

READING COMPREHENSION SKILLS WITH SEMANTIC MAPPING AND K.W.L. STRATEGIES

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Abstract

There are so many activities that can be done to make the students understand about the text that the students read. One of the activities is using semantic mapping. Semantic mapping: mind mapping, idea mapping, word webbing, etc. is a term which describes a variety of strategies designed to show how key word or concept are related to one another through graphic representations. Mapping is also an effective technique for teaching reading skill and textual patterns of organization.

This study investigated the effectiveness of semantic mapping and K.W.L. strategy, on reading comprehension in English. Description of the K-W-L technique; K=what you know; W= what you want to know; L= what you have learned. It is specified for reading comprehension passages because reading skill is not easy matter for students. So, English learners are instructed on how to apply semantic mapping strategy as well as K.W.L. strategy to their reading process in pursuit of gaining reading comprehension skill.

Keywords: semantic mapping, reading comprehension, K.W.L. strategy

1. Introduction

Reading is one of the language skills. According to Harris, (1980: 39): Reading is a form of communication. Information and ideas are exchanged between writer and reader in the act of communicating. The writer expresses his thoughts on paper with language, using whatever skills and styles he has develop personally. Reading is referred to as the gateway to all other knowledge. In a globalized world, reading serves as a fundamental medium for information transmission and communication. Reading improves our cognitive capacity, sharpens critical thinking ability and enhances problem-solving skills. Stanovich (1986) pointed out that good readers will read more and thus read better, whereas poor readers read less, and in turn obstruct further growth in reading ability.

Reading comprehension is the ability to read text, process it and understand its meaning. An individual's ability to comprehend text is influenced by their traits and skills, one of which is the ability to make inferences. If word recognition is difficult, students use too much of their processing capacity to read individual words, which interferes with their ability to comprehend what is read.

There are a number of approaches to improve reading comprehension, including improving one's vocabulary and reading strategies.

Most students who fall behind in reading skills never catch up with their peers become to fluent readers. They fall further and further behind in school, become frustrated, and drop out at much higher rates than their classmates. They find it difficult to obtain rewarding employment and are effectively prevented from drawing on the power of education to improve and enrich their lives.

Using semantic mapping or clustering is a good way for reading comprehension. Since readers can easily be overwhelmed by a long string of ideas or events, teachers need to guide students to group ideas into meaningful clusters. Making such semantic maps can be done individually or in group.

Beside the semantic mapping strategy, students will be taught a reading comprehension technique, which is called K-W-L technique. K stands what you know, W stands for what you want to know, and L stands for what you want to learn. The goal beside this strategy is students will utilize the K-W-L comprehension technique when they read to understand what they have read and they will be able to explain the three steps to the K-W-L reading strategy

2. Reading Comprehension Strategy

Several studies about teaching reading strategies have been performed. Strategic reading involves the use of cues to decode the message of the written word. Reading the words of a composition is one thing, but comprehension is the vital point for the reader. Reading the words is of no benefit if he/she does not comprehend what is being read.

According to Masters, Mori, and Mori (1993) there are four basic variables students need to follow in order to gain reading comprehension skill. The four basic variables include:

1. Text--the aspects of the material to be read which will determine the memorization, and later retrieval (e.g. Vocabulary difficulty, sentence structure, writing style).
2. Task--the reason for reading (for fun, an examination, to answer questions at the end of a chapter)
3. Strategies--the activities the learner uses to commit the information to memory and recall it later. Two strategies include fix-up strategies (strategies employed by the learner to avoid comprehension failure) and study strategies (other approaches to text processing such as note taking, skimming, underlining, outlining, summarization, and self-questioning).
4. Characteristics of the learner--background experience, reading skills, interest, motivation, experience of the subject area.

All these facts must be taken into consideration in order to effectively train learners to be successful. Use of strategies and knowledge of when to use them are two vitally important aspects of effective learning.

How are reading strategies effectively taught? According to Janzen (1996), the "transactional" approach to strategy instruction involves paying particular attention to the following: content area (one of interest and a part of the regular reading program), direct explanation, teacher modeling, feedback, understanding that strategies may be used for various subject areas and tasks, and strategy use develops over the long term." With these concepts in mind, a teacher can effectively plan and implement the learning of strategies to ensure the comprehension of reading materials.

One of the useful strategies for reading comprehension is to identify the purpose in reading. Teachers need to guide students to identify the purpose in reading to get information, to follow instructions to perform a task, for pleasure, amusement and enjoyment, to keep in touch with friends and colleagues, to know what is happening in the world, to find out when and where things are, and for being curious about a topic. In other words, clear identification of the purpose in reading something is a must for efficient reading. By doing so, we know what we're looking for and we are not distracted by other information. Therefore, it is necessary for English reading teachers to make sure students know their purpose in reading something.

Using semantic mapping or clustering is a good way for reading comprehension. Since readers can easily be overwhelmed by a long string of ideas or events, teachers need to guide students to group ideas into meaningful clusters. Making such semantic maps can be done individually or in group. There are several types of semantic mapping such as spider map, series of events chains, continuum/scale, compare/contrast matrix, network tree, and cycle.

Beside the semantic mapping strategy, students will be taught a reading comprehension technique, which is called K-W-L technique. K stands what you know, W stands for what you want to know, and L stands for what you want to learn. The goal beside this strategy is students will utilize the K-W-L comprehension technique when they read to understand what they have read and they will be able to explain the three steps to the K-W-L reading strategy.

3. Semantic Mapping Method

Semantic mapping is a technique developed by Johnson and Pearson (1978) and has its roots in cognitive psychology. It assumes that students come to class with some fragmentary knowledge or even misconceptions about the topic the teachers are going to teach. Semantic mapping is indeed a graphic representation of one's ideas and attitudes toward a key concept and is used to categorize and connect the jumbled stuffs.

Semantic mapping is a visual strategy, which shows the major ideas of a certain topic and how they are related (Raymond C. Jones, 2006). In teaching reading, semantic mapping helps teachers to get students to focus not just on individual details but also on the structure of a text and helps in the conceptualization of paragraph and short essay structure. It displays the interrelationships among ideas, and the components of the story.

Sinatra & Pizzo (1992) stated that mapping is an active reading process that stimulates lazy readers to think more deeply about the ideas in the text because they must figure out relationships between ideas and the hierarchy of their organization.

A large body of literature supports that prior knowledge of text-related information strongly affects reading comprehension. The brainstorming phase of semantic mapping (intended to activate the readers' prior knowledge) gives the teacher an insight into the schemata of each of his/her students, thus revealing the amount of interest, level of readiness, gaps, misconceptions, and errors (Pearson & Johnson, 1978). Typically, in brainstorming, ideas from one student will trigger ideas from other students "in chain reaction thought process" (Heimlich & Pittelman, 1986, p. 34). Other advantages of semantic mapping are: motivating students of all grades, integrating thinking with reading, integrating assessment with teaching, and making judgments concerning the appropriate instruction needed.

In order to enhance the comprehensibility of reading passages, Curtain (1997) proposes techniques such as advance organizers, story mapping, story grammars and semantic mapping as pre-reading strategies. She argues 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" (p.1).

Semantic mapping has been shown to be a beneficial learning/teaching technique for native speakers of English at all grade levels and its value for English as a Foreign Language has also been acknowledged. Studies by Crow and Quigley (1985) and Brown and Perry (1991) found that semantic processing was an effective vocabulary learning strategy and can as well improve the reading skills of ESL students.

Some formal definitions about semantic mapping can be given, such as:

Antonacci, (1991:174); Semantic mapping is "a visual representation of knowledge, a picture of conceptual relationship"

Sinatra, Stahl-Gemake, and Berg, (1984: 22),"a graphic arrangement showing the major ideas and relationships in text or among word meanings"

Johnson, Pittelman, and Heimlich, (1986:779)"a categorical structuring of information in graphic form".

Harvey (2000) mentioned that semantic mapping strategies are valuable instructional tools. Unlike many tools that just have one purpose, semantic mapping is flexible and endless in application. One common trait found among semantic mapping strategy is that they show the order and completeness of a student's thought process where strengths and weaknesses of understanding become very evident.

Jones R.C, (2006) stated that semantic mapping could be a helpful reference for students to use in clarifying confusing points as they are reading. Once students are familiar with the nature of semantic maps, they can create their own as during reading or post reading activity.

However, a personal classroom illustration is probably the best way to gain an understanding of semantic mapping. How to get students to focus not just on the individual details but also on the structure of a text. Semantic mapping might help in the conceptualization of paragraph and short-essay structure.

4. Applying Cognitive Strategy in Reading Comprehension through Semantic Mapping

A Semantic Map is one type of graphic organizer. It helps students visually organize and graphically show the relationship between one piece of information and another. This strategy has been identified by researchers as an excellent technique for increasing vocabulary and improving reading comprehension. As a pre-reading activity, Semantic Mapping can be used to activate prior knowledge and to introduce key vocabulary words. As a post-reading activity, words, categories, and new concepts can be added to the original maps to enhance understanding. If the strategy is used during both pre-reading and post reading instruction, it is suggested that different colored pens be used as ideas are recorded.

Procedure:

1. The teacher decides on a topic for instruction and the new words that are important to be taught. The topic or concept is briefly introduced, and a key word is written on the chalkboard, overhead transparency, or chart paper.
2. Students are asked to think of other words that come to mind when they read the key word. It is also appropriate for the students to write down a list of these words to be shared with the class.
3. The students share their recorded words. If any of the teacher's "new words" are not suggested, the teacher presents them for discussion.

4. After the list of words is completed, the words are grouped by category. Students discuss why certain words go together. Category names are assigned.
5. A class map of the words is created by putting the information on a large sheet of paper. The map is discussed. At this time, students are encouraged to add items to the categories or even to suggest new categories.
6. As other new words that relate to the topic are discovered through the reading of the text, additions are made to the map.

Note: In the beginning, the teacher may choose to write down not only the key word to be considered but also some categories. As the students become more adept at using this strategy, the categories will be determined by the class.

Students still use brainstorming strategies in semantic mapping; however this strategy is organized and controlled by the teacher. As students offer their personal ideas about a topic, the teacher writes these ideas on the board. In brainstorming, all ideas are written on the board. In semantic mapping, ideas are organized on the board under headings. The diagram represents the information elicited from the students but created in such a way that qualities and relationships are evident. During active reading, students may also use semantic maps. As they read, they include new information on their maps. During postreading, students can use their maps as a review of information gained.

There are several steps to creating a map. Students need to learn these steps through explicit instruction and practice. The teacher will first need to explicitly teach the mapping process by modeling and thinking aloud as each step is completed. This may be followed by...

- Shared practices, in which the teacher leads the creation of a map with students offering suggestions
- Teacher-guided small group work
- Collaborative group practice
- Individual use of mapping.

Steps for Concept Mapping

- Choose a tier two word or concept from the topic being studied or introduced in text.
- Write the word in the center of the map.
- Under the "Examples" category, brainstorm words that relate to or describe the new word. This will likely include synonyms.
- Under the "What is this?" category, have students categorize the word. This might be similar to the examples, but as students mature it might include part of speech, application, or typical use or genre.

- Under the "What is it like?" category, students fine tune by offering descriptions that focus on particular characteristics of the word.
- Under the "Non-examples" category, students further clarify by detailing what the word does not include or describe.

Even though this term had well be known for several years ago but this strategy can be applied until now for any level of students in reading comprehension.

So, semantic mapping is one learning strategies in reading comprehension. Semantic mapping is beneficial learning strategy for all grade levels and can manifest considerable improvement in reading comprehension, written expression, and vocabulary development. This strategy is interactive activities between students and content of reading passages applied in map drafting by schema form. These are the steps can be applied: understanding the topic, brainstorming, categorization, personalizing the map and synthesis.

5. Procedures of Semantic Mapping in Reading Comprehension

These are the procedure that the students can be applied in reading comprehension:

1. Understanding of the Topic

Understanding of the topic is an activity done by the students before they read the text. The students draw a large oval on the paper and write inside the topic about. For example, they are reading about pollution. They write inside the circle with the word pollution.

2. Brainstorming

In this activity the students try to think of the ideas that might relate to the topic by using short questions in their main. For instance, they think of types of pollution, the meaning of pollution and so on. Brainstorming means that is an application of the schema theory which attempts to explain how people integrate new information with their existing framework of knowledge. In order to make it clear about information that they express, it is suggested to use different color of pen.

3. Categorization

It is time to connect the ideas to the levels of the ideas, categories ideas, exemplifying, and detail ideas by using circles, squares or rectangles and straight lines in the schema map. Here, the students need some vocabularies.

4. Personalizing the map

It is the major activity. Here the students start to read the text. Through reading, they will decide to add or to eliminate from the information that they have written in pre-reading activity. The students try to include all information from the text.

5. Post Assignment activity

In this activity, the students draw their ideas of both prior knowledge and new information with different color in the map.

6. K-W-L strategy

K-W-L is one of the widely used learning strategies and is particularly useful for teaching reading comprehension. This technique ties together students' prior knowledge, their desire to learn more, and the conclusions of their learning. K-W-L chart is a graphical organizer designed to help in learning. The letters K-W-L are an acronym for “what we know”, “what we want to know” and “what we learned”. It is divided into three columns titled know, want, and learn. Sometimes the chart is different from one topic to another depends on type of material included and excluded. The first column ‘K’ is for what the students already know about the topic. It is supposed that this step is completed before reading. The next column ‘W’ is for students to list what they want to learn about the topic during the reading; this step is also to be completed before the reading. The third column ‘L’ is for what students learned from reading; this step is done after finishing the reading. On the other hand, the K-W-L technique can be used to drive instruction in the classroom. The instructor creates lesson plans depended on students’ needs and interests, and this technique is useful because it increases the motivation and attitude of students and enables the instructor to understand students’ knowledge and interests in the material, (K_W_L table Online, 2009:1).

K-W-L comprehension technique can be used at all grade levels and it works with all types of text especially useful for understanding expository text, (Michael, 1998:1). Conner (2006:1) identifies the purpose of using K-W-L strategy which shows as follows:

- 1- Elicits students' prior knowledge of the topic of the text.
- 2- Sets a purpose for reading.
- 3- Helps students to monitor their comprehension.
- 4- Allows students to assess their comprehension of the text.
- 5- Provides an opportunity for students to expand ideas beyond the text.

Blaskowski (2010) defines the K-W-L teaching technique is a good method to help students activate prior knowledge. It is a group instruction activity developed by Donna Ogle(1986) that serves

as a model for active thinking during reading”.Lecture method: information is presented orally or teach student about particular subject, for instance by a university or college teacher. Lectures are used to convey critical information, history, background, theories and equations, (Lecture online, 2010:1).

7. Goals for using K-W-L technique

There are many reasons for using K-W-L technique in the classroom. First, a KWL technique activates students' prior knowledge of the topic by asking students what they know about the topic, and this step operates students' thinking and restores their experiences about the topic. Second, it provides opportunity for students to participate and engage in the topic by asking them what they want to know. Finally, this step is very important because it allows the students to expand their knowledge and know their needs and interests; in addition, the instructor has a clear picture about his/her students to prepare lecture plan that they enjoy, (K_W_L table Online, 2009:2). Backman (2006:79) indicates that K-W-L technique is a good strategy because it enables the teacher to assess students' background knowledge and interests before the lecture. Afterward, it helps instructors to evaluate the content material that are learned. K-W-L technique represents as a class activity or an individual basis. The K-W-L technique can be completed in the first language or with illustrations, if students have limited English proficiency.

The purpose of the K-W-L procedures is to help students become good readers by learning to do the things that good readers do. Specifically it helps students learn to activate their background knowledge and to set purposes for reading.

KWL stands for determining What I Know, What I Want to Learn, and reviewing What I Have Learned. The following chart shows the steps in each part of the procedure:

WHAT I KNOW	WHAT I WANT TO LEARN	WHAT I LEARNED
Students discuss what they already know about a topic in the text they will be reading. The teacher has student's list ideas and concepts related to the topic, and then have them organize their ideas into broad categories.	Students discuss what they want to learn from reading the text and write down specific questions that they think may be answered in the text.	After reading the text, students discuss what they learned from it. They next write what they learned and answer student-generated questions about topics that were addressed in the text.

As they confirm the information in the *Know* column of the chart, students relate new information gained from their reading to knowledge they already have. As they generate questions for the *Want* column, they learn to set their own purposes for reading. Further, because they are reading to answer their own questions, students are more likely actively to monitor their comprehension. By putting information in their own words for the *Learned* column, students better understand what they know and what they do not know. Proceeding through these steps reinforces students' learning

from text, involves them in doing what good readers do, and teaches them about their own reading processes.

Steps to a KWL:

1. Draw a KWL framework chart on the chalkboard. Remind students of the KWL process. Students will write the things they already know and the things they wish to know *before* reading. *After* reading, they will complete the chart with things they have learned.
2. Have students—as an entire class or in small groups—outline their prior knowledge of the topic. Write, or have students write, each idea on the KWL chart.
3. Next, ask students to raise questions they would like answered as they learn about the topic. Record these on the KWL chart.
4. Have students read the selection and take notes on the things they learn. Emphasize new information that relates to the "what I want to know" questions.
5. Ask students to volunteer to write the things they have learned to complete the chart. Discuss this new information with the class. Note any questions that were not answered in the reading.

K-W-L (Ogle, 1986) is an instructional reading strategy that is used to guide students through a text. Students begin by brainstorming everything they Know about a topic. This information is recorded in the K column of a K-W-L chart. Students then generate a list of questions about what they Want to Know about the topic. These questions are listed in the W column of the chart. During or after reading, students answer the questions that are in the W column. This new information that they have Learned is recorded in the L column of the K-W-L chart.

8. Conclusions and suggestions

8.1. Conclusions

The results of our study confirmed that Semantic Mapping strategy is particularly valuable because a good Semantic Map can show the key parts of a whole and their relations at a glance, thereby allowing a holistic understanding that words alone cannot convey.

K-W-L technique represents a good technique which enables the students to activate their knowledge and operate their thinking to memorize their information. This technique enables the students to be more active and participate in the process of learning. This state is called the student-centered classroom because the learning process is based on student's interests and needs.

In K-W-L technique, the instructor does not direct the learner, but provides support for the learners to be able to learn on their own.

K-W-L technique is appropriate for reading comprehension skill. The students choose what they want to learn and the class work is relevant to the students needs.

8.2. Suggestion

There are so many reading strategies that can be done to make learners understand about the text they are reading. Students who are willing to gain reading comprehension skills are suggested to implement the theory of Semantic Mapping strategy as well as K-W-L strategy. Although the strategies quite different in application, but nevertheless they are both very effective. It is also suggested that english lecturers should teach reading comprehension skills by applying Semantic Mapping strategy as well as K-W-L strategy in order to improve the students' proficiency in the field. Other researchers can develop further study in the area of Semantic Mapping strategy and the K-W-L strategy that will improve students' achievement in the field of reading comprehension.

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