Vocabulary- Semantic Mapping

Introduction

Semantic mapping is a strategy for graphically representing concepts. A semantic word map allows students to conceptually explore their knowledge of a new word by mapping it with other related words or phrases similar in meaning to the new word.

There are three components to a semantic map:
1. Core question or concept: this is a key word or phrase that is the main focus of the map.
2. Strands: subordinate ideas that help explain or clarify the main concept. These can be generated by the students.
3. Supporting information: details, inferences and generalization that are related to each strand. Supports clarify the strands and distinguish one strand from another.

The following teaching steps are adapted from Denton, C. Bryan, D. Wexler, J., Reed, D. & Vaughn, S. (2007) Effective Instruction for Middle School Students with Reading Difficulties: The Reading Teacher’s Sourcebook. University of Texas.
Purpose
The students will associate new word meaning with prior knowledge through the use of a semantic map.

Materials
- Topic or text
- Overhead projector, chalkboard, chart paper or Interactive White Board (IWB).

Preparation
Preview the text, looking for content words, or challenging words that students are likely to see and use often in academic settings. Prioritise the words students must know in order to understand the topic or text (See Vocabulary – Which words do I teach?).

Teaching steps
1. **State objective/purpose**
   State the purpose of the lesson.

   *Today we are going to make a semantic map. Information is stored in your brain in categories or groups. Words in your memory are linked to other words based on their relationships. So, if you can connect a new word with a word you already know, you will be better able to remember the new word. I’m going to show you how to go through this process today by developing a semantic map.*

   Introduce the text/topic.

   Write the topic/concept on the board (or overhead/IWB).

2. **Model and teach with the whole class**
   - Ask students to brainstorm or think of words related to the topic/concept. Think pair share can be used to support brainstorming (see Appendix 2).

     - List all of the words on one-half of the board (or overhead). Write down all appropriate student responses.

     - Ask questions to lead students to identify words related the topic/concept.

     - Any unfamiliar words give a brief definition for each.
   - Draw a circle with the topic in the middle.
   - Read through the list of brainstormed words and model using Think Aloud how to identify categories to group the words.
   - Ask students to identify further with categories. Write each category or strand in a circle and connect it to the topic.
If students have difficulty generating categories, you may need to think aloud and model how to come up with categories several times.

- Identify any supporting information for each category or strand.

### 3. Guided practice with partners

- Assign partners and give pairs a copy of the semantic map. Ask pairs to generate any remaining category or strand titles and to categorise the brainstormed words.
- Ask students to come up with additional words for each category and any supporting information.
- Circulate around the room and be available for guidance and feedback. Check each pair of students to check for understanding. Be prepared to model again if needed.
- Ask pairs to add a blank category to their semantic map to fill in after they read the text. As you circulate around the classroom, ask leading questions to guide student responses.
- Return to the map on the board and whole-class grouping.
- Ask for student responses to each category and write appropriate responses on a master semantic map. Allow students to add words to their semantic maps based on class discussion and the master semantic map.
- Read the selected text or have students read the text in pairs. Remind students to be aware of target words in the reading and to look for other categories they might want to add to their semantic maps.
- When the class is finished reading the selection, return to the master semantic map on the board (or overhead/IWB). Discuss the concepts included in the reading. Add new concepts learned during reading to the semantic map.
- Ask students whether they discovered any other categories, or groups of things with common characteristics, in the reading. If needed, think aloud for the class.
- Have students work with partners to fill in examples under each new category. When students are finished, ask for responses and discuss.

### 4. Independent Practice

- Before reading a passage or selection, preview the text for challenging words students will use and see often (see procedure at the beginning of this lesson).
- Tell students the topic of the reading passage or selection and lead students to brainstorm a list of words related to the topic. Discuss background knowledge of the topic and help students make connections between what they already know and what they will learn while reading.
- Working in small groups or partners, ask students to create a semantic map by categorising the brainstormed list of words. This includes generating logical category titles and placing words in appropriate categories.
- As students read have them add new vocabulary words to their maps. Discuss with students the meaning of the new words and where they fit on the map.
- After students read the passage have them add any other vocabulary words to the map. Return to whole group and discuss students’ semantic maps. Discuss with the students how the semantic map might be expanded or reorganised to reflect new information they learned.

### 5. Generalisation

Identify situations in Key Learning Areas where students could use semantic maps to assist their understanding of the vocabulary in a topic/concept.
Technology Tip

Mind mapping tools could be used to represent the semantic map used in this strategy. Below are examples of some free mind mapping tools:

- XMind: [http://www.xmind.net](http://www.xmind.net)

References


Appendix 1 - Semantic Map Examples

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**Rock Types**

1. **High temperature (gneiss)**
2. **Sedimentary**
   - Clastics (sandstone)
   - Non-clastics (gypsum)
3. **Metamorphic**
4. **Igneous**
   - Intrusive (granite)
   - Extrusive (obsidian)

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**Basic Triangles**

1. **Equilateral triangle**
   - Has three equal sides
2. **Acute triangle**
   - Has three angles less than 90 degrees
3. **Obtuse triangle**
   - Has one angle greater than 90 degrees
4. **Right triangle**
   - Has one right angle
5. **Scalene triangle**
   - Has three unequal sides
6. **Isosceles triangle**
   - Has two equal sides
Appendix 2 – Think Pair Share

Think-Pair-Share

Overview
Think-Pair-Share is a cooperative learning strategy that can promote and support higher-level thinking. The teacher asks students to think about a specific topic, and then pair with another student to discuss their thinking and, after that, share their ideas with the group.

Steps
1. Decide on how to organise students into pairs.
2. Pose a discussion topic or a question.
3. Give students at least 10 seconds to think on their own ("think time").
4. Ask students to pair with their partner and share their thinking.
5. Call on a few students to share their ideas with the rest of the class.

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<thead>
<tr>
<th>What teachers do</th>
<th>What students do</th>
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<tbody>
<tr>
<td><strong>Before</strong></td>
<td>• Read the chapter or section, if the Think/Pair/Share is based on information and ideas from a reading selection.</td>
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<td>• Have students read a selection or prepare a topic, question, or prompt for a planned Think/Pair/Share activity. OR • Choose a “teachable moment” during the class where the process of reflection and shared discussion would bring deeper understanding, and insert a brief Think/Pair/Share activity into the lesson at that point.</td>
<td>• Formulate thoughts and ideas, writing them down as necessary to prepare for sharing with a partner. • Practise good active listening skills when working in pairs, using techniques such as paraphrasing what the other has said, asking for clarification and orally clarifying their own ideas.</td>
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<td><strong>In either case:</strong> • Consider the social and academic goals for the Think/Pair/Share activity, and plan for pairing of particular learners that would further those goals.</td>
<td>• Pinpoint any information that is still unclear after the pair discussion, and ask the class and teacher for clarification.</td>
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<td><strong>During</strong> • Ask students to spend several minutes thinking about and writing down ideas. • Set clear expectations regarding the focus of thinking and sharing to be done. • Put students in pairs to share and clarify their ideas and understanding. • Monitor students’ dialogue by circulating and listening.</td>
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<td><strong>After</strong> • Call upon some pairs to share their learning and ideas with the whole class. • Possibly extend the Think/Pair/Share with a further partner trade, where students swap partners and exchange ideas again. • Consider adding a writing activity as a productive follow-up to a Think/Pair/Share activity.</td>
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Think Literacy: Cross-Curricular Approaches, Grades 7-12, 2003
Hints and Management Ideas

• **Pre-assign partners.** Rather than waiting until the discussion time, indicate in advance who students' partners will be. Otherwise, the focus might be on finding a partner rather than on thinking about the topic at hand.

• **Change partners.** Students should be given an opportunity to think with a variety of partners.

• **Monitor the discussions** for common misconceptions and unique ideas to address later with the whole group.

Further Support

Some students may benefit from a discussion with the teacher to articulate their ideas before moving on to share with a partner.

Benefits of Think-Pair-Share

• When students have appropriate “think time”, the quality of their responses improves.

• Students are actively engaged in thinking.

• Thinking becomes more focused when it is discussed with a partner.

• More critical thinking is retained after a lesson in which students have had an opportunity to discuss and reflect on the topic.

• Many students find it easier or safer to enter into a discussion with another classmate, rather than with a large group.

• No specific materials are needed for this strategy, so it can be easily incorporated into lessons.

• Building on the ideas of others is an important skill for students to learn.