

FOR-PD's Reading Strategy of the Month

SEMANTIC FEATURE ANALYSIS

October 2006

(Developed by Smith, L. & Zygouris-Coe, V., 2006)

Rationale:

It's Tuesday and for tonight's homework you have assigned your students a short passage to read from the textbook. You've prepared them to do some summarizing by using a practiced strategy, the 3-2-1. The students are in luck tonight because the topic is on viral diseases with specific emphasis on Yellow Fever, the West Nile Virus, and smallpox. You can't wait to get started on the review of the text on Wednesday!

As students flood into class the next day you hope they are ready to discuss what they have learned. As you begin, your students use their completed 3-2-1 strategy sheets to converse about the important parts of the text. Through the discussion you find that the students seem to have many questions based on vocabulary words and key concepts. John notes that Yellow Fever is hemorrhagic and was wondering if other viruses were that way too. Zarie wants to know if other viruses are carried by infected mosquitoes like with the West Nile Virus. Carlos ponders if the prodrome phase is the same for other viruses as it is with smallpox.

You know your students are making connections to the information in their text. They seem to be considering the concepts and terms, and are trying to find out how the different viruses they studied relate to each other. This could be a great teachable moment, but you're not quite sure what you can do that will help students understand and link the different features of the viruses. You think that there's got to be something

you can do, but what?

Within a book, a chapter, or even a paragraph there can be words that students may struggle with when trying to grasp meaning of the given text. It is recognized that "reading vocabulary is crucial to the comprehension processes of a skilled reader" (National Reading Panel, 2003, p. 230). Teachers must support their students in their journey to become active thinkers in the intertwined realms of comprehension and vocabulary development. Research supports situations in which students construct meaning by observing the interrelationships among words and concepts (Santa, Havens, & Valdes, 2004).

Specifically, helping students focus on the characteristics and features of words can be beneficial for assisting them with making connections among related concepts. As with the scenario above, the teacher recognizes that the topic of viruses, and the use of the 3-2-1 strategy, has led her students to some noteworthy questions. She observes that the students' questions are based on their need to further their understanding about the relationships among the viruses. And, she is wondering what she can do to help her students gain a deeper understanding of the material by highlighting those features. Semantic Feature Analysis, also known as SFA, is a procedure that links vocabulary to the main ideas of a content area text (Santa, Havens, & Valdes, 2004). Students who participate in SFA, "activate and instantiate prior knowledge; they relate superordinate and subordinate concepts hierarchically; and they employ processes of predicting, confirming, and integrating" (Anders & Bos, 1986).

Semantic Feature Analysis has been revered as a powerful strategy that "mimics the way the brain organizes information" (Fisher & Frey, 2004). By offering students a visual representation, via a matrix, on how terms are alike and different, the students are able to analyze the relationships among the given concepts (Buehl, 2001). The context in which students learn new words is extremely important and must be considered in instruction. Because it is important for students to be actively involved in constructing meaning, it is much less effective for teachers to organize the words for students and offer up how the words are related. Although, within the modeling stage this is acceptable, students who can begin to create their own list of features will begin to make connections and internalize the information in a more effective manner (Santa, Havens, & Valdes, 2004; Anders & Bos, 1986).

How to Use the Strategy:

Semantic Feature Analysis helps students grasp the "uniqueness" of individual words and aids students in their reading development by increasing their personal and academic vocabulary (Johnson & Pearson, 1978). By following particular steps you will also be able to create and use SFA, you will be able to help students gain insight about the concepts and vocabulary needed in order to comprehend the given text or topic.

Select a Category or Topic

The first step for the teacher is to thoroughly read and review the text(s) the students will be using for the assignment. While reading, the teacher should consider the major concepts and ideas the students will come into contact with during their exploration and reading of the text.

Words and Features

List phrases or individual words that are represented in the text or related to the key concepts of the text. Next, consider each word and determine if it represents large ideas or concept (feature) or if it is more of a detail relating to the primary concept (important vocabulary). (Anders & Bos, 1986).

It is important to note that while giving students the "features" during the initial teaching of the strategy is useful, students will benefit far more when creating their own features for the given vocabulary words, as they become even more active in their learning. This is a modification you will want to consider as your students become more experienced with the procedures.

Create the Matrix

Inside your matrix, add the words that are considered a feature, or superordinate idea across the top and add the important vocabulary, or subordinate concepts, down the left hand column.

Code the Matrix

After creating the matrix you will need to make copies for students or complete it as whole group via a projector. While this strategy can be used before reading a piece of text, it can also be useful after or during reading as a way to help students reflect on what they read or connect to what they are reading.

Coding the matrix can be accomplished in many ways. The first suggestion, made by Johnson and Pearson, was to use "+" and "-" to equate to a positive or negative response if the given word had or did not have a particular feature. Others, Anders and Bos (1986), suggested using the "+" and "-" along with a "0", for no relationship, and a "?" if more information is needed or if there is confusion.

Although many teachers find "+" and "-" useful, other may be receptive to using more of a Lichert scale, where numbers are used instead of symbols. A rating of "0" would mean there is no relationship found between the vocabulary word and the feature, while a "5" would reflect a high degree on how the vocabulary word is related to a feature.

Before Reading

If used before reading, discuss with students the upcoming text topic and point out to them the vocabulary and features listed in the chart. Create conversation focusing on each word and provide insight on the words. Encourage students to express their own knowledge about the vocabulary words and features. Guide your students, through the use of modeling and scaffolding, on how to explain their rationale for their choices as you code the matrix together.

During Reading

If students are familiar with SFA, you may want to consider using it as a "during reading" activity. After creating the grid, provide students with their own copy to use while they read. Discuss with them the vocabulary words and features before reading of the text and remind them to think critically as they read and code the matrix themselves.

After Reading

Students can benefit from using the SFA even after they have finished reading the text. After reading, if SFA was completed during or prior to reading, they will want to review their choices and make modifications. Students may also be able to complete an SFA after reading a piece of text and use it for a study guide or review sheet of key concepts in a lesson.

Discuss

During the review of the matrix, students should become involved in explaining the rationale for the choices they made. It is important for teachers to help students to think critically about their choices, why they chose them, and what they now understand about the connections between the words and concepts. This is vital to the success of SFA.

Teachers may want to ask some of the following questions to precipitate discussion.

- Why did you choose ("+", "-", or "?") for that vocabulary and feature combination?
- What similarities do you see among these words? What are the differences?
- How do these relate to our topic?
- Are there any words or features that do not belong? Which ones? Why?
- Can any of these words and features get a "maybe" answer instead of just "yes" or "no"? Which ones? Why?
- What generalizations can we make about our subject/topic from analyzing our matrix?

Extension: Writing a Summary

Upon completion of a matrix, and after discussion, an assignment that would be beneficial for students is to write a summary about their findings. The SFA matrix provides an organized display of details and information that can be helpful to students who struggle with summarizing or writing.

Semantic Feature Analysis Math Example

**SEMANTIC FEATURE ANALYSIS
QUADRILATERAL EXAMPLE**

Features	"Regular" Polygon	All right angles	One pair of parallel sides	Opposite sides are parallel	All sides are congruent
Rhombus	*	*	-	+	+
Square	+	+	-	+	+
Rectangle	*	+	-	+	*
Trapezoid	-	-	+	-	-

**Semantic Feature Analysis
Blank Math Copy**

**SEMANTIC FEATURE ANALYSIS
QUADRILATERAL EXAMPLE**

Features	"Regular" Polygon	All right angles	One pair of parallel sides	Opposite sides are parallel	All sides are congruent
Rhombus					
Square					
Rectangle					
Trapezoid					

*+ means does apply *- means does not apply
 *? means confusion or question ** means may or may not apply

**Semantic Feature Analysis
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SEMANTIC FEATURE ANALYSIS

Features					

Assessment:

Teachers who practice SFA with their students stand to learn a great deal about each student’s thoughts and understanding on the concepts and topics in a given text. Instructional research suggests that students’ comprehension benefits from using strategies that create a visual and in which they can easily see the connections among concepts.

Assessing students on the use of SFA will require a process of observation and review of the SFA matrix, along with any evaluation of the discussion and/or writing assignment.

Resources:

Instructional Reading Strategy: Semantic Feature Analysis

<http://www.indiana.edu/~l517/semantic.htm>

Includes a description of SFA, the purpose, how to use and an example.

Semantic Feature Analysis

<http://edweb.sdsu.edu/triton/guides/SFA.html>

This site offers procedures and an example.

Guided Comprehension: Knowing How Words Work Using Semantic Feature Analysis

http://www.readwritethink.org/lessons/lesson_view.asp?id=240

This site offers a lesson that will provide an overview, student objectives, an instructional plan, and questions for using SFA.

Semantic Feature Analysis

<http://fcit.usf.edu/fcat8r/home/references/additional-reading-strategies/semantic-feature-analysis.html>

This link provides an example on dinosaurs using the semantic feature analysis matrix.

Semantic Feature Analysis

<http://www.justreadnow.com/strategies/analysis.htm>

This site offers specific steps to a Semantic Feature Analysis and examples.

References:

Anders, P. L., & Bos, C. S. (1986). Semantic feature analysis: An interactive strategy for vocabulary development text comprehension. *Journal of Reading, 29*, 610-617.

Buehl, D. (2001). *Classroom strategies for interactive learning* (2nd ed.). Newark, DE: International Reading Association.

Fisher, D., & Frey, N. (2004). *Improving adolescent literacy: Strategies at work*. Upper Saddle River, NJ: Merrill/Prentice Hall.

Johnson, D.D., & Pearson, P.D. (1978). *Teaching reading vocabulary*. New York: Holt, Rinehart & Winston.

National Institute of Child Health and Human Development. (2000). Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction (NIH Publication No. 00-4769). Washington, DC: U.S. Government Printing Office.

Santa, C.M., Havens, L., & Valdes, B. (2004). *Project CRISS: Creating independence through student-owned strategies*. Dubuque, IA: Kendall/Hunt.

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