students who have grades B (80 -89) and A (90-100) there is an increase in the number of percentages starting from the initial cycle, cycle 1 and cycle 2 exceeding 60%.

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