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Research (cont.)

What Is Academic Vocabulary?

Some educators differentiate between general academic vocabulary and specialized content vocabulary when discussing academic vocabulary. What is the difference? Yopp, Yopp, and Bishop (2009) have developed definitions for each category. General academic vocabulary includes high-utility words found across content areas. These words are those that students will likely find throughout their academic reading and writing experiences and use in academic speech. Words such as features, attributes, principle, perspective, compatible, and influence are examples of general academic vocabulary. Specialized content vocabulary includes words that are specific to a particular content area and represent important concepts or ideas for students to learn. Examples of specialized content vocabulary include democracy (social studies), forensic (science), numerator (mathematics), and protagonist (language arts). In this notebook, all specialized content vocabulary is related to science topics that are covered in grades 1–8. Students will learn specialized content words such as adaptation, density, refraction, and substance. Specialized content vocabulary is considered a part of academic vocabulary.

Why Teach Academic Vocabulary?

Yopp, Yopp, and Bishop (2009) have synthesized the importance of teaching academic vocabulary. Educators and educational researchers have known for years that vocabulary knowledge plays a significant role in reading comprehension. Reading involves making sense of written language. In order to read successfully, we need to understand the words the author has chosen to use. A large body of research confirms that vocabulary knowledge is positively related to a student's ability to comprehend text (Lehr, Osborn, and Hiebert 2004). Although much remains to be learned, the relationship between word knowledge and comprehension is unequivocal. Further, there is evidence that instruction in vocabulary positively affects reading comprehension (Baumann, Kame'enui, and Ash 2003).

Vocabulary knowledge is clearly crucial for success in reading. However, its influence does not stop with reading. Vocabulary knowledge also plays a significant role in overall academic success (Lehr, Osborn, and Hiebert 2004). Students' knowledge of words impacts their achievement in all areas of the curriculum because words are necessary for communicating the content. As classroom teachers know, students have difficulty understanding and expressing the concepts and principles of the content areas if they do not know the specialized vocabulary that represents those concepts and principles.

Indeed, Marzano (2004) maintains that there is a strong relationship between vocabulary knowledge and background knowledge. Therefore, by building students' vocabulary, we can increase their background knowledge, thereby providing more opportunities for learning new concepts.

Keyword Method

Standards

Grades 1–2 (McREL Language Arts Standard 8.5)

Grades 3–5 (McREL Language Arts Standard 8.6)

Grades 6-8 (McREL Language Arts Standard 8.5)

Background Information

What Is It?

The Keyword Method (Baker, Simmons, and Kame'enui 1995) is a strategy that helps students learn and remember word meanings for new vocabulary words. Students learn to associate a new science word with a familiar word and a related visual image. For example, in the word *plateau*, which means a hill or mountain with a level top, the keyword *plate* might be used to have students consider the image of a hill or mountain with a plate balancing on top.

When Do I Use It? Why Do I Use It?

The Keyword Method should be used before a lesson or unit as a strategy for relating visual images to specialized content or general academic words. This strategy encourages students to use their oral language to discuss ideas about new vocabulary with their peers and to share connections they have made about words. In addition, students see alternate ways that classmates represent vocabulary visually, which provides them with multiple images on which to rely as they develop an understanding of new vocabulary.

Materials

- copies of the Keyword Method resource page (p. 152)
- drawing materials

Directions for the Teacher

- Read the strategy steps for your grade span (grades 1-2, grades 3-5, or grades 6-8).
- 2. Refer to the example provided for your grade span. You may also refer to the examples from other grade spans to see how the strategy can be used with different vocabulary words, grade levels, and units of study.
- 3. Choose the specialized content and/or general academic word you want to focus on in your science lesson. You can refer to your content standards or textbook as a guide. Or, refer to the appendices for lists of suggested specialized content and general academic words to help you plan your lessons.
- Teach the strategy as outlined, using the word you have chosen. Refer to the Differentiation section for strategies for meeting the needs of all learners.

Grades 1-2

Unit of Study: Electricity

McREL Science Standard 9.3

Strategy in Action: How Does It Work?

1 Before using this strategy, decide which science vocabulary word to use. You can use a general academic or specialized content word. This should be a word that students are learning for the first time.

In this sample lesson, the teacher selects the following specialized content (SC) word that students will learn during the unit:

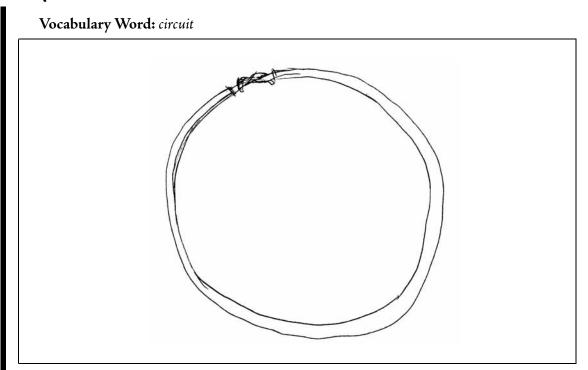
SC circuit

- 2. To begin the lesson, introduce the vocabulary word to students. Pronounce it aloud and have students repeat your pronunciation. Share the definition of the word. Show pictures, use gestures, or use the word in context.
 - In this sample lesson, the teacher points to the light switch and the lights in the classroom to help teach the word *circuit* to students.
- 3. Explain to students that they will create a visual image to help them remember this new word. Model doing this by sharing a familiar vocabulary word and discussing a relevant, visual image with students. Draw a simple sketch of your image while students observe. Talk about the connections you make between the word and the visual image.
 - In this sample lesson, the teacher chooses to model the word *telegraph*. She draws an image of a telephone and explains that the words are connected because a telephone and the telegraph are both used to make sound travel over a distance.
- 4. Distribute copies of the Keyword Method resource page and drawing materials to students. Ask each student to draw an image that relates to the vocabulary word. Have students label their pictures with the vocabulary word and describe the picture.
- 5. After students are finished, have them share their work in small groups or with the whole class. Ask each student to share both the image and its connection to the vocabulary word. This strategy allows students to learn more about new words by considering different visuals and the various ways the new words are connected to those visuals.

In this sample lesson, students represent the word *circuit* in different ways. One student draws a circle of wires.

6. In conclusion, have students share how making connections between a vocabulary word and visual images helped them better understand the word.

Example



Keyword Statement: A circle of wires reminds us that electricity travels in a circuit.

Differentiation

Above-Level Learners

Have students practice this strategy with another vocabulary word. Ask students to draw more than one image for the vocabulary word. Have them write about their multiple visual connections to the same word.

English Language Learners

After students draw the visuals associated with the new vocabulary word, have them first share their work in pairs. This gives students an opportunity to discuss vocabulary before sharing their ideas with the whole class.

Below-Level Learners

Assist students as they come up with visuals for new vocabulary. Suggest examples of images for students to consider. Show them examples using books and other reference materials.

Grades 3-5

Unit of Study: Ecosystems

McREL Science Standard 6.1

Strategy in Action: How Does It Work?

1 Before using this strategy, decide which science vocabulary word to use. You can use a general academic or specialized content word. This should be a word that students are learning for the first time.

In this sample lesson, the teacher selects the following specialized content (SC) word that students will learn during the unit:

SC food chain

2. To begin the lesson, introduce the vocabulary word to students. Pronounce it and have students repeat your pronunciation. Share the definition of the word. Show pictures, use gestures, or use the word in context.

In this sample lesson, the teacher points to a visual of a *food chain* in a science

textbook to help teach the word to students.

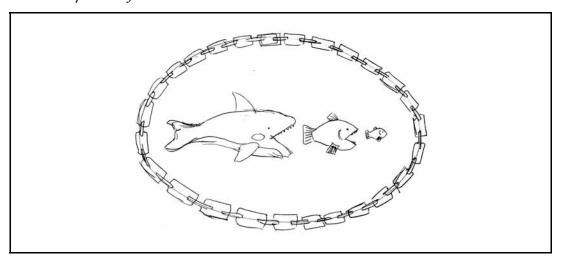
- 3. Explain to students that they will create a visual image to help them remember this new word. Model doing this by sharing a familiar vocabulary word and discussing a relevant visual image with students. Draw a simple sketch of your image while students observe. Talk about the connections you make between the word and the visual image.
 - In this sample lesson, the teacher chooses to model the term *life cycle*. She draws a graphic organizer showing a person as a baby, as a young person, as a middle-aged person, and finally as an elderly person. These pictures are connected by arrows to show the cycle that life follows from birth to death.
- 4. Distribute copies of the Keyword Method resource page and drawing materials to students. Ask each student to draw an image that relates to the vocabulary word. Have students label their pictures with the vocabulary word and write a description of the visual image.
- After students are finished, have them share their work in small groups or with the whole class. Ask each student to share both the image and its connection to the vocabulary word. This strategy allows students to learn more about new words by considering different visuals and the various ways that the new words are connected to those visuals.

In this sample lesson, students represent the term *food chain* in different ways. One student draws a small fish, a larger fish, and a whale with a chain around them; another student draws a plant, which represents a primary producer, with a chain around it.

6. In conclusion, have students share how making connections between a vocabulary word and visual images helped them better understand the word.

Example

Vocabulary Word: food chain



Keyword Statement: A *food chain* is a group of organisms that are related by feeding relationships. There is a flow of energy from one organism to the next as each organism feeds on the next.

Differentiation

Above-Level Learners

Have students practice this strategy with another vocabulary word. Ask students to draw more than one image for the vocabulary word. Have them write about their multiple visual connections for that word.

English Language Learners

After students draw the visuals associated with the new vocabulary word, have them first share their work in pairs. This gives students an opportunity to discuss vocabulary before sharing their ideas with the whole class.

Below-Level Learners

Assist students as they come up with visuals for new vocabulary. Suggest examples of images for students to consider. Show them examples using books and other reference materials.

Grades 6-8

Unit of Study: Water Cycle

McREL Science Standard 1.2

Strategy in Action: How Does It Work?

1 Before using this strategy, decide which science vocabulary word to use. You can use a general academic or specialized content word. This should be a word that students are learning for the first time.

In this sample lesson, the teacher selects the following specialized content (SC) word that students will learn during the unit:

SC evaporation

2. To begin the lesson, introduce the vocabulary word to students. Pronounce it and have students repeat your pronunciation. Share the definition of the word. Show pictures, use gestures, or use the word in context.

In this sample lesson, the teacher shows a visual of the water cycle and explains that *evaporation* is one component of this cycle that affects climatic patterns.

3. Explain to students that they will create a visual image to help them remember this new word. Model doing this by sharing a familiar vocabulary word and discussing a relevant visual image with students. Draw a simple sketch of your image while students observe. Talk about the connections you make between the word and the visual image.

In this sample lesson, the teacher chooses to model the word *fauna*. He draws an image of a fawn and explains that the image and the word *fauna* are connected because fauna refers to the animal life of a particular area.

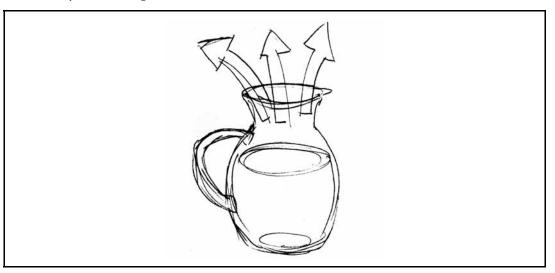
- 4. Distribute copies of the Keyword Method resource page and drawing materials to students. Ask each student to draw an image that relates to the vocabulary word. Have students label their pictures with the vocabulary word and a description of the visual image.
- After students are finished, have them share their work in small groups or with the whole class. Ask each student to share both the image and its connection to the vocabulary word. This strategy allows students to learn more about new words by considering different visuals and the various ways that the new words are connected to those visuals.

In this sample lesson, students represent the word *evaporation* in different ways. One student draws a graphic of a pitcher of water with arrows showing the water becoming vapor.

6. In conclusion, have students share how making connections between a vocabulary word and visual images helped them better understand the word.

Example

Vocabulary Word: evaporation



Keyword Statement: Evaporation is the process by which a liquid is converted into vapor.

Differentiation

Above-Level Learners

Have students practice this strategy with another vocabulary word. Ask students to draw more than one image for the vocabulary word. Have them write about their multiple visual connections for that word.

English Language Learners

After students draw the visuals associated with the new vocabulary word, have them first share their work in pairs. This gives students an opportunity to discuss vocabulary before sharing their ideas with the whole class.

Below-Level Learners

Assist students as they come up with visuals for new vocabulary. Suggest examples of images for students to consider. Show them examples using books and other reference materials.

Name:				
Keyword Method				
Directions: Write the vocabulary word below. In the box, draw a picture that shows the meaning of the word. At the bottom of the page, describe how the picture represents the word.				
Vocabulary Word:				
Keyword Statement:				

Personal Examples

Background Information

What Is It?

The Personal Examples assessment asks students to connect what they know about learned vocabulary words with their own personal experiences and backgrounds. These connections show the level of students' vocabulary knowledge. This format also requires students to show deeper and more comprehensive knowledge of a new word because they need to apply their knowledge of the word to a context that may be new or different from what was discussed in class.

How Do I Use It Effectively?

It is important to create personal example prompts that encourage students to create these connections. This method of assessment can be used with both specialized content and general academic vocabulary words.

How Do I Use the Resource Page?

On the Personal Examples resource page (p. 2), fill in the vocabulary words and create personal example prompts. The resource page is available as a Word document on the Teacher Resource CD. It can be modified to meet the needs of your students. You may wish to use the following sentence starters to create your assessment prompts:

- Describe a place/an event/an example/a person...
- When/Who/What/How/Why might you...
- Who/What is someone/something you might describe as...
- Name a place/an event you might describe as...
- Share a time when you might/were...

Examples

Grades 1–2 Example Prompt: Tell about a time when you adapted to a new place. Personal example: __I adapted to my new home when we moved last year. Grades 3–5 Example Prompt: Describe an example of a time you experienced a new environment. Personal example: __I experienced a new environment when I moved from one classroom to a different classroom. Grades 6–8 Example Prompt: When might you hear or use the word magnitude with your family at home? Personal example: __I used the word magnitude to describe the size of a recent earthquake.

Name:			
naille.			

Personal Examples

Directions: Read each prompt. Then write a personal example for your response.

·Oρ·	onec.
1.	Prompt:
	Personal example:
2.	Prompt:
	Personal example:
3.	Prompt:
	Personal example:
4.	Prompt:
	Personal example:
5.	Prompt:
	Personal example: