SECTION 7:
Instructional Strategies That Facilitate Learning Across Content Areas

Research shows that teacher integration of literacy-related instructional strategies facilitates student learning across all content areas. With the use of content-specific information, it is through the literacy skills of reading, writing, listening, speaking, viewing and presenting that students acquire and retain content knowledge and content-specific abilities.

A variety of literacy-related instructional strategies that assist content-area learning are included in this section. The provided instructional strategies are designed for use by all content area teachers, as well as English language arts teachers, remedial reading and language arts teachers, literacy specialists and literacy coaches. They are designed for implementation by those teaching Grades 4-12. The instructional strategies presented are not reliant on extra texts, supplies or funding.

The instructional strategies provided in this section are not exhaustive, they are only representative of innumerable effective strategies a teacher may choose to use. Variety is key. The instructional strategies are grouped by support for: comprehension, vocabulary, fluency and spelling; within those categories they are randomly presented. The classroom teacher must determine the most effective instructional strategy for her/his students.

The provided instructional strategies should be used with diverse fictional and nonfiction texts; should be used before, during and after reading; should be used as pre- and post-assessments, and should be used with students independently, in pairs, in small groups and as a whole class. A varied approach is crucial to meeting the needs of all learners.

The instructional strategies presented must be introduced with explicit instruction and teacher modeling, and then continued with scaffolding and coaching from the teacher as students apply them to a range of texts. The instructional strategies must be implemented appropriately and with a specific purpose. It is critical teachers embed the strategies into the content they are already using that is aligned with state standards, district curriculum, school mission, and grade-level goals.

THE DIRECTED READING-THINKING ACTIVITY (DRTA)

USE: All Content Areas - All Grade Levels - Before and During Reading
FOCUS: Comprehension Strategies: Prediction, Inference and Setting Reading Purpose
FOR DETAILED INFORMATION SEE: Stauffer, 1969; Readence, Moore, Rickelman, 2000

The DRTA is a discussion format that focuses on making predictions. It requires students to use their background knowledge, make connections to what they know, make predictions about the text, set their own purpose for reading, use the information in the text and then make evaluative judgments. It can be used with nonfiction and fiction texts.

PROCEDURE (begin by explaining and modeling):

1. The teacher divides the reading assignments into meaningful segments and plans the lesson around these segments.

2. In the class introduction, the teacher leads the students in thinking about what they already know about the topic. ("What do you know about ...? What connections can you make?)

3. The teacher then has the students preview the reading segment examining the illustrations, headings and other clues to the content.

4. The teacher asks students to make predictions about what they will learn.

5. Students may write individual predictions, write with a partner or contribute to an oral discussion creating a list of class predictions.

6. Students then read the selection and evaluate their predictions. Were their predictions verified? Were they on the wrong track? What evidence supported the predictions? Contradicted the predictions?

7. Students discuss their predictions and the content of the reading.

8. The teacher and students discuss how they can use this strategy on their own and how it facilitates understanding and critical thinking.

9. The teacher and students repeat the process with the next reading segment that the teacher has identified.

10. The teacher closes the lesson with a review of the content of the reading and a discussion of the prediction strategies students should use as they read any text.

My predictions	What the text actually stated

A teacher may use a simple two-column guide (my predictions/what the material actually said) or a KWL chart as an organizing format. After having done the DRTA several times with the whole class, the teacher can then have students work in small groups and follow the DRTA steps.

QUESTION-ANSWER RELATIONSHIP (QAR)

USE: All Content Areas - All Grade Levels - During and After Reading
FOCUS: Comprehension Strategies: Determining Importance, Questioning and Synthesizing
FOR DETAILED INFORMATION SEE: Raphael, 1982; Readence, Moore, Rickelman, 2000

QAR is a strategy that targets the question "Where is the answer?" by having the classroom teacher and eventually the students create questions that fit into a four-level thinking guide. The level of questions requires students to use explicit and implicit information in the text:

- First level: "Right There!" answers. Answers that are directly answered in the text. For example, using the story of Cinderella, a "Right There" question might be "How many stepsisters did Cinderella have?"
- Second level: "Think and Search." This requires putting together information from the text and making an inference. Again, with the Cinderella story, a second-level question might be "How did the fairy godmother help Cinderella?" or "What tasks did Cinderella have to do at home?"
- Third level: "You and the Author." The answer might be found in the student's background knowledge, but would not make sense unless the student had read the text, e.g., "How did the author make the characters in the story believable? How is the main character like or unlike anyone you know or have read about?"
- Fourth level: "On Your Own." Poses a question for which the answer must come from the student's own background knowledge, e.g., "What do you think would have happened if the prince had broken the glass slipper?

PROCEDURE (begin by explaining and modeling):

1. The teacher makes up a series of QAR questions related to the materials to known to the students and a series of QAR questions related to the next reading assignment.
2. The teacher introduces QAR and explains that there are two kinds of information in a book: explicit and implicit.
3. The teacher explains the levels of questions and where the answers are found and gives examples that are appropriate for the age level and the content. A story like Cinderella that is known by most students usually works well as an example, even in high school classes.
4. The teacher then assigns a reading and the QAR questions he/she has developed for the reading. Students read, answer the QAR questions and discuss their answers.
5. The teacher and students discuss how they can use this strategy on their own and how it facilitates understanding and critical thinking.
6. After using the QAR strategy several times, the students can begin to make up their own QAR questions and in small groups share with their classmates.
7. The teacher closes this activity with a discussion of how students can use this strategy in their own reading and learning.

The ultimate goal of this activity (and most of the activities presented here) is for students to become very proficient in using the activity and eventually use the activity automatically to help themselves comprehend text.

KWL CHART

USE: All Content Areas - All Grade Levels - Before, During and After Reading Expository Text
FOCUS: Comprehension Strategies: Activating Background Knowledge, Questioning, Determining Importance
FOR DETAILED INFORMATION SEE: Ogle, 1986; Readence, Moore, Rickelman, 2000; Beers, 2003

The know/want-to-know/learned (KWL) chart guides students' thinking as they begin reading and involves them in each step of the reading process. Students begin by identifying what they already know about the subject of the assigned reading topic, what they want to know about the topic and finally, after they have read the material, what they have learned as a result of reading. The strategy requires students to build on past knowledge and is useful in making connections, setting a purpose for reading, and evaluating one's own learning.

PROCEDURE (begin by explaining and modeling):

1. The teacher shows a blank KWL chart and explains what each column requires.
2. The teacher, using a current reading assignment, demonstrates how to complete the columns and creates a class KWL chart.

K	W	L

- For the **know** column: As students brainstorm background knowledge, they should be encouraged to group or categorize the information they know about the topic. This step helps them get prepared to link what they know with what they read.
- For the **want-to-know** column: Students form questions about the topic in terms of what they want to know. The teacher decides whether students should preview the reading material before they begin to create questions; it depends on the reading materials and students' background knowledge. Since the questions prepare the students to find information and set their purpose for reading, previewing the material at this point often results in more relevant questions. Students should generate more questions as they read.
- For the **learned** column: This step provides students with opportunities to make direct links among their purpose for reading, the questions they had as they read and the information they found. Here they identify what they have learned. It is a crucial step in helping students identify the important information and summarize the important aspects of the text. During this step, students can be reflective about their process and make plans.

3. The teacher on the next reading assignments can ask students individually or in pairs to identify what they already know and then share with the class, create questions for the want-to-know column either individually or in pairs and share with class, and finally after reading, complete the learned column.
4. The teacher closes this activity with a discussion of how students can use KWL charts in their own reading and learning. Also, a discussion can take place about pertinent variations of the KWL chart's columns.

COMPARISON MATRIX

USE: All Content Areas - All Grade Levels - Before, During and After Reading
FOCUS: Comprehension Strategies: Recognizing Similarities and Differences
FOR DETAILED INFORMATION SEE: Marzano, 2001

PROCEDURE (begin by explaining and modeling):

1. The teacher writes the subjects/categories/topics/etc. across the top row of boxes.
2. The teacher writes the attributes/characteristics/details/etc. down the left column of boxes.
3. Use as few or many of rows and columns as necessary; there should be a specific reason students need to recognize the similarities and differences between the provided topics and details.
4. Explain to and model for students what each column/row of the matrix requires.

ENGLISH

	Dragon Kite of the August Moon	*Knots on a Counting Rope*	*Pepito's Story*	*Flossie and the Fox*
Characters				
Settings				
Theme				
Point of view				

MATHEMATICS

	Addition	Subtraction	Multiplication	Division
Symbols				
Relationships				
Related vocabulary				
Methods				

SCIENCE

	Mercury	Venus	Earth	Mars	Jupiter	Saturn	Uranus	Neptune
Mass								
Diameter								
Temp.								
Distance from sun								

SOCIAL STUDIES

	United States	Canada	Mexico
Area			
Longitude/latitude			
Climate			
Physical features			

RESPONSE NOTEBOOKS

USE: All Content Areas - All Grade Levels - Before, During and After Reading
FOCUS: Comprehension Strategies: Questioning, Inferring, Activating Background Knowledge
FOR DETAILED INFORMATION SEE: Readence, Moore, Rickelman, 2002; Hinson, 2000

Writing is a very powerful learning tool. Students benefit greatly from exploring their thinking through writing. They clarify their ideas, identify confusing points, integrate new information with their background knowledge, and deepen their understanding and memory of the reading. Response notebooks provide many opportunities for students to use writing as a tool for learning. Teachers can use response notebooks or journals before students read an assignment, during the reading, and/or after the reading.

Response notebook entries can be as simple or complex as the teacher chooses. One effective, efficient, simple way to use a response notebook is to pose an open-ended question before reading, have students respond after reading and then have students share with partners. Open-ended questions that have no single correct answer provide students with many possibilities for extending meaning. Here are just a few examples of possible open-ended questions: Was the title of the book/chapter a good one? Why or why not? How is this book similar to or different from other books you have read? Is there anything in the reading so far that you do not understand, and if so, what is it? What makes a book a "good" one for you, and is this book in that category? Do you like the author's style of writing? Why or why not? If you could change the ending of the book, would you change it? Why or why not? Response entries may also require students to document their ideas with evidence from the text or react to another student's entries.

PROCEDURE (begin by explaining and modeling):

1. The teacher introduces the response journal and models how to respond to open-ended questions, make connections to background knowledge, share feelings, justify opinions, etc.

2. Students then read and create their own responses in their notebooks or journals.

3. The teacher then asks students to share with the class and/or collects the journals, reads each student's journal entry and gives feedback.

4. The teacher and students discuss how they can use this strategy on their own and how it facilitates understanding and critical thinking.

5. Students throughout the year write regularly in their response notebooks and use their entries for class discussion, personal reflection or the basis for writing more formal pieces.

There are many models for a reader-response notebook. One model asks readers to write specific passages in one column and respond to them in an adjacent column. Students should be encouraged, through modeling, to provide extensive personal responses that include their own questions and reflections.

Text	Response or questions
The teacher or students provides a direct quote from the text that is challenging, interesting and/or confusing.	The student responds to the quote by predicting what will happen, what is confusing and why the quote is interesting (or uninteresting). It is a personal response to the passage chosen.

To avoid the common occurrence of the one or two short, superficial responses or a listing of facts only, the teacher needs to model a complete, thoughtful response and discuss his/her thinking process. Students should be encouraged to share quotes and responses in the discussion about the text.

Another variation of the response notebook is the dialogue notebook. Students share notebooks and respond to one another in a third column. The dialogue notebook emphasizes the important connection between reading and writing; it is this connection that leads to improved reading comprehension.

Text	Response	Dialogue
The student chooses a challenging, interesting or confusing passage.	He or she writes an initial response to the passage. This response may be only further questions about the passage.	Another student reads the passage and the response and offers further insight or perhaps even more confusion.

While the students are engaging in a written dialogue with one another, they are constructing meaning and deepening their understanding of the text. Again, it is necessary for the teacher to model this process initially with teacher-selected passages and teacher-prepared responses.

The **dialectical notebook** is another response journal format. It asks students to respond to and make sense of a text. They are asked to write what they find interesting, boring, amusing, terrifying and/or confusing. They can relate what they are reading to other parts of a text, other texts and their own experience. Every response they make must be grounded on a piece of the text, some word, phrase, sentence or paragraph that is the focus of their comment. Types of responses may be (1) their first reaction to the text: what is confusing, annoying, intriguing, and why; (2) what the text reminds them of from their own experience or other texts; and (3) the bias of the writer/narrator and indicators of the bias. The dialectical notebook is designed for the students to use as a learning tool. It is an opportunity to dialogue with authors, to question their perceptions and ideas and to extend knowledge.

ANTICIPATION GUIDES

USE: All Content Areas - All Grade Levels - Before, During and After Reading
FOCUS: Comprehension Strategies: Activating Background Knowledge, Inferring/Prediction
FOR DETAILED INFORMATION SEE: Buehl, 2001

An Anticipation Guide is a series of statements that require students to use their background knowledge and make predictions. Students are asked to read each statement of the Anticipation Guide before they read the assignment and decide whether they agree or disagree with the statement. After they have completed the reading assignment, they go back to each statement and again decide whether they still agree or disagree, given their new knowledge. Anticipation guides provide connection to prior knowledge, engage students with the topic and encourage them to explore their own thoughts and opinions.

Anticipation Guides follow a prescribed format. In this activity, the teacher creates a series of general statements related to the topic the students are going to read about. Typically, the statements are not specific details such as dates, definitions or numbers. Rather each statement is a more general statement that relates to the content but often involves some judgment. For example, a very general statement on an Anticipation Guide about the Civil War might be: "The Civil War was unavoidable" or "The Civil War still influences life in the United States."

PROCEDURE (begin by explaining and modeling):

1. The teacher analyzes the material to be read; determines the major ideas – explicit and implicit – with which the students will interact; creates short, clear declarative statements that reflect the world in which the students live or know.
2. The teacher then puts these statements into a format that will elicit anticipation or prediction making.
3. Students complete the Anticipation Guide before reading and the teacher leads a discussion and encourages the students to defend their positions with examples from their own background. This gives students opportunities to share their thoughts with others to increase their exposure to different perspectives.
4. The teacher assigns the reading selection.
5. Students then revisit the statements and evaluate them in light of the information in the text and the author's purpose.
6. The teacher encourages students to reflect on their earlier predictions and feelings about ideas compared to their feelings after they have read the text.
7. The teacher and students discuss how this strategy facilitates understanding and critical thinking.

Before reading prediction	General statements	After reading support

CHAPTER TOUR

USE: All Content Areas – All Grade Levels – Before, During and After Reading Expository Texts
FOCUS: Comprehension Strategies: Prediction, Determining Importance
FOR DETAILED INFORMATION SEE: Buehl, 2001

Students benefit from learning how to use information in textbooks to construct meaning and improve comprehension. Reading-around-the-text is a pre-reading strategy used to preview text. The text preview prepares students to understand what they will be reading. This strategy can be adapted to use with any text but works best with text that contains chapter introductions and summaries, chapter questions, pictures, diagrams and other graphics, and bold or colored vocabulary words or concepts.

PROCEDURE (begin by explaining and modeling):

1. To begin, ask students to look at the pictures. Ask: What do the pictures seem to be about? Why do you think the author may have included these in the chapter?
2. Ask students to read the picture captions. Ask: Do the captions provide additional information about the pictures? Do the captions help confirm or change your predictions of what the chapter will be about?
3. Ask students to look at any maps, graphs or charts. Ask: What types of information do the graphics provide? Why did the authors include it in this section? What do the graphics tell me about the types of information that will be in this section?
4. Ask students to look for indications of *big ideas:* words or headings in bold type, colored words, or words with their pronunciations given. Ask: Do you already know any of these words? Do these words give any clues about the subject of this section?
5. Ask students to read the first paragraph of the text (introduction) and the last paragraph (conclusion). Ask: What seems to be the major focus of the chapter according to the introduction and summary? What key ideas are mentioned? Based on this information, what do you think you will learn in this chapter? Why do you think so?
6. Tell students that any questions that appear at the end of a text section or chapter are very helpful when preparing to read. Model this stage of the strategy by using the following example: "At the end of the section, I see the 'Content Check' questions. I know these questions are important because we often discuss them in class. Sometimes similar questions are on a test. The first question asks me about some vocabulary words from the section. What important terms should I know and understand after reading this section?"
7. Ask students to look at the remaining questions and ask them to consider what they will be expected to know after reading the section. Remind students that the text preview strategy is an important pre-reading technique. Encourage them to think about the ideas and information they learned from this strategy as they read.
8. The teacher models this strategy several times with the entire class and discusses how the students can use the strategy in their own reading and learning.

The strategy can be adapted or modified to fit the text or the student. For instance, one group may be assigned to focus on the picture cues and captions, another group to focus on the big idea, and so on. Teachers may want to make a poster of the steps to display in the classroom and give students a smaller model that they can keep in their textbook.

CLASSIFICATION CHART

USE: All Content Areas – All Grade Levels – Before and After Reading
FOCUS: Comprehension Strategies: Determining Importance
FOR DETAILED INFORMATION SEE: Marzano, 2001

PROCEDURE (begin by explaining and modeling):

1. The teacher writes subjects/categories/topics/etc., across the top row of boxes.
2. Use as few or many of rows and columns as necessary; there should be a specific reason students need to recognize the similarities and differences between the provided topics and details.
3. Ensure the boxes are large enough to write in.
4. Charts can be provided in a variety of forms (e.g., varied sizes of paper, white boards, technology programs).
5. Explain to and model for students what each column/row of the matrix requires.

ENGLISH

Man vs. Man	Man vs. Nature	Man vs. Self	Man vs. Society	Man vs. Humanity

MATHEMATICS

Cubes	Spheres	Prisms	Cones	Cylinders	Pyramids

SCIENCE

Oceanology	Zoology	Geology	Meteorology	Botany

SOCIAL STUDIES

Nature	Humanity	Art	History	Politics	Religion/ Philosophy	Math/Logic

MUSIC

Composer	Genre	Style	Title	Time Period

VISUALIZING

USE: All Content Areas - All Grade Levels - Before, During Reading
FOCUS: Comprehension Strategies: Monitoring for Meaning
FOR DETAILED INFORMATION SEE: Keene and Zimmerman, 1997; Boyles, Southern Connecticut State University, 2004

Good readers create visual images or pictures in their minds as they are reading. Visualizing helps enhance a student's comprehension and memory of the text. Texts that evoke strong emotions often do so because readers can picture a particular situation.

PROCEDURE (begin by explaining and modeling):

1. The teacher reads a short selection aloud and models how he/she as a mature reader visualizes while reading.

2. The teacher reads another short selection and asks students to visualize as they listen. Discuss with the students what pictures they created in their minds and what words or ideas in the selection helped them create the pictures.

3. The teacher repeats the procedure several times until the students are comfortable with the concept of visualizing.

4. The teacher then asks students to read and visualize while they are reading and uses prompts such as:
   a. When you were reading the story, did you make any pictures or images in your mind? Tell me everything you can about that picture or image.
   b. What do you see in your mind when you read this particular sentence?
   c. Do the pictures or images help you to understand the story? How?

5. The teacher closes this activity with a discussion of how students should use visualizing in their own reading and learning.

THINK-ALOUDS / METACOGNITIVE PROCESS

USE: All Content Areas - All Grade Levels - Before, During Reading
STRATEGY FOCUS: Comprehension Strategies: Monitoring for Meaning, Predicting, Making Connections
FOR ADDITIONAL INFORMATION SEE: Hinson, 2000; Wilhelm, 2001

The think-aloud is a powerful, versatile teaching tool. It is an activity in which the "expert reader" (the teacher) demonstrates for students the thinking that occurs as he/she constructs meaning from a text. The "expert" reader makes visible to the students the thinking, questioning, predicting, reflecting, connecting and clarifying that occurs during reading. A think-aloud allows the student "to see" the reading strategies an "expert" reader uses.

PROCEDURE (begin by explaining and modeling):

Wilhelm (2001) suggests following these steps in planning and using a think-aloud:

1. The teacher chooses a short piece of text.

2. The text should be interesting to students and at their instructional level.

3. The teacher explains how a think-aloud works and identifies the strategies being used.

4. Select one or two of the core reading strategies.

5. Tell students the purposes for reading the text.

6. Tell students to listen for the strategies the teacher is using as he/she thinks aloud.

7. The teacher reads the text aloud and thinks aloud as he/she reads.

8. Read the text slowly and stop frequently to "think-aloud" — reporting on the use of the targeted strategies — "Hmmm…." can be used to signal the shift to a "think-aloud" from reading.

9. Students underline the words and phrases that helped the teacher use a strategy.

10. The teacher and students list the strategies used.

11. The teacher asks students to identify other situations in which they could use these strategies.

12. The teacher reinforces the process with additional demonstrations and follow-up lessons.

13. When students are comfortable with the procedure, they can "help" the teacher as he/she does the think-aloud. The teacher models this process several times and students discuss how they might use the strategy and how it facilitates comprehension. Eventually, students should be able to do think-alouds on their own. A teacher may have students work with a partner or in small groups and practice thinking aloud.

SEMANTIC MAP

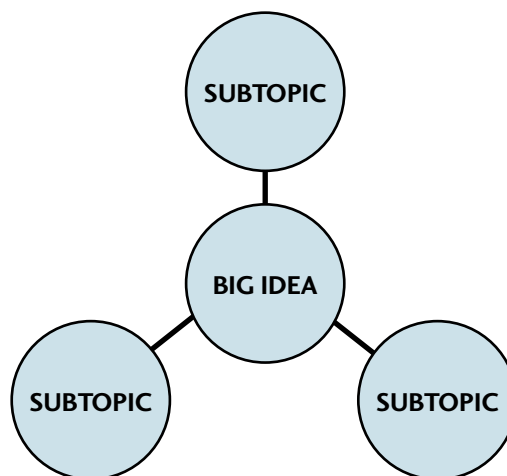**USE**: All Content Areas - All Grade Levels - Before and After Reading
FOCUS: Comprehension Strategies: Activating Background Knowledge, Predicting
FOR DETAILED INFORMATION SEE: Stevens and Brown, 1999; Readence, Moore, Rickelman, 2000

A semantic map is a visual presentation of a person's knowledge of and experiences with an identified concept. Creating a semantic map activates background knowledge and encourages making predictions about the text to be read.

PROCEDURE (begin by explaining and modeling):

1. The teacher selects a big idea or topic in the passage, writes it on a chart, overhead or board, and puts a circle around it.

2. Students brainstorm subtopics related to the topic. Lines are used to connect these to the main topic.

3. Students then brainstorm specific vocabulary or ideas related to each subtopic. Record these ideas to each subtopic.

4. Students read the text and revise the semantic map to reflect new knowledge or add new circles. There is no limit to the subtopics.

5. The teacher closes this activity with a discussion of how students can use semantic maps in their own reading and learning.

GRAPHIC THINKING ORGANIZERS

USE: All Content Areas - All Grade Levels - Before, During and After Reading
FOCUS: Comprehension Strategies: Organizing information, Synthesizing/Summarizing, Determining Importance
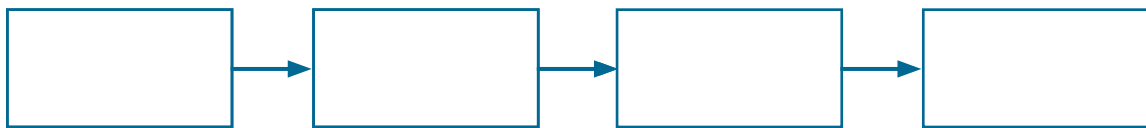**FOR DETAILED INFORMATION SEE:** Hinson, 2000; Readence, Moore, Rickelman, 2000; Marzanno, 2001

Graphic thinking organizers are visual representations of the organization of the ideas. These representations clarify the relationships of ideas and for many students make remembering the ideas easier. Students must have a wide variety of organizers to fit varied learning styles and situations. They make excellent pre-assessment, monitoring and post-assessment tools for teachers. Organizers must fit the text and purpose.

PROCEDURE (begin by explaining and modeling):

1. The teacher chooses an organizer that matches the organizational structure of the material to be read. There are graphic organizers for most organizational patterns.

2. The teacher introduces the organizer and models how to fill in the important information based on the reading assignment.

3. Students then read and complete the organizer. This may be done individually, with a partner, or in small groups.

4. The teacher then discusses with the class how they completed the organizer, what ideas they included, and how this organizer summarizes the important ideas in the reading.

5. The teacher closes this activity with a discussion of how students can use organizers in their own reading and learning.
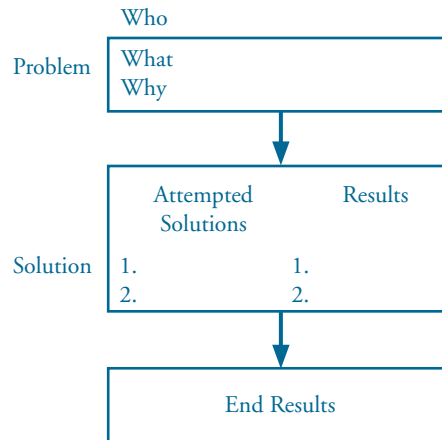
- **Time Order, Sequencing of Events, or Flow**

- **Bridge**

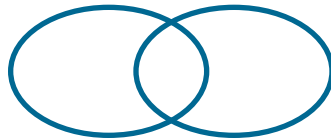- **Problem/Solution Organization**

Who

Problem | What
Why

Attempted   Results
Solutions

Solution | 1.   1.
2.   2.

End Results

- **Venn**

- **Fishbone**

Cause 1   Detail   Cause 2   Detail

Result

Cause 3   Cause 4
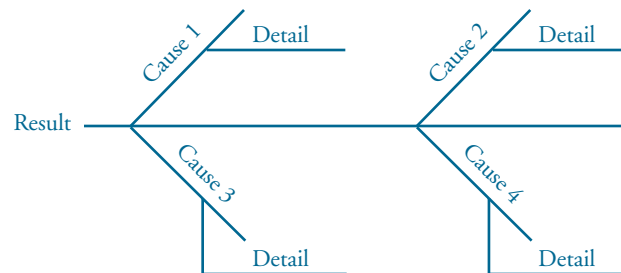
Detail   Detail

- **Fact and Opinion**

Fact	Opinion

OBSTACLE COURSE (PHYSICAL ACTIVITY)

USE: All Content Areas – All Grade Levels – During or After Reading
FOCUS: Comprehension Strategies: Activating Background Knowledge, Questioning
FOR DETAILED INFORMATION SEE: n/a

PROCEDURE: (This is a great activity for reviewing information.)

1. The teacher organizes information that students will need to review.

2. The teacher plans obstacles that must be overcome by solving problems. This works best when a physical challenge and a mental challenge are put together. If the students are young the physical challenge can be simple; as they get older the physical challenge should increase. Obstacle courses should have enough stations so that two to three students could be at a station together.

    An example for language arts: Station 1 – Students must spell a word then hop to the next station. Station 2 – Students must write an answer to a question then skip to next station. Station 3 – Students must match vocabulary words with meanings. Students jump the note card with the word to the note card with the definition (then replace them when they are done for the next student coming through).

    An example for math: Station 1 – Students can step only on numbers that are multiples of threes (make steppingstones out of paper, tape or hot spots). Station 2 - Students must solve a problem and use the answer to lead them to the next obstacle (like the number of steps). Station 3 – Students must divide the area into fractions and can safely travel through that area only (1/4 of area is safe for stepping).

3. Students progress through the obstacle course reviewing information. Students should start at different points so that there is no waiting. Students should travel in the same direction through the obstacle course (clockwise). If two to three students are traveling together, they can either work on the same problem together or have separate problems that they can choose to do. Students should replace any items that were disturbed while they were at a station.

WALK THIS WAY – TALK THIS WAY – LOOK THIS WAY

USE: All Content Areas – All Grade Levels – During Reading
FOCUS: Comprehension Strategies: Questioning, Analyzing, Evaluating
FOR DETAILED INFORMATION SEE: American Medical Association, 1990; Gardner, 1999; Meckler, 1985

Literacy includes the ability to see and interpret messages that are read, seen, and heard from all types of sources. Students will identify sources of media messages that promote dress, behavior, and body type, and analyze the messages — either obvious or cloaked. They will develop their own media message that promotes healthy behaviors — magazine, TV or radio ad, bulletin board message, webpage, billboard, pamphlet, or flier — making a clear statement to persuade others to make health-enhancing decisions. This activity provides a strategy for teaching/reinforcing visual arts and literacy skills while identifying, accessing, evaluating and applying health skills and concepts at the same time.

Students are exposed to an onslaught of media messages every day, from television, radio/iPod, magazine and Internet. Advertisers promote products by making certain appearances and body types appear cool and acceptable. By interpreting media and applying messages to themselves, adolescents and teens develop self-concepts that are positive or negative, self-acceptable or unacceptable in comparison to these images. Adolescents and teens are increasingly uncomfortable with their body images. The media set unrealistic standards for the way people should look, dress and act. Individuality and a healthy body are more important than current fashions. In this activity, students will explore messages in the media and advocate more healthy and realistic role models.

PROCEDURE (adjust to age/grade appropriateness):

1. Invite students to check out the cover and advertisements of any magazine they read. Ask the students to discuss whether the images are really what normal people look like, if this is what people are supposed to look like, and if it is realistic to look like the people in the pictures.

2. Challenge students to explore the media's effects on body image.

3. Challenge students to create an advertisement targeted to people their own age that advocates a healthy body image based on individual differences while promoting healthy lifestyles and behaviors.

Key concepts to incorporate into this activity include body types, components of body image, and elements of fitness. Let students know they will be assessed on their ability to show concepts and skills that advocate for healthy role models, healthy body and healthy behaviors.

CONCEPT OF DEFINITION MAP

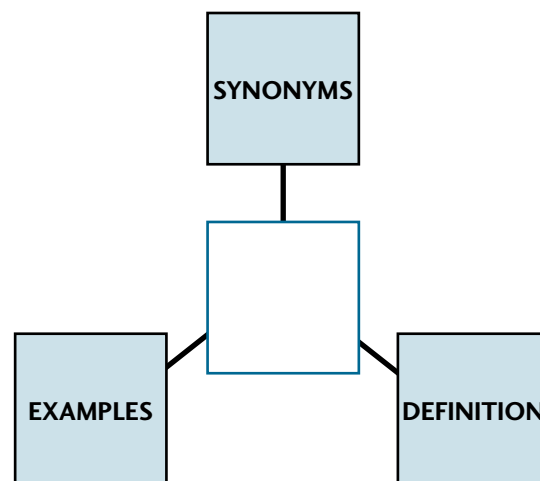**USE**: All Content Areas - All Grade Levels - Before Reading
FOCUS: Vocabulary
FOR DETAILED INFORMATION SEE: Schwartz and Raphael, 1985; Buehl, 2001

A word map is a diagram of a word's meaning that includes what it is, what characterizes it and what are examples of it. The purpose of a word map is to build personal meanings by connecting the new information with prior knowledge. It is a simple strategy that works well with content vocabulary.

PROCEDURE (begin by explaining and modeling):

1. The teacher selects or has students select a word to be explored and places the word in the center of the word map.

2. The teacher asks students to determine a *definition* that best describes the word and write it in an appending box.

3. Next the students provide some words that are *synonyms*.

4. The students then provide some specific *examples* of the word.

5. The teacher and students discuss the word map and relate it to the reading assignment.

6. Students read the text, revisit the map, and make modifications or additions.

7. The teacher closes this activity with a discussion of how students can use word maps in their own reading and learning.

SYNONYMS

EXAMPLES

DEFINITION

CONTEXT CLUES FOR DETERMINING WORD MEANINGS

USE: All Content Areas - All Grade Levels - During Reading
FOCUS: Vocabulary
FOR DETAILED INFORMATION SEE: Vacca and Vacca, 1999

Context clues can sometimes be very helpful in facilitating students' inferring of unfamiliar word meanings. It should be noted that the focus here is on using context to figure out what words *mean*, not on using context to *read* words.

PROCEDURE (begin by explaining and modeling):

1. The teacher explains to students the eight types of context clues and gives examples of each.

    Eight types of context clues:

    • Definition – uses a definition that often connects the unknown word to a known word
    • Example-Illustration – uses an example or illustration to describe the word
    • Compare-Contrast – uses a comparison or contrast to define the word
    • Logic – uses a connection such as a simile to the unknown word
    • Root Words and Affixes - uses meaningful roots and affixes to determine meaning
    • Grammar – provides syntactical cues that allow the reader to hypothesize meaning
    • Cause and Effect – uses a cause and effect example that allows the reader to hypothesize the meaning
    • Mood and Tone – uses a description of mood related to the word that allows the readers to determine the meaning (Vacca and Vacca, 1999)

2. The teacher uses a read-aloud and think-aloud to demonstrate how to use one or more of the clues to determine the meaning of a difficult or unfamiliar word in the text. The think-aloud highlights the most effective clue based on the context of the sentence. The teacher should model how readers use several of the clues to figure out the meanings of unknown words.

3. If the context does not provide enough information, the teacher demonstrates other strategies for figuring out the meaning of the word – such as making an educated guess, using a dictionary, talking to a friend, etc.

4. The teacher and students discuss how to use these context clues as they read and how they help the students understand the text.

LIST-GROUP-LABEL

USE: All Content Areas - All Grade Levels – Before and After Reading
FOCUS: Vocabulary
FOR DETAILED INFORMATION SEE: Readence, Moore, Rickelman, 2000

Activating prior knowledge about a topic helps in the development of a clearer understanding about concepts to be learned. In the List-Group-Label activity students begin with a key word and then proceed to categorize and organize around these categories their background knowledge and eventually their new knowledge from the text.

PROCEDURE (begin by explaining and modeling):

1. The teacher writes a cue vocabulary word on the board or overhead.

2. Students brainstorm other words related to the vocabulary word while the teacher writes down all ideas.

3. The teacher leads a discussion about whether any words or concepts should be eliminated and, if so, why.

4. The teacher divides the class into groups of three or four. The groups cluster the words and give each cluster a descriptive term.

5. The groups share their clusters and give reasons for their choices. There are no wrong answers if clusters and labels can be justified.

6. Students then read the text. When finished, the teacher asks the students to revisit their clusters and change, add to or modify their clusters.

7. The teacher and students share their clusters and discuss their rationales.

8. The teacher closes this activity with a discussion of how students can use list-group-label in their own reading and learning.

POSSIBLE SENTENCES

USE: All Content Areas - All Grade Levels – Before and After Reading
FOCUS: Vocabulary
FOR DETAILED INFORMATION SEE: Readence, Moore, Rickelman, 2000; Buehl, 2001

In the possible sentences activity students are given the new vocabulary terms from a reading assignment and asked to create sentences that they believe are reasonable, possible uses of the words. This activity encourages students to use their background knowledge, draw connections between the known and unknown, and make predictions about the content of the reading assignment.

PROCEDURE (begin by explaining and modeling):

1. The teacher chooses six to eight words from the text that are key concepts for the topic being studied and lists them on the board or overhead.

2. The teacher then chooses another four to six words from the text that may be more familiar to the students and list them on the board or overhead.

3. The students (individuals or groups) develop sentences using at least two of the words in each sentence. The teacher writes all contributed sentences on the board.

4. After reading, the students revisit the original sentences to confirm, extend or revise as needed. They add any new information to the sentences and then can use the revised sentences as the basis for creating summaries.

5. The teacher closes this activity with a discussion of how students can use possible sentences in their own reading and learning.

SEMANTIC FEATURE ANALYSIS

USE: All Content Areas - All Grade Levels – Before and After Reading
FOCUS: Vocabulary
FOR DETAILED INFORMATION SEE: Readence, Moore, Rickelmlan, 2000; Buehl, 2001

The semantic feature analysis activity requires students to make predictions about attributes related to specific vocabulary words or concepts, to set a purpose for reading or researching, and to confirm predictions.

PROCEDURE (begin by explaining and modeling):

1. The teacher selects a topic, some words or categories that relate to the topic or theme and lists the words in the left-hand column of the semantic feature analysis chart.

2. The teacher then chooses attributes that relate to one or more of the words and lists those across the top row of the chart.

3. Students study the words and attribute and make predictions about which attributes relate to each word by placing a "+" if it is a characteristic, a "–" if it is not, and a "?" if they are not sure.

4. The teacher and students discuss their predictions and students explain why they chose specific characteristics.

5. Students then read and modify their charts as they find additional information.

6. After completing the reading, the students share completed charts in small groups and then discuss as a class.

7. The teacher closes this activity with a discussion of how students can use semantic feature analysis charts in their own reading and learning.

	USA	Japan	Australia
Democratic Government	+	+	+
Population 100M-plus	+	?	-
Centrally planned economy	-	-	-

VOCABULARY BY ANALOGY WITH WORD WALLS

USE: All Content Areas - All Grade Levels – During Reading
FOCUS: Vocabulary
FOR DETAILED INFORMATION SEE: McLaughlin and Allen, 2002

The vocabulary-by-analogy helps students use morphemes (examples: *non-, -cracy*) to figure out the meaning of unknown words and make connections between words they know and new words. It targets common root words, prefixes and suffixes.

PROCEDURE (begin by explaining and modeling):

1.   The teacher explains the meanings of common roots, prefixes and suffixes, and provides examples of each from the content vocabulary. (e.g., *democracy, triangle, bisect*)

2.   The teacher and students create a word wall of these examples. Students may also create individual, personal word charts.

3.   The teacher models for students, using a think-aloud, how to use these parts of words to figure out the meaning of unfamiliar words.

4.   The teacher provides opportunities for students to practice figuring out new vocabulary by analogy in context. Prompt students with verbal cues if necessary. Refer them to use the class word wall as a resource.

5.   The teacher encourages students to use this strategy to figure out the meaning of new words they encounter while reading.

KNOWLEDGE RATING SCALE

USE: All Content Areas - All Grade Levels – During and After Reading
FOCUS: Vocabulary
FOR DETAILED INFORMATION SEE: Allen, 1999

This vocabulary activity introduces a list of potentially unknown content words to students. It is designed to help students become aware of how much they may already know about the subject to which the words are related. By using this activity, teachers will be able to gauge the depth of students' existing knowledge and note what areas need special attention during instruction. This activity can be used with fiction or nonfiction.

PROCEDURE (begin by explaining and modeling):

1. The teacher selects a list of important vocabulary words from the new unit, story or chapter, and writes them into a knowledge rating scale chart (see below).
2. The teacher divides students into mixed ability groups of three or four to provide opportunities to share background knowledge.
3. Students consider each word in the knowledge rating scale and place an "X" in the appropriate column next to the word. The teacher should model and explain each category. For example, if they can define the word, they would place the X in the first column. If they have heard it or have seen it, but are unsure of its meaning, they should place an X in the second column. If it is totally unfamiliar, they should place an X in the third column labeled "No clue."
4. After students have completed the chart, they can write definitions for the words they have marked in the "Can define" column.
5. The teacher then leads the class in a discussion about the words for which students have definitions. As students read the chapter or story, the students are to add definitions for unknown words, or if appropriate, change the definitions they have written.
6. The teacher closes this activity with a discussion of how students can use knowledge rating scales in their own learning.

Word	Can define	Have seen or heard	No clue
abusive			
hierarchy			
martyrs			
maneuvering			
infatuated			
elation			
distraught			
resigned			
dilapidated			

REPEATED READINGS

USE: All Content Areas - All Grade Levels - During Reading
FOCUS: Fluency
FOR DETAILED INFORMATION SEE: Carnine, Silbert, Kame'enui, and Tarver, 2004; Honig, Diamond, and Gutlohn, 2000

This activity involves the use of the repeated-reading technique for improving students' reading fluency. It may be used in any grade for students needing work on fluency; a wide range of reading materials, including both fiction and nonfiction (e.g., content area textbooks), may be used. However, the reading materials should be at individual students' instructional to independent reading levels (i.e., materials in which a student can read with 90-100 percent word accuracy). That is, the technique is intended to be used with text the student can read fairly accurately, but not quickly or with ease.

PROCEDURE (begin by explaining and modeling):

1. The teacher selects a 100-200 word passage for reading practice. The passage should be too long for students to memorize. Different passages may be used for different students, and students may help to select the passage.

2. The teacher models reading a separate passage (one not being read by any student) aloud. She/he discusses the importance of accurate and fluent word reading, as well as phrasing and expression, to comprehension. The teacher also notes the importance of practice to developing fluency.

3. Using a one-minute timer, the teacher has each student do an initial reading of the passage. The student reads the passage aloud (to her/himself or to a partner), underlines any unknown words, and makes a vertical line after the last word read when the timer goes off. The student or partner counts the number of words read correctly in one minute.

4. The teacher circulates among students, helps students read any unknown words, and sets a new target rate for each student based on his or her initial rate. The new target rate should be high enough that the student will need to practice the passage several times; Carnine et al. suggest a rate about 40 percent higher than the original rate. For instance, if a student read 60 words per minute on the first try, the new target rate would be 60 + 24, or 84 words per minute.

5. Students do multiple re-readings of their passages until they reach their target rates. Students who reach their target rates on the first passage may move on to a new passage (but with the same target rate). If students are working in pairs, they alternate roles in terms of reading aloud vs. keeping track of time and counting words.

6. Students who maintain their target rates on multiple passages over several class sessions may increase their target rates another 40 percent.

Fluency activities should continue until students can read grade-appropriate materials at desired reading rates; Carnine et al. suggest 150 words per minute for students in Grade 4 and up.

READERS THEATER

USE: All Content Areas – All Grade Levels – During and After Reading
FOCUS: Fluency
FOR DETAILED INFORMATION SEE: Honig, Diamond, and Gutlohn, 2000; Aaron Shepard's Readers Theater website (www.aaronshep.com/rt/RTE.html)

Readers Theater is another technique for improving students' reading fluency. It involves having students "perform" plays or narrative stories that are practiced over a period of time (usually several days). These performances do not necessarily have to involve props, costumes or a stage; they can be as informal (or as formal) as desired. If a narrative story is used, one that has a number of characters and dialogue is best. The Readers Theater fluency technique is typically used at the lower end of the 4-12 grade range, although it could easily be employed with older students. Readers Theater can also be adapted to certain content areas, especially social studies and history, if content-relevant dramatic material is selected (see, e.g., Morris, 2001). As in the repeated-readings technique, the reading material should be at students' instructional to independent reading levels.

PROCEDURE (begin by explaining and modeling):

1. The teacher selects an appropriate narrative or play and prepares rehearsal copies. In each copy, individual characters' roles are highlighted. If a narrative is used instead of a play, students will also need to be assigned as narrators (i.e., their tasks will be to read parts of the narrative that do not involve dialogue). The teacher can divide students into groups and give each group the same play/narrative, or alternatively, the groups can be assigned different plays/narratives.

2. The teacher practices reading parts of each "script" aloud with students for effective modeling, with particular attention to the ways that oral expression affects meaning (e.g., how different characters' feelings may be conveyed through differences in intonation).

3. Students practice their scripts in groups with the teacher circulating among groups to provide feedback and coaching. The teacher also ensures that the students have good comprehension of their scripts. During group practice, members of the groups should alternate roles so that all group members have a chance to try out different roles.

4. After the groups have had adequate time to practice their scripts (typically several class sessions), students choose (or the teacher assigns) roles. Students take home copies of their scripts to practice reading (but not memorizing) their roles at home.

5. Students "perform" their scripts (i.e., read them expressively) in front of an audience, which may simply involve other class members, or which may include different classrooms, teachers and/or parents.

SPELLING SELF-CORRECTION

USE: All Content Areas - All Grade Levels - During and After Writing
FOCUS: Spelling
FOR DETAILED INFORMATION SEE: Honig, Diamond, and Gutlohn, 2000

This activity helps students recognize and self-correct their own spelling errors. It can be used with students at any age who have at least a basic level of spelling skill (e.g., the ability to spell most words phonetically) and in any content area where students' spelling is a concern.

PROCEDURE (begin by explaining and modeling):

1. The teacher begins by explaining to students why recognizing and being able to correct one's own spelling errors is important. She/he further explains that three main types of mistakes account for most spelling errors.

2. One type of error involves misspelling a word because you pronounce it differently from the standard way of pronouncing it (e.g., *git* for *get* or *ax* for *ask*). To catch this error, you can try asking the teacher or other students to pronounce a word. Listen carefully to see if they pronounce the word the way you do.

3. A second type of error is misspelling a word because, even though you included the correct letters, you did not write them in the correct sequence (e.g., *govren* for *govern* or *claps* for *clasp*). To catch this mistake, carefully read over what you have written and try to say each word as you have spelled it. Look for words where you may have inadvertently reversed letters.

4. The third and most common error involves misspelling a word because, even though you spelled it the way it sounds, you picked the wrong spelling of a sound. In English many sounds can be spelled more than one way. Examples of these kinds of errors include *graff* for *graph* or *candel* for *candle*. You can catch these types of errors by being aware of multiple ways to spell the same sound and by using resources such as dictionaries.

5. Using a recent writing sample, have students exchange samples with a partner and look for each other's misspelled words, circling them. Have students try to classify the words according to the type of spelling error.

6. Students then check the spelling of the words in a dictionary or other resource and write the correct spelling.

7. Encourage students to use their knowledge about the three types of errors in editing their written work, as well as to make use of classroom resources such as dictionaries, a proofreading partner, spell-checkers, and the teacher.

CLUES TO SPELLING FROM WORD RELATIONSHIPS

USE: All Content Areas - Grades 6-8 - During Reading
FOCUS: Spelling
FOR DETAILED INFORMATION SEE: Honig, Diamond, and Gutlohn, 2000

One reason why English spelling is difficult is that in long words, vowels in unaccented syllables often take a schwa sound (a brief, unstressed short u or short i sound). For example, it is impossible to "hear" that the second vowel in *definition* is spelled with an *i* or that the second vowel in *colonist* is spelled with an *o*; these are both schwa sounds that could be spelled in multiple ways (e.g., *defanition* is an acceptable phonetic rendition of *definition*). However, multisyllabic English words often have stable bases or roots that provide clues to the spelling of related words. The following activity is intended to convey this concept to students as a way to help them spell unfamiliar long words.

PROCEDURE (begin by explaining and modeling):

1. The teacher asks the students to write the following words: *definition, colonist, human, composition, inspiration, perfect, democratic, competition, hostile, invitation*. She/he then asks the students to circle the **second** vowel in each word. She/he notes that, in each word, these vowel sounds are especially difficult to spell because they have an unstressed (schwa) sound — you can't "hear" the correct vowel the way you often can hear it in shorter words.

2. Using the first word (*definition*) as an example, the teacher illustrates how knowledge of related words can serve as a clue to spelling. The word *define* is related to *definition*, and in *define*, you can clearly hear the *i* sound. If necessary, students should correct their spellings of *definition*.

3. Using the second word (*colonist*) as an example, the teacher also illustrates that the most helpful related word is not necessarily the root word or a shorter word. *Colony* is not helpful in spelling the second vowel of *colonist*, because *colony* also has a schwa vowel in the same position. However, the related word *colonial* provides the clue that the second vowel sound is represented by an *o*. If necessary, students should correct their spellings of *colonist*.

4. Individually or in teams, students should consider the remainder of the words on their lists. They should be directed to write all related words they can think of, find the related word that provides the clue to the spelling of the original word on the list, and correct the spelling of the original word if necessary (examples of helpful related words are listed below). They can also be asked to highlight or underline the part of each word that is stable in spelling (e.g., <u>human</u>, <u>human</u>ity, <u>human</u>ly, in<u>human</u>, super<u>human</u>). While the students are working, the teacher circulates among them and provides assistance as needed.

5. The teacher summarizes the spelling strategy for students or elicits the strategy from them: "If you are not sure how to spell a vowel sound in a long word, try to think of a word related in meaning."

Helpful related words for the words in the list: *human, humanity; composition, compose; inspiration, inspire; perfect, perfection; democratic, democracy; competition, compete; hostile, hostility; invitation, invite*

WORD SORTS

USE: All Content Areas - Grades 4-6 - Before and During Reading
FOCUS: Spelling
FOR DETAILED INFORMATION SEE: Honig, Diamond, and Gutlohn, 2000; Moats, 2000

The word sort activity is helpful for teaching a range of spelling generalizations. The generalization used here involves doubling the final consonant of a long word ending in a consonant-vowel-consonant (CVC) syllable when adding an ending that begins with a vowel.

PROCEDURE (begin by explaining and modeling):

1. The teacher begins by talking to students about the fact that, although English spelling is complex, there are many predictable patterns in English words. If you become aware of these patterns, you can improve your spelling. "Today's lesson is going to focus on long words with endings like -ed, -ing or -er."

2. The teacher writes the following words on the board (or gives students a worksheet containing the words): *permitted, opening, beginner, traveled, propeller, happened, occurring, committed, labeling, developer, referred, burdened.*

3. On a separate piece of paper, students make two columns. The heading of one column is: "Single consonant before ending"; the second is labeled: "Doubled consonant before ending." Working in teams, students sort the words into the correct category by writing them in the appropriate column. The teacher circulates among students, providing assistance as needed.

Single consonant before ending	Doubled consonant before ending

4. Students are asked to find the pattern that indicates the generalization (or rule) for when to double the final consonant. If students are having difficulty, ask them to write the base word for each word and look for something that distinguishes the two sets of base words. The correct generalization is as follows: The final consonant is doubled when the accent is on the CVC syllable (e.g., in *propel*, the *pel* is accented, so the *l* is doubled before adding *er*, whereas in *happen*, the accent is on the first syllable *hap*, so the *n* is not doubled). Also, the rule applies only if the ending begins with a vowel, e.g., commit + ed = *committed* but commit +ment= *commitment*, no doubling. The teacher can introduce the latter distinction within the same lesson or in a subsequent lesson, depending on the students' needs.

5. When the students understand the generalization, the teacher has them apply it to a new set of words written on the board (or on a worksheet), such as: prefer + ed; differ + ing transmit + ed; excel + ed; sharpen + er; suffer + ing. (Answers: *preferred, differing, transmitted, excelled, sharpener, suffering*.)