CHAPTER 12

Reading Difficulties

I don't believe in the kind of magic in my books. But I do believe something very magical can happen when you read a good book.

—J. K. Rowling, Author of the Harry Potter Books

LEARNING OBJECTIVES

After reading this chapter, you should be able to:

12.1 Explain theories describing the consequences of reading difficulties

12.2 Describe reading strategies for the general education classroom

12.3 List the elements of reading

12.4 Explain the connection between reading and writing

12.5 Explain the literature-based approach to teaching reading

12.6 Discuss the challenges faced by ELL students and reading

12.7 Discuss methods to assess reading

12.8 List teaching strategies to improve reading difficulties

12.9 Describe strategies to improve word recognition

12.10 List strategies to improve reading fluency

12.11 List strategies to improve reading comprehension

12.12 Explain the importance of reading enjoyment and appreciation

12.13 Describe assistive technology to promote reading

STANDARDS Addressed in This Chapter:

Council for Exceptional Children Initial Level Special Educator Preparation Standards as approved by the National Council for the Accreditation of Teacher Education

CEC Initial Preparation Standard 1: Learner Development and Individual Learning Differences

- 1.0—Beginning special education professionals understand how exceptionalities may interact with development and learning and use this knowledge to provide meaningful and challenging learning experiences for individuals with exceptionalities.
- 1.1—Beginning special education professionals understand how language, culture, and family background influence the learning of individuals with exceptionalities.
- 1.2—Beginning special education professionals use understanding of development and individual differences to respond to the needs of individuals with exceptionalities.

CEC Initial Preparation Standard 3: Curricular Content Knowledge

- 3.0—Beginning special education professionals use knowledge of general and specialized curricula to individualize learning for individuals with exceptionalities.
- 3.1—Beginning special education professionals understand the central concepts, structures of the discipline, and tools of inquiry of the content areas they teach and can organize this knowledge, integrate cross-disciplinary skills and develop meaningful learning progressions for individuals with exceptionalities.
- 3.2—Beginning special education professionals understand and use general and specialized content knowledge for teaching across curricular content areas to individualize learning for individuals with exceptionalities.
- 3.3—Beginning special education professionals modify general and specialized curricula to make them accessible to individuals with exceptionalities.

CEC Initial Preparation Standard 4: Assessment

- 4.0—Beginning special education professionals use multiple methods of assessment and data-sources in making educational decisions.
- 4.1—Beginning special education professionals select and use technically sound formal and informal assessments that minimize bias.
- 4.2—Beginning special education professionals use knowledge of measurement principles and practices to interpret assessment results and guide educational decisions for individuals with exceptionalities.
- 4.3—Beginning special education professionals in collaboration with colleagues and families use multiple types of assessment information in making decisions about individuals with exceptionalities.
- 4.4—Beginning special education professionals engage individuals with exceptionalities to work toward quality learning and performance and provide feedback to guide them.

CEC Initial Preparation Standard 5: Instructional Planning and Strategies

- 5.0—Beginning special education professionals select, adapt, and use a repertoire of evidence-based instructional strategies to advance learning of individuals with exceptionalities.
- 5.1—Beginning special education professionals consider an individual's abilities, interests, learning environments, and cultural and linguistic factors in the selection, development, and adaptation of learning experiences for individuals with exceptionalities.
- 5.2—Beginning special education professionals use technologies to support instructional assessment, planning, and delivery for individuals with exceptionalities.
- 5.3—Beginning special education professionals are familiar with augmentative and alternative communication systems and a variety of assistive technologies to support the communication and learning of individuals with exceptionalities.
- 5.4—Beginning special education professionals use strategies to enhance language development and communication skills of individuals with exceptionalities.
- 5.6—Beginning special education professionals teach to mastery and promote generalization of learning.
- 5.7—Beginning special education professionals teach cross-disciplinary knowledge and skills such as critical thinking and problem solving to individuals with exceptionalities.

For students, Common Core Standards for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects can be found at: *www.corestandards.org.*

This chapter focuses on reading and is the second of 3 chapters on the integrated language system. Reading is an integral part of the language system and is closely linked to both spoken language and writing.

In the first half of this chapter, the "Theories" section, we discuss several topics about reading: (1) the consequences of reading disabilities, (2) dyslexia, (3) the elements of reading, (4) phonemic awareness, (5) phonics and word-recognition clues, (6) fluency, (7) vocabulary, (8) comprehension, (9) the reading-writing connection, (10) literature-based reading instruction (whole language), (11) reading instruction for English-language learners (ELL), and (12) assessing reading. In the "Teaching Strategies" section, we review methods for teaching reading.

12.1 Theories Describing the Consequences of Reading Disabilities

If our children do not learn to read, they cannot succeed in life. Without the ability to read, the opportunities for academic and occupational success are limited. Unfortunately, over 80% of students with learning disabilities and related

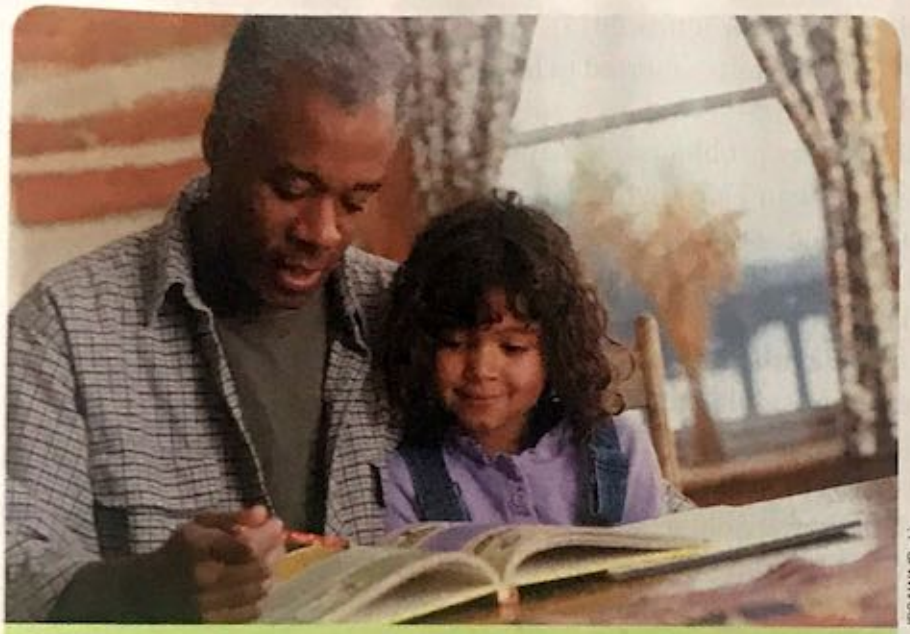
disabilities encounter difficulties in reading (Lerner & Johns, 2012). In fact, the reading of books is on a decline, with only 57% of adults reported to have read a book in 2002 (National Endowment for the Arts, 2004).

It is critical to identify children with reading problems early and provide them with appropriate early instruction. More than 17.5% of the nation's school children—about 1 million children—encounter reading problems during the crucial first 3 years of schooling (National Reading Panel, 2000). Moreover, 74% of children who are unsuccessful in reading in third grade are still unsuccessful in ninth grade (National Institute for Child Health and Human Development, 1999). The reading problems of adolescents and adults reflect reading difficulties that were not resolved during their early years. The *wait-and-fail method* refers to the policy of not promptly addressing the reading difficulties of young children but, instead, waiting to do so when they are older. Research supported by the National Institute of Child Health and Human Development resulted in some key findings about reading disorders (Dunn, 2010; Mazzocco & Meyers, 2003; Lyon, 2003):

- Reading is so critical to success in our society that reading failure not only constitutes an educational problem, but it also rises to the level of a major public health problem.
- Characteristics of children who are most at risk for reading failure are:
  - They lack phonemic awareness (or sensitivity to the sounds of language).
  - They are not familiar with the letters of the alphabet.
  - They may not understand the purpose of print.
  - They often lack sufficient oral language and verbal skills and have meager vocabularies.
- Children may also be at risk for reading failure because of their linguistic and cultural backgrounds and their limited exposure to the English language.
- Early identification of young children who are at risk for reading failure and timely intervention to assist them are essential for maximizing treatment success.

Because reading is the basic skill for all academic subjects, failure in school can be traced to inadequate reading skills. Students today face more mandatory tests than ever before, and they need to earn diplomas and degrees to obtain jobs. Overcoming these hurdles, as well as facing the necessity of filling out application forms and taking licensing examinations, makes life for poor readers difficult and full of impassible barriers. In today's world, high technology and automation have created a demand for highly trained people. Telecommunications, e-mail, and the Internet all require users to read and comprehend written electronic information on a computer screen.

The development of reading skills serves as the major academic foundation for all school-based learning. Workers in every occupation now have to retrain themselves to prepare for new jobs many times during their work/careers. Efficient reading is a key skill for maintaining employment or retraining for another job. Poor reading skills cause many problems for individuals in the world of work. Fewer jobs are available for unskilled and semiskilled workers, and these individuals are likely to end up being chronically unemployed. Opportunities for gainful employment decrease for youth who drop out of school. Dropouts



JDC/AWA/Corbis

Children should be surrounded by the world of books and have many experiences listening to stories, reading books, and writing.

have twice the unemployment rate that high school graduates do, so they have fewer opportunities for continued training. Further, they lack the qualifications to attend postsecondary school or college (National Joint Committee and Learning Disabilities, 2008; Wagner et al., 2006; Gerber et al., 2004; Hennesy, Rosenberg, & Tramaglini, 2003).

Reading is not a natural process. In contrast to other developmental achievements, such as learning to walk or to talk, learning to read requires careful instruction. Learning to read is also a relatively lengthy process. It takes several years, and the learner must persevere over a long period of time. Moreover, the process of recognizing words is complex; readers must use a variety of strategies to accomplish this task. Children must first learn to read so that later they can *read to learn*. Current information and research about reading can be found at the Reading Rockets website at *http://www.readingrockets.org*.

Did You Get It?

According to statistics compiled by the National Institute for Child Health and Human Development (1999), approximately _____% of students who experienced reading deficits in third grade still had related deficits by the ninth grade.

a. 15
b. 45
c. 5 to 8
d. 75

12.2 Reading Strategies for the General Education Classroom

Many children with learning disabilities and related disabilities who have reading problems receive their instruction in general education classrooms. Throughout this chapter, we present many reading strategies for students in general education classrooms. Including Students in General Education 12.1, "Reading Strategies," gives some overall suggestions for students with reading disabilities in general education classrooms.

12.2a Response-to-Intervention (RTI)

Response-to-intervention (RTI) is a process for *all* students in general education. RTI uses evidence-based instruction, and its purpose is to resolve reading

Including Students in GENERAL EDUCATION 12.1

Reading Strategies

General Modifications and Accommodations

- Increase the amount of repetition and review.
- Allot more time for completing work.
- Provide more examples and activities.
- Introduce the work more slowly.

Phonics

- Play word and rhyming games.
- Analyze the phoneme elements that make up a word.
- Build word families.

Fluency

- Help students recognize sight words.
- Find opportunities for students to reread passages aloud.
- Use predictable books.
- Use read-along methods.
- Use the language experience method to let the children read their own language.

Vocabulary

- Teach content vocabulary before reading a chapter in a science or social studies text.
- Find words in the student's areas of interest (sports, movies, television shows, current events) and use these words for study.
- Use word webs to study vocabulary words.

Reading Comprehension

- Provide students with background knowledge about a story or content-area reading.
- Have students predict what will happen next in a story.
- Use graphic organizers to visualize the reading passage.
- Show movies or videos about a book to enhance interest.
- Have students act out passages in a story.

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roblems by using tiers of instruction. (See Chapter 2 "Assessment and the IEP rocess," for an extensive description of RTI.)

Next we will discuss dyslexia, which is a severe reading challenge faced by any students.

12.2b Dyslexia

he condition known as *dyslexia* is an unusual type of severe reading disorder at has puzzled the educational and medical communities for many years. Actually, dyslexia is one type of learning disability that affects some children, adolescents, and adults. People with this baffling disorder find it extremely difficult recognize letters and words and to interpret information that is presented in rint form. People with dyslexia are intelligent and may have very strong mathematics or spatial skills. Student Stories 12.1, "People With Dyslexia," offers e reflections of well-known individuals with dyslexia about how this reading roblem affected their lives.

Although there are several different definitions of dyslexia there is general greement on several points (Rosen, 2010; Shaywitz, 2003):

1. Dyslexia has a biological basis and is caused by a disruption in the neural circuits in the brain.
2. Dyslexic problems persist into adolescence and adulthood.
3. Dyslexia has perceptual, cognitive, and language dimensions.
4. Dyslexia leads to difficulties in many areas of life as the individual matures.
5. Many individuals with dyslexia excel in other facets of life.

STUDENT STORIES 12.1

An Individual With Dyslexia

Individuals with dyslexia who are successful adults possess the quality of resilience and a strong desire to succeed. Bob exemplifies these qualities. Bob's problems with reading began in the first grade. He developed a school phobia and refused to go to school. At age 12, his parents sent him to a private residential school, where he was diagnosed with dyslexia. He developed a resilience to cope with his reading failure and he also learned how to advocate for his rights under the law. His poor working memory meant that he read very slowly and could not complete examinations during a time limit. He was able to take entrance examinations with extended time, and he completed an engineering degree at a major university, using the accommodations he needed under the law. Bob really wanted to be a physician. He had to take the MCAT exams many times until he was finally admitted to a medical school. When he failed a class, he managed to retake it. He failed the Medical Boards several times before he passed this test. Bob failed the Boards for his specialty several times before he passed this Board exam, with the accommodation of extended time. Today Bob is a successful physician, with outstanding clinical skills and a thriving practice.

REFLECTIVE QUESTION

1. What is a major characteristic that permitted Bob to succeed?

The life stories of corporate CEOs with dyslexia show their remarkable skills in the business world (Morris, 2002). People with dyslexia tend to find ingenious ways to hide their disability. For example, a widowed gentleman caught in the social dating whirl routinely handled the problem of dining in restaurants by putting down his menu and saying to his companion, "Why don't you order for both of us, dear? Your selections are always so delicious." This man hired professionals to handle his reading and writing matters. His friends attributed his actions to wealth, never suspecting his inability to read.

For many years, scholars strongly suspected that dyslexia had a neurobiological basis; however, they lacked the scientific evidence to support this belief. Today, the cognitive neurosciences research provides strong evidence that dyslexia is caused by variant in brain structure, a difference in brain function, or genetic factors (Rosen, 2010; Pugh, 2010; Shaywitz, 2003; Gilger, 2010; Shaywitz & Shaywitz, 1998, 1999). The brain research studies on dyslexia and the new technologies for assessing the link between brain function and learning are fascinating. While neuroscientists continue their search for the causes of dyslexia, however, teachers must provide the instruction to teach these individuals how to read.

We will now discuss elements of effective reading instruction for all children.

Did You Get It?

Which alteration or modification can be made to a general education reading program to help students overcome reading difficulties?

a. providing few informal and enjoyable activities and sticking with the basics and fundamentals
b. deescalating review and repetition when the student is making mistakes
c. rapid introduction of new concepts and exercises
d. providing additional time for task completion

12.3 Elements of Reading

The National Reading Panel (2000) is a commission of reading scholars that was assigned by the U.S. Congress to conduct an evidence-based assessment of the research literature on reading and its implications for reading instruction. Finding that over 100,000 research studies on reading had been published since 1966, the National Reading Panel established stringent criteria for the inclusion of research studies in their evidence-based assessment. (More information about their findings is available at the National Reading Panel website at *http://www.nationalreadingpanel.org.*)

The conclusions of the National Reading Panel (2000) included a list of key reading components in which effective readers need to be competent.

1. Phonemic awareness (discussed in Chapter 11, "Spoken Language Difficulties: Listening and Speaking")
2. Phonics (discussed in this chapter)
3. Fluency (discussed in this chapter)
4. Vocabulary (discussed in this chapter)
5. Text comprehension (discussed in this chapter)

Each of these elements is described in the following sections.

12.3a Phonemic Awareness

phonemic awareness
An awareness of the sounds in words and language.

phonological awareness
A child's recognition of the sounds of language. The child must understand that speech can be segmented into syllables and phonemic units.

Phonemic awareness is the ability to notice, think about, and work with the individual sounds in spoken words. Before children learn to read print, they need to become aware of how the sounds work in words. They must understand that words are made of speech sounds, or phonemes. The term phonological awareness is broad and includes the ability to identify and manipulate larger parts of spoken language, such as words, syllables, and rhymes, as well as phonemes. Phonemic awareness is a part of phonological awareness. Phonological awareness focuses on children's hearing and using the sounds of language. You can find more information on the National Institute for Literacy's website at *http://www.nifl.gov.* (See Chapter 11, "Spoken Language Difficulties: Listening and Speaking," for more information about phonological awareness.)

12.3b Phonics and Word-Recognition Skills

Reading requires the reader to recognize words. Once readers develop a facility in word recognition, they can concentrate on the meaning of the text. Without these lower-level reading skills, the higher cognitive skills cannot function. When readers exert so much effort into recognizing words, they will have little processing capacity remaining for comprehension.

Early attention to word-recognition skills is important because this early ability accurately predicts later skill in reading comprehension. Children who get off to a slow start rarely become strong readers (National Reading Panel, 2000). Learning word-recognition skills early leads to wider reading abilities in and out of school. Reading a wide variety of material provides opportunities to increase the student's vocabulary, increase the student's interest in books, and foster the student's general reading growth (Moats, 2000; Henry, 2003; Lyon, 2003).

word-recognition procedures
Strategies for recognizing words, including phonics, sight words, context clues, structural analysis, and combinations of these strategies.

Readers use several word-recognition procedures to identify words, including (1) phonics, (2) sight words, (3) context clues, and (4) structural analysis. The "Teaching Strategies" section of this chapter suggests methods for teaching each of these word-recognition skills.

12.3c Phonics

phonics
An application of phonetics to the teaching of reading in which the sound (or phoneme) of a language is related to the equivalent written symbol (or grapheme).

decode
The process of unlocking words into component sounds.

Phonics refers to the relationship between printed letters (graphemes) and the sounds (phonemes) in language. As an essential word-recognition skill, phonics involves learning the correspondence of language sounds to written letters and applying that knowledge in recognizing words and reading. Children must learn to decode printed language and translate print into sounds through the alphabetic principle of the symbol–sound relationship, a process known as *breaking the code.*

Children with reading disabilities require systematic phonics instruction. A systematic phonics program is a planned, sequential set of phonics elements that is taught explicitly and systematically. Research shows that children who learn the sound-symbol system of English read better than children who have not mastered this skill (Chall, 1967, 1983; Lyon, 2003; Moats, 2000; National Reading Panel, 2000). As noted, learning phonics requires that the child has competencies in phonological awareness and the ability to recognize that speech can be segmented into sounds. (See Chapter 11, "Spoken Language Difficulties: Listening and Speaking.")

Understanding phonics helps children break the code so that they can recognize words quickly and easily. In a written alphabet language, such as English, the code involves a system of mapping, or seeing the correspondences between letters and sounds. Once a child learns these mappings, the child has broken the code and can then apply this knowledge to figure out plausible pronunciations of printed words (Adams, 1990; Moats, 2000).

explicit code-emphasis instruction
Systematic and direct teaching of decoding and phonics skills.

Children with reading disabilities need direct instruction in phonics and decoding that makes the relationship between printed letters and sounds explicit. Explicit code-emphasis instruction helps children develop a basis for remembering the relationship of sounds to the printed letters and for deriving the meanings of printed words. (See "Teaching Strategies" section later in this chapter for phonics instruction.)

Findings of the National Reading Panel on the Effectiveness of Phonics Instruction The National Reading Panel (2000) reached the following conclusions about the effectiveness of phonics instruction:

1. Systematic phonics instruction makes a bigger contribution to children's growth in reading than other programs that provide unsystematic or no phonics instruction.
2. All systematic phonics programs are effective in promoting reading achievement, and they do not appear to differ significantly from one another.
3. Systematic phonics instruction is effective when delivered through tutoring, through small groups, or through teaching classes of students.
4. Systematic phonics instruction is effective when taught in kindergarten. It must be appropriately designed for young learners and must begin with foundational knowledge involving letters and phonemic awareness.

5. Phonics instruction is effective in helping to prevent reading difficulties among at-risk students and in helping to remediate reading difficulties in students with reading disabilities.
6. Systematic phonics instruction is beneficial to students regardless of their socioeconomic status (SES).

Teacher Knowledge About Phonics Children who are taught phonics directly and systematically in the early grades receive higher scores on reading achievement tests during their primary years than children who do not receive this instruction (Chall, 1991; Lyon & Moats, 1997; Moats, 2000; National Reading Panel, 2000). Many teachers, however, lack a firm grounding in phonics and phonics generalizations (Horne, 1978; Moats, 2000). Some teachers do not remember learning phonics themselves, and many do not receive adequate phonics instruction during their teacher training. (The reader may wish to take the *Foniks Kwiz* in "Phonics Quiz and Review" on the student website that accompanies this book. A brief review of phonics generalizations follows the quiz.)

Types of Phonics Approaches There are several different types of phonics instructional approaches (Jennings, Caldwell, & Lerner, 2010). Table 12.1 lists types of phonics approaches, with an explanation and examples of each approach.

Sight Words Sight words are words that are recognized instantly, without hesitation or further analysis. Unlike some other languages, written English has an inconsistent phoneme–grapheme relationship, or spelling pattern. The relationship

sight words
Words that a student recognizes instantly, without hesitation or further analysis.

TABLE 12.1

Different Types of Phonics Approaches

Phonics Approach	Explanation	Example
Synthetic phonics	Teaching students explicitly to convert letters into sounds (or phonemes) and then blend the sounds to form recognizable words	Take the word *stop*. Break it into sounds: *s/t/o/p*. Then blend the sounds into the word.
Analytic phonics	Teaching students to analyze letter–sound relations in previously learned words to avoid pronouncing sounds in isolation	Analyze the sounds in the whole word *making*.
Analogy phonics	Recognizing that a rhyme segment of an unfamiliar word is identical to that of a familiar word	Known word *kick* New word *brick* Known word *sing* New word *ring*.
Embedded phonics	Teaching students phonics skills by embedding phonics instruction in text reading; this is a more implicit approach that relies on incidental learning	Instruction in phonics skills is incidental and is taught during the reading of a text.
Phonics through spelling	Teaching students phonics through spelling instruction and to segment words into phonemes	Students are instructed to spell words phonemically.

Source: From *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction*, p. 8, Report of the National Reading Panel, 2000, Washington, DC: National Institute of Child Health and Human Development.

TABLE 12.2

Typical First-Grade Sight Words

English Spelling	Phonic Spelling
of	uv
laugh	laf
was	wuz
is	IZ
come	kum
said	sed
what	wut
from	frum
one	wun
night	nite
know	noe
they	thai

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between the letter and its sound equivalent is not always predictable. The letter *a*, for example, is given a different sound in each of the following typical first-grade words: *at, Jane, ball, father, was, saw,* and *are.* Another example of this complexity is the phoneme of the long *i*, which has a different spelling pattern in each of the following words: *aisle, aye, I, eye, ice, tie, high, buy, sky, rye, pine,* and *type.* To further complicate the problem of learning to read English, many of the most frequently used sight words in first-grade books have irregular spelling patterns. A few of these words are shown in the first column of Table 12.2; the second column shows the way they would be spelled with a dependable phoneme–grapheme relationship so that readers could "sound them out." These irregular spelling pattern words must thus be learned as sight words (Jennings et al., 2010).

The problems caused by the undependable written form of English can be approached in 2 ways:

1. **Introduce only a small number of words at a time, selecting words on the basis of frequency of use.** Some beginning reading words have regular spellings, whereas others have irregular spellings. Sight words are learned visually through extensive review and through context, meaning, and language. Basal readers, for example, rely on a controlled introduction of a small number of new words.
2. **Simplify the initial learning phase by selecting only words that have a consistent sound–symbol spelling relationship.** With this approach, students learn phonics and are exposed to carefully selected words with dependable spellings. Eventually, of course, the child must learn about the undependable spelling of many common English words. Through careful selection of the words for reading, students are kept from learning the awful truth about spelling until second grade or later. Inevitably, however, the reader must confront the undependable written form of English.

Context Clues Context clues help a student recognize a word through the meaning, or context, of a sentence or paragraph in which the word appears. There are many redundancies in our language, which occur when information from one source repeats or supports information from another source. These language redundancies provide hints about unknown words from the meaning of the surrounding text, which helps readers make conjectures and guesses about unfamiliar words.

context clues
Clues that help readers recognize words through the meaning or context of the sentence or paragraph in which the words appear.

Instruction in recognizing words through context is best done by actual reading. When students with reading disabilities have consistent practice in reading stories and books, they naturally learn to use context clues. The meaning of the sentence plus the initial sounds in the word may provide enough clues for the reader to recognize the word.

Structural Analysis Structural analysis refers to the recognition of words through the analysis of meaningful word units such as prefixes, suffixes, root words, compound words, and syllables. Structural elements include compound words (*cowboy*), contractions (*can't*), word endings or inflectional suffixes (*s, -ed, -er, -est, -ing*), word beginnings or prefixes (*in-, pre-, un-, re-, ex-*), roots (*play* in *replaying*), and syllables (i.e., breaking multisyllabic words into smaller units).

structural analysis
The recognition of words through the analysis of meaningful word units, such as prefixes, suffixes, root words, compound words, and syllables.

A reader may recognize structural elements of a word (e.g., the prefix *re-* and the suffix *-tion* in *repetition*). These clues, combined with the context of the sentence, may be sufficient for recognizing the word.

Combining Word-Recognition Clues Readers should be encouraged to use all of the word-recognition clues (phonics, sight words, context clues, and structural analysis). However, they will need these strategies only when an unknown word stops the reading process. Readers usually use several clues together until they recognize the unknown word. Students with learning disabilities and related mild disabilities need instruction and practice in each of these word-recognition clues to achieve independence and flexibility and to gain fluency.

12.3d Fluency

Reading fluency is the ability to read connected text rapidly, effortlessly, and automatically (Hook & Jones, 2004; Meyer, 2002; National Reading Panel, 2000). Readers must develop fluency to make the bridge from word recognition to reading comprehension (Jenkins et al., 2003). In this section, we describe (1) building sight vocabulary, (2) automaticity, (3) repeated reading, and (4) other methods to improve reading fluency. The "Teaching Strategies" section of this chapter offers additional strategies to improve fluency.

reading fluency
The ability to recognize words and passages readily and smoothly.

Building a Sight Vocabulary Many poor readers have difficulty reading fluently because they do not possess an adequate sight vocabulary and must labor to decode many of the words in the reading passages. With their energies focused on recognizing words, their oral reading is filled with long pauses and many repetitions, and may be characterized by monotonous expression. Fluent reading requires that most of the words in a selection be recognized as sight words. When a selection contains too many difficult (nonsight) words, the reading material will be too arduous and frustrating for the reader (Jennings, Caldwell, & Lerner, 2010). Table 12.3 shows the 100 most common sight words.

TABLE 12.3

100 Common Words

1 the	21 this	41 so	61 people	81 back
2 be	22 but	42 up	62 into	82 after
3 to	23 his	43 out	63 year	83 use
4 of	24 by	44 if	64 your	84 two
5 and	25 from	45 about	65 good	85 how
6 a	26 they	46 who	66 some	86 our
7 in	27 we	47 get	67 could	87 work
8 that	28 say	48 which	68 them	88 first
9 have	29 her	49 go	69 see	89 well
10 I	30 she	50 me	70 other	90 way
11 it	31 or	51 when	71 than	91 even
12 for	32 an	52 make	72 then	92 new
13 not	33 will	53 can	73 now	93 want
14 on	34 my	54 like	74 look	94 because
15 with	35 one	55 time	75 only	95 any
16 he	36 all	56 no	76 come	96 these
17 as	37 would	57 just	77 its	97 give
18 you	38 there	58 him	78 over	98 day
19 do	39 their	59 know	79 think	99 most
20 at	40 what	60 take	80 also	100 us

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Table 12.3 illustrates common sight words that students should know by the end of third grade. One of the best and certainly most natural ways to learn sight words is by actually reading stories. Sight words appear many times in context. A natural way to expose children to sight words is through language experience stories, which contain many sight words. Students with reading disabilities need other direct approaches to strengthen their sight vocabulary. Some methods for teaching sight vocabulary are presented in the "Teaching Strategies" section of this chapter.

automaticity
In cognitive learning theory, the condition in which learning has become almost subconscious and therefore requires little processing effort.

Automaticity Automaticity is the fast, accurate, and effortless word identification at the single word level. The speed and accuracy with which single words are identified is a key predictor of reading comprehension. The range of children's skill in recognizing words is large. One research study reported that in a first-grade class, the number of words that children recognized ranged from 15 words to 1,933 words. The average skilled reader reads three times as many words as the average less skilled reader (Compton & Appleton, 2004).

Recognizing Syllables A powerful tool to develop automatic word recognition is to teach students the visual patterns in the 6 syllable types, which are shown in Table 12.4.

TABLE 12.4

Syllable Types

Syllable Types	Examples
Closed (closed with a consonant, vowel takes its short sound)	peg, big
Open (ends in a vowel, vowel makes its long sound)	we, go
Silent *e* (ends in vowel consonant *e*, makes the long sound)	make, ride
Vowel combination (2 vowels together make a sound	boat, fried
Controlled *r* (Contains a vowel plus *r*, vowel sign is changed)	card, corn
Consonant + *le* (at end of a word)	ta/ble, fa/ble

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Repeated Reading Repeated reading is an instructional strategy in which students read a passage aloud several times. The repeated reading method is simple and straightforward, emphasizing practice and repetition. Repeated reading improves fluency, comprehension, and overall reading achievement (Jennings et al., 2010; National Reading Panel, 2000). Research shows that repeated reading improves reading fluency for both elementary students and secondary students (Nelson, Alber, & Gordy, 2004). The "Strategies" section in this chapter describes strategies to improve reading fluency through repeated reading.

repeated reading
Having children reread material aloud to build fluency.

Other Methods to Improve Reading Fluency Fluency occurs when students begin to read easily instead of laboring through reading material. Students need many opportunities to read if they are to gain fluency. The books or passages that children read have to be at the appropriate difficulty level—not too hard, but not too easy. The following strategies are additional methods to improve reading fluency:

- **Read-along method.** The teacher and one student read a passage together orally.
- **Paired reading.** Two students read in pairs, alternating pages; paired reading provides extensive reading practice for both students.
- **Echo reading.** First, the teacher models an oral reading passage; the student is then asked to imitate the teacher's reading.
- **Reading aloud to other audiences.** Children can read aloud to willing listeners, such as grandparents, other family members, or even the dog.

12.3e Vocabulary

Vocabulary occupies a central position in learning to read. The student's vocabulary has a significant effect on reading achievement and is strongly related to reading comprehension (Jennings et al., 2010; National Reading Panel, 2000).

vocabulary
Recognition and knowledge of words. Consists of oral vocabulary and reading vocabulary.

Vocabulary knowledge requires the reader to not only know the word, but also to apply it appropriately in context. For example, when 2 boys tried to make cookies, they were puzzled when their cookies stuck to the pan. They had followed the directions in the recipe and greased the bottom of the pan. Their vocabulary problem was they thought the meaning of the word *bottom* referred to the underside of the pan. The part on which they had been told to place the cookies seemed to them to be the top of the pan.

Some important facets of teaching vocabulary are

- **Differences between oral vocabulary and reading vocabulary.** (1) *Oral vocabulary*—the words the child uses in speaking and in listening—and (2) *reading vocabulary*—the words the reader recognizes in print.Children enter school with a large oral vocabulary, estimated to be about 6,000 words. The average high school senior knows about 45,000 words (Stahl, 2004). Many of these words are in the student's reading vocabulary.
- **Indirect instruction and direct instruction.** Students build their vocabulary knowledge both indirectly and directly. Methods for indirect instruction include the expansive use of oral language and students reading extensively on their own. In direct instruction, words are explicitly taught using word-learning strategies.
- **Stages of learning words.** It is important to recognize that students learn words gradually. Most words require 20 exposures in context before an adequate grasp of their meanings is acquired (McKenna, 2004).

indirect instruction
Instruction that is incidental.

direct instruction
A method associated with behavioral theories of instruction. The focus is directly on the curriculum or task to be taught and the steps needed to learn that task.

The National Reading Panel (2000) summarized its findings about vocabulary instruction, noting that

- Instruction in vocabulary leads to gains in comprehension and the method must be appropriate for the age and ability of the reader.
- Computer programs are helpful in teaching vocabulary.
- Vocabulary can be learned incidentally in the context of storybook reading or by listening to others.
- The instructional procedure of teaching vocabulary before reading a text is helpful.

The "Teaching Strategies" section of this chapter offers some specific strategies to improve students' vocabulary.

12.3f Comprehension

comprehension
The purpose of reading—gathering meaning from the printed page.

The purpose of reading is comprehension, that is, gathering meaning from the printed page. All reading instruction should provide for the development of reading comprehension. Reading comprehension is the major problem for many students with reading disabilities. Comprehension skills do not automatically evolve after word-recognition skills have been learned. Although most students with reading disabilities eventually learn the basics of word-recognition skills, many continue to have great difficulty with tasks that require comprehension of complex passages. These students need to learn strategies that will help them

become active readers who understand the text. In this section, we describe (1) different views of reading comprehension, (2) strategies to promote reading comprehension, and (3) comprehension of narrative and informational materials.

Views of Reading Comprehension Reading comprehension is an active process that requires an intentional and thoughtful interaction between the reader and the text. As readers try to comprehend the material they read, they must bridge the gap between the information presented in the written text and the knowledge they possess. Reading comprehension thus involves thinking. The reader's background knowledge, interest, and the reading situation all affect comprehension of the material. Each person's integration of the new information in the text with what is already known will yield unique information (Jennings et al., 2010; National Reading Panel, 2000).

reading comprehension
Understanding of the meaning of printed text.

Reading Comprehension Depends on What the Reader Brings to the Written Material Reading comprehension depends on the reader's experience, knowledge of language, and recognition of syntactic structure, as well as on the redundancy of the printed passage (Jennings et al., 2010).

When a reader is faced with text that is about something the reader knows nothing about yet is able to read the individual words, the individual will not be able to comprehend the text. The implication for teaching is that when a reader has limited knowledge to relate to text content, no amount of rereading will increase comprehension. What students with learning disabilities and related disabilities need in many cases is more background knowledge to improve their comprehension.

Reading Comprehension Is a Thinking Process The relationship between reading and thinking has been noted for a long time. In 1917, Thorndike likened the thinking process used in mathematics to that of reading:

According to Thorndike, understanding a paragraph is like solving a problem in mathematics. It consists of selecting the right elements of the situation and putting them together in the right relations, and also with the right amount of weight or influence or force for each . . . all under the influence of the right mental set or purpose or demands.

Reading can be viewed as thinking or as something akin to problem solving. As in problem solving, the reader must employ concepts, develop and test hypotheses, and modify those concepts. Thus, reading comprehension is a mode of inquiry, and methods that employ discovery techniques should be used in the teaching of reading. The key to teaching from this perspective is to guide students to set up their own questions and purposes for reading. Students then read to solve problems that they have devised for themselves. Students can be encouraged first to guess what will happen next in a story, for example, and then to read to determine the accuracy of those predictions (Stauffer, 1975). This approach, which is called a directed reading-thinking activity (DRTA), is described in the "Teaching Strategies" section of this chapter.

directed reading-thinking activity (DRTA)
A guided method of teaching reading comprehension in which readers first read a section of text, then predict what will happen next, and then read to verify the accuracy of the predictions.

TeachSource Video Case Activity

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Watch the TeachSource Video Case entitled "Reading Comprehension Strategies for the Elementary School: Questioning Techniques." In this video, the teacher, Liz Page, instructs students on how to understand the text, read between the lines, and interpret texts at multiple levels, then leads a discussion with the group on interpretation questions.

QUESTIONS

1. How does the teacher model the reading strategy?
2. How does an interpretation comprehension question differ from a factual comprehension question?

Reading Comprehension Requires Active Interaction with the Text Readers must be active participants, interacting with the text material. They must actively combine their existing knowledge with the new information of the printed text.

There is evidence that good readers generally do not read every word of a passage; instead, they "sample" certain words to determine the meaning and skip many others. They go back and read every word only when they encounter something unexpected. For example, when people in love are reading a love letter, they read for all they are worth. They read every word three ways; they read the whole in terms of the parts, and each part in terms of the whole; they grow sensitive to context and ambiguity, to insinuation and implication; they perceive the color of words, the order of phrases, and the weight of sentences. They may even take punctuation into account (Adler, 1956).

Strategies to Promote Reading Comprehension In its review of reading comprehension, the National Reading Panel (2000) recognized several strategies that have a solid scientific basis of instruction for improving reading comprehension.

1. **Comprehension monitoring.** Students learn how to be aware of their understanding of the material.
2. **Cooperative learning.** Students learn reading strategies together.
3. **Using graphic and semantic organizers, including story maps.** Students make graphic representations of the material to assist their comprehension.
4. **Question answering.** Students answer questions posed by the teacher and receive immediate feedback.
5. **Question generation.** Students ask themselves questions about various aspects of the story.
6. **Story structure.** Students are taught how to use the structure of the story as a means of helping them recall story content in order to answer questions about what they have read.
7. **Summarization.** Students are taught to integrate ideas and to generalize from the text information.

Students with reading disabilities often require a different type of comprehension instruction. Just as students with reading disabilities need explicit structured instruction to learn word-recognition skills, they need explicit, highly structured instruction to learn reading comprehension skills. Incidental, literature-based instruction may be successful to teach reading comprehension to typical learners but such instruction is not sufficient for students with

reading disabilities. Joanna Williams (1998) taught comprehension to students with reading disabilities through a "Themes Instruction Program," which consists of a series of twelve 40-minute lessons. Each lesson is organized around a single story and is composed of five parts:

1. Prereading discussion on the purpose of the lesson and the topic of the story that will be read.
2. Reading the story.
3. Discussion of important story information using organized (schema) questions as a guide.
4. Identification of a theme for the story, stating it in general terms so that it is relevant to a variety of stories and situations.
5. Practice in applying the generalized theme to real-life experiences.

Comprehension Activities Before, During, and After Reading Reading comprehension can be taught before reading, during reading, and after reading, as indicated in Teaching Tips 12.1, "Strategies to Promote Reading Comprehension."

Before reading a story, teachers should motivate and interest students in the reading selection, review the vocabulary, build background information, and have the students predict what the story will be about. *During reading,* the teacher should direct the students' attention to the difficult or subtle dimensions of the story, anticipate difficult words and ideas, talk about problems and solutions, encourage silent reading, as well as encourage students to monitor their own comprehension. *After reading,* comprehension strategies can include

TEACHING TIPS 12.1

Strategies To Promote Reading Comprehension

Before Reading	During Reading	After Reading
Establish a purpose for reading.	Direct attention to difficult or subtle dimensions of the text.	Ask students to retell or summarize the story.
Review vocabulary.	Point out difficult words and ideas.	Create graphic organizers (e.g., webs, cause-and-effect charts, outlines).
Build background knowledge.	Ask students to identify problems and solutions.	Put pictures of story events in order.
Relate background knowledge and information to the story.	Encourage silent reading.	Link background information.
Encourage children to predict what the story will be about.	Encourage students to monitor their own comprehension while reading.	Generate questions for other children.
Discuss the author if such knowledge helps to set up the story.	Insert author information in the story.	Have students write their own reactions to stories and factual material.

Professional Resource Download

having the readers summarize or retell the story, talk about what they liked and what they wished had been different in the story, create graphic organizers, put pictures of story events in order, link background information, and talk about the characters in the story (Jennings et al., 2010).

Comprehension of Narrative and Informational Text Two types of reading comprehension materials are narrative materials and informational materials. *Narrative* materials are stories that are usually fiction. *Informational* materials are nonfictional materials that provide new knowledge about a subject.

Narrative Materials Narratives have characters, a plot, and a sequence of events. To read narrative materials effectively, students must be able to identify the following:

- Important characters
- Setting, time, and place
- Major events in sequence
- Problems that the characters had to solve and how those problems were resolved

Sometimes narratives are inspirational. Readers can leave the limits of their everyday lives and travel to other parts of the world, to space, and to other time periods. Poor readers often respond negatively to narrative materials and have to be strongly encouraged to read stories. It is important to ask students for their reactions and to find narrative materials that meet their interests. Different varieties of narrative reading materials are called *genres*. To become good readers, students need to have experiences with a variety of narrative materials, such as realistic fiction; fantasy fiction (such as books with talking animals); science fiction; fairy tales, folktales, and tall tales; fables; mysteries; historical fiction set in a period in the past; plays; and narrative poetry (poems that tell stories).

informational materials
Reading text material that is about subject matter. Usually nonfiction.

Comprehension of Informational Materials Informational materials include subject-matter materials, such as textbooks used in social studies or science content areas. As students move through the grades, the reading tasks they confront change dramatically. Reading assignments in content-area textbooks take the place of narrative stories. Students are often assigned to read textbooks independently, without supervision or help. They may be required to read a chapter, complete a written assignment on the chapter, prepare for a class activity based on the chapter, and take a test on the content of the chapter. It is not surprising that many students with learning disabilities and related mild disabilities cannot complete such assignments. A student whose reading has been limited to narrative stories will lack experience with, and the ability to do, the kind of reading that informational, content-area textbooks require.

Instruction at the secondary level places heavy demands on reading proficiency and provides little teacher direction. Major problems in content-area reading for students with learning disabilities and related disabilities include the following:

1. **There is a heavy emphasis on reading to obtain information.** Content-area instruction is based on presumed proficiency in reading. Students are expected to read, comprehend, and retain large amounts of information—up

to 50 pages a week for each general education content class. Furthermore, students may be required to take four content-area classes (e.g., English, science, mathematics, and history). For students with reading disabilities, the reading demand can become overwhelming.

2. **Content textbooks are generally written above the grade level in which they are used.** The textbook could be extremely difficult for the student with reading disabilities to understand. For example, if a tenth-grade student is at a fifth-grade reading level and the social studies textbook is written at an eleventh-grade level, there will be a 6-year discrepancy between the student's reading level and the reading level of the textbook.
3. **Content-area teachers often assume that students have adequate reading ability, and they do not teach reading skills.** At the secondary level, there is little time spent on teaching reading skills, such as organizing or studying an outline. Teachers can help students read content books by making the reading meaningful, connecting it to other material that the students have covered, and encouraging students to review the material to get an orientation to the text as a whole. Teachers can also introduce difficult or technical words before reading the text and alert students to monitor for comprehension as they are reading.

The "Teaching Strategies" section of this chapter provides some suggestions to help students read informational materials when using content-area textbooks.

Did You Get It?

In 2000, the National Reading Panel published a list of 5 categories in which every child should/must be able to display specific levels of reading competency. The list did not include which category?

a. test comprehension
b. literary critique
c. phonemic awareness
d. fluency

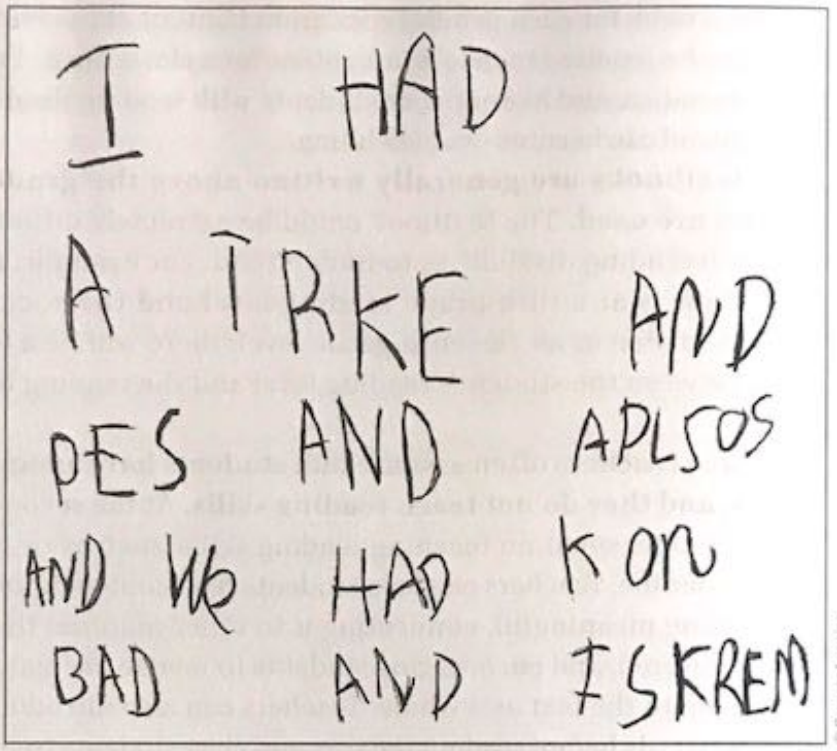
12.4 The Reading-Writing Connection

Strong ties exist between reading and writing. As students write, their reading skills improve. Both readers and writers construct meaning. Readers construct meaning from the author's text; writers compose or construct meaning as they write.

12.4a Early Literacy and Writing

Young children begin to grasp the insight that alphabet letters represent abstract speech segments. At a very early stage of literacy development, young children begin to write letters for words. For example, a child might write *KR* for *car*, *TRKE* for *turkey*, or *PTZU* for *pizza*. Children should be encouraged to write. Acceptance of "invented spelling" encourages children's writing. Figure 12.1 shows the writing of a young child who uses the alphabetic principle.

FIGURE **12.1**
Example of Early Alphabet Reading-Child's Response to "What Did You Eat for Thanksgiving?"



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With the early literacy emphasis, sometimes children learn to write before they learn to read. Student Stories 12.2, "Writing Before Reading," tells the story of a kindergartner who learned to write before learning to read.

Did You Get It?

A very young child wrote a new word he heard, "bicycle," as "bykicl." This to-be-accepted form of early writing is referred to as "_____spelling."

a. invented
b. ventured
c. gambled
d. aspiration

STUDENT STORIES 12.2

Writing Before Reading

The following example describes an incident involving a kindergartner who confidently used writing before learning to read. A business call was made to a client's home and the client's 5-year-old child answered the phone. The caller's side of the telephone conversation was overheard and went as follows:

"Hello, I want to speak to Mr. John Walsh. . . Oh, he's in the shower? Well, would you please write a message for him?. . . Good. Please write that. . . What? You haven't any paper?. . . Okay, I'll wait until you get a piece of paper. . . You got the paper? Good. Please write that. . . What? You haven't got a pencil?. . . Okay, I'll wait. . . Good. You found a pencil. Please write that Eugene Lerner called. I'll spell that— *E-U-G-E-N-E L-E-R-N-E-R.* My phone number is 708-555-1437. Did you write that down?. . . Good. Now would you read the message back to me?. . . What's that? You can write, but you haven't learned to read?"

REFLECTIVE QUESTION

1. What kind of early childhood curriculum do you think this child was in?

12.5 Literature-Based Reading Instruction/ Whole-Language Reading Instruction

A contentious issue regarding approaches for teaching reading involves the controversy between whole-language reading instruction and skills-based reading instruction that includes phonics. The concept of whole-language reading instruction was first introduced by Kenneth Goodman (1967). The underlying philosophy of this approach was that children should learn to read in the same way they learned to talk. By being involved in numerous books and stories and having many experiences listening to stories, they can learn to read in a natural way. The whole-language approach quickly rose in popularity in the schools during the late 1980s and the 1990s and was used in many schools throughout the country. The popularity of whole language has waned with the current emphasis on skills and phonics, but there are still many proponents of whole-language reading instruction (Flurkey & Yu, 2003).

The literature-based approach to teaching reading promotes a number of sound principles for reading instruction:

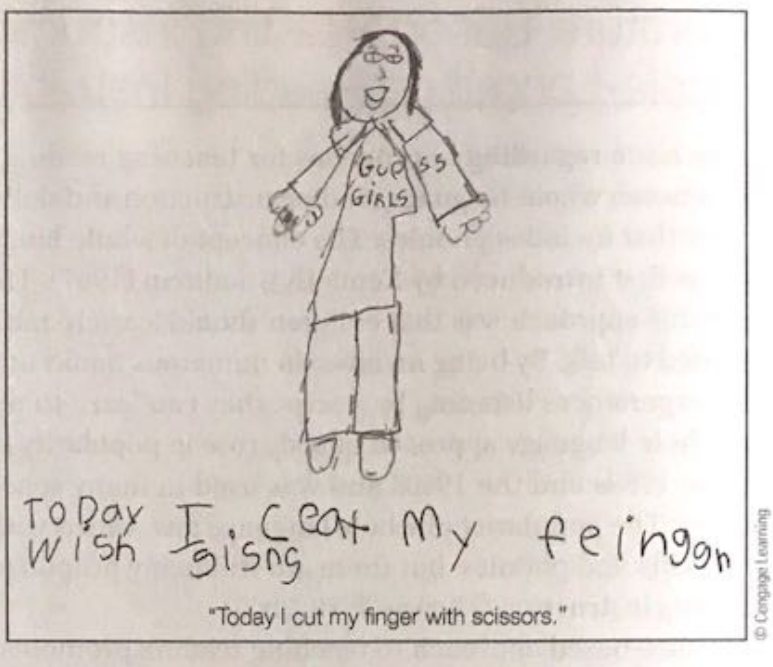
1. **There are strong interrelationships among the various language systems: oral language, reading, and writing.** The links between reading and oral language and writing should be strengthened. Active experiences with writing and oral language will improve a child's reading. The early literacy curriculum focuses on the links between oral and written language and encourages children to write as early as kindergarten and even before learning to read.
2. **Young children should be immersed in language and books from infancy.** Children need much exposure to language, books, and stories. The value of using stories has been part of our culture from Mother Goose to Dr. Seuss. It is essential that books, stories, and poems become an integral part of a child's life. Children benefit greatly from sharing books and hearing stories. (See Chapter 11, "Spoken Language Difficulties: Listening and Speaking.")
3. **Children should be given many experiences with writing.** Children need opportunities to engage in abundant writing and to express their thoughts and ideas in writing and in journals. Figure 12.2 shows the written journal entry of a 5-year-old kindergarten student.
4. **Children need time for independent reading.** Children need opportunities to engage in reading for enjoyment when they are not under the supervision of a teacher.

Did You Get It?

Children should be presented with opportunities for language and book-related activities from infancy on in a manner that constitutes _____.

a. superficial exposure
b. familiarity
c. empiricism
d. immersion

FIGURE **12.2**
Journal of a Kindergarten Student



"Today I cut my finger with scissors."

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12.6 English-Language Learners (ELL) and Reading

English-language learners (ELL) are students who are not yet proficient with the English language, and their native language is not English. An increasing number of students come from homes in which a language other than English is spoken. For over 77% of ELL students in the United States, Spanish is the native language, but over 350 languages are used by ELL students in U.S. schools (Samson & Lesaux, 2009; McCardle, 2005). Chapter 11, "Spoken Language Difficulties: Listening and Speaking," provides additional information about English-language learners. Many students who are English-language learners have much difficulty learning to read in English.

The following methods for teaching reading to ELL students are recommended by Hudson and Smith (2001):

- **Build reading fluency.** Have students reread orally two familiar books in English from previous lessons.
- **Keep a running record of errors.** The teacher has a duplicate copy of the text the student is reading aloud and marks errors that the student makes in the oral reading. The teacher and student discuss these errors.
- **Incorporate writing into the lesson.** The student writes the story that has been read.
- **Cut up the written story into sentences.** The student reassembles the sentences, and rereads it several times.
- **Write a new story.** The student reads a new book and then writes a new story about what has been read.

Did You Get It?

How many primary languages other than English are spoken by students in schools in the United States?

a. 25–50
b. 100–150
c. 200–300
d. well over 300

12.7 Assessing Reading

There are many more measures and tests for assessing reading than for other areas of the curriculum. Reading can be assessed through (1) *informal measures*, such as the informal reading inventory and portfolio assessment or (2) *formal tests*, such as survey tests, diagnostic tests, and comprehensive batteries.

12.7a Informal Measures

One of the simplest methods of assessing reading is to observe informally as the student reads aloud. The teacher can readily detect the student's general reading level, word-recognition abilities, types of errors, and understanding of the material. This method is very practical and can be as informative as elaborate test batteries.

Informal Reading Inventory The informal reading inventory (IRI), which can be administered quickly and easily, provides a wealth of information concerning the student's reading skills, reading levels, types of errors, techniques of attacking unknown words, and related behavioral characteristics (Jennings et al., 2010; Johnson, Kress, & Pikulski, 1987).

informal reading inventory (IRI) An informal method of assessing the reading level of a student by having the student orally read successively more difficult passages.

The informal reading inventory procedure requires the examiner to choose selections of approximately 100 words in length from a series of graded reading levels. The student reads aloud from several graded levels while the teacher systematically records the errors. If the student makes more than 5 errors per 100 words, the student is given progressively easier selections until a level is found at which there are no more than 2 errors per 100 words. To check comprehension, the teacher asks the student 4 to 10 questions about each selection. By means of the following criteria, an informal reading inventory can determine 3 reading levels:

1. **Independent reading level.** The student is able to recognize about 95% of the words and to answer about 90% of the comprehension questions correctly. (This is the level at which the student is able to read library books or do reading work independently.)
2. **Instructional reading level.** The student is able to recognize about 90% of the words in the selection, with a comprehension score of about 70%. (This is the level at which the student will profit from teacher-directed reading instruction.)
3. **Frustration reading level.** The student is able to recognize fewer than 90% of the words, with a comprehension score of less than 70%. (If the student does not understand the material, this level is too difficult and should not be used for instruction.)

In addition to informal reading inventories developed by teachers, several standard commercial inventories are available, and they offer a convenient way to administer the reading inventory.

The IOTA Informal Word-Reading Test The IOTA test is an informal test for word-reading skills in the public domain. This means it is no longer under copyright law. It was originally published by M. Monroe (1932). (See the Student Website for information about how to administer the IOTA informal reading test.)

Portfolio Assessment of Reading Portfolio assessment is an alternative to traditional, standardized reading assessment tests. The problem with

standardized reading tests is that they do not measure what students are actually doing in the reading classroom and do not closely link the assessment to the reading curriculum. Proponents of portfolio assessment propose that learning is too complex and assessment too imperfect to rely on any single index of achievement.

Specifically, *portfolio assessment* consists of keeping samples of the students' reading and writing work. It is relatively easy to collect samples of students' writing during the school year. For reading, the teacher keeps a reflective log, recording the students' reactions to books they read, along with the teacher's own reactions. The log shows the growth of each student in reading comprehension. Samples of language experience stories can be kept in the portfolio. Other assessment methods of this type are observations of students ("kid watching"), checklists, interviews with students, and collections of student work. By reviewing the students' work over a period of time, teachers, parents, and students themselves are able to evaluate progress (Jennings et al., 2010).

12.7b Formal Tests

Formal reading tests can be classified as survey tests, diagnostic tests, or comprehensive batteries. *Survey tests* are group tests that give an overall reading achievement level. These tests generally give at least 2 scores: word recognition and reading comprehension. *Diagnostic tests* are individual tests that provide more in-depth information about the student's strengths and weaknesses in reading. *Comprehensive batteries* are tests with components that measure several academic areas, including reading. Table 12.5 lists some of the widely used formal reading tests in each of these categories.

Did You Get It?

_____ level is an assessment result used to determine the level of reading at which a student is not able to perform adequately—a level considered beyond optimal for him or her.

a. Frustration
b. Antagonistic
c. Vexation
d. Apprehension

12.8 Teaching Strategies to Improve Reading Difficulties

The "Teaching Strategies" section presents approaches, methods, and materials to teach reading to students with learning disabilities and related disabilities. It is organized by the following strategies: (1) strategies to improve word recognition, (2) strategies to improve fluency, (3) strategies to improve reading comprehension, (4) enjoyment and appreciation of reading, (5) multisensory methods, and (6) assistive and instructional technology for reading.

TABLE 12.5

Commonly Used Formal Reading Tests

Test	Grade or Age Assessed
Survey tests	
• Gates-MacGinitie Reading Tests (4th ed.), Riverside Publishing *http://www.riverpub.com*	Grades 1–12
• Metropolitan Achievement Tests, Harcourt *http://www.harcourtassessment.com*	Grades K–12
• Wide-Range Achievement Test—4 (WRAT-4), Ann Arbor *http://www.annarbor.co.uk*	Ages 5–adult
Diagnostic tests	
• Stanford Diagnostic Reading Test (4th ed.), Harcourt *http://www.harcourtassessment.com*	Grades 1–12
• Woodcock Reading Mastery Test—Revised Normative Updates (WRMT-R), AGS *http://ags.pearsonassessments.com*	Ages 5–adult
Comprehensive batteries	
• Brigance Comprehension Inventory of Basic Skills—Revised Curriculum Associates *http://www.curriculumassociates.com*	Grades K–9
• Kaufman Test of Educational Achievement, 2nd ed. (KTEA-2), AGS *http://ags.pearsonassessments.com*	
• PIAT-R/NL Peabody Individual Achievement Test—Revised Normative Update, AGS *http://ags.pearsonassessments.com*	Grades K–12
• Woodcock-Johnson Tests of Achievement III, Riverside Publishing *http://www.riverpub.com*	Preschool–adult

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Did You Get It?

Phoneme awareness is considered an inextricable link in the process of teaching/improving word recognition. Which strategy is not used to build phoneme awareness?

a. segmenting the sounds and syllables in words
b. learning to recognize and assess rhyming patterns
c. learning to recognize basic aspects of word-origin
d. learning to properly count the sounds within a word

12.9 Strategies to Improve Word Recognition

12.9a Building Phoneme Awareness

A child who is learning to read must first become aware of the sounds in words and language. Strategies for teaching children to become aware of the phonemes, or sounds, in language include (1) learning to count the sounds in words, (2) learning to segment the sounds and syllables in words, and (3) learning to recognize rhyming words. These strategies are presented in Chapter 11, "Spoken Language Difficulties: Listening and Speaking."

12.9b Dynamic Indicators of Basic Early Literacy Skills (DIBELS)

DIBELS
A measurement system to assess early reading skills of young children, including phonological awareness, alphabetic principles, and oral reading fluency.

Some schools are using a measurement system called DIBELS to assess the early reading skills of young children in grades K-2. DIBELS stands for *Dynamic Indicators of Basic Early Literacy Skills.* DIBELS measures are designed to assess the young child's skills in phonological awareness (initial sound fluency and phonemic segmentation fluency), alphabetic principles (nonsense word fluency), and oral reading fluency. The intent of DIBELS is to monitor the early reading skills of young children frequently to identify young children who are likely to have difficulty in learning to read and to provide the appropriate intervention. More information about DIBELS can be found at the DIBELS website at *http://dibels.uoregon.edu.*

12.9c Phonics Methods

Phonics systems and phonics books have been on the market for over 70 years. Many phonics programs today are repackaged as preprinted masters for duplication or as CDs, recordings, audiotapes, videotapes, computer software programs, and multimedia packages. Two phonics approaches are (1) synthetic and (2) analytic. *Synthetic phonics* methods first teach students isolated letters and their sound equivalents. Then they teach students to synthesize or blend these individual phoneme elements into whole words. *Analytic phonics* methods teach students whole words that have a consistent sound-spelling pattern, and they then teach students to analyze the phoneme elements that make up the words. A typical exercise in phonics materials appears in Figure 12.3.

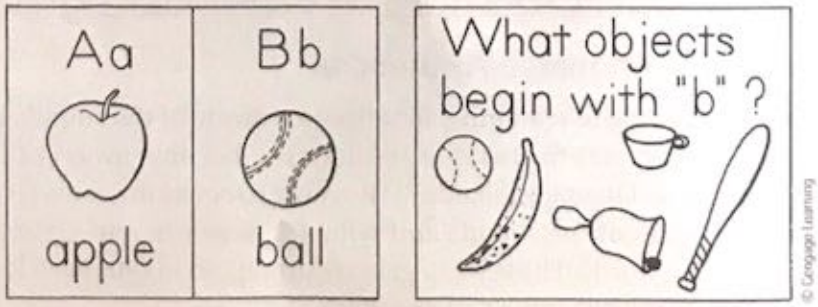
The Dollar Store Many useful reading games and materials can be found by browsing through a dollar store. These bargain items include phonics games, alphabet letters, sight word cards, and other reading-related materials. Teachers can develop a collection of these items that can be placed in an activity center or used to reinforce a reading lesson. Dollar store items can also be purchased through the Internet. The URL for one such dollar store, Oriental Trading, is *http://www.OrientalTrading.com.* Figure 12.4 provides you with a menu of some reading activities you can plan using low cost materials.

Did You Get It?

Repetition is a very effective strategy for improving fluency. The basic length of a standard passage meant for repetition should be

a. 10 to 15 words—a standard sentence.
b. 30 to 45 words—a short paragraph.
c. 50 to 200 words—a half-page of text.
d. 1,200–1,500 words—a short chapter.

FIGURE **12.3**
Examples of Phonics Exercises



12.10 Strategies to Improve Fluency

In addition to recognizing words accurately, readers must read the words quickly and fluently. Otherwise, reading is labored and not enjoyable, and the reader loses meaning. Some strategies to improve fluency include (1) repeated reading, (2) predictable books, and (3) the neurological impress method.

12.10a Repeated Reading

Repeated reading is a strategy used to give the student repeated practice to improve his or her oral reading fluency. It is especially useful with slow, halting readers who accurately identify most words in a passage but have not developed fluency. The method involves the selection of passages that are 50 to 200 words long and at a difficulty level that enables the student to recognize most of the words. The student then reads the selection orally three or four times before proceeding to a new passage. Word-accuracy rates and reading speed are usually reported to the student after each reading, and daily practice is recommended (Jennings et al., 2010). Some students particularly enjoy repeated reading when the passages are displayed on a computer screen. *Read Naturally* is a commercial fluency and training program that focuses on fluency development. Its website is at *http://www.readnaturally.com*.

12.10b Predictable Books

Predictable books contain patterns or refrains that are repeated over and over. Many are based on folktales and fairy tales. For example, in *The Three Billy Goats Gruff*, the question "Who is that trip-trapping over my bridge?" is asked by the troll as each Billy goat goes over the bridge. Another favorite predictable book is *Brown Bear, Brown Bear*. After the book has been read to young children several times, they are able to predict the wording and begin saying the refrain along with the storyteller. Using predictable books is an excellent way to actively involve children in a story even before they can read. They begin to develop language knowledge and anticipate what will be said. This experience helps develop support for word recognition when they do read the story (Jennings et al., 2010).

12.10c Neurological Impress Method

Another approach to improving fluency for students with severe reading disabilities is the *neurological impress method* (Heckelman, 1969; Langford, Slade, & Barnett, 1974). It is a system of rapid-unison reading by the student and teacher. The student sits slightly in front of the teacher, and both read together out of one book. The voice of the teacher is directed into the ear of the student at a fairly close range. The student or the teacher places a finger on the word as it is read. At times, the teacher's voice may be louder and faster than the student's, and at other times the teacher may read more slowly than the student, who may lag slightly behind. No preliminary preparations are made with the reading material before the student sees it. The goal is simply to cover as many pages as possible within the time available without tiring the student. The theory underlying this method is that the auditory process of feedback from the

reader's own voice and from the voice of someone else reading the same material strengthens the reading process.

In the *read-along method,* a similar process occurs. In this method, children listen to a CD or a tape recording of a story as they read along with the text. In the classroom, headphones may be used so that the tape recording does not disturb other children. There are many commercial stories and tapes available for this purpose.

Did You Get It?

The fundamental aspect of the structure of a basal reading series is its _____ nature of difficulty levels as the series progresses.

a. escalating
b. deescalating
c. stable
d. random

12.11 Strategies to Improve Reading Comprehension

This section describes strategies to improve reading comprehension. Comprehension is the essence of the reading act. Students must understand and interact with the text. The section discusses (1) basal readers, (2) activating background knowledge, (3) language experience method, (4) the K-W-L technique, (5) building meaning with vocabulary and concepts, (6) the reading-writing connection, (7) thinking strategies, and (8) cognitive learning strategies for reading.

12.11a Using Basal Readers

basal reading series
A sequential and interrelated set of books and supportive material intended to provide the basic material for the development of fundamental reading skills.

Basal readers are a sequential and interrelated set of books and supportive materials intended to provide the basic material for the development of fundamental reading skills. A basal reading series consists of graded readers that gradually increase in difficulty, typically beginning with very simple readiness and first-grade books and going through the sixth- or eighth-grade level. The books increase in difficulty in vocabulary, story content, and skill development. Auxiliary material, such as teacher's manuals and activity books, often accompanies the books. Most basal reading series incorporate an eclectic approach to the teaching of reading, using many procedures to teach readiness, vocabulary, word recognition, comprehension, and the enjoyment of literature.

As the major tool of reading instruction for the past 40 years, the basal reader has been the target of continual criticism from diverse groups, including some educators, scholars from other academic disciplines, the popular press, parent groups, political observers, moralists, and, recently, ethnic and women's groups. Critics have scoffed at and satirized the language, phonics presentation, story content, class appeal, pictures, qualities, and environment of the characters of the basal reader. In spite of this highly vocal and severe criticism, basal readers continue to be the major tool for reading instruction in elementary classrooms throughout the country.

Because most basal readers are not committed to any one teaching procedure, publishers are continually modifying them in response to the demands of the times and the consumer market. For example, more phonics and decoding activities are currently being added to basal readers. Other recent basal reader modifications have more literature-based materials and language activities in the early grades. The modifications have also made stories longer and more sophisticated and added stories that are culturally and ethnically diverse. There are also series of readers produced especially for slow readers.

12.11b Activating Background Knowledge

The following strategies alert the student to the background knowledge needed for reading comprehension and build on student experiences.

Language Experience Method The language experience method is well accepted as a method that builds on the student's knowledge and language base, linking the different forms of language—listening, speaking, reading, and writing. This method uses the student's own experiences and language as the raw material. Students begin by dictating stories to the teacher (or writing stories by themselves). These stories then become the basis of their reading instruction. Through the language experience approach, students conceptualize written material as follows:

language experience method
A method of teaching reading based on the experiences and language of the reader. The method involves the generation of experience-based materials that are dictated by the student, written by the teacher, and then used as the material for teaching reading.

What I can think about, I can talk about.

What I can say, I can write (or someone can write for me).

What I can write, I can read.

I can read what others write for me to read.

There is no predetermined, rigid control over vocabulary, syntax, or content. The teacher uses the text or stories that the student composes to develop reading skills. The language experience approach to reading has a vitality and immediacy, as well as an element of creativity. The method is effective both in the beginning-to-read stage with young children and in corrective instruction with older pupils. The interest of the student is high because the emphasis is on reading material that grows out of the student's personal experiences and natural language in expressing these experiences. Figure 12.4 shows an example of a language experience story. (Language experience is also discussed as a writing strategy in Chapter 13, "Written Language Difficulties: Written Expression, Spelling, and Handwriting.")

The K-W-L Technique K-W-L is a technique for reading and studying content-area textbooks (Ogle, 1986). The letters represent 3 questions in 3 steps of a lesson:

1. **What I know.** Students think of and state all the knowledge they have on a subject. A group of students can pool their knowledge.
2. **What I want to find out.** Each student thinks of and writes on a sheet of paper what he or she wants to (or expects to) learn from the reading. Students can then compare their answers to this question.
3. **What I learned.** Students read the lesson silently and write what they have learned from the reading. Answers to this question can be shared by the group.

FIGURE 12.4
Sample Page from Phonics Remedial Reading Lessons

10 WAYS TO USE LOW COST MATERIALS TO BUILD READING SKILLS

1. Purchase three hula hoops and put three different letters that make a word in each hula hoop. Have the student jump in the hoops in sequence as they say the sounds of the letter and then put them together in the last hoop to make a word.
2. Purchase a shower curtain or a plastic tablecloth and write words that you are working on with the students on the curtain or cloth and tape to the floor. Say the word and have the student jump to the correct word.
3. Purchase a large plain ball where you have written in permanent marker key words that you want to review with your students or where you have written key letters. You throw the ball to the student and wherever the student's left thumb lands, the student has to read the word or give the sound of the letter closest to where the student's left thumb landed.
4. Purchase hand clappers for each student. Students get to clap for each sound they hear in the words they say.
5. Purchase sand paper and cut out letters in sand paper so students are able to feel the letters as they say them and provide the sound.
6. Purchase flash cards that have a picture and the matching word.
7. Purchase sheets of foam and make puzzles with letters that make words and have the students put together the puzzle to make a word.
8. Purchase a plastic bucket and scoop and place various words in the bucket and have students read those words as they scoop the letters one at a time from the bucket.
9. Purchase blank name tags. Give 3 or 4 or 5 students a nametag with a letter on it and have students put themselves together and in order to make a word.
10. Purchase a dot to dot book with letters. In order for a student to connect the dot, he or she has to say a word that begins with the letter. You can also make your own dot to dots.

Professional Resource Download

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Figure 12.5 provides a chart that shows the importance of passage review. To increase comprehension, the teacher must build on prior knowledge, review key vocabulary words in the passage, review the big ideas, review what students want to learn about the passage, how they want to learn about the passage, and then review what they learned that can then provide a basis for new passages.

12.11c Building Meaning With Vocabulary and Concepts

To read effectively, readers need to have knowledge of word meanings and of the concepts underlying the words. The more students read, the more word meanings and language they will acquire. It is important to use strategies that will build the student's vocabulary and understanding of words.

Knowledge of vocabulary and the ability to understand the concepts of words are closely related to reading achievement. Limited vocabulary knowledge can seriously hamper reading comprehension. Further, as words become more abstract, the concepts become more difficult to grasp.

Concepts are commonly explained as ideas, abstractions, or the essence of things. For example, the concept of *chair* refers to an idea, an abstraction, or a symbol of concrete experiences. A person's experiences may have included exposure to a specific rocking chair, an upholstered chair, and a baby's highchair, but the concept *chair* symbolizes a set of attributes about "chairness." The word *chair* allows a person to make an inference about new experiences with chairs, such as a lawn chair observed for the first time. The word or concept of *chair* by itself does not have an empirical reference point.

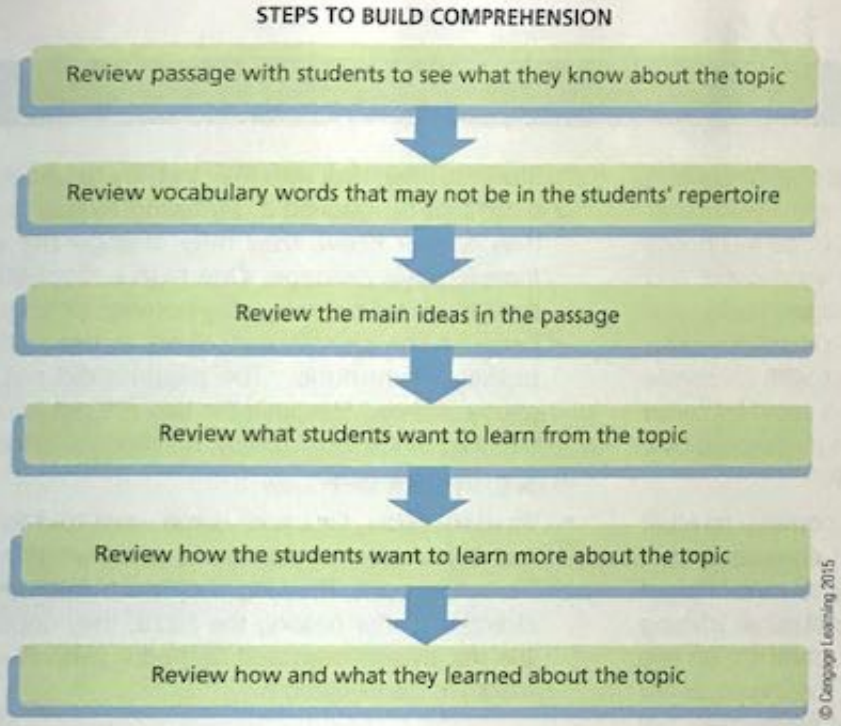

FIGURE **12.5**
Steps to Build Comprehension

At a still more abstract level, words become further removed from concrete referents. The concept *chair* is part of a broader concept *of furniture.* Concepts even more removed from the sensory world are ideas, such as *democracy, loyalty, fairness,* and *freedom.*

A further confusion in school learning is related to the fact that textbooks present important concepts as technical terms, such as *plateau, continental divide, density of population, pollution, the law of gravity,* or *space exploration.* Problems in reading in the content areas are frequently due not to the difficulty of the words, but to the concentration and compactness of the presentation of the concepts.

Because language plays a key role in concept development, language problems are likely to be reflected in faulty conceptual abilities and limited vocabulary development. Students who have meager, imprecise, or inaccurate concepts will have difficulties understanding a reading passage. Student Stories 12.3, "Misunderstanding of Concepts," illustrates the consequences of imprecise concept development.

Expanding Vocabulary The following activities are designed to expand and build vocabulary:

1. **Highlighting multiple word meanings.** Multiple meanings of words often cause confusion in reading. For example, there are many meanings of the word *note.* In music, *note* means the elliptical character in a certain position on the music staff. In arithmetic or business, a *note* might mean a written promise to pay. In English or study hall, a *note* might refer to an informal written communication. In social studies, a *note* might refer to a formal communiqué between the heads of two nations. In science, one might be able to *note* the results of an experiment, meaning to observe them. In English class, the selection of literature might discuss an individual who was a person of great *note,* or importance, in the community. In any lesson, the student could be asked to make *note* of an examination date, meaning to remember it. The teacher could make a *note,* meaning a remark, in the margin of the paper.

STUDENT STORIES 12.3

Misunderstanding of Concepts

- Some students confuse one attribute of an object with the concept of the object. For example, Paula could not understand the circular concept of the roundness of a plate. When told that the plate was "round" and asked to draw a circle around its edges, Paula said, "That's not round; that's a dish." Students may also confuse the concept of an object with its name. When Paula was asked if the moon could be called by another name, such as cow, she responded, "No, because the moon doesn't give milk."
- Misunderstanding a symbol that conveys multiple concepts may have unexpected consequences. Nine-year-old Susie was in tears when she brought home a medical form from the school nurse advising Susie's parents to take their daughter for an eye examination. Susie sobbed that the cause of her anguish was not that she needed eyeglasses, but that the nurse had filled in an *F* in the blank next to the word sex on the examination form. That symbol *F* conveyed the concept of a grade, and Susie feared she had "failed sex."
- Students often deal with their inability to understand a concept by ignoring it. By failing to read a word they do not know, they may change the entire meaning of a passage. One high school student thought the school was using pornographic material because the people described in the following passage were nude: "The pilgrims did not wear gaudy clothes." Because the boy did not know the meaning of the word gaudy, he simply eliminated it from the sentence.
- To make pizza, Lisa and Jaime were told to put it in the microwave oven, heat it, and then bring it to the lunchroom. Thinking they were following the directions, after heating the pizza, they unplugged the microwave oven and carried it (with the pizza inside) to the lunchroom.

REFLECTIVE QUESTION

1. How can a student's lack of understanding vocabulary affect reading comprehension?

In material on England, paper money may be called a *bank note.* The student who cannot hold the various concepts of this word in mind will have trouble understanding many areas of the curriculum. By highlighting multiple meanings—through dictionary games, sentence-completion exercises, and class discussion—teachers can offer important help to students who must develop an awareness of one word's different meanings.

2. **Providing concrete experiences.** To build vocabulary and develop concepts for reading, students need concrete experiences with words. A first step is to provide students with primary experiences with the word or concept. The next step is to encourage and assist students to draw conclusions from their experiences. As students progress to more advanced stages, teachers can foster skills of classifying, summarizing, and generalizing.
3. **Exploring sources of vocabulary.** Because vocabulary is woven into every phase of our lives, new words can be drawn from any aspect of a student's experience: television, sports, newspapers, advertising, science, and so on. Many students enjoy keeping lists of new words and developing word books.
4. **Expanding vocabulary through classification.** Another way to learn new words is to attach them to known words. Much vocabulary growth takes place in this manner. Vertical vocabulary expansion involves taking a known word and breaking it down into categories. For example, students take the concept *dog* and break it into many species (*collie, terrier, cocker spaniel*). Horizontal vocabulary growth refers to enrichment and differentiation. Children may first call all animals *dogs.* Then they learn to distinguish cats, horses, and other creatures.

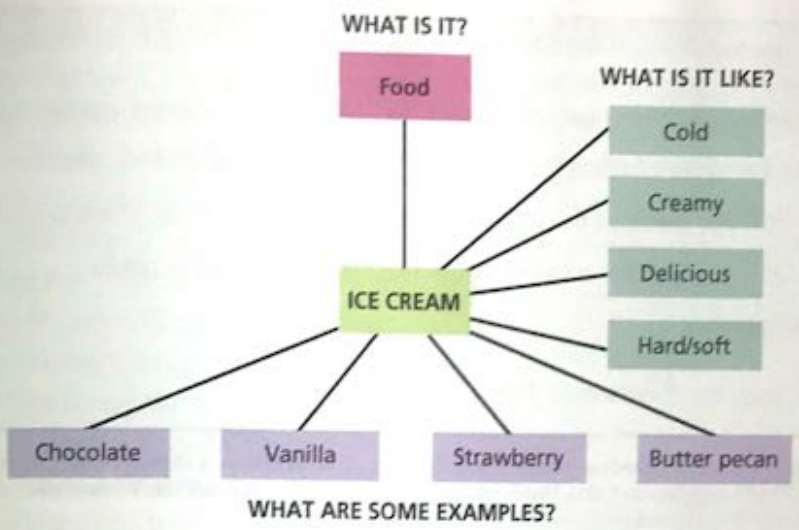

FIGURE 12.6
Word Web

Source: From Cook, D. M (Ed.). *Strategic learning in the content area*, 1989, Madison, WI: Department of Public Instruction. Reprinted with the permission of the Wisconsin Department of Public Instruction, 125 South Webster Street, Madison, WI 53702, 800-243-8782.

Word Webs A word web is a type of graphic organizer, which is a strategy for helping build vocabulary and making information easier to understand and learn. Word webs enrich associations with a word and deepen a student's understanding of important concepts. Figure 12.6 shows an example of a word web for *ice cream*. A group of students developed the word web by answering 3 questions: "What is it?" "What is it like?" and "What are some examples?" Research shows that graphic organizers help students with learning disabilities and related mild disabilities understand reading material and improve their comprehension (Fisher et al., 1995; Sabbatino, 2004). A computer program that produces many types of graphic organizers is Inspiration (Inspiration Software, *http://www.inspiration.com*).

word web
A type of graphic organizer. It helps students learn words, build vocabulary, and makes information about the word easier to understand and learn.

Cloze Procedure The cloze procedure is a useful technique for building comprehension and language skills. It is based on a person's impulse to provide closure, or complete a structure and make it whole by supplying a missing element. When the cloze procedure is applied to the reading process, the following steps are used:

cloze procedure
A technique that is useful in testing, in teaching reading comprehension, and in determining readability (or difficulty level of the material). The cloze procedure involves deleting words from the text and inserting underlined blank spaces. Measurement is made by counting the number of blanks that students can correctly fill.

1. Select a passage of reading material.
2. Rewrite the material and delete every *x*th word (e.g., every fifth word or every tenth word). Replace the deleted word with a blank line; all lines should be the same length.
3. Ask students to fill in each blank by writing the word they think was deleted.

One advantage of the cloze test over the conventional reading test or other fill-in-the-blank tests is that because words are deleted at random, both *lexical* words and *structural* words are omitted. Lexical words carry primary meaning and are roughly similar to verbs, nouns, adjectives, and adverbs. Relationships are indicated by structural words, such as articles, prepositions, conjunctions, and auxiliary verbs. What the reader supplies provides clues to his or her underlying language processes.

The cloze procedure may be modified and used for a variety of purposes. To teach vocabulary, for example, only the words of the vocabulary lesson can be deleted. In content areas, such as social studies, technical words can be deleted.

FIGURE **12.7**
Sample Cloze Exercise

Fill in the deleted words in the following passage entitled "Farming in Switzerland":

Switzerland is a country of very high, steep mountains _____ narrow valleys. In the valleys are the farms where _____ farmers raise much of the food they need for _____ and their animals. Because the valleys are tiny, the _____ are small. There is no room on them for _____ grassland that is needed for pasturing cows or goats _____ sheep during the summer.

Answers: *and, the, themselves, farms, the, or*

Source: From *High Roads*, by McKee Paul, M. Lucile Harrison, Annie McCowen, & Elizabeth Lehr. Copyright 1962, renewed 1990 by Beverly McKee Eaton, Paul E. Harrison, and Gloria Royer. Reprinted with the permission of Houghton Mifflin Company. All rights reserved.

Or the teacher can delete other selected categories, such as adjectives, adverbs, or prepositions. For students who have difficulty in writing, the cloze words can be printed on cards backed with felt or Velcro, which students place on the appropriate blank space in the written passage.

In the sample cloze exercise shown in Figure 12.7, the reading material was retyped with every tenth word deleted and replaced by a standard-size line. Students supply the missing words.

12.11d The Reading–Writing Connection

The following strategies connect reading with writing.

Dialogue Journals Dialogue journals are a personal way to integrate reading and writing. To initiate this activity, the teacher gives each student a notebook, and teachers and students write personal messages to one another through the notebook. A variety of topics can be addressed; teachers may ask students how they liked a story or ask them about their pets, birthdays, holidays, or something that happened to them. Some teachers paste a picture, a cartoon, or a Polaroid photograph of the student in the journal and ask for student comments. After the student writes something, the teacher responds in the journal. The response may provide some personal information and then ask for more information or may start another topic. Typically, as students get used to the journal, they begin to write more and look forward to a regular interchange through the journal.

Materials Without Words To foster reading comprehension, the teacher can use materials that do not have words, such as comic books without captions, silent films, and books of photographs. The students first figure out the story content from the pictures; then they make the transition to printed words. Once the students understand the material, words become meaningful. The students can even write their own dialogue.

Written Conversations Instead of saying what they wish to communicate to the teacher or to friends, students can write the message and give it to their teacher or to other students. The teacher's (or classmates') responses should also be written (Jennings et al., 2010). Students in middle school often surreptitiously send small folded notes to their friends. This activity legitimizes the note exchange ventures.

12.11e Cognitive Learning Strategies for Reading

Learning strategies are discussed in greater detail in Chapter 5, "Theories of Learning," and Chapter 9, "Adolescents and Adults With Learning Disabilities and Related Mild Disabilities." A major reading comprehension problem for students with reading disabilities is that they tend to be passive and to wait for teacher direction. They do not know how to interact effectively with the text or to merge the information with what they already know. They often read reluctantly, hesitating to ask questions and focusing solely on what they think the teacher wants them to remember. These students may not monitor their reading comprehension. When they are not sure of the meaning of a passage they are reading, they do not take action by going back and trying to understand. Instead, they continue to read and lose even more of the meaning. Often, they are unaware that something is wrong.

Young children should be immersed in language and books from infancy.

Students who have difficulty with reading comprehension need instruction that helps them become actively involved in the reading and in trying to reconstruct the author's message. They need to develop metacognitive abilities by learning to recognize their loss of comprehension when it occurs and employing "fix-up" strategies. Learning strategies for improving reading comprehension help students become active, involved learners who are able to direct their own learning (Lenz & Deshler, 2003; Deshler et al., 2001).

12.11f Multisensory Methods

A collection of programs that are based on the Orton-Gillingham Method comprise the multisensory methods for students with severe reading and learning disabilities (Birsh, 2005). They include the Orton-Gillingham Method, Project READ, the Wilson Reading System, Alphabetic Phonics, the Herman Method, and the Spalding Method (Birsh, 2005; Henry, 1998). These multisensory groups have formed an umbrella organization called the International Multisensory Structured Language Council (McIntyre & Pickering, 1995). The multisensory methods have the following similar characteristics (Oakland et al., 1998):

multisensory methods
A collection of programs based on the Orton-Gillingham Method that use several sensory avenues to teaching reading

- Help anchor verbal information by providing links with the visual, auditory, tactile, and kinesthetic pathways for learning.
- Use highly structured phonics instruction with an emphasis on the alphabetic system.
- Include abundant drill, practice, and repetition.
- Have carefully planned sequential lessons.
- Emphasize explicit instruction in the language rule systems to guide reading and spelling.

VAKT
The abbreviation for visual, auditory, kinesthetic, and tactile learning, a multisensory approach to teaching reading that stimulates all avenues of sensory input simultaneously.

The multisensory methods use several senses to reinforce learning, as indicated in the acronym VAKT, which is formed from the first letter of the words *visual, auditory, kinesthetic,* and *tactile.* To stimulate all of these senses, students hear the teacher say the word, say the word to themselves, hear themselves say the word, feel the muscle movement as they trace the word, feel the tactile surface under their fingertips, see their hands move as they trace the word, and hear themselves say the word as they trace it. Several of the multisensory methods are described in this section.

The Orton-Gillingham Method The *Orton-Gillingham Method* is an outgrowth of the Orton theory of reading disability (Orton, 1937, 1976). This method focuses on a multisensory, systematic, structured language procedure for reading-decoding and spelling instruction. Initial activities focus on learning individual letter sounds and blending. The student uses a tracing technique to learn single letters and their sound equivalents. These single sounds are later combined into larger groupings and then into short words (Gillingham & Stillman, 1970; Orton, 1976).

Simultaneous spelling tasks are also part of the Orton-Gillingham Method. While writing the letters, the students say both the sounds of the letters in sequence and the letter names. The method emphasizes phonics and depends on a formal sequence of learning. Independent reading is delayed until the major part of the phonics program has been covered.

There are a number of extensions and applications of the Orton-Gillingham Method. Project READ, an adaptation of the Orton-Gillingham Method in the public schools of Minnesota, reported significant gains in reading achievement (Enfield, 1988). A variation of the Orton-Gillingham Method was developed by Slingerland (1976), who offered an extensive set of materials. Another adaptation is the *Recipe for Reading* (Traub & Bloom, 1978), which is accompanied by 21 supplementary readers.

The Wilson Reading System *The Wilson Reading System* (Wilson, 1988) is a multisensory, structured language program based on the Orton-Gillingham philosophy. It provides a step-by-step method for teachers working with students who require direct, multisensory, structured language teaching. The Wilson Reading System targets students who have difficulty decoding independently, reading with fluency, or spelling words, even with the help of a spell checker or dictionary. The program teaches students the structure of words and language through a carefully sequenced 12-step program that helps them master decoding and improve encoding in English. It directly teaches phonological awareness, phonology, and total word structure, and it takes one to three years to complete. The Wilson program is also used for adults with dyslexia.

The Fernald Method Grace Fernald (1988) developed an approach to reading that uses visual, auditory, kinesthetic, and tactile senses, but it differs from the other multisensory programs in that it teaches a whole word (rather than single sounds). The student traces the entire word, thereby strengthening the memory and visualization of the entire word. Teaching Tips 12.2, "The Fernald Method for Learning Words," describes a method used by Grace Fernald. It consists of four stages, but its uniqueness is most evident in Stage 1. The Fernald Method is also effective for teaching spelling. (See Chapter 13, "Written

TEACHING TIPS 12.2

The Fernald Method For Learning Words

Stage 1
It is essential that the student select the word to be learned. The teacher writes the student's word on paper with a crayon. The student then traces the word with his or her fingers, making contact with the paper, thus using both tactile and kinesthetic senses. As the student traces it, the teacher says the word so that the student hears it (using the auditory sense). This process is repeated until the student can write the word correctly without looking at the sample. Once the student learns the word, the sample is placed in a file box. The words accumulate in the box until there are enough words for the student to write a story by using them. The story is then typed so that the student can read his or her own story.

Stage 2
The student is no longer required to trace each word, but rather learns each new word by looking at the teacher's written copy of the word and saying it to himself or herself while writing it.

Stage 3
The student learns new words by looking at a printed word and repeating it to himself or herself before writing it. At this point, the student may begin reading from books.

Stage 4
The student is able to recognize new words from their similarity to printed words or to parts of words previously learned. The student now can generalize the knowledge he or she has acquired through the reading skills.

Professional Resource Download

Language Difficulties: Written Expression, Spelling, and Handwriting.") *A Multisensory Teaching of Basic Language Skills: Activity Book* (Carreker & Birsh, 2005) provides activities for multisensory teaching.

Did You Get It?

In the K-W-L model of reading comprehension, "W" represents

a. goals and expectations of new knowledge to be acquired.
b. previous knowledge pertaining to a subject.
c. what was learned from a given written passage.
d. what students found confusing.

12.12 Enjoyment and Appreciation of Reading

The man who does not read good books has no advantage over the man who cannot read them.

—Mark Twain

An important goal for reading instruction is for students to enjoy reading. Students enjoy reading series books, such as the *Magic Tree House* series. They also enjoy books about horses, animals, sports figures, and books that hook them into reading independently. The Harry Potter series is a remarkable example of books that students like to read.

Unfortunately, because of stringent curriculum demands, less skilled readers often find themselves reading materials that are too difficult to enjoy or to be helpful in building their fluency. As a consequence, poor readers do not have the

opportunities to read books and stories at their reading level and to practice newly acquired skills. All children should be provided with as many reading experiences as possible, regardless of their achievement levels. In fact, frequent reading not only improves reading fluency and reading skills, but it also improves verbal abilities and thinking abilities (Cunningham & Stanovich, 1998; Nelson et al., 2004).

The greatest reward for any teacher is to see a child engrossed in a book and developing a love of reading. This experience vividly came home to all teachers and parents on July 16, 2005, when the seventh of the wildly popular series of Harry Potter books went on sale. Harry Potter book lovers anxiously awaited the moment and a record 8 million copies of this book were sold to ardent Harry Potter fans on the first day after the book was released, a record for book sales.

The Harry Potter series appeals to many different readers. Children who are good readers; children who are struggling readers; younger children, adolescents, and adults; and children from diverse cultures are all captured by the tale of Harry Potter and his friends and their adventures at a boarding school for wizards in England. Taking a cold, calculating look at this book, we can conjure up many reasons why children would not like it. It takes place at a boarding school in England, a locale that is not familiar to children in America. There are many difficult words and names in the book and one would think this would keep poor readers away from this book. Not so. Children are willing to envision this strange place and struggle to read through the difficult words because the story line and the presentation are so intriguing. J. K. Rowling, the author of the Harry Potter books, has the wizardry to capture the hearts and minds of young readers. (See the author's website at *http://www.jkrowling.com.*)

Many other books have captured children's attention over the years, for example, *A Wrinkle in Time* by Madeline L'Engle, *The Wind in the Willows* by Kenneth Grahame, *Charlotte's Web* by E. B. White, and *Little House on the Prairie* by Laura Ingalls Wilder. Teachers often have fond memories of their own favorites that turned them on to reading. Teachers have to cherish their own experiences when children show a love for reading.

Did You Get It?

In a standard school curriculum, _____ exists between the levels of reading difficulty typically presented and the inability to derive pleasure from the reading material.

a. no correlation
b. an inconclusive correlation
c. a negative correlation
d. a positive correlation

12.13 Assistive and Instructional Technology and Reading

New technology is changing the way that students with learning disabilities and related mild disabilities communicate. Social networking websites have rocketed from a niche activity into a phenomenon that engages tens of millions of youths, ages 12 through 17. Over 55% of online teens use social networking

sites, such as Facebook, MySpace, and YouTube (Roe, Stoodt-Hill, Burns, 2010; Lenhart & Madden, 2008).

Computers also offer many instructional advantages for students with reading difficulties. Computer programs are motivating, they provide time for learning on a one-to-one basis, they help develop automaticity, and they offer time to think about reading passages. Computer reading programs are available for the prereading, elementary, secondary, and adult levels. Computer programs can teach literacy, sight words, phonics skills, vocabulary, reading comprehension, and they improve reading rate (Belson, 2003).

- Reading Blaster (Knowledge Adventure). A skill-and-drill software application that allows students to practice spelling and letter-sound relationships
- The Living Books Series (The Learning Company). CD-based books that read stories to children in a normal (human) voice
- Earobics (Cognitive Concepts). A software application designed to teach phonemic awareness through a series of activities and games
- Inspiration and Kidspiration (Inspiration Software). This software provides a graphic organizer to help students organize their ideas about stories and words. The Inspiration website is at *http://www.inspiration.com.*

12.13a Text-to-Speech Programs

There are several computer programs that are designed to read text aloud. These programs are designed for very poor readers and for individuals with visual disabilities. Several of these programs are described in the following list.

- Recording for the Blind and Dyslexic (RFBD) provides information on their program at *http://www.rfbd.org.* This organization is dedicated to providing books, including textbooks, for individuals who are dyslexic or blind. Material is available in two formats: (1) *RFBD Classic Cassettes* are audio recordings that are played on cassette players, and (2) *RFBD AudioPlus* are digital recordings that are played on CD players.
- Kurzweil Educational Systems provides software programs that read text aloud. Information about Kurzweil can be viewed at *http://www.kurzweiledu.com.* With these programs, text can be scanned, and there are several electronic voices that can be chosen.
- Read Please (free) and Read Please Plus (shareware) read any electronic text. Their website is *http://www.readplease.com.* The program is available in several languages, which users can download to their computers.
- E-Text Reader currently allows its material to be downloaded without charge. The website is *http://www.readingmadeeasy.com.* E-Text Reader will read any electronic or scanned text. There are three excellent voice choices. It comes from Premier Assistive Technology, which also sells a more robust text-to-speech program.

12.13b Recorded Textbooks and Digital CD-ROMs

There are several sources for obtaining recorded books on tape or on digital CD-ROMs that are available to students with disabilities. Students who are

identified as having learning disabilities are eligible to obtain, at no cost, books recorded for the blind. In addition, new titles can be recorded if needed. For students with severe reading problems, recorded textbooks can be a real boon; using recorded books allows them to keep up with content while continuing to improve their reading skills. The website for Reading for the Blind and Dyslexic is at *http://www.rfbd.org*.

Did You Get It?

Computer programs that read passages aloud to the student are called _____ programs.

a. visual-to-auditory
b. text-to-speech
c. eye-to-ear
d. difficult-to-easy

I Have a Kid Who...

PABLO: *A Child With Reading Comprehension Difficulties*

Pablo is 10 years 3 months and is in fifth grade. Pablo has been identified as having learning disabilities, and his major reading difficulty is with reading comprehension. Pablo's reading strengths include a strong vocabulary, average decoding skills, and average fluency. He has built these strengths across the past 3 years working with the special education teacher, Mr. Trout. Pablo enjoys reading but still has difficulty comprehending what he reads. Pablo's comprehension difficulties are in reading narrative stories. Pablo has difficulty identifying the main components of a story. As the end of the school year approaches, Pablo's classroom teacher has become concerned about his lack of progress in reading comprehension. A collaboration meeting was held with his classroom teacher, with the reading specialist, and the special education teacher, Mr. Trout. They discussed Pablo's reading strengths, his reading difficulties, and possible instructional strategies.

Source: Adapted from The Iris Center for Faculty Enhancement: Comprehension, *http://iris.peabody.vanderbilt.edu*.

QUESTIONS

1. What are Pablo's strengths in reading?
2. What are Pablo's difficulties in reading?
3. The team recommended using graphic organizers to improve his reading of narrative text. How could graphic organizers be used for narrative stories?

Chapter Summary

- Reading is part of the language system and is closely linked to the other forms of language—oral language and writing.
- Reading is a major academic difficulty for students with learning disabilities and related mild disabilities. The detrimental effects of reading disabilities have serious consequences in terms of academic achievement, employment, and success in life.
- Many students with learning disabilities and related mild disabilities have reading problems and are in general education classrooms.
- Dyslexia is a learning disability in which the individual has extreme difficulty in learning to read. Dyslexia is associated with neurological dysfunction.
- Major elements of reading are phonemic awareness, phonics and word-recognition skills, fluency, vocabulary, and comprehension.
- Readers need skills in word recognition to develop fluency in reading. Word recognition takes place through phonics, sight words, context clues, and structural analysis.

- Reading fluency refers to the reader's ability to recognize words quickly and read text with speed, accuracy, and proper expression.
- The purpose of reading is comprehension, which is the active understanding and involvement with the written material.
- Narrative text is the reading of stories. Informational text is the reading of subject-matter material, such as textbooks.
- There are many ways to assess reading ability. Informal measures include informal reading inventories and portfolio assessment. Formal tests include survey tests, diagnostic tests, and comprehensive batteries.
- The "Teaching Strategies" section of this chapter presents strategies for teaching reading to students with reading disabilities. It includes methods for improving word recognition, improving fluency, and improving reading comprehension.
- Assistive and instructional technology can be useful in teaching reading.

Questions for Discussion and Reflection

1. Describe the elements of reading. What does each element contribute to learning to read?
2. Readers use a variety of methods to recognize words. Describe the different methods of word recognition. What method(s) do you think good readers rely upon?
3. Describe reading fluency. Why is it important to teach fluency?
4. What is reading comprehension? Identify a few strategies used to promote reading comprehension. Describe how students might respond to these strategies.
5. What are the differences between informal and formal methods for assessing reading achievement?

Key Terms

automaticity (p. 353)
basal reading series (p. 368)
cloze procedure (p. 373)
comprehension (p. 354)
context clues (p. 351)
decode (p. 348)
DIBELS (p. 366)
direct instruction (p. 354)
directed reading-thinking activity (DRTA) (p. 356)
explicit code-emphasis instruction (p. 348)
indirect instruction (p. 354)
informal reading inventory (IRI) (p. 363)
Informational materials (p. 358)
phonemic awareness (p. 347)
language experience method (p. 369)
multisensory methods (p. 375)
phonics (p. 348)
phonological awareness (p. 347)
reading comprehension (p. 355)
reading fluency (p. 351)
repeated reading (p. 353)
sight words (p. 349)
structural analysis (p. 351)
VAKT (p. 376)
vocabulary (p. 353)
word web (p. 372)
word-recognition procedures (p. 348)