

## PQRST Strategy Based On Semantic Mapping In Teaching Reading Comprehension

Dwi Fitri Arnaz<sup>1</sup>, Flora Nainggolan<sup>2</sup>, Hery Yufrizal<sup>3</sup>  
(Master's Degree Of English Education, University Of Lampung, Indonesia)  
(English Department, University Of Lampung, Indonesia)  
(English Department, University Of Lampung, Indonesia)

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### Abstract

**Background:** The aim of this study was to find out the significant difference of the students' reading comprehension achievement between those who are taught through PQRST strategy based on semantic mapping and PQRST strategy.

**Materials and Methods:** This research was a quantitative research and considered as true experimental. The participants were 32 students in control class and 32 students in experimental class. All participants were high school students at SMAN 3 Bandar Lampung. The data of this research was collected through reading test. After the data were collected, the researcher used independent t test to analyze the data.

**Result:** The data showed that the t-value is higher than t-table with significance level of less than 0.05 ( $4.098 > 2.005$ ), ( $0.00 < 0.05$ ). From the analysis, it is revealed that PQRST strategy based on semantic mapping can make better improvement in students' reading comprehension achievement than the original PQRST strategy.

**Conclusion:** In short, teaching reading comprehension by using PQRST strategy based semantic mapping can significantly enhance students' reading comprehension achievement than the original one since it facilitates students with a means for both activating and improving their knowledge bases regarding the specific topics and word discussed.

**Keywords:** PQRST strategy, semantic mapping, reading, reading comprehension.

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### I. Introduction

In teaching English, there are several skill which is possessed by the students, such as listening, speaking, reading and writing. One of the skills in learning English is reading. Reading is an ability that the students need to master besides the other three skills. Reading is an activity which requires the students to comprehend the meaning of the text well and by reading, it can help the students to get an information. Day and Bamford (1998: 12) who state that reading is the construction of meaning from a printed or written message. The construction of meaning involves the reader connecting information from the written message with the previous knowledge to arrive at meaning at an understanding. Hence, reading can not be separated from comprehension since according to according to Lehr (2013), reading comprehension is the process of simultaneously extracting and constructing meaning through interaction and involvement with written language.

Based on the expected ability that the senior high school students must be owned in reading comprehension, the students should be able to catch meaning or message from the text, find the detail information, understand the vocabulary which is used in the text, inferred meaning from the each paragraphs and find the synonym and antonym based on the vocabulary provided in the text. Contrast with the fact, some students may encounter some problems in reading comprehension, for example, find it difficult to achieve the objectives in reading, such as the students do not master vocabulary well, this is due to lack of reading experience, and exercise. Moreover, the students fail to get the main point from the text because of their inability in reading comprehension. Realizing that understanding text is very important to be achieved by the students in reading skill, those difficulties in understanding reading text should be identified and solved both by the students and the teacher because the difficulties will give negative impact on the students' ability, achievement, and motivation to reach the reading target. Oberholzer (2005) states that difficulty with reading can have an increasingly negative effect on the students' schoolwork and tertiary education, as reading requirements become greater and more extensive.

Some researchers have done the research related with the students' difficulties in reading text; Albader (2007) and Chung (2012). The findings of their researches convey that the students' difficulties in reading

comprehension are vocabulary, grammar knowledge, and reading interest. Based on the researcher's experience during teaching and learning process in class, the majority of the students do not understand the lesson which is delivered by the teacher. This happens because most of the students are required to read the whole text and immediately answer the provided questions. As a result, students do not understand the information in the reading text optimally. The conclusion of the problem above is the teacher does not implement an effective strategy in teaching students in order for the students to be more active and creative and to motivate the students to improve their reading achievements in the classroom. It is proven by the direct observation while the teacher teaches the students in the classroom. According to Joseph (2014:1172) students have difficulty in understanding and deriving the meaning of the text, it is necessary to give explicit instructions to understand it. In this case, difficulties in understanding the text can be caused because students do not know the meaning of the word and also cannot capture the information in the text reading. Therefore, students have difficulty understanding the meaning of words and cannot conclude the information.

To solve all problems above in reading comprehension, a teacher must use an appropriate strategy or learning strategies to minimize to problems that can be occurred in the classrom while reading activity. The PQRST is believed to solve the problems in reading comprehension. As an instructional strategy, PQRST strategy helps students to cope their problem in reading comprehension by using five steps. They are previewing, questioning, reading, summarizing, and testing. Each step of PQRST strategy improves the teaching and learning process which is also aimed to improve the students' reading comprehension. Previewing is the first step of the strategy. This makes the student to activate their background knowledge. The second step is questioning. This step helps the students to focus and create the curiosity toward the text. This motivates the students to read. Reading is the third step. When the students read the text, they already have purpose to read based on the question and this makes them to stay focus and increase their concentration. Then, summarizing, this activity asks the students to recall all the specific information about the text. And the last is test. It helps the students to put the text into their long-term memory. Briefly, PQRST strategy is able to make students become active in reading process, make them focus on the text, attract their motivation, have a long-term memory in comprehending the text and increase their score on the test. In addition, Vazques et al (2006) state that there are some purposes of PQRST: (1) stimulate the students to improve their previous knowledge, (2) motivate the students to actively reflect upon the material before being read in class, (3) prepare the students to participate in reading with an inquiring attitude towards the material, (4) motivate the students to deepen their understanding, (5) encourage the students to ask themselves to do the test to evaluate their comprehension degree of the material, (6) promote the development of students' autonomy in learning, and (7) improve students' final performance result.

PQRST strategy is beneficial to improve students' abilities in reading comprehension and remember material presented in text. Still, there are several disadvantages of PQRST strategy. According to the research conducted by Khoiriyah (2013) states that PQRST strategies have five stages which have different levels of difficulty at each stage, students may experience some difficulties in following each stage. For example, there are some students with a low ability to summarize, because they are weak to recognize the most important point to find the details and lack of vocabulary skill. Only students who have the upper level of knowledge are able to remember important points in the reading text and go through this stage smoothly. In order to make the students more comprehend the text, there must be an additional techniques in teaching reading comprehension, e.g., semantic mapping. In this study, the additional technique colaborates with PQRST strategy to teach reading comprehension is semantic mapping. According to Barcroft (2014, as cited in Nilforoushan, 2012), Semantic Mapping is as "the increased evaluation of an item with regard to its meaning." It can be used as a tool for discovering the conceptual relationship between vocabulary items. Indiarti (2014) states that semantic mapping helps students remember the words easily because it organized in some categories of word and the forms of semantic mapping makes the explanations of the topic is clear and easy to remember. Second, an interesting form of semantic mapping can decrease the boredom. Third, semantic mapping involves the teacher and the learners working together, it inevitably invites the students to be active participants during the class. Fourth, semantic mapping can increase students' motivation to learn new vocabulary. In conclusion, the writer is interest in applying PQRST strategy based on semantic mapping in teaching reading comprehension for senior high school students. For that reason, the objective of this research is to find out whether there is a significant difference of students reading comprehension achievement taught by using PQRST strategy based on semantic mapping and those taught by using PQRST strategy.

## **II. Material And Methods**

This research was a true experimental research and used two classes which were divided into experimental and control classes. The experimental class received treatment using PQRST strategy based on semantic mapping while control class received treatment using original PQRST strategy. The participants of this research were 64 students in which experimental class consisted of 32 students and control class had 32

students. This research used reading test as the instrument and it was administered twice: the first was pre-test and the second was posttest. Pre-test was delivered to identify the students' reading comprehension ability before the treatment and posttest was given to find out the students' reading comprehension ability after the treatment. The reading test consisted of 40 items in multiple choice, the texts used in reading test were narrative texts. In analyzing the data, Independent sample T test was used to prove the hypothesis. In collecting data, the activities started from administering pre-test, giving treatment, and administering post-test.

### III. Result

After collecting the data of students' reading comprehension achievement through the pretest and the posttest, the researcher analyzed the data of students' reading comprehension achievement from both of the classes. The detail of the data analysis of both classes is elaborated below.

**Table 1.** The Result of Student's Pre-Test and Post-Test in Original PQRST and PQRST based on Semantic Mapping Classes

	Original PQRST		Modified PQRST	
	Pre-Test	Post-Test	Pre-Test	Post-Test
Min	27.5	70	15	70
Max	67.5	90	60	97.5
Mean	50.78	79.21	37.5	86.01
Gain	Original: 28.43		Modified: 48.51	

The result indicates that there is an increase from pre-test to post-test scores of students' reading comprehension in both classes. In this case, the mean of students' pre-test scores in the original PQRST class is 50.78 and, in the post-test, increased to 79.21 with gain scores 28.43 which mean there is a significant improvement of students' scores before and after the treatment using original PQRST strategy. Besides, it can be seen that there is an improvement in the minimum and maximum scores of the original PQRST class, from 27.5 to 70 for the minimum scores and from 67.5 to 90 for the maximum scores. Additionally, it is also obtained from the same table that there is an increase in the minimum and maximum scores of the modified PQRST based on semantic mapping class, from 20 to 70 for the minimum scores and from 57.5 to 97.5 for the maximum scores. Moreover, the mean of students' pre-test scores in the PQRST strategy based on semantic mapping class is 37.5 and, in the post-test, increased to 86.01 with gain scores 48.51 which mean there is a significant improvement of students' reading scores before and after the treatment using PQRST based on semantic mapping. To conclude, PQRST based on semantic mapping strategy can be used to increase students' reading comprehension achievement by helping the students comprehend the reading text through organized and systematic stages.

In fact, in order to answer the first research question, independent group t-test on SPSS was used to analyze the difference in reading comprehension achievement between students who are taught through original PQRST strategy and modified PQRST strategy based on semantic mapping. It is a statistical technique which is aimed to test the comparative hypothesis and to examine whether there is a significant difference between the means of two groups which are independent.

**Table 2.** Result of Independent Group T-Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Post-test_Scores	Equal variances assumed	.001	.973	4.098	62	.000	6.7969	1.6585	3.4815	10.1122
	Equal variances not assumed			4.098	61.767	.000	6.7969	1.6585	3.4813	10.1125

It can be seen from the table above that t-value which is higher than t-table with the significance level of less than 0.05 ( $4.098 > 2.005$ ) ( $0.000 < 0.05$ ). Besides, the mean of experimental class (86.016) is higher than the control class (79.219). In conclusion, the hypothesis ( $H_1$ ) is accepted and ( $H_0$ ) is rejected. In short, there is a statistically significant difference between those taught through original PQRST (control class) and those taught through PQRST strategy based on semantic mapping.

#### **IV. Discussion**

Based on the analysis of independent group t-test, there is a statistically significant difference in reading comprehension achievement between students who are taught through original PQRST strategy also those with PQRST strategy based on semantic mapping.

The first group of students (control group) was taught by using the original PQRST strategy in order to improve their reading comprehension. A positive effect of on students' reading comprehension achievement occurs after the students receive treatment using PQRST strategy. PQRST reading strategy stands for Previewing, Questioning, Reading, Summarizing, and Testing on understanding passages and each letter in this name, which is acronym, also indicates practice steps of the strategy (Ciaramelli et al in Aygoren, 2020:1). These five ordinated steps lead individuals to deep analysis so that they can better recall and learn reading passages. The assumption is made since each step of PQRST strategy is based on three basic principles to strengthen memory such as organizing material, deepening material, and bringing back information (Pettersson in Aygoren, 2020:2); thus each step helps the students restore the information by transferring the obtained information from short-term memory to long-term memory and it results in high retention of what the students read. Due to high retention, the students can better recall the information and comprehend it. In other words, PQRST strategy provides a series of organized steps to the students before, during, and after reading process that helps the students become active in reading process, focus on the text, comprehend its content, and recall the information without difficulty due to high retention. To conclude, PQRST strategy effectively improves the students' reading comprehension since it provides five organized steps that favour deep analysis of text and support high retention.

On the other hand, the second group of students (experimental group) was taught by using PQRST strategy based on semantic mapping to help the learning process and improve students' reading comprehension. Besides, the main focus of this research is to find out whether PQRST strategy based on semantic mapping can be used to make better improvement than the original strategy or not. Referring to the result, this research confirms that PQRST strategy based on semantic mapping can make better improvement than the original one. As stated before, PQRST strategy comprises of five stages: Preview, Question, Read, Summarize, and Test and favours deep analysis of a text. Meanwhile, semantic mapping helps students initially to obtain, to organize, and to understand knowledge. Semantic mapping or graphic organizer is a process for constructing visual displays of categories and their relationships (Sasabone, 2018:12). In this case, visual aids like graphic and advance organizers help students develop their connection between prior knowledge and new knowledge. Teacher need to aids students in building prerequisite knowledge or remind them, through review, what they already know before introducing new reading material. Hence, the main purpose of applying PQRST strategy based on semantic mapping is to overcome some difficulties that the students faced during learning process when they were taught by using original PQRST. It is found that there were some students with a low ability to summarize, because they were weak to recognize the most important point to find the details and lack of vocabulary skill. Only students who had the upper level of knowledge are able to remember important points in the reading text and went through this stage smoothly. In conclusion, implementing PQRST strategy based on semantic is considered as a preeminent solution to the problem since semantic mapping provides students with background information on a topic through the use of specific pre-reading strategies such as advance or graphic organizers implemented before reading or studying the topic is likely to assist in schema building. As a result, it enhances vocabulary and reading comprehension.

Additionally, it is confirmed PQRST strategy based on semantic mapping can improve students' reading comprehension achievement better than the original one. In this research, semantic mapping integrates new information with prior knowledge. Semantic mapping relates new information from a text to their background knowledge, thus promoting better comprehension and this phase is done at Preview stage of PQRST strategy. The procedure mostly includes a brain-storming session in which students are asked to voice associations with the current topic or stimulus words from reading passage as the teacher maps (categorises) them on the board. This phase of semantic mapping provides students with an opportunity to engage actively in a mental activity which retrieves stored prior knowledge and see the relationships among words (Murray & Johanson in Morokane, 1994:33). By doing this, the students can better understand the vocabulary and content of the reading material. This assumption is in line with Curtain in Sadeghi et al' (2014:3) that previewing new structures and vocabulary and helping students make connections between the new concepts and the old ones allow them to draw on their background knowledge to aid comprehension. Confirming previous research findings, she mentions that encouraging students to draw meaning from the pictures in the reading or additional or related visuals can also help text comprehension. Furthermore, other stages of PQRST strategy namely Questioning, Reading, Summarizing, and Testing strengthen phases of semantic mapping in reading process since through stages of PQRST strategy, the students focus on studying and prioritizing the information in a way that relates directly to how they are asked to use the information. To conclude, teaching reading comprehension by using PQRST strategy based semantic mapping can significantly enhance students' reading

comprehension achievement than the original one since it facilitates students with a means for both activating and improving their knowledge bases regarding the specific topics and word discussed.

## V. Conclusion

Original PQRST strategy and PQRST strategy based on semantic mapping can be helpful reading strategies that can be used in teaching learning process of reading class. After being taught using original PQRST strategy, students' reading comprehension achievement is significantly improved because it provides a series of organized steps to the students before, during, and after reading process that helps the students become active in reading process, focus on the text, comprehend its content, and recall the information without difficulty due to high retention. In the PQRST strategy based on semantic mapping group, there is also an improvement in the students' reading comprehension achievement. However, from the calculation, it can be concluded that there is a significant difference in the students' post-test mean between original PQRST strategy and PQRST strategy based on semantic mapping group, in which the mean score of students who were taught by using the modified PQRST strategy is higher than those who were taught through original PQRST strategy. This occurs since each step of the modified PQRST strategy has its own task that specifically involves the students actively in the thinking-reading process such as brain-storming (Preview) session, increasing concentration by giving question (Question), learning new knowledge through in-depth analysis of a reading passage (Read), activating and enhancing their knowledge bases regarding specific topics or vocabularies discussed (Map stage), Checking on their acquired knowledge (Summary), and checking the students' understanding of the reading materials by giving a reading test (Test). The organization of a series of steps helps the students achieve several goals namely comprehending reading materials at deep level (semantic), remembering the information of reading materials, and recalling the information.

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