Teaching Word-Learning Strategies

> For every word known by a child who is able to apply morphology and
> context, an additional one to three words should be understandable.
>
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Teaching students word-learning strategies—strategies such as using context and word parts to unlock the meanings of words they don't know—is tremendously important. With tens of thousands of words to learn, anything we can do to help students become more proficient independent word learners is an absolute necessity. Fortunately, we can do a lot to sharpen students' skills at learning words on their own. This, as Nagy and Anderson (1994) suggest, will enable students to more than double the number of words they learn.

In this chapter, I discuss five ways in which we can help students become increasingly competent at learning words on their own. These are

- Using Context to Unlock the Meanings of Unknown Words
- Using Word Parts to Unlock the Meanings of Unknown Words
- Using the Dictionary and Related Reference Tools
- Developing a Strategy for Dealing with Unknown Words
- Adopting a Personal Approach to Building Their Vocabularies

Before describing instruction to build students' competence in each of these important areas, I will first describe a very powerful general model for teaching strategies, a model that underlies all of the instructional procedures I discuss in this chapter.

A POWERFUL MODEL FOR TEACHING STRATEGIES

A substantial body of theory and research has supported two approaches to teaching strategies—direct explanation of strategies and

transactional strategies instruction (Sales & Graves, 2005). *Direct explanation of strategies* has been repeatedly validated and endorsed over the past 2 decades (e.g., Duffy, 2002; Duffy et al., 1987; Duke & Pearson, 2002; Graves, Juel, & Graves, 2004; National Reading Panel, 2000; Pearson, Roehler, Dole, & Duffy; 1992, RAND Reading Study Group, 2002; Sweet & Snow, 2003). Direct explanation of strategies is a very explicit, step-by-step approach. Usually, carefully prepared materials specifically designed to facilitate students learning the strategy and carefully pre-planned lessons are used. A typical unit that is used to initially teach a strategy might last from several days to several weeks. Such a unit begins with the teacher doing the bulk of the work—explaining the strategy, noting its importance, modeling its use, and the like. Then, gradually, the instruction is modified so that students assume primary responsibility for use of the strategy.

The basic components of direct explanation of strategies are listed below.

- An explicit description of the strategy and when and how it should be used
- Teacher and/or student modeling of the strategy in action
- Collaborative use of the strategy in action
- Guided practice using the strategy with gradual release of responsibility
- Independent use of the strategy (Duke & Pearson, 2002, pp. 208–210)

Following these steps is a powerful, effective, and efficient way to initially teach a strategy. Used by itself, however, direct explanation may be too artificial and too separated from the ongoing activities of the classroom. Students may learn to use the strategy during the special periods set aside for strategy instruction but then fail to use it when they are reading at other times of the school day and outside of school.

In response to this problem, Pressley and his colleagues developed *transactional strategies instruction*. It too has been validated in a number of studies (e.g., Brown, Pressley, Van Meter, & Schuder, 1996; Pressley, 2000, 2002; Pressley, El-Dinary, et al., 1992; Reutzel, Fawson, & Smith, 2003). Like direct explanation, transactional strategies instruction includes some direct explanation as part of the initial instruction. Compared to direct explanation, however, transactional strategies instruction is much less structured, and the period of direct explanation is likely to be brief. Moreover, transactional strategies instruction is introduced as part of the ongoing reading activities in the classroom when the oc-

casion arises for students to use a particular strategy. This means that the instruction cannot be preplanned and special materials to facilitate teaching it cannot be prepared in advance. Although there is solid evidence that transactional instruction is effective, there is also clear evidence that relatively few teachers can and do learn to use transactional strategies instruction (Pressley & El-Dinary, 1997; Pressley, 2002). Because it is an on-the-fly approach and not supported by a specific curriculum and instructional materials, teachers have found it very difficult to work transactional strategies instruction into the school day.

The approach described in this chapter, *balanced strategies instruction*, combines these two approaches and modifies them in several ways. Balanced strategies instruction is initially more deliberate and carefully planned than transactional instruction but later on includes more review, rehearsal, integration, and constructivist activities than direct explanation. Additionally, balanced strategies instruction includes more direct attention to motivation and engagement than is often included in the other two types of strategies instruction. Finally, in keeping with the approach to strategy instruction described by Paris, Lipson, and Wixson (1983), with balanced strategies instruction, students are given declarative, procedural, and conditional knowledge. That is, they receive detailed knowledge about the strategies, they learn how to actually use them, and they learn when to use them.

Here are some guidelines to follow when working with balanced strategies instruction, guidelines modified from suggestions given by Pressley, Harris, and Marks (1992).

- In the initial planning of instruction, at the beginning of the actual instruction, throughout the initial instruction, and in follow-up activities, teachers give substantial attention to motivating students to use the strategies, particularly by highlighting the empowerment that comes when students use the strategies on important academic tasks.
- Teachers fully explain and discuss with students the value of the strategies and rationales for using them, including why strategies aid performance and when they can be used profitably.
- Teachers extensively model the strategies and provide verbal explanations and collaborative discussion of the thinking processes associated with strategy steps.
- Teachers provide extensive feedback and engage in substantial collaborative discussion with students as they try strategies.
- Instruction and practice extend over a long period of time and across diverse tasks.

- Teachers and students determine opportunities for transfer, not just during initial instruction but also during the weeks, months, and even years following the initial instruction.
- Teachers encourage habitual reflection and planning. Assisting students in appropriately using word-learning strategies is one part of the larger goal of making students metacognitive in their learning.

USING CONTEXT CLUES

Using context clues to infer the meanings of unknown words is the first word-learning strategy I consider because it is the most important one. Most words are learned from context, and if we can increase students' proficiency in learning from context even a small amount, we will greatly increase the number of words students learn. It is therefore vital to provide students with rich, sustained, and powerful instruction on using context clues. Providing such instruction takes a good deal of time and effort on the part of both teachers and students. The instruction outlined here takes place over ten 30–45-minute sessions. A sample schedule is shown in Figure 5.1. In what follows, I describe the first two days of instruction in some detail and then much more briefly describe the rest of the unit. The instruction is described as it would be presented to students in the upper elementary grades. With older students, the language and examples would be somewhat more sophisticated.

Day 1—Introduction and Motivation

Because learning to use context clues is a demanding and challenging task, the teacher introduces the unit with a substantial motivational activity designed to both gain students' interest and enable them to relate the task of using context clues to infer word meanings to an activity they are familiar with—using a VCR.
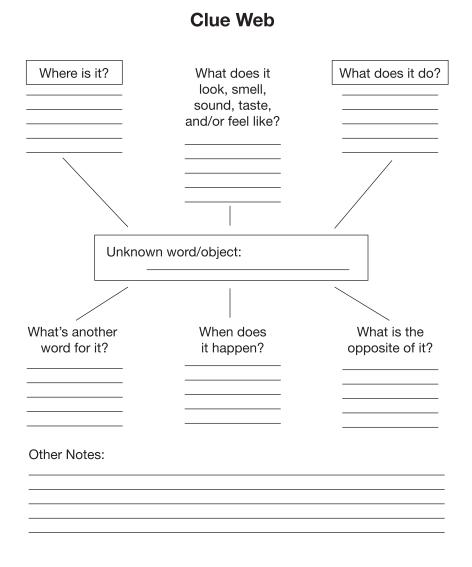
She begins by telling students that over the next few weeks the class is going to be working on using context clues to figure out the meanings of unknown words they come across while reading. Using clues to figure out things they don't know, she tells them, is something they do all the time, something they're good at, and something that is fun. Then, she tells them that they'll begin their study of context clues by viewing a brief video showing a place they might know and that their job is to look for clues to what the place is.

Figure 5.1. Overview of a Unit on Context Clues

DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
Motivation and introduction to using context to infer meaning using a videotape	Introduction to using context clues to infer word meanings and to the four-step strategy	Detailed instruction in the first two steps of the strategy: Play and Question, and Slow Advance	Detailed instruction in the second two steps of the strategy: Stop and Rewind, and Play and Question	Game in which students earn points for using the four-step strategy to infer word meanings
DAY 6	**DAY 7**	**DAY 8**	**DAY 9**	**DAY 10**
Review of using context clues and the four-step strategy; renaming of the four steps without the VCR terminology	Guided practice—and further instruction if necessary—in using the four-step process with teacher-provided narrative texts.	Guided practice—and further instruction if necessary—in using the four-step process with teacher-provided expository texts.	Guided practice—and further instruction if necessary—in using the four-step process with authentic texts currently being used in the class.	Review of using context clues and the four-step strategy; student-teacher planning on strategically using and learning more about context clues

Just before showing the video, the teacher passes out the Clue Web shown in Figure 5.2, puts a copy of the Clue Web on the overhead, and tells students that they will use the Clue Web today as they watch the video and over the next few weeks as they learn to use context clues. She goes on to tell them that they probably won't be able to answer all of these questions and should jot down brief answers, while trying to figure out as much as possible about the place described in the video.

At this point, the teacher shows the video, gives students a few minutes to fill in clues on their Clue Web, and then begins a dialogue with them.

Figure 5.2. Clue Web

Clue Web

Where is it?	What does it look, smell, sound, taste, and/or feel like?	What does it do?
_____		_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	
	_____	

Unknown word/object:
_____

What's another word for it?	When does it happen?	What is the opposite of it?
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Other Notes:

_____
_____
_____
_____
_____

"Was everyone able to get all of the information they needed to answer the questions after watching the video once? Did you catch all that the tour guide said? What would help you figure out even more of the answers?"

Students will almost certainly say that they could learn more if they could watch the tape again. If they don't, the teacher points this out and then replays the video.

After this, she asks for a volunteer to identify the place described in the video, which is Hawaii.

Next, the teacher asks students what clues suggested it was Hawaii. Likely responses include "Hawaiian music," "palm trees," "the beach," and "tropical fruits." The teacher writes these clues on the Clue Web and compliments students on their efforts. Then she challenges them to identify more clues that this is Hawaii and replays the video as many times as students request.

Each time the video is replayed, students record additional clues on their Clue Web and report them to the class. The goal is to demonstrate that the more carefully students watch and the more times they watch, the more clues they can find.

The teacher concludes the introductory lesson by noting that finding all of the clues and figuring out that the place shown in the video was Hawaii required hard work and persistence, that each time they viewed the video again they found more clues, and that this same sort of sleuthing is what they need to do when they are trying to figure out unknown words they meet while reading. She goes on to say that beginning tomorrow they will be learning a particular strategy—a powerful plan—for figuring out the meanings of unknown words they come across. And, she notes, they will find that the strategy is a lot like the approach they used to figure out that the place shown in the video was Hawaii.

Day 2—Introduction to Using Context Clues and the Four-Step Strategy

The teacher begins Day 2 with a brief review of what the class did on Day 1, and then moves quickly to the topic for the day, learning a powerful strategy for figuring out the meanings of unknown words they meet while reading.

"Today, we're going to learn a strategy for using clues to figure something out. But this strategy will not be for figuring out what

place is shown in a video. Instead, it will be for figuring out the meanings of unknown words that we meet when we're reading."

"Actually, we won't exactly be 'figuring out' meanings. Instead, we'll be 'inferring meanings.' The strategy is called Inferring Word Meanings from Context. When we infer something, we make an educated guess about it. And when we infer word meanings from context, we are making educated guesses about the meanings of the words. The context in which we find a word doesn't usually tell us the exact meaning of a word, but it often gives us a good idea of the word's meaning, and that is often enough to understand what we are reading."

At this point, the teacher puts up a large and colorful poster with the name of the strategy and its four steps (see sample poster in Figure 5.3) and asks students if they recognize the strategy shown on the poster. A number of students note that they do recognize it, that it is the VCR strategy they worked with the day before.

"Right. This is the same strategy we used yesterday, but now we are applying it to figuring out unknown words we meet in reading rather than to figuring out an unknown place we see in a video. Here's how it works."

"As you can see, the first step in the strategy is Play and Question. That means you read carefully, always asking yourself if you are understanding what you are reading."

"Then, when you come to a word you don't know, you move to the second step—Slow Advance. At this point, you slow down, read the sentence at least once more looking for clues to the meaning of the word, and see if you can infer its meaning."

"If you can infer the word's meaning from just rereading the sentence, that's great. You continue to read. But if you can't infer the word's meaning from reading the sentence, it's time to move to the third step of the strategy—Stop and Rewind. At this point you stop, go back, and read the sentence or two that comes before the one with the unknown word, again looking for clues to the meaning of the word."

"If you can now infer its meaning, excellent. You can move on to the fourth step of the strategy, which is also called Play and

Figure 5.3. Sample Poster Showing Four-Step Strategy for Inferring Word Meanings from Context

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FOUR-STEP STRATEGY
(Inferring word meanings from context)

1. Play and Question

Read carefully.

Frequently ask yourself, "Does this make sense?"

2. Slow Advance

Notice when you don't know the meaning of a word and slow down.

Read that sentence at least once more, looking for clues.

3. Stop and Rewind

If necessary, go back and reread the preceding sentence, looking for clues that help you figure out what the word might mean.

4. Play and Question

When you figure out what the word might mean, substitute your guess in for the difficult word and see if it makes sense.

If it does, keep on reading.

If it doesn't, stop and rewind, and try again.

Question. But this time Play and Question means to try out the word you inferred. Substitute your educated guess for the word you didn't know and see if that works. If it does, keep on reading. If it doesn't, you'll need to Stop and Rewind again, ask someone about the word, look it up in the dictionary, or simply continue to read, understanding the passage as well as you can without knowing the meaning of the word."

"I know that all of this sounds pretty complicated. And using context clues to infer the meanings of unknown is going to take some work. But the work is well worth it because learning to use context clues helps to make you an independent and powerful

reader, a reader who can read anything because you know what to do when unknown words come up. Don't worry if you don't understand the strategy well right now. We are going to spend 2 weeks on it, and together we can master it."

"Now it's time to try out the strategy. And remember, this is just the first of many times we'll do this, and I will be helping you all the way."

Guided Practice. After explaining how to use the four-step strategy for inferring word meanings from context, the teacher and the class work together to infer the meaning of a difficult word. The following teacher-student dialogue is a good example of Guided Practice for the instruction on using context clues.

Teacher: Much like we did with the video, we are going to take a small section of a book and make sure we understand it before moving on. I will read a paragraph aloud and then stop and check to make sure everyone understood the words and the ideas. The book is *The Phantom Tollbooth* by Norton Juster. As you will see, the story is set in a very strange place. Here is the paragraph we're going to work with.

    "A-H-H-H-R-R-E-M-M," roared the gateman, clearing his throat and snapping smartly to attention. "This is Dictionopolis, a happy kingdom, advantageously located in the Foothills of Confusion. The breezes come right off the Sea of Knowledge and cool the foothills gently. In this kingdom we don't have the cold temperatures like at the top of the mountains, nor the rain that the other side of the mountain gets."

Teacher: This gateman is welcoming the main character, Milo, into his city of Dictionopolis. Notice that Foothills of Confusion and Sea of Knowledge are capitalized. What does that tell you?

Students: They're proper nouns. . . . They're names of places.

Teacher: Exactly. Knowing what sorts of words are capitalized will help you understand this section.

Teacher: Did everyone understand the paragraph completely? If we don't understand everything, what could we do?

Students: Reread it. . . . Read it again. . . . Read it slower. . . . Ask ourselves questions as we are reading it.

Teacher: Good thinking. You came up with two of the steps to our strategy, Slow Advance and Stop and Rewind. Let's use

those two steps now. As I reread the paragraph, listen for words that you don't know.

[*The teacher again reads the paragraph aloud.*]

Teacher: Were there any difficult words in the paragraph? If so, what were they?

Students: Advantageously.

Teacher: Let's highlight that one. Now, let's reread just the sentence that *advantageously* is in and the one after it. We don't need to reread the whole thing every time, just the section we're focusing on.

[*The teacher rereads just the one sentence.*]

Teacher: Does *advantageously* sound like a positive thing?

Students: It does to me. . . . It says that it is a happy kingdom. I think that it has a positive meaning.

Teacher: What are some of the things the paragraph tells us about this kingdom?

Students: That it gets nice breezes off the sea. . . . It's not as cold as the mountain peaks and it's not as rainy as the other side of the mountain.

Teacher: Would that make it a pleasant place to live?

Students: Yes. . . . It's nice to have a breeze. . . . It's also good that it's not too cold. . . . And being not so rainy is a good thing too.

Teacher: What is the word *advantageously* describing?

Students: Where this city is located.

Teacher: That's right. The city is located in an advantageous place. What do you think that *advantageous* could mean?

Students: Nice?

Teacher: Let's add an *-ly* to that because our unknown word had an *-ly*. Then, let's write *nicely* above the word *advantageously*. Now, we should reread the paragraph with our replacement word to see if it makes sense. This time, while I'm reading, ask yourself if you understand what sort of place the story takes place in.

[*The teacher crosses out* advantageously *on the overhead and replaces it with* nicely.]

Teacher: What do you think? Did *nicely* fit in the sentence OK? Does the sentence make sense now?

Students: Yes. . . . It does make sense. . . . Dictionopolis sounds like a good place to live.

Teacher: I agree. I think that we now have a better understanding of the whole paragraph because we understand the word

advantageously better. That's what learning to use context to infer word meanings can do. It can help us learn words, and it can help us better understand what we read.

Independent Practice. In addition to the Guided Practice illustrated in the teacher-student dialogue, each session from the second day of instruction on includes Independent Practice. This first Independent Practice is brief and does not require the students to do a lot on their own. The teacher gives them a brief paragraph with some difficult words, asks them to read it several times and mark any words they don't know or are uncertain of, and tells them they will discuss using the context clue strategy with this paragraph the next day. As the instruction continues, the Guided Practice portions of the lessons will become much shorter, and the Independent Practice sessions will become longer and more challenging.

Review and Question Session. Each session ends with a review and question session. The teacher reviews what students have learned that day and throughout the unit, primarily by calling on students to recap what they have learned. Each ending session also gives students an opportunity to ask questions and get clarification on anything they are uncertain of.

The Remaining Eight Days of Initial Instruction

As shown in Figure 5.1, over the next 8 days, the class receives detailed instruction on the four-step strategy, interrupts the hard work with a game using the strategy, does guided practice with both narrative text and expository text, uses the strategy with authentic text, and makes plans for using the strategy in the future. There are also several important things that the figure cannot show: Increasingly, the students talk more and the teacher talks less. The students do more of the work. They take more responsibility for the strategy, and they increasingly self-monitor and self-regulate their use of the strategy. At the same time, the teacher is always there to support students' efforts, providing encouragement, scaffolding, and feedback as needed.

Transfer, Review, and Integration Activities

It is vital to realize that this initial unit of using context clues, substantial as it has been, is only the first step in assisting students to be-

come competent and confident users of this important strategy. In the weeks, months, and years after the initial instruction, students need lots of independent practice, feedback, brief reviews and minilessons, opportunities to use the strategy, reminders to use it, and motivation to do so. It is only with such a long-term effort that students will fully learn the strategy, internalize it, and make it a part of their approach to building their vocabularies.

USING WORD PARTS

While using context clues is the most important word-learning strategy, using word parts is a close second. As Nagy, Anderson, Schommer, Scott, and Stallman (1989) have noted, "more than 60% of the new words that readers encounter have relatively transparent morphological structure—that is, they can be broken down into parts" (p. 279). Once words are broken into parts, students can use their knowledge of word parts to attempt to deduce their meanings—if they understand how word parts function. There are three sorts of word parts to consider: prefixes, suffixes, and non-English roots.

Teaching Prefixes

In planning prefix instruction, three preliminary matters deserve consideration: what prefixes to teach, when to teach them, and in what order to teach them. White, Sowell, and Yanagihara (1989) have identified the most frequent prefixes, and these are the ones that should be taught. They are shown in Figure 5.4. As can be seen, these 20 prefixes are used in nearly 3,000 words. Learning them thus provides students with a tremendous resource. Regarding the matter of when to teach them, research (White, Power, & White, 1989) has shown that prefixes are relatively rare in material below the fourth-grade level, and thus the fourth grade is a reasonable time to begin prefix instruction. Finally, with regard to the order in which to teach them, it makes sense to teach the most frequent ones first. All in all, my suggestion is to begin teaching prefixes in the fourth grade and to teach half a dozen or so each year so that the 20 are taught over 3 years. Of course, older students who don't know these 20 most frequent prefixes also need to be taught them.

The instruction outlined here is a one week unit for teaching the first six prefixes. A sample schedule for the unit is shown in Figure 5.5. Additional details of the unit are available in Graves (2004).

Figure 5.4. Twenty Most Frequent Prefixes

Prefix	Words with the Prefix
un-	782
re-	401
in-, im-, ir-, il- (= "not")	313
dis-	216
en-, em-	132
non-	126
in-, im- (= "in," "into")	105
over- (= "too much")	98
mis-	83
sub-	80
pre-	79
inter-	77
fore-	76
de-	71
trans-	47
super-	43
semi-	39
anti-	33
mid-	33
under-	25
total	2,859

Note. Adapted from "Teaching Elementary Students to Use Word-Bit
Clues," by T.G. White, J. Sowell, and A. Yanagihara, 1989, *The
Reading Teacher, 42.*

   Day 1—Introduction, Motivation, and Overview. On Day 1, the teacher in-
troduces the concept of prefixes and the strategy of using prefixes to
unlock the meanings of unknown words, attempts to motivate students
by stressing the value of prefixes, and gives students an overview of the
unit.

Figure 5.5. Overview of a Unit on Prefixes

DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
Introduction, definition of a prefix, motivation to learn to use prefixes, and overview of the unit	Instruction on the first three prefixes using direct explanation	Review and instruction on the prefix strategy	Instruction on the remaining three prefixes and guided practice with the prefix strategy	Review, guided practice, and a quiz

To alert students to what they will be studying and as a continuing reminder throughout the prefix unit, the teacher puts up a poster designed to capture fourth-grade students' attention. At the present time, that might be a poster featuring Spider-Man, with a heading like, "Spider-Man Prefers Prefixes!" and a picture that shows Spider-Man atop a city of prefixes, swinging from one prefix to the next. Then, she might say something like this:

> "I think Spider-Man is really on target here. Prefixes are very important and well worth your learning about. This week, we're going to be looking at how you can use prefixes to help you figure out the meanings of words you don't know. If you learn some common prefixes and how to use your knowledge of these prefixes to understand words that contain those prefixes, you're going to be able to figure out the meanings of a lot of new words. And, as you know, figuring out the meanings of words you don't know in a passage is an important step in understanding the passage."

Next, the teacher acknowledges that students probably know some things about prefixes, but notes that it is important that all students have the same information about prefixes and how they work. She then puts up the transparency shown below and reads it to students.

- A prefix is a group of letters that goes in front of a word. *Un-* is one prefix you have probably seen. It often means "not."
- Although you can list prefixes by themselves, as with *un-*, in stories or other things that we read, prefixes are attached to words. They don't appear by themselves. In *unhappy*, for example, the prefix *un-* is attached to the word *happy*.

- When a prefix is attached to a word, it changes the meaning of the word. For example, when the prefix *un-* is attached to the word *happy*, it makes the word *unhappy*, which means "not happy."
- It's important to remember that, for a group of letters to really be a prefix, when you remove them from the word, you still have a real word left. Removing the prefix *un-* from the word *unhappy* still leaves the word *happy*. That means it's a prefix. But if you remove the letters *un* from the word *uncle*, you are left with *cle*, which is not a word. This means that the *un* in *uncle* is not a prefix.

This is a lot for students to remember, so the teacher constructs a shortened version of these points on a Basic Facts About Prefixes poster, puts that up next to the poster advertising the unit, and tells students that the poster will stay up for them to refer to throughout the unit and even after that.

At this point, the teacher asks students if they know any additional prefixes, being generally accepting of their answers, but (assuming that some responses are incorrect) noting that some of the elements they suggested are not actually prefixes and that the class will continue to work on what is and what is not a prefix as the unit progresses.

Finally, the teacher introduces the three prefixes for study the next day—*un-* (not), *re-* (again), and *in-* (not)—putting them on an overhead, asking students to copy them down, and asking students to each bring in a word beginning with one of the prefixes the next day.

Day 2—Instruction on the First Three Prefixes. On Day 2, the teacher uses direct explanation to teach the prefixes *re-*, *un-*, and *in-*. At the beginning of the session, the teacher refers to the "Basic Facts" posters, briefly reminding students what prefixes are, where they appear, and why it is important to know about them. Then the teacher calls on some students to give the prefixed words they have located, jotting those that are indeed prefixed words on the board, and gently noting that the others are not actually prefixed words.

After this, the teacher tells students that today they will be working with the three prefixes introduced the day before and learn how to use them to unlock the meanings of unknown words. The three prefixes are *re-* (meaning "again"), *un-* (meaning "not"), and *in-* (also meaning "not"). In teaching these three prefixes, the teacher will use several types of materials—transparencies introducing each prefix, worksheets with brief exercises requiring use of the prefix just taught, transparencies of these worksheets, exercise sheets requiring additional use and

manipulation of each prefix, and review sheets on which students manipulate the three prefixes and the words that were used in illustrating the prefixes for the day. Instruction begins with the teacher displaying the first sentence on the introductory transparency—"Tom was asked to *rewrite* his spelling test because his writing was so messy that the teachers couldn't read it"—and leading students from the meaning of the familiar prefixed word the meaning of the prefix itself as illustrated below:

> *Teacher:* If Tom were asked to rewrite a test, what must he do?
> *Students:* He has to take it over. He has to take it again.
> *Teacher:* That's correct. Using your understanding of the word
>   *rewrite*, what is the meaning of the prefix *re-*?
> *Students:* Again. A second time. Over again.

The process is repeated with three similar sentences on the transparency. After going through these four sentences, the teacher presents a fifth sentence, which defines the unknown root word, and then asks students to define the prefixed word.

After completing this introductory instruction on *re-*, students individually complete review sheets, while a student volunteer completes the review sheet on a transparency. As soon as students complete their review sheets, the volunteer puts the transparency on the overhead so that all students receive immediate feedback on their work. If the volunteer has made an error, the teacher corrects it at this time.

These same procedures are then completed with the two remaining prefixes for the day—*un-* and *in-*. Following initial instruction on the three prefixes, the students complete another review sheet and immediately receive feedback by checking the answers on the back of the sheet.

Day 3—Review and the Prefix Strategy. Day 3 begins with the teacher reviewing the basic facts about prefixes on the Basic Facts About Prefixes poster. Then students complete a review sheet on the three prefixes taught the previous day and immediately correct their work.

Next comes the most crucial part of the instruction—instruction in the prefix strategy. The teacher introduces the strategy by telling students that now that they have worked some with prefixes and understand how useful prefixes can be in figuring out the meanings of unknown words, she is going to teach a specific strategy for working with unknown words. She titles the procedure "Prefix Removal and Replacement," emphasizing that they are using a big name for an important idea.

The teacher then puts up a transparency of the following list, which is reproduced on a prominently displayed Prefix Removal and Replacement Strategy poster, and talks students through the procedure with one or two sample prefixed words.

Prefix Removal and Replacement Strategy

When you come to an unknown word that may contain a prefix:

- Remove the "prefix."
- Check that you have a real word remaining. If you do, you've found a prefix.
- Think about the meaning of the prefix and the meaning of the root word.
- Combine the meanings of the prefix and the root word, and infer the meaning of the unknown word.
- Try out the meaning of the unknown word in the sentence, and see if it makes sense. If it does, read on. If it doesn't, you'll need to use another strategy for discovering the unknown word's meaning.

Following this explicit description of the strategy and modeling of its use, the teacher tells students that they will continue to work on learning the meanings of prefixes and learning to use the strategy over the next few days and in future review sessions. She also reminds them that they now have two posters to refer to when they come to an unknown word that may contain a prefix—the Basic Facts poster and the Prefix Strategy poster. (If the class has a Web site, the posters could also be posted there.)

Day 4—Instruction in the Remaining Three Prefixes and Guided Practice. On Day 4, the teacher teaches the prefixes *dis-*, *en-*, and *non-* using procedures and materials similar to those used on Day 2. However, on this day, much of the time is spent in guiding students as they use the Prefix Removal and Replacement Strategy. Initially, the teacher provides guidance to the whole class as they use the strategy. Later, students practice using the strategy in pairs, and the teacher provides scaffolding and feedback as needed.

Day 5—Review, Guided Practice, and a Quiz. Day 5 begins with the teacher reviewing the four facts about prefixes, again using the Basic Facts poster in doing so. As part of the review, she asks students a few questions

about these facts to be sure they understand them and answers any questions students have.

Next, the teacher reviews the prefix removal and replacement strategy using the "Prefix Strategy" poster. After this, she divides students into small groups and provides guided practice by having the groups use the strategy with the prefixes that have been taught.

As the final activity of the initial instruction, small groups of students work together on a quiz. The quiz requires them to state the four facts about prefixes, state the steps of the prefix removal and replacement strategy, and give the meanings of the six prefixes taught. As soon as students complete the quiz, they correct the quiz in class so that they get immediate feedback on their performance and hand the corrected quizzes in to the teacher so that she has this information on their understanding as she plans reviews.

Transfer, Review, and Integration Activities. As was the case with context clue instruction, initial instruction is only the first step in students' mastering and internalizing the strategy. In the weeks, months, and years after the initial instruction, students need lots of independent practice, feedback, brief reviews and minilessons, opportunities to use the strategy with the texts they are reading, reminders to use it, and motivation to do so.

Instruction in Additional Prefixes and Additional Review and Prompting. As I noted at the beginning of this section, it seems reasonable to teach the 20 most frequent prefixes over a 3-year period. Thus, following the frequency list presented in Figure 5.4, the prefixes *in-* ("in" or "into") through *fore-* might be taught in fifth grade, and the prefixes *de-* through *under-* might be taught in sixth grade. Such instruction would be similar to that used with the initial six prefixes, with one very important exception. Students will have already been taught the basic facts about prefixes and the prefix removal and replacement strategy; work on those matters is review and can be briefer than the initial instruction. Finally, reviewing the information about prefixes and reminding students to make use of prefixes in inferring the meanings of unknown words are still important in the years following initial instruction.

Suffix Instruction

It is important to distinguish two sorts of suffixes: inflectional suffixes and derivational suffixes. Inflectional suffixes have grammatical

functions (for example, *-ed* indicating the past tense), while derivational suffixes often have abstract and difficult to explain meanings (for example, *-ence* indicating "the state of being"). The sort of instruction needed is different for these two sorts of suffixes, and it is different for native English speakers than for English learners.

Consider first the matter of inflectional suffixes. Native English speakers already have a tacit understanding of the grammatical functions of inflectional suffixes, and attempting to teach them these grammatical functions is unnecessary and may cause confusion. What native speakers do need is a process for suffix removal, that is, a strategy for mentally separating the suffix from the base word so that they can recognize or decode the base word and then reapply the suffix. White, Sowell, and Yanagihara (1989) describe an excellent procedure for suffix removal. English learners also need the strategy of suffix removal. However, English learners may also need to learn the grammatical functions of inflectional suffixes, that is, they may not know that *-ed* indicates the past tense.

Now consider the matter of derivational suffixes. Because the meanings of many derivational suffixes are abstract and difficult to explain, attempting to teach their meanings is likely to be confusing for elementary students whether they are native speakers or English learners. It seems wise, therefore, to heed the advice that Thorndike (1941) gave over 60 years ago and that White, Sowell, and Yanagihara (1989) more recently endorsed: Some derivational suffixes might be taught to elementary students at opportune times when words containing those suffixes come up in the material students are reading, but systematic instruction in derivational suffixes ought to be reserved for secondary students. As Thorndike suggested, for secondary students "a reasonable amount of deliberate and systematic teaching, if based on adequate knowledge and planned and carried out wisely, can retain [the] merits [of incidental learning], economize time in learning the mother tongue, and give some useful ideas about language" (p. 65).

Non-English Roots

Like suffixes, non-English roots (for example, *anthro* meaning "man" and appearing in such words as *anthropology*, *misanthrope*, and *philanthropy*) represent a very different teaching and learning situation than do prefixes. I do not recommend systematic instruction in non-English roots for several reasons: There are a large number of non-English roots; individual roots are not used in anywhere near the number of words common prefixes are used in; they are often variously spelled and thus diffi-

cult to identify; and the relationship between the original meaning of the root and the current meaning of the English word in which it is used is often vague. However, teachers may want to provide some incidental instruction in roots, particularly for secondary students. That is, if certain roots come up repeatedly in the material students are reading—as might be the case in a science class—then teaching these roots is likely to be worthwhile. Also, if older students want to learn non-English roots as part of their "personal approach to building vocabulary," a topic I discuss later in this chapter, they should certainly be encouraged to do so. Additionally, teachers may want to teach students about the fact that many English words are derived from non-English roots as part of promoting their word conscious, a topic I discuss in Chapter 6.

USING THE DICTIONARY AND RELATED REFERENCE TOOLS

Teaching students to use the dictionary and related reference tools is a much smaller task than is teaching the use of context clues or word parts. Nevertheless, it is to students' advantage to become effective and efficient in using these tools. As Miller and Gildea (1987) have convincingly demonstrated, students frequently have difficulty using the dictionary to define unknown words. For example, after looking up the meaning of *meticulous* and finding the phrase "very careful" in its definition, one student employed the new word in a sentence that read "I was meticulous about falling off the cliff." Obviously, this student found at least some dictionary definitions considerably less than helpful. Perhaps this should not be surprising. Students often receive instruction in alphabetizing, in using guide words, and in using pronunciation keys. However, instruction usually does not go much beyond this, and such instruction is not sufficient for teaching students to effectively work with a tool that they will use throughout their schooling and that most adults continue to keep nearby for reference.

The starting point for helping students become effective and efficient dictionary users is getting them the right level of dictionary. Primary-grade students need dictionaries designed for the primary grades, upper elementary students need dictionaries designed for those grades, and so on. Once students have appropriate dictionaries, the instruction parallels that for context clues and word parts, although it is not nearly as lengthy as that instruction.

As is the case with teaching the use of context clues and word parts, motivation, an explanation of what they are going to be working on,

and the use of guidelines, modeling, and the gradual release of responsibility provide a powerful approach. Perhaps a week or so before the instruction begins, you could post this question on the board: "What book appears in every classroom, every library, and many people's homes?" On the first day of instruction, take students' responses in writing, tally them, and report the results. In all probability, most students will answer the question correctly, and you can congratulate them. Whether or not most answer correctly, note that the answer is "the dictionary," and stress that it is a very important book indeed. Then, tell students that you are going to be working on using the dictionary to define words, that spending some time learning to use the dictionary is worthwhile, and that using the dictionary sometimes isn't as simple as it seems. Next, put some guidelines like those shown in the list below on a bulletin board and leave them up over the upcoming weeks. Here, I have phrased the guidelines for middle or secondary school students. For younger students, they could be phrased more simply.

- When reading a definition, be sure to read all of it, not just part of it.
- Remember that many words have more than one meaning.
- Be sure to check all the definitions the dictionary gives for a word, not just one of them.
- Decide which definition makes sense in the passage in which you found the word.
- Often the dictionary works best when you already have some idea of a word's meaning. This makes the dictionary particularly useful for checking on a word you want to use in your writing.

The teacher does not have students memorize these guidelines, but talks through them, amplifying them as necessary. For example, she should probably add to the third guideline by telling students that if they find that they still know nothing about an important word after considering context, looking for words parts, and checking the dictionary, they will probably want to ask someone about its meaning. Similarly, she might want to add to the last guideline by noting that one of the most frequent uses of the dictionary, whether for reading or for writing, is to confirm, clarify, or refute the meaning they have arrived at using context or a meaning they are only somewhat confident in.

The remainder of the procedure continues to parallel that used with context and word parts. The teacher does some modeling to demonstrate how to look up the meaning of an unknown word. She thinks aloud, sharing her thinking with students as she comes across the unknown

word in a text. She shows students how she looks through the dictionary and finds the word, finds the definition that seems to fit, considers all of that definition, and then mentally checks to see if the meaning she chooses makes sense in the context in which the unknown word occurred. Gradually students should take over the procedure and model it for the teacher and for each other. Students should be encouraged to use the procedure when they come across unknown or vaguely known words in context. Finally, from time to time, students should be given opportunities to model their thinking as they use the dictionary so that the teacher can check their proficiency and give them feedback and further instruction as needed.

In addition to learning this general approach to using a dictionary, students need to learn some things about the particular dictionary they use—what the entries for individual words contain and how they are arranged, what aids to its use the dictionary provides, and what features beyond the basic word list the dictionary includes. Much of the important information appears in the front matter of the dictionaries themselves, but it is very seldom read, and simply asking students to read it is hardly sufficient instruction. Thus explicit instruction in how to use specific dictionaries is usually useful.

Additionally, students need to be made aware of computerized dictionaries, taught how to use them, and be convinced that they are worth using. The word processor I am currently using—Microsoft Word X for Mac (Microsoft Corp., 2001)—contains a huge dictionary that I access repeatedly as I write and edit. It provides concise definitions, parts of speech, some information on level of formality, and spelling—in seconds and without leaving the computer. While this particular electronic dictionary is most appropriate for secondary students, word processors for younger students typically have simpler, age-appropriate dictionaries.

Students also need instruction in using the thesaurus. Specific attention to the thesaurus is worthwhile because the thesaurus is used for a somewhat different purpose than is the dictionary. In general, the dictionary is used when a word has already been identified—when you have read it and want to be certain of its meaning or when you are considering using it in writing and want to check its meaning or its spelling. A thesaurus, on the other hand, is much more likely to be used when you are looking for a word to use. A thesaurus is useful when you have something to say but want a new way of saying it. Getting students in the habit of using a thesaurus is a step toward getting them to enlarge their active vocabularies as well as a step toward getting them interested in words.

As is the case with the dictionary, students need to be made aware of, sold on, and taught how to use a computerized thesaurus. Many word processing programs also contain very useful thesauri. Microsoft Word X for Mac comes with an integrated thesaurus that enables me to easily replace a word in a text I am working on with a related synonym. Students who would rarely—possibly never—take a thesaurus off the bookshelf to find a more powerful or more appropriate word to use in their writing will readily use an electronic thesaurus.

Two other types of dictionaries are useful for English learners: dictionaries specifically designed for English learners and dictionaries of idioms. *Collins COBUILD New Student's Dictionary* (2002) is an excellent example of a dictionary that can be helpful for English learners. It both defines words in common, easy to understand language and gives a sample sentence for each word. For example, the definition for furious is "If someone is furious, they are extremely angry," and the sample sentence is "He was furious at the way his wife had been treated" (p. 283). *Longman American Idioms Dictionary* (1999) is a good example of a very usable dictionary of idioms. It provides helpful definitions for over 4,000 idioms. Here, for example, is the entry for *the buck stops here:* "used to say that you are the person who is responsible for something that needs to be dealt with: *I think the captain knows that the buck stops with him and that he'll have to take responsibility*" (p. 41).

DEVELOPING A STRATEGY FOR DEALING WITH UNKNOWN WORDS

In addition to learning to use context cues, word parts, and various types of dictionaries, students will profit from having some plans for what to do when they encounter an unknown word as they are reading. My advice is to give them a definite strategy, discuss the strategy with them, let them try it out, and then discuss how it worked and how they might modify it to fit their specific needs. Here are the steps for the strategy as you might initially list them on an overhead or the board.

1. Recognize that an unknown word has occurred.
2. Decide whether you need to understand it to understand the passage.
3. Attempt to infer the meaning of the word from the context surrounding it.

4. Attempt to infer the meaning looking for word parts.
5. Attempt to sound out the word and see if you come up with a word you know.
6. Turn to a dictionary, glossary, or another person for the meaning.

The initial instruction here could be completed in a half hour or so. Then, students should use the strategy for a few days. After that, it is appropriate to discuss how it worked for students and to bring up the matter of modifying the strategy so that it best fits their needs. Finally, from time to time, briefly review the strategy and ask students how their approaches to dealing with unknown words they encounter are working and what suggestions they may have to share with the class.

ADOPTING A PERSONAL APPROACH
TO BUILDING VOCABULARY

As already noted, because of the size of the vocabulary learning task students face, we want to promote a rich variety of approaches to learning words. One of them is to have students individually commit themselves to an approach that they will use. Many approaches can be beneficial. What is important is that students consciously recognize that building their vocabularies is important and make some sort of personal commitment to learning words. Having such a personal commitment is, of course, particularly important for English learners, who often face a massive vocabulary learning task. Listed here are some alternatives, a list you can add to as you work with students and elicits their suggestions.

- Make a commitment to learn a word a day, from almost any source.
- Make a commitment to learn a word or two a week. (For some students, a word a day may be too much.)
- Identify a particular prefix or suffix, or perhaps a Latin or Greek root, and learn and use words containing those word parts over a period of a month or so, probably compiling a list of those words.
- Decide to become a real sleuth at using context and agree to learn at least two or three new words each week from context and to record both the words learned and the context from which they were learned.
- Routinely use the thesaurus when writing and keep a journal of the words originally used and the words that replaced them.

The basic approach is to present these alternatives on an overhead or the board and discuss them with students. In this activity, be particularly attentive to drawing out students' suggestions. Then, in closing the discussion, attempt to secure a vocabulary-learning commitment from each student. Initially, you might ask for a month's commitment. During the month, check periodically to see how students' approaches are working and give them feedback and encouragement. Then, at the end of the month, hold another discussion on the matter. At that time, try to decide whether individual students should continue with the approach to independent word learning they have been using or perhaps try another approach. It is probably worth considering that having an approach is probably more important than what exactly that approach is.

WHEN SHOULD THE STRATEGIES BE TAUGHT?

Obviously, teaching all of the strategies described in this chapter is not the responsibility of a single teacher or something that can be done in a single year. Exactly what is taught when and who is responsible for the instruction will differ from school to school and will depend on what instruction students have had in the past. Here, however, are some suggestions. During the primary-grade years, keep things simple and informal. The in-depth teaching procedures described here become appropriate at about the fourth-grade level. Prior to that, short and informal minilessons should be sufficient. The one procedure that needs to be taught formally during the primary grades is suffix removal, which is actually a decoding procedure. Two strategies that should not be taught in the primary grades are using prefixes and using root words, in both cases because these elements are not frequent enough in primary-grade material to justify the time it takes to teach them.

Grades 4 through 6 are when most of the more formal instruction should take place. Because using context is the most valuable word-learning strategy, it should probably be taught first, that is, in Grade 4. Using prefixes is the next most valuable strategy and should be taught next. If time permits, that instruction should probably begin in fourth grade; if not, it can wait till fifth grade. Whenever prefix instruction begins, it should probably be extended over 3 years, beginning with the most frequent half dozen or so prefixes in the first year and teaching another half dozen or so in the each of the next 2 years. Teaching students to use the dictionary and related reference tools, develop a strategy for dealing with unknown words, and develop a personal approach

to building vocabulary are much shorter endeavors. These can be taught whenever you decide that students need them. Regardless of when the strategies are initially taught, they need to be reviewed; students need to be reminded about them, and students need to be prompted to use them in the years following initial instruction.

If all of the strategies are taught well in Grades 1–6, then the main tasks left for Grades 7–12 are reviewing, prompting, and encouraging. In the best of all worlds, though, this would not be left to chance. That is, reviewing certain word-learning strategies at certain times would be specified in the curriculum. One target of instruction that remains for the secondary grades is that of Latin and Greek roots. When a Latin or Greek root shows itself to be useful in a particular content area—science, history, and so on—it should probably be taught. Also, if any of the five strategies have not been taught well in the earlier grades, then they need to be taught well in the secondary grades. Given what we know about the vocabulary instruction that currently takes place in school, it will frequently be the case that they have not been taught well in the earlier grades and need to be taught in these later grades.

CONCLUDING REMARKS

The purpose of this chapter has been to describe a general approach to teaching word-learning strategies and then to give detailed procedures for teaching students five powerful strategies: Using context; using word parts; using the dictionary and related reference tools; developing a strategy for dealing with unknown words; and adopting a personal approach to building vocabulary.

Throughout the chapter, I have tried to show that strategy instruction should be begin with direct explanation but then become increasingly transactional—constructivist, flexible, and imbedded in the ongoing curriculum—over time. Transactional instruction is difficult to show in print, a very static medium. Consequently, I conclude this chapter with a list showing some of the transactional aspects of strategy instruction, some end points you want to arrive at with students. The list relies a good deal upon suggestions from Brown and Campione (1990) and Pressley, Harris, and Marks (1992).

- The teacher and the students interact, with modeling, scaffolding, and discussion prominent.
- Children assume the role of *active* participants.

- It is understood that the knowledge the teacher has cannot be transmitted directly to the students.
- There is considerable discussion and debate.
- Teachers frequently make on-the-spot diagnoses of individual students' understanding and progress.
- The instruction proceeds at a rate and sequence that is dictated by the students' needs and progress.
- Understanding is emphasized as strategies are developed.
- Students are always informed about the purposes of the strategies taught.
- Developing students' self-monitoring and self-regulation skills are central concerns.