The Effects of Semantic Mapping on Reading Comprehension

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ABSTRACT

The aim of this study is to examine the effectiveness of semantic mapping strategy on reading comprehension of lower secondary school learners. The research questions explored include: (1) Does semantic mapping strategy have an effect on reading comprehension? (2) What are the students' perceptions towards semantic mapping strategy in reading comprehension? The participants of this study were ten form-two students. Test 1(Pre-test), Test 2 (Post-test) and an interview were conducted in this study. Test 1 was administered before students were exposed to the semantic mapping strategy. After two weeks of semantic mapping exposure, Test 2 was administered to examine the effectiveness and improvement of the learners' reading comprehension. Using mean scores, results showed that learners performed better in Test 2 than in Test 1, indicating the effectiveness of employing semantic mapping strategy in reading comprehension. From the qualitative analysis of the interview data, the findings showed that students enjoyed and learned better when semantic mapping strategy was employed.

1.0 INTRODUCTION

Reading leads in an ever expanding multidimensional world and it is through reading that the reader is able to extend his knowledge. The important role of reading skills in learning has increasingly become prominent and benefited many parties in the learning of different domains. Due to the fact that reading includes a wide aspect of skills, this study attempted to particularly focus on the influence of semantic-mapping on reading comprehension.

The interest in investigating the influence of semantic mapping on reading comprehension is due to several reasons. To date, reading is a compulsory skill to be taught in all primary and secondary schools in Malaysia. The learning outcomes for English language curriculum for primary and secondary schools are based on the four macro skills of listening, speaking, reading and writing. These four skills are the core of the curriculum of which the learners use to communicate with people, obtain and present information, respond to the literary texts, and express themselves creatively. Thus, reading as one of the four skills has its own important role in syllabus specification. As stated in English Language Curriculum (2000), reading includes comprehension of a variety of texts to enable learners to adjust the

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speed and style of their reading to suit the purpose and extract both implicit and explicit meaning from the text. Although reading skill remains as one of the most important aspects to be taught in schools in order to enable the learners to grasp the meaning from the academic reading text, there seem to be problems faced by learners particularly in using effective strategies in comprehending a text.

Moreover, learners are expected to read difficult texts as they move to higher levels of their study. The texts are found more complex and difficult to comprehend as they move from a lower level to a higher level. Most of the texts require learners to organise their thoughts and construct meaning from their understanding of the texts. As texts come in various genres and diverse subject matters, they become challenging for the learners to understand the texts. Thus, learners need to be taught on how to organise ideas found in a text and semantic mapping could be one of the techniques that could assist them in constructing meaning and organising ideas (Margosein *et al.*, 1982).

Reading skills are generally taught to learners for instructional purposes through exposure of narrative, expository and descriptive texts. Students are expected to process a variety of texts which differ in content and readability. These varieties of texts make the reading much more demanding and challenging for learners. On this premise, it is important for the learners to move beyond the text and be able to discriminate the main points from the supporting details through the use of semantic mapping strategy when processing a longer and more complicated reading text.

Furthermore, Hayes (1989) noted that some teachers tend to follow teachers' guidebooks too closely, resulting in their teaching style to be heavily teacher-centered while many of the activities in the classrooms tend to focus on rote learning skills. This makes the classroom environment unstimulating and unconducive to learners; a place where learners are unlikely to take pleasure in learning. This teaching style is not appropriate for teaching reading. Real learning takes place when the learners, in a natural setting, take part in activities that require them to use what they have learnt. In this sense, it is appropriate for the teachers to be well equipped with the teaching strategies and methodology. Teachers must know which strategy is suitable for their students' level.

In schools, students are expected to read a variety of reading texts and complete comprehension tasks that follow, but very few teachers could provide adequate explanation on strategic skill, such as the use of semantic mapping, to complete the task (Paris & Oka, 1986). In an observational study, Durkin (1989) found that very little classroom time was spent on instruction of reading comprehension strategies. Durkin (1981) revealed that teacher's guidebooks from basal programs did not provide recommendation for teachers on how to proceed with teaching learners about reading strategies. This is also supported by Dilek and Yuruk (2012), who pointed out that students were less efficient in reading because they did not receive the appropriate training on strategies and therefore, lacked those independent reading strategies and skills.

2.0 LITERATURE REVIEW

2.1 Semantic Mapping in Language Teaching

Semantic mapping has become one of the popular teaching and learning techniques. As a learning technique, it allows the learners to organise their thoughts and ideas in order to remember facts, as well

as to reach a higher level understanding of the subject matter. This technique has intrigued a number of researchers (Sokmen, 1997; Leydesdorff and Welbers, 2011; and Dilek and Yuruk, 2012, among others) particularly on how learners can be trained to understand their lessons by means of association and systematic organisation of ideas. In the area of vocabulary learning, for example, Leydesdorff and Welbers (2011) developed this semantic mapping strategy to enhance vocabulary learning by means of association. They state that semantic map is a graphic arrangement of words which shows how newly learned words and ideas are related to each other within a text. This notion is further supported by Sokmen (1997) who describes semantic mapping as associations of words and concepts which depict a weblike graphic display. According to Dilek and Yuruk (2012), texts pose the relationship between categories of ideas and arguments of the writers. Through semantic mapping this relationship of categories could be visually constructed and displayed in a graphic form. This means semantic mapping technique is a powerful tool of enhancing learner's understanding of words and concepts by means of association.

Many researchers (Dilek and Yuruk, 2012; Leydesdorff and Welbers, 2011; Amoush, 2012 among others) believe that excellent students are those who have better learning strategies to understand the texts they read. There seems to be some link in their reading skills and the semantic mapping they develop either consciously or unconsciously. Excellent students generally have the capability to graphically schematise the arrangement of the facts in a text in many different forms, such as in hierarchical order, chronological order or in sequential order. These mapping skills enable them to comprehend as well as remember the facts in the text. A study by Horton *et al.* (1993) reveals that a higher level of comprehension was observed for students who were able to prepare some sort of semantic mapping while reading academic texts due to the fact that they possess the skills of identifying key terms. Since students need to specify the hierarchical relationships and create valid links among concepts, it is a significant predictor of text comprehension and conceptual learning from the text.

Semantic mapping is beneficial in developing students' conceptual understanding and knowledge contained in the texts. The systematic selection of key concepts by the students and linking them to other related terms which are more detail would allow students to capture a deep level of understanding on the subject matter. Starr and Krajcik (1990), for instance, highlight that educators can use graphic and semantic organizers to enrich activities and aid the learners to the conceptual development. The semantic mapping process itself is an opportunity for the teachers to consider the importance of the individual concept and the organization of the ideas. Research by Baker, Simmons and Kameenui (1995) and Bos and Anders (1987) acknowledge the effectiveness of using semantic maps in teaching vocabulary. As reported by Bos and Anders (1987), who examined the effects of interactive vocabulary instructional techniques with a traditional vocabulary acquisition, students who were in the semantic mapping group performed better than those who were in the traditional method. It clearly indicates that students performed better using semantic map. Moreover, Margosein, Pascarella and Pflaum (1982) discovered that semantic mapping was a better technique on vocabulary acquisition. They further explained that semantic mapping assists students to relate their background knowledge to the new words and visualise the conceptual connection among words.

Gardil and Jitendra (1999) examined the effects of story mapping/semantic mapping procedure on students with learning disabilities. The result indicated that all the students in the study had improved reading comprehension scores, with a mean increase of 56% from baseline to generalization. The semantic mapping was used to engage the students to recognize explicit and inferred information. In

order to maintain the consistency of instruction, explicit texts were used where students were required to complete the story map/semantic map. Results showed significant improvement in students reading comprehension skills when semantic mapping was incorporated as the learning activities.

Another study was conducted by Boulineau *et al.* (2004) on semantic and story mapping strategies in reading comprehension. The learners were required to read and complete the web organizer. Some questions were asked by the teacher during baseline, and followed by an intervention session. In this session, the teacher gave instructions on the completion of the maps. During the final exam, students continued to use maps without the instruction from the teacher. This study showed that all students performed better in the intervention phase and were able to continue to achieve high levels of performance for the final examination. Similarly, Taylor *et al.* (2002) investigated the efficacy of three conditions on the literal and inferential reading comprehension of five elementary students in third through sixth grade. The three conditions were (1) the use of story mapping/semantic mapping, (2) a self-questioning strategy and (3) no intervention given. The results indicated that students scored higher in story mapping and self-questioning strategy compared to the 'no intervention' condition. Furthermore, Onachukwu *et al.* (2007) examines the effects of a story mapping procedure on the reading comprehension skill of eighth grade students at a middle school. The researchers used two conditions in this study; baseline and intervention through story mapping procedure. The results indicated that the use of the story mapping procedure improved and enhanced the students reading comprehension skills.

Having discussed the past studies, the following research questions of this study are delineated:

i.   Does semantic map have an effect on reading comprehension?

ii.   What are the students' perceptions towards semantic map in reading comprehension?

3.0 METHODOLOGY

3.1 Subjects

This research was conducted in a secondary school in Malaysia. The respondents comprised ten students from a Form Two class aged between 14 and 15 years old. The levels of the students' English Language Proficiency were based on their English Language achievement in their Form One final examination. Students who scored within 40%-60% and received grade C and D in the final year examination were chosen. There were two assumptions of selecting students based on the final year examination.

(1) The students who scored between 40%-60% in the examination demonstrated that they were in the intermediate level and this group of learners' level of English language proficiency could still be improved.

(2) The students who scored less than 40% were not chosen because it was assumed that they could have language difficulty in learning or that they might be slow learners.

3.2 Instruments

A)   Reading Comprehension Test
There were two reading comprehension tests used in this study.

Test 1 (Pre-test): Reading Comprehension without semantic mapping. It was conducted before students were exposed to the semantic mapping strategy. In this test, students were required to answer reading comprehension questions on the reading text given. In this phase, they were not exposed to any reading comprehension technique and thus, did not receive any prior training in using semantic mapping to comprehend the text.

Test 2 (Post-test): Reading Comprehension with semantic map. The researcher exposed the group of the students to the semantic map strategy. Students were, firstly, asked to read the passage, after which they were required to fill up the semantic map before attempting the reading comprehension questions. By doing this, students could easily understand what they were reading and how to answer the questions. The students were exposed to this technique for two weeks. This test was administered in which students were required to answer the reading comprehension questions with the help of semantic map.

The questions used in these tests were the same except in Test 2 where respondents were aided by the semantic mapping. Semantic mapping assists the respondents to focus on the text structure and show the relationships between ideas in the text. The question papers were divided into two sections which carried 50 marks. The total marks were converted to 100%. Students were given 40 minutes to complete the test.

B)   Interview

The interview was in the form of structured interview questions which were designed to elicit data regarding students' perception on using semantic mapping strategy in reading comprehension. It was conducted face-to-face to allow the researcher to elicit valuable information about what they thought and how they felt about reading comprehension through semantic mapping. According to Vacca and Vacca (1993), interview provides a rich source of information because it strengthens information from other informal measures of student performance. In addition, interviews may reveal information that cannot be gleaned from more traditional methods.

4.0 FINDINGS

The effect of semantic mapping on reading comprehension was identified through the comparison of results between Test 1 (reading comprehension) and Test 2 (reading comprehension with semantic map). The findings of Test 1 and 2 are summarized in the table below. This helps to answer the following Research Question 1:

Does semantic map have an effect on reading comprehension?

Table 1 Results of Test 1 and Test 2

Subject	Test 1 (reading comprehension)	Test 2 (reading comprehension with semantic map)	Margin of Improvement
Student 1	45	55	+10
Student 2	40	55	+10
Student 3	55	60	+5
Student 4	45	55	+10
Student 5	40	50	+10
Student 6	60	75	+15
Student 7	50	55	+5
Student 8	65	80	+15
Student 9	60	75	+15
Student 10	55	60	+5
Mean	51.5	62	+ 9
Standard Deviation	8.835	10.593	

Table 1 shows the results of Test 1 and Test 2 which indicated that there was a marked improvement in the overall mean score between Test 1 and Test 2 from 51.5 to 62. This suggests that reading comprehension is enhanced with the aid of semantic mapping task given to the students. The data also showed that all the subjects improved in their performance with the margin of improvement ranging from 5 to 15 marks.

The minimum score obtained in Test 1 was 40 while Test 2 was 50. The maximum score obtained by respondents in Test 1 was 65 while Test 2 was 80. These results showed that Test 2 had greater value than Test 1, indicating a better performance of students in reading comprehension after the semantic mapping treatment. It clearly demonstrates the effectiveness of semantic map in reading comprehension, assisting respondents to link the ideas and information clearly. Moreover, it assisted the respondents to distinguish the relationship, understand the organization, connect ideas, and make abstract ideas concrete. In other words, respondents were directly taught to represent their thinking and comprehension through semantic map.

4.1 Students' Perception of Semantic Mapping Activities

The interview data were analysed in order to find answers to the following Research Question 2: What are the students' perceptions towards semantic map in reading comprehension?

The data of this study were collected through an interview to investigate students' perception on semantic map. The researcher interviewed all the 10 students to obtain the necessary data after the administration of Test 2. Each student was interviewed for approximately 5 to 10 minutes. Some

selected excerpts of interview were highlighted for the analysis purposes. Students were asked eight questions altogether during the interview. The following analyses generally showed that students had positive perception of semantic mapping technique in relation to their reading comprehension performance.

The first question related to students' perception of semantic mapping and how they searched for ideas and information in the text. The following question was asked: *Does semantic mapping help you find the ideas from the reading text?* All participants agreed that semantic mapping assisted them to obtain the ideas and information easily from the text. In addition, the participants mentioned that they could retrieve the ideas and put these ideas in their own words. In contrast, before implementing the semantic mapping technique they revealed that it was very difficult for them to identify the ideas from the text. They agreed that semantic mapping had helped them in identifying the ideas easily and pointed out that the reading comprehension was no longer difficult for them. Below are some examples of the students' responses to the interview.

Excerpt 1

Respondents	Question 1: Does semantic mapping help you find the ideas from the reading text?
Students 2	"Semantic map helped me in getting ideas"
Students 5	'Yes teacher….It makes me get the idea faster'
Students 6	'haaa……yup… easy to get the idea from this map and able to answer the reading comprehension questions'

The same views have been reported by Pehrsson and Denner (1989) who stated that semantic organizers seemed to be helpful for students who had difficulty in learning. These researchers also highlighted that many students who had been successful with traditional approaches had also demonstrated greater advances when they applied semantic organizer to their study. This clearly proves that semantic mapping is a useful tool for students.

In response to the second interview question that is "*How was the learning process during the implementation of this new technique?*", all the respondents acknowledged that the learning process was very meaningful and interesting. They commented that semantic mapping is a useful method and assisted them to focus on key vocabulary that highlights the main ideas of the text. They also highlighted that the learning process was fun and attractive as they were required to write the answers in the boxes provided. It was unusual for them and they enjoyed doing it because this method is different from the conventional method. Indeed, it helped them to be creative in identifying the answers. Furthermore, the semantic mapping enabled them to complete the network as the map was presented in an organized structure. The following excerpts demonstrated that students enjoyed completing their reading comprehension task.

Excerpt 2:

Respondents	Question 2: How was the learning process using semantic mapping?
Students 1	"it is fun teacher, and the ideas are organized clearly"
Students 3	'I enjoyed my lesson today "
Students 7	'Teacher ….next time we do more exercises on this semantic map…. hmmm…..because it's nice"

The respondents were motivated to attempt the reading comprehension task when it was organized through semantic mapping. Since the text presented information in an organized structure, the students felt that they could acquire the lesson easily. This is supported by Taylor (1980) and Starr and Krajcik (1990) who stated that learners were able to uncover the top-level structure and were able to organize ideas in ways that more or less matched the pattern used to convey the information, and as a result they could grasp the subject matter more readily.

Students were also asked the subsequent question "*Does semantic map improve your comprehension skills?*" The weaker participants expressed that they were able to improve their comprehension skill through semantic mapping. They mentioned that formerly they had no idea on how to organize their points, which in turn, caused some difficulty for them to comprehend the text. Prior to this, the reading comprehension questions were found difficult and daunting for them without the help of a semantic map. It was difficult for them to find the relation between one paragraph to one another and the cause and effect relation of the ideas. This makes them bored and demotivated to attempt the reading comprehension task. But once the semantic map technique was implemented in reading, comprehension seemed to be less difficult. In fact, their scores increased in Test 2, indicating that they were able to grasp the ideas in the text. This can be seen in the excerpt below.

Excerpt 3

Respondents	Question 3: Does semantic map improve your comprehension skills?
Students 4	"yah…… I got more marks in Test 2"
Students 8	'Yes teacher….I can put words into sentences now "
Students 9	'hmmmm it improves my skill…I can easily identify the main ideas, effect and cause of the ideas in reading comprehension. Now I can answer longer reading text easily.

Semantic mapping was an effective tool that helped learners assemble information and trace the relation among the information. This technique assisted learners to identify the cause and effect relation of the contents. According to Pehrsson and Denner (1989), semantic organizers take the form of episodic organizers which represent change and it can be a powerful tool to aid the comprehension of changes, such as those found in stories, causes-effects and development of ideas.

Another question posed during the interview was as follows: *Do you feel you learn better through this semantic map technique?* All respondents agreed that they learnt better through this technique. They felt that they could grasp the ideas in the text well and their comprehension skill was enhanced through this strategy. Interestingly, they managed to obtain the answer easily. Apart from that, they also admitted that semantic mapping encouraged them to retrieve words stored in their mind. It enabled them to construct meaningful sentences based on these words. They agreed that semantic mapping had allowed them to brainstorm the ideas and helped them get the overall idea about the text. Indeed, semantic mapping had stimulated all the respondents' thinking skills and improved their reading strategies.

Excerpt 4

Respondents	Question 4: Do you feel you learn better through this semantic map technique?
Students 10	"yes of course…its easy and I learn the strategy to deal with reading comprehension"
Students 5	'Teacher…. I enjoyed my lesson I guess and its brainstorm my ideas"
Students 7	Ohhhh .. yes! I'm able to answer reading comprehension even though its long….

These respondents learnt semantic mapping strategy to handle the reading comprehension. Once the learners were able to acquire the proper strategy, they were able to improve their reading comprehension skill. According to Canney and Winograd (1979); Garner and Kraus (1982) and Paris and Mayer (1981), one of the major differences between good and poor students was the gap between their strategies and skills. Good students employed integrated strategies while less successful students focused on isolated skills. Thus, it is important to teach and engage the learners with a proper strategy.

One of the interview questions posed was whether the use of semantic mapping strategy in reading comprehension was troublesome for the students. Respondents stated that at first they were confused and did not know how to complete the network. Possibly, it was unusual for them as they were familiar with the conventional method. However, once they were exposed to this method they felt at ease to complete the task and were enlightened by the new strategy. Furthermore, the respondents expressed that it would be troublesome if they had not been exposed to this useful method. Respondents also commented that they were able to reduce their anxiety when attempted the reading comprehension questions. Little by little it enhanced their comprehend skill.

Excerpt 5:

Respondents	Question 5: Is it troublesome to use semantic map
Students 2	"Easy to use, teacher……"
Students 3	'not difficult… its wonderful"
Students 4	'errr…. Last time I'm scared to answer reading comprehension….hmmm now no more teacher…"

Before implementing the semantic mapping technique, students faced some problems in identifying the main ideas especially at the beginning of the reading attempt. This was also supported by Brown & Smiley (1977) who noted that the problems involved helping student acquire the main ideas from the text passage. The ability to isolate the central ideas of a content passage, like other learning strategies, developed gradually. Once the students knew how to identify the ideas, they would easily answer the comprehension questions.

When inquired about their perception or opinion of the semantic mapping strategy, participants agreed that the implementation of this technique had been very effective in making their learning fun and enjoyable. Although this technique was new to them, they admitted that semantic mapping enhanced their thinking skills and helped them answer the comprehension questions easily. They highlighted the fact that they were able to understand the reading text better. Additionally, they found that this method had helped them explore their background knowledge. It also increased their awareness in reading comprehension skills.

Excerpt 6

Respondents	Question 6: What are your perceptions/ opinions regarding this new technique?
Students 6	"Semantic map simplified the texts and helped me in getting facts easily"
Students 9	'hmmmm…. I understand better, it activates my background knowledge"
Students 6	'haaa…… now I can think well and get the answers easily, because of the organization of semantic map.

These respondents' views implied the importance of prior knowledge in education. Semantic mapping had helped the learners to retrieve the words and activate the background knowledge. The first step in the learning process was to help students activate their prior knowledge in an organized form. Students were encouraged to retrieve their prior knowledge which served as a basis for understanding the new information they were about to learn. Rumelhart, (1984) stated that as new information was presented in the text, students would match, analyse and evaluate its new and old meanings to make a more complete understanding of the text.

The respondents were also asked whether the strategy has given them some benefits in gaining knowledge and understanding texts. They noted that this strategy had further enriched their reading comprehension skills. It also enabled them to organize the ideas into meaningful sentences structures. Meanwhile, the weaker respondents stated that they managed to acquire new words and phrases. They also proudly admitted that they could complete the reading comprehension questions easily and were able to write correct sentences. All respondents agreed that further implemented of this technique could help them to acquire more knowledge as evident in the following excerpt.

Excerpt 7

Respondents	Question 7: What are the benefits you gain through this technique?
Students 2	"Semantic map helped me learn more words"
Students 1	"…. Now I can answer the questions on long and difficult text.."
Students 6	"hmmmm… get the more idea and more knowledge"
	"Semantic mapping is a kind of strategy to become a good learner"

The basis of this semantic mapping technique was to turn the information into meaningful idea through integrating the new information with prior information that had been stored and structured. This view was supported by Anderson & Pearson (1984) who highlighted that learners were not passive, but rather reactive and proactive. They would anticipate the information and activate appropriate schemata to receive and transform the incoming information into meaning. The scholars also stated that schemata functioned during learning by filling in the "empty slots" that might be thought of as a set of expectations onto which learners map the presented content.

The final question asked was related to the respondents' comments and opinions about semantic mapping strategy. They commented that this teaching strategy should be continued. They mentioned that it was very useful for the learners as it developed and motivated the learners to learn. It also could be used as an effective teaching technique which could facilitate the teaching learning process. As evident in the excerpt that follows, all respondents agreed that this technique was very meaningful for those who had difficulty to attempt the reading comprehension. Respondents also noted that this was an interesting and fun strategy. All of them were satisfied to use this strategy.

Excerpt 8

Respondents	Question 8: What are your comments regarding this technique?
Students 8	"Semantic map … make me able to answer reading comprehension easily. I will use semantic mapping to organise the ideas. "
Students 3	"its fun and interesting … I have learn better through this technique and will continue using it."
Students 7	'hmmmm it's a useful and meaningful technique"

According to the Pehrsson & Robinson (1985) one of the more direct ways in which the patterns used in organizing information can be made explicit to students is through the use of semantic organizer. Moreover, this is supported by the students' claim that they learned better through this strategy. The graphic representation of content information via semantic organizer could also help teachers and learners improve their teaching and learning process.

5.0 DISCUSSION

The previous section discussed the results and findings of Test 1 (Pre-test) and Test 2 (Post-test) as well as the informal interview on students' perception towards semantic map strategy. It clearly highlighted that the pre and post-test as well as the interview data indicated that the semantic map strategy was an effective tool for reading comprehension. As mentioned earlier, this strategy enhanced students' comprehend skill. Students became engaged in the reading comprehension task easily through the semantic map.

It is generally accepted that students learnt comprehension skill easily if they know how and what strategy to use in reading comprehension. Reading comprehension will be easier if the students know how to use the strategy. Good students would become aware of what they are reading, and know why they are reading and exploit some useful strategies to scrutinize their comprehension. On the contrary, the weak students seem to attempt the reading comprehension skill without knowing what strategy to use.

As discussed earlier, it has been proven that learners can attempt reading comprehension task based on contextual learning. In short, the use of semantic map is generally known to help learners to develop their reading comprehension skill. Learners are able to attempt the reading comprehension questions as they are able to acquire and brainstorm the ideas. The semantic map indirectly trains the learners to brainstorm for idea and in turn to construct sentences.

Learners who can grasp the technique efficiently and apply the reading strategies in their learning process can be a proficient reader. This is explained by Aebersold & Field (1997) and Pressley & Afferbach (1995) in their studies which stated that good readers use different types of strategies, such as "going through the text before reading" and "utilizing contextual clues". Other strategies employed include "identifying specific and relevant information", "relating ideas in text to one another to understand the text as a whole" and "activating background knowledge to interpret text". In addition, strategies such as "predicting information from the text", "determining similar or exact meaning of words not understood or recognized", "monitoring text comprehension", "paraphrasing", "repeating", "making notes" and "self-questioning" were also used by readers.

On the other hand, Bos and Vaughn (1998) claim that even though poor readers were able to interpret words correctly; they rarely use the meaning of the text to relate what is being read to their previous knowledge, or examine their own comprehension. Thus, semantic map plays an important role to improve reading comprehension skill. Lower secondary learners were able to engage reading comprehension text easily.

Instruction through semantic mapping also facilitates text comprehension. Comprehension is an active process in which readers understand what they read in accordance with what they already know

about the topic, thus building bridges between the new and the known Dilek and Yuruk (2012). Semantic map triggers the brain to retrieve the prior knowledge of the topic and use this in reading. An opportunity to see graphically the concepts they are retrieving helps the students relate the new information to what they already know about the topic, thus promoting better comprehension.

In this study, the respondents claimed that semantic map activate their prior knowledge. Many linguists (Carrell, 1998; Koda, 2004) granted that the activation of prior knowledge will help readers to attain better comprehension of the text to be read. This is because this strategy will facilitate readers in predicting and interpreting the text content by relating the new information to their prior knowledge. Therefore, the implementation of semantic map in reading will be more efficient and the readers will be able to attempt the reading comprehension easily.

Moreover, semantic map improved students' evaluation and analysis skill. Learners were able to analyse the reading comprehension critically. Most of the learners do not read critically and this leads them to face difficulty in evaluating and analysing the texts they read. Text evaluation or analysis requires readers to evaluate and judge what is read in relation to the knowledge which the readers have formed from his past experience (Stauffer, 1980). According to Gardner and Alexander (1988), students often avoid evaluating and analyzing texts since it takes time and efforts to do so. However, according to these researchers the problem could be avoided by implementing semantic map in reading comprehension. Semantic map helped students to evaluate and analyse texts. They were able to read longer texts without anxiety.

Furthermore, students revealed that semantic map strategy can be used easily for any reading task. They felt that this strategy was appropriate to use in order to answer reading comprehension task. Baker and Brown (1984) stated that it is not enough to simply know the appropriate reading strategies. Students must also be able to regulate or monitor the use of such strategies to ensure success in reading comprehension. Meanwhile, Anderson's (2003) study also seems to specify that strategic reading is not only a matter of knowing which strategies to use but in addition, the reader must know how to apply strategies successfully.

Malaysian language classrooms constitute a mixture of poor and good readers. Teachers should play their part in handling strategy. Teacher should use proper strategies to teach the learners. Educator should not expect learners to employ any strategy by themselves. Teaching and learning process should be carried out with a proper strategy and technique, and this will lead to an effective teaching and learning process to.

The findings of this study show that this technique can be utilized as a better teaching technique among various methods of teaching reading comprehension. The evidence of the effectiveness of this technique can be found on the effects and margin of improvement shown by the Test 2 (Post-test). Roughly, all respondents show some improvement in Test 2 (Post-test) compared to the Test 1 (Pre-test). A greater improvement in Test 2 (Post-test) implies that the semantic map is an effective tool for teaching and learning for reading comprehension.

In summary, the results of this study show that the implementation of semantic map gives huge impact not only in students' scores but also in having greater awareness of reading comprehension strategy. All students agreed that this strategy gives them self-confidence to answer any reading comprehension. They stated that this strategy has instilled the confidence in their performance and now they acknowledged that they were able to answer challenging reading comprehension questions.

6.0 CONCLUSION

This study conclusively shows that reading comprehension using semantic map is a powerful tool for learners. The findings reinforce the importance of semantic map in reading comprehension. Moreover, this finding demonstrates the benefit of using this strategy in reading comprehension. On top of that, teachers can improve their teaching skill in reading comprehension and it does prove that this strategy helps them a lot to conduct the reading comprehension lesson. It also instil positive attitudes towards teaching reading comprehension. Thus, teachers should play critical role to encourage learners to read accurately and use proper strategy when attending to any reading comprehension task. In this manner, it is hoped that this research has given an insight to teachers, learners and researchers in handling and improving the reading comprehension strategy.

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