

# INTRODUCTION TO SPECIAL EDUCATION: Making a Difference, 6/e

© 2007

Deborah Deutsch Smith

ISBN 0-205-47469-1

---

Visit [www.ablongman.com/relocator](http://www.ablongman.com/relocator) to contact your local Allyn & Bacon/Longman representative.

## SAMPLE CHAPTER 5 Learning Disabilities

The pages of this Sample Chapter may have slight variations in final published form.



Edouard Manet, *Claude Monet with his wife in his floating studio*. 1874. Scala/Art Resource, NY. Photograph of the artist: Felix Nadar, Musée d'Orsay, Paris, France. © Reunion des Musees Nationaux/Art Resource, NY.



**Edouard Manet** was born in Paris in 1832. His father's ambitions for him were to carry on the family tradition and become a lawyer. Despite outraged protests, Manet became one of the most famous impressionist painters of his day. Possibly he turned to art because of his difficulties at school. One headmaster considered him to be "feeble" another referred to him as "distracted," not "very studious," and "mediocre" (Schneider, 1968).

If his father had not been a highly respected community leader, Manet would have been dismissed from school. To keep him from a career as an artist, his father got him a commission in the navy, but Manet failed the naval examination (Bolton, 1989) and turned to art. In the 1800s, the special education category of learning disabilities had not been identified. Whether Manet actually had learning disability or not cannot be verified. Regardless, from all accounts, academic learning was clearly a challenge for him.

# Learning Disabilities

“It’s not a lot of fun to talk about your handicaps, except in golf.”

Charles Schwab

**We have all had the experience:** No matter how hard we try, we have trouble understanding the information presented. In school we may sit through lectures and not understand the messages the instructor is trying to deliver. We may not understand the reading material for a particular class. We find it impossible to organize our thoughts to write a coherent essay or report. Sometimes we stumble over words and are unable to convey our thoughts, feelings, or knowledge. And occasionally we are uneasy and uncomfortable with other people. For most of us, these situations are infrequent. For people with learning disabilities (LD), however, one or more of these situations are commonplace. **Learning disabilities** is a condition that, despite the lack of other problems, such as mental retardation or emotional or behavioral disorders, causes significant learning problems, most often in areas related to reading and writing (Fuchs, Fuchs, Mathes et al., 2001). As you learned in the previous chapter, what often begins as a language problem in the preschool years becomes a reading problem by third grade and evolves into a pervasive academic problem as the demands of the curriculum increase through middle school and high school. In part because of the characteristics of this disability and in part as a result of academic failure, many of these individuals have difficulty achieving social competence as well (Bryan, Burstein, & Ergul, 2004). Despite all of these challenges, many individuals overcome their learning disabilities. Such success happens more often when they receive highly specialized, intensive, individualized instructional programs as early as possible. Even so, the impact of a learning disability usually lasts a lifetime (Goldberg et al., 2003).

## Where We’ve Been . . . What’s on the Horizon?

Debate and controversy have surrounded the field of learning disabilities from its inception and continue today (Hammill, 1990; Kirk, 1977; Vaughn & Fuchs, 2003). Parents, professionals, and policymakers continue to ask questions: What is the best way to identify and meet the learning needs of students with learning disabilities? How many students truly have this condition? How can services be delivered as early as possible? All of these questions lead to an overriding one: How should this disability be defined? These questions cannot be answered in this chapter because they are not yet resolved. However, we can come to an understanding of those issues that are the basis for them. Before learning about current thinking on these topics, let’s see how the field of learning disabilities began and explore the path it has taken to the present.

### \* Chapter Objectives

After studying this chapter, you will be able to:

- 1 List the key features of the IDEA '04 definition of learning disabilities.
- 2 Discuss the different types of learning disabilities.
- 3 Explain how an individual’s response to intervention (RTI) is assessed.
- 4 Explain what is meant by the practice of “early intervening,” and explain why it holds great promise.
- 5 Describe two validated practices that make a difference in the learning outcomes of students with disabilities.

## Historical Context

On April 6, 1963, Professor Sam Kirk and others coined the term *learning disabilities* at a meeting of parents and professionals in Chicago. The nation's public schools have since experienced an explosion in the numbers of students identified, special teachers hired, and services offered. The effort began in elementary schools and was later extended to high schools. It continues to expand today, as more special programs for postsecondary students and adults with disabilities are developed.

The study of learning disabilities, however, put down roots long before 1963 (Hammill, 1990; Wiederholt, 1974). During the 1920s and 1930s, Samuel Orton, a specialist in neurology, developed theories and remedial reading techniques for children with severe reading problems, whom he called “dyslexic” and believed to be brain-damaged. In the 1930s, Helen Davidson studied letter “reversals”—writing some letters (such as b, d, q, and g) backwards—a problem consistently observed in many students with learning disabilities (Davidson, 1934, 1935). In the 1930s and 40s, Sam Kirk, who worked at the Wayne County School (you will learn more about this school in Chapter 6), helped to develop a set of word drills and other teaching procedures he referred to throughout his career. In 1961 he and his colleagues published the *Illinois Test of Psycholinguistic Abilities (ITPA)*, which sought to identify individuals' strengths, weaknesses, learning styles, and learning preferences (whether they learned better by seeing or by hearing information presented). This test was used for many years to identify students with learning disabilities. Also in the 1960s, Marianne Frostig developed materials designed to improve students' visual perception, which is the ability to understand information that is seen. Her notion was that if visual perceptual skills were enhanced, reading abilities would also show improvement (Frostig, 1978).

The 1970s saw the field of learning disabilities embroiled in heated debate, and at the heart of the controversy was what approach for treatment of learning disabilities was most effective. In what was called the **process/product debate**, one group promoted instruction directed at improving students' perceptual abilities to improve their academic performance (e.g., reading). The other group argued that directly teaching academic skills (e.g., explicitly teaching students to read) is the best approach. The dispute was resolved when Don Hammill and Steve Larsen's research analysis showed that perceptual approaches were seldom effective in teaching academic skills but that direct-instruction techniques do make a difference (Hammill & Larsen, 1974).

Possibly more than any other disability, fads and invalidated practices are promoted, often through the press, to solve problems associated with learning disabilities. For example, one fad suggested having students with learning disabilities, regardless of their ages, use crawling exercises to “re-pattern” or re-train their brains. Others have claimed that special diets or plants on students' desks improve academic and behavioral performances. Still others blamed fluorescent lighting for learning disabilities. Most of these claims were backed up by very little scientific evidence of effectiveness (Keogh, 1974). Such promotion of invalidated practices is the major reason for today's emphasis on the use of scientifically validated or evidence-based practices; proposed interventions must be thoroughly tested through rigorous research (Soltes, 2002).

**learning disabilities (LD)** A condition that causes significant learning problems, most often related to reading and writing; a disability of unexpected underachievement that is typically resistant to treatment

**process/product debate** Argument about whether perceptual training or direct (explicit) instruction is the more effective way to teach reading

## Challenges That Learning Disabilities Present

Individuals with learning disabilities whose learning problems do not receive early attention can have serious, life-long challenges to face (National Institutes of Health, 2005). Early, intensive intervention makes a difference, and it is imperative that young children and their families get services as early as possible. Just like other individuals with disabilities, those with learning disabilities range widely in abilities. Some students have a mild learning disability. With direct assistance, they access the general education curriculum successfully and take advantage of postsecondary

## Candace Cordiella in the Spotlight



Today **Candace Cordiella** is a well-known advocate for and expert on the educational rights of children with learning disabilities, but this important career wasn't Candace's first. She was a successful executive in the fashion industry when her daughter, then a second grader, was diagnosed with learning disabilities and related language impairments. It was at this point that Candace decided that she should "find out what this whole special education thing was about." And, boy, did she!

It all started when her daughter's school district decided to serve all students with learning disabilities in general education classes and close their separate special education classrooms for these students. But the district made the switch without informing or consulting with parents. Needless to say, many parents banded together, learning a lot about advocacy and



also becoming a powerful network. Because she lives in the Washington, DC, area, the next step for Candace was almost predictable. She recalls her early days of being mentored by other mom's of kids with disabilities: "One day we were talking about my little kid in my little school, and the next day they were saying, okay, we're all going to Congress tomorrow and

you're coming along." Candace was suddenly directing her talents and understanding of the business world to the business of educating students with disabilities. Convinced that parents need to be informed—armed with knowledge—she was instrumental in creating the award-winning Web site Ionline. Supported by public television in the Washington, DC, area, Ionline was the first (and is by far the most visited) site about learning disabilities on the Internet. She serves on many national boards, mentors the next generation of parent-advocates, and has recently started a new organization and Web site, The Advocacy Institute. And, oh yes, when IDEA '04 was being written by Congress, Candace was on the Hill safeguarding the hard-won rights of students with disabilities. Candace and parents like her make a real difference not only for their own children, but for everyone else's too.

educational opportunities. Those with severe learning disabilities require intensive, sustained remediation and support throughout their school years and often into adulthood. All students with learning disabilities learn differently from their classmates without disabilities, and in many cases these students learn differently from each other. Some have questioned whether they are simply **low achievers**—students without disabilities whose academic performance is below that of their classmates. But it is now clear: These students' reading achievement differs dramatically from students without disabilities as well as from those who might be considered low achievers (Fuchs et al., 2002). Achieving reading fluency (being able to read quickly and correctly) and developing reading proficiency (reading efficiently with understanding) are particularly difficult for these individuals. Problems learning to read compound as students progress through school and independent reading becomes not just an academic goal but an expectation of the curriculum. Once this cycle is established, all aspects of academic performance are affected, and then school failure contributes to feelings of inadequacy and lack of self-confidence. All of this underscores the importance of early intervention, new ways to identify and bring services to those individuals as quickly as possible. How to accomplish this response is the greatest challenge facing professionals, families, and the individuals involved. Advocates for students with learning disabilities help ensure that the services these students require are available. Candace Cordiella is one of those special people who make things happen. The story of her path from professional, to mom, to advocate (see *Candace Cordiella in the Spotlight*) is fascinating and illustrates that each of us is capable of making a difference in the lives of many.

**low achievers** All students who experience school failure and poor academic achievement

## Making a Difference

### *Charles Schwab and the Charles and Helen Schwab Foundation*



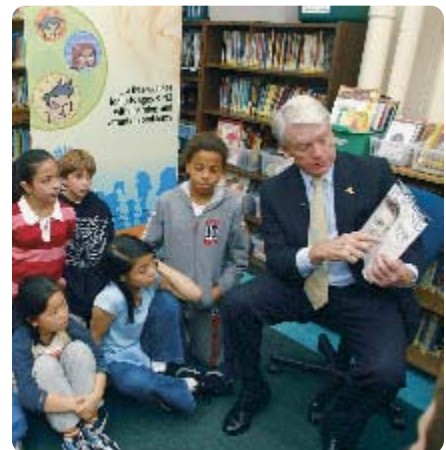
Most highly successful businessmen don't reveal what might be construed as vulnerability. Clearly, it just isn't considered good business sense. In highly competitive marketplaces, any sign of weakness could be a signal for a takeover or a "hostile action." At the same time, most Americans are not comfortable openly talking about disabilities, particularly their own. And learning disabilities are not readily "visible"—not immediately signaled by a cane, wheelchair, glasses, or hearing aid. Such disabilities are not even understood by many of the individuals affected or by their families. The result is that too often, individuals with learning disabilities have to struggle on their own and figure it out by themselves, with little opportunity to profit from the guidance of people who have successfully compensated for or overcome the effects of their learning disabilities.

One highly successful businessman decided to break with tradition and speak out about the challenges he faced in school, and others are now joining him, serving as role models for individuals with learning disabilities and providing assistance to parents, teachers, and kids. Charles Schwab, the billionaire who founded the discount stock brokerage house, has faced the challenges of learning disabilities his whole life. His academic strengths were math and science, but he struggled with reading and all of its related subjects. Charles Schwab demonstrated his resilience and innovative thinking from a young age when he discovered that classic comic books, such as *Moby Dick*, provided an easier way to read "novels" assigned in English classes (Askman, 2005). Despite his reading problems, Charles Schwab persevered through college and graduate school, earning a BS and an MBA from Stanford University by focusing on his strengths—subjects related to numbers, such as economics. Two years after graduating from Stanford, he started an investment advisory newsletter, and a few years later, he founded his own brokerage house in San Francisco. Because he thought that the stock market should be accessible to everyone, he initiated the concept of the discount brokerage firm (Jones, 2003).

After discovering that his son had a learning disability, Charles Schwab and his wife, Helen, decided to help other families who struggled with this invisible disability. They started Schwab Learning, which operates two Web sites—one for parents ([www.SchwabLearning.org](http://www.SchwabLearning.org)) and one for kids ([www.SparkTop.org](http://www.SparkTop.org)<sup>TM</sup>). SchwabLearning.org gives parents the answers to the million-and-one questions they have when their child has learning disabilities. The site addresses a parent's practical needs with information about IEPs, behavior issues, and the like; it also provides emotional support so parents know they are not alone in this journey. SparkTop.org is a place where kids with learning disabilities can learn about how their brains work, feel good about themselves, get answers to their questions, and enjoy the company of other kids just like them. The site reassures kids with LD that they're just as smart as other kids. They may struggle with reading or writing or math, but there are lots of things they're good at.

Charles Schwab took an invisible disability and made it okay to be visible.

To see how these two Web sites make a difference in the lives of teenagers with learning disabilities and parents of children with learning disabilities of all ages, check out: [www.schwablearning.org](http://www.schwablearning.org), and [www.sparktop.org](http://www.sparktop.org)



## Learning Disabilities Defined

Professionals and parents use the term *learning disabilities* to describe a condition of **unexpected underachievement**—academic performance significantly below what would be predicted from the individual’s talents and potential shown in other areas. This category includes 5.4 percent of all students and almost half of those identified by the schools as having a disability (U.S. Department of Education, 2005a). The federal government and almost every state use the term *specific learning disabilities*, and a similar definition (see Table 5.1), to describe this condition (Müller & Markowitz, 2004).

Regardless of the definition used, there always seems to be dissatisfaction (Elksnin et al., 2001; Kirk, 1977). Although some of the disagreement is due to differing philosophies and theories about the nature of the condition, most concerns stem from more practical problems:

- Delay in delivering needed services to students
- Overwhelming number of students identified with learning disabilities
- Inconsistency of characteristics observed in those identified

Before turning our attention to the types of learning disabilities, let’s briefly consider these concerns. First, before the passage of IDEA ’04, nearly all states insisted that students identified as having learning disabilities demonstrate a discrepancy between their potential (score on an intelligence test) and their performance (academic achievement) and that this discrepancy be significant (at least two years behind their expected grade level). So students waited—sometimes for years—to get help, even though their teachers knew they had a problem. The discrepancy requirement is one reason why so many students are identified in third grade: By then their struggles with school work are demonstrated by scores on achievement tests indicating first-grade performance. The second concern stems from the size of this special education category; over half of all students receiving special education services are identified as having learning disabilities. Third, students with learning disabilities express unique learning patterns. Some have problems in every academic area, some have problems only in reading or in math, and some have additional problems with social skills. In other words, this disability represents a **heterogeneous** group of learners; that is, individuals identified with this disability exhibit a wide range of strengths and abilities, approach learning in a variety of ways, and respond to interventions inconsistently. The result is that no single treatment, explanation, or accommodation is uniformly effective. Regardless, let’s think about some types, or common patterns, of problem areas that often define learning disabilities for the individuals involved.

### General Unexpected Underachievement

Some students experience difficulties with all academic performance; they are behind the academic achievement of their classmates in every subject. Low educational performance not only describes students with learning disabilities, of course. It can also include low-achieving students who may or may not have disabilities. But many experts are certain that learning disabilities are different from low achievement (Kavale & Forness, 2000). Whereas mental retardation, poor motivation, or poor teaching might explain low achievement, learning disabilities probably reflect deficits in the ability to process information or remember it (Torgeson, 2002).

**unexpected underachievement** A defining characteristic of learning disabilities; poor school performance cannot be explained by other disabilities or limited potential

**heterogeneous** Exhibiting great variety, such as a wide range of strengths and abilities in a group

**Table 5.1** • Definitions of Learning Disabilities

Source	Definition
Federal Government <sup>1</sup>	Specific learning disability means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, including such conditions as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. The term does not include learning problems that are primarily the result of visual, hearing, or motor disabilities, mental retardation, emotional disturbance, or environmental, cultural, or economic disadvantages.
National Institutes of Health (NIH) <sup>2</sup>	Learning disabilities are disorders that affect the ability to understand or use spoken or written language, do mathematical calculations, coordinate movements, or direct attention. Although learning disabilities occur in very young children, the disorders are usually not recognized until the child reaches school age.

**Sources:** <sup>1</sup>From 34 CFR Parts 300 and 303, Assistance to States for the Education of Children with Disabilities and the Early Intervention Program for Infants and Toddlers with Disabilities; Proposed Regulations (pp 312–313), U.S. Department of Education, 2005b, *Federal Register*, Washington, DC; and <sup>2</sup>“What is learning disabilities?” NINDS Learning Disabilities Information Page by National Institutes of Health, National Institute of Neurological Disorders and Stroke, 2005, retrieved from [www.ninds.nih.gov](http://www.ninds.nih.gov)

## Reading/Learning Disabilities

Most commonly, students identified as having learning disabilities have much lower reading abilities than all other students (Fuchs, Fuchs, Mathes et al., 2002). The term **reading/learning disabilities** is used when the student’s reading abilities are significantly below those of classmates without disabilities *and* significantly below what is expected on the basis of the student’s other abilities. Reading difficulty is the most common reason for these students’ referrals to special education. Because reading and writing are intimately related, most of these students also have problems with written communication (Troia & Graham, 2004). Obviously, reading and writing are important skills; in school, students must be able to read information from a variety of texts and write using varying formats. As the complexity of academic tasks increases, students who are not proficient in reading and writing cannot keep pace with the increasing academic expectations of school settings.

Reading/learning disabilities can cause pervasive academic problems because reading skills are increasingly important as the curriculum becomes more advanced. To understand printed text requires proficiency in a number of skills: reading words, comprehending language, and accessing background language (Jenkins & O’Connor, 2002). Students must be able to decode words and read with enough fluency to gain information at a rate close to that of their classmates. These students are slow in acquiring the necessary skills, and they acquire these skills differently than students without reading disabilities (Compton, 2002).

## Mathematics/Learning Disabilities

More than 50 percent of students with learning disabilities also have difficulties with mathematics (Fuchs & Fuchs, 2001). **Mathematics/learning disabilities** are indicated when performance in mathematics is substantially below what is expected on the basis of the student’s other abilities. Relatively few students identified as having learning disabilities have only mathematics disabilities; for most, this difficulty is part of their overwhelming and pervasive underachievement (Jordon & Hanich, 2003). Students with mathematics disabilities have problems that stem from their difficulties retrieving information from long-term memory; they have trouble remembering basic number facts (Robinson, Menchetti, & Torgeson,

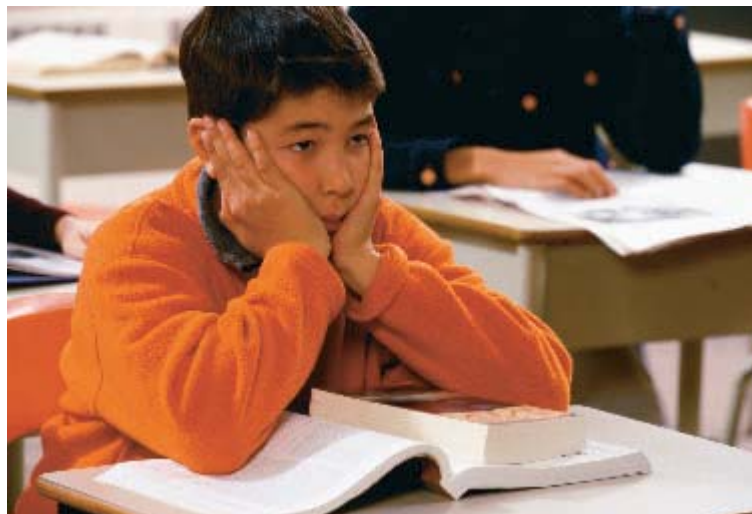
**reading/learning disabilities** Condition where a student’s learning disability is most significant in reading

**mathematics/learning disabilities** Condition where a student’s learning disability is most significant in areas related to mathematics

2002). Other students' mathematics disabilities result from their inability to solve multistep problems, such as borrowing in subtraction, computing long division, and solving word problems (Bryant, Bryant, & Hammill, 2000; Bryant, Hartman, & Kim, 2003). Because math problem solving places demands on both reading and information processing skills, this area of the mathematics curriculum can be challenging for both teachers and students.

## Resistant to Treatment

Consensus is growing about some important differences among individuals with and without learning disabilities: Those with learning disabilities are **resistant to treatment**; they do not profit from the instruction typically used in general education classes (Gresham, 2002; Vaughn & Fuchs, 2003). The evidence is mounting that these students do not learn at the same rate or in the same ways as their classmates (Fuchs, Fuchs, Thompson et al., 2002). These students require intensive, individualized instruction. The premise is that if a student receives instruction or intervention typically used in general education programs and does not respond or improve sufficiently, then more intensive intervention explicitly directed toward the skill to be learned is necessary. As you will learn in the Assessment section of this chapter, the concept that learning disabilities are resistant to treatment is being incorporated into new identification procedures for learning disabilities outlined by IDEA '04.



Many students with learning disabilities experience considerable challenges keeping up with their classmates. With explicit and sustained intervention, the results for these students can be outstanding.

## Characteristics

Unexpected underachievement and being resistant to treatment are coming to be thought of as defining characteristics of learning disabilities (Kavale & Forness, 1996; Vaughn & Fuchs, 2003). Even so, the feature cited most often across these students is probably their heterogeneity—their remarkable individuality (Bradley, Danielson, & Hallahan, 2002). And yet, despite their unique traits, some characteristics are commonly seen with learning disabilities; these are listed in Table 5.2. In addition, more general characteristics seem to be at the root of the problems these individuals face. In order to consider how we can make a difference and improve these students' results, let's explore each of these commonly observed characteristics:

- Holding negative attributions
- Being nonstrategic
- Being unable to generalize or transfer learning
- Processing information inefficiently or incorrectly
- Possessing poor social skills

## Negative Attributions

Motivation and attribution are related. Motivation is the inner drive that causes individuals to be energized and directed in their behavior. Motivation can be explained as a trait (a need to succeed, a need not to fail, a sustained interest in a topic) or as a temporary state of mind (preoccupation with a test or class presentation tomorrow, a passing interest in a topic). **Attributions** are self-explanations about the reasons for one's success or failure. Differences in motivation and attributions may account for differences in the way people approach tasks and for differences in their success with those tasks (Ring & Reetz, 2000). Assuming

**resistant to treatment** A defining characteristic of learning disabilities; validated methods typically applied in general education settings are not adequate to bring about sufficient learning

**attributions** Explanations that individuals give themselves for their successes or failures

**Table 5.2** • Characteristics of Learning Disabilities

Academic	Social	Behavioral Style
Unexpected underachievement	Immature	Inattentive
Resistant to treatment	Socially unacceptable	Distractible
Difficult to teach	Misinterprets social and nonverbal cues	Hyperactive
Inability to solve problems	Makes poor decisions	Impulsive
Uneven academic abilities	Victimized	Poorly coordinated
Inactive learning style	Unable to predict social consequences	Disorganized
Poor basic language skills	Unable to follow social conventions (manners)	Unmotivated
Poor basic reading and decoding skills	Rejected	Dependent
Inefficient information processing abilities	Naïve	
Inability to generalize	Shy, withdrawn, insecure	
	Dependent	

responsibility for success is an internal attribution in which individuals understand the relationships among effort, task persistence, ability, and interest.

By contrast, year after year of frustration and failure at school can negatively affect students' motivation and convince them that there is nothing they can do to be successful. Students can develop a negative attitude and come to believe that their failure is a result of lack of ability, rather than a signal to work harder or ask for help. This cycle can even lead students to believe that external factors—luck, extra help, the teacher giving them a break, or a classmate doing them a favor—are the reasons for whatever successes they do have (Carlson et al., 2002). When people expect to fail, they can also become too dependent on others—and all too ready to just give up. This **learned helplessness** increases the likelihood of poor performance. Students who expect failure are less likely to be motivated to learn or to expend the effort it takes to learn (Pearl, 1982; Switzky & Schultz, 1988). They can appear to others as “passive” or not actively involved in their learning. They do not ask questions, seek help, or read related material to learn more. These characteristics compound their disabilities.

By comparing low-achieving students' motivation and attributions with those of high-achieving students, we can better understand the concepts of attribution and learned helplessness. Let's look at a classroom situation, such as writing a social studies term paper, to see how students' motivation affects the way they approach the task. High achievers, when given the assignment of writing a term paper on, say, the Revolutionary War, approach the task with confidence, knowing that they are capable of producing a thorough and well-written paper. They realize that if they read their textbook and other materials available at the library, they will know enough about the topic to prepare the paper. Because of past successes, they know that making an effort results in success. Therefore, these students will proofread their term papers and even add extras (such as maps and diagrams) to the final product. Low-achieving students with and without disabilities, in contrast, do not approach this assignment with much vigor. They seem overwhelmed by the assignment and complain that it is too difficult. These children believe that it is useless to ask for assistance, spend time in the library, or read extra materials.

#### **learned helplessness**

Usually a result of repeated failure or excessive control by others; individuals become less willing to attempt tasks and less able to believe that their actions can result in success

Instead, they write a short and incomplete term paper that is probably not developed with care or proofread. Teachers can turn this situation around! They can help students overcome these problems by involving them in the learning process, responding positively, praising them, promoting mastery, and creating a challenging and stimulating instructional environment (Sexton, Harris, & Graham, 1998). Teachers can point out the relationship between effort and accomplishment and thereby change students' negative attributions into positive ones that lead to success. A new series of books about the adventures of a group of middle school girls can help teachers in this effort. One of those upbeat *Beacon Street Girls*, Maeve, has reading/learning disabilities.

## Being Nonstrategic

Approaching learning in an organized manner leads to efficient and effective learning. Not paying attention to the important features of a learning task or not structuring one's learning is a problem observed among many students with learning disabilities (Deshler, 2005). Applying strategies for organizing information (such as the graphic organizers and content enhancements described on pages 144–146 in Chapter 4) can help them remember content and study more efficiently (Boulineau et al., 2004; Masterpieri et al., 2003). Being proficient in the use of thinking skills—classifying, associating, and sequencing—also helps students become more strategic learners. **Classifying** enables the learner to categorize and group items together in terms of the characteristics they have in common. Usually, people remember more items in a list if they approach the task by **chunking**, or organizing information by groups. For example, if you forget your grocery list and are already at the store, you might try to remember what items you need by thinking about groups of items. You might recall that potatoes and corn were on the list when you think of vegetables and that ice cream, pizza, and TV dinners were on the list when you think of frozen foods. **Associating** means seeing the relationships that exist among and between different knowledge bases. By associating facts or ideas, the mind is able to find the “common denominators” (for example, softness or hardness, style of painting) and connections that link units of information. **Sequencing** information puts units of information in order along some dimension. For example, physical items can be sorted and sequenced by size, weight, or volume. Facts, events, and ideas can be sequenced by time, importance, or complexity. With instruction and practice, these thinking skills can be learned and developed into useful tools for learning that help students approach learning tasks more purposefully.

## Inability to Generalize

Most students with learning disabilities are unable to **generalize**—that is, to transfer their learning to novel situations or extend their learning of one skill to similar skills (Rivera & Smith, 1997). For example, they might apply a newly learned study skill in history class but not in English class. Or a child might master borrowing in subtraction when a zero appears in the units column but not apply that rule when there is a zero in the tens column as well. Long-standing research has shown that some teaching methods can actually interfere with students learning the concept of generalization (Ellis, 1986). For example, the overuse of feedback on performance (knowledge of results) can reinforce dependency, learned helplessness, and learning inactivity. One way to encourage generalization is explicitly to make connections between familiar problems and those that are new or novel (Fuchs, Fuchs, Mathes et al., 2002). And when teachers carefully broaden the categories—either the skill or the situation—and point out similar features, students extend their learning more readily. Thus, if a student knows how to solve subtraction problems



In the innovative new book series *Beacon Street Girls*, B\*tween Productions targets girls between the ages of 9 to 13. The stories focus on the adventures of five teenage girls. Maeve, a main character, said “I like school but sometimes it’s hard because I have dyslexia. That’s ok, soon enough I’ll be pursuing the stage.” She and her friends provide great role models.

**classifying** A thinking skill; the ability to categorize items or concepts by their common characteristics

**chunking** A thinking skill to aid memory; organizing information by groups or topics

**associating** A thinking skill; the ability to see relationships among different concepts or knowledge bases

**sequencing** A thinking skill; categorizing and putting items, facts, or ideas in order along various dimensions

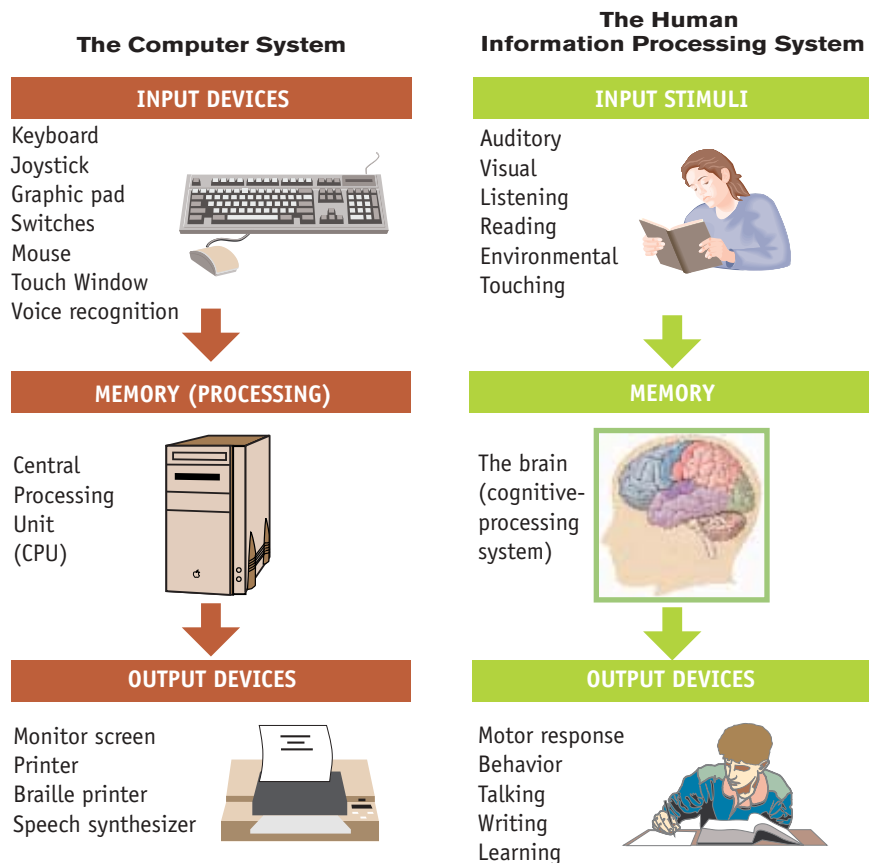
**generalizing** Transferring learning from particular instances to other environments, people, times, or events

that require borrowing without zeros in the numerator, teachers should carefully point out the similarities between problems that include zeros ( $500 - 354 = ?$ ) and those that do not ( $467 - 189 = ?$ ).

## Faulty Information Processing

Many people with learning disabilities have difficulty learning to read and write, understanding things they are told, and even expressing themselves through oral communication. To explain why, researchers are studying theories of learning and then applying them to the way students with learning disabilities actually learn. Many years ago, Janet Lerner created a scheme to help us understand the information processing theory by comparing the human brain to a computer (Lerner, 1993). In her concept (see Figure 5.1), the flow of information that occurs when people are learning new skills begins with the input of information, continues with the processing of that information, and ends with its output. Like the computer, the human brain takes in information, processes that information (makes associations, stores information, calls it up, acts upon it), and generates responses from it.

**Figure 5.1** • Information Processing Theory and Its Similarities to the Computer System



**Source:** Janet Lerner, *Learning Disabilities: Theories, Diagnosis, and Teaching Strategies*, Sixth Edition. Copyright © 1993 by Houghton Mifflin Company. Adapted with permission.



Learning to understand the “rules of the game” comes with lots of practice and experience. Teachers can help students with learning disabilities develop the complex skills needed in social situations by arranging opportunities for them to play and learn.

How can teachers help students process information? Some simple actions can make a difference in how well students understand the task and can thereby improve their academic performance:

- *Repeat important information in different ways:* “Remember to study for this week’s exam. On Friday, you will have a test over Chapter 6 of your history book.”
- *Organize content systematically:* Put information into sequential order (“First the English raised taxes on the colonists. Then the Americans protested. In Boston, they dumped the tea being delivered by boat into the harbor.”)
- *Provide students with relevant information:* “Fish have gills, scales, and fins. Horses have \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.”
- *Anchor content and assignments to students’ experiences and interests:* On the list for book reports, include books representing a variety of sports, hobbies, adventures, biographies, mysteries, and characters from different cultures and backgrounds

## Poor Social Skills

Over 30 years ago, Tanis Bryan brought the challenges that many students with learning disabilities face with social skills to the nation’s attention and expanded our understanding of this disability beyond its effects on academic skills (Bryan, 1974). Deficits in social skills are now considered a common and defining characteristic of learning disabilities (Kavale & Mostert, 2004). Though not all individuals with learning disabilities have problems with social skills, the great majority do (Gresham, Sugai, & Horner, 2001; Vaughn, Elbaum, & Boardman, 2001). Specifically, about a quarter of them are average or above average in social skills and social competence. For the other 75 percent of these individuals, problems with social skills negatively influence their self-concept, their ability to make friends, their interactions with others, and even the way they approach schoolwork (Bryan, Burstein, & Ergul, 2004).



## for Classroom Management

### TEACHERS HELPING STUDENTS WITH LEARNING DISABILITIES MAKE FRIENDS

#### *Explicitly Teach*

- Rules of playground games
- Comprehension of nonverbal expressions
- Social conventions
- When to terminate a conversation
- How to ask permission to join an ongoing game
- Sharing skills

#### *Pair with a Class-Buddy*

- Match students with similar interests
- Create opportunities
- Reward both members of the pair for working and playing together
- Change pairs once a month

Two general reasons account for these students' difficulties developing social competence:

- 1 Relationships among learning disabilities, language impairments, pragmatics, and social competence
- 2 The downward spiral of academic failure to positive peer relationships

For some students, impairment in social skills is part of their learning disability (Wiener, 2004). Those students whose language impairment during the preschool years hindered their developing pragmatics (for a review, see pages 128 and 142 in Chapter 4) often have difficulty understanding others' nonverbal behavior and using language effectively in social situations (Olswang, Coggins, & Timler, 2001). These students cannot understand nonverbal behaviors, such as facial expressions, and therefore do not comprehend other people's emotional messages (Teglasi, Cohn, & Meshbesh, 2004). Remember, the relationship between social competence and language impairments is clear. Poor language skills impair the ability to communicate, and communicative competence is necessary for social interaction (Elksnin & Elksnin, 2004). Social competence is related, in one way or another, to almost every

action and skill that people perform. **Social competence** is the ability to perceive and interpret social situations, generate appropriate social responses, and interact with others. Thus the very nature of learning disabilities explains, in part, why many students with learning disabilities have problems developing satisfactory social skills.

The second reason is directly related to these students' academic failure. Poor educational performance lowers self-esteem and self-confidence, which in turn undermines the ability to make friends with classmates who are high achievers. And so it continues: Poor social skills contribute to poor academic performance, and experiencing school failure compounds the social issues the individual must confront (Elliott, Malecki & Demaray, 2001). Difficulty with social skills, coupled with low achievement and distracting classroom behavior, influences the social status of those with learning disabilities. Their peers see them as overly dependent, less cooperative, and less socially adept (Kuhne & Wiener, 2000). They are rejected by fellow students and are not included in games on the playground or in groups in the classroom (Le Mare & de la Ronde, 2000; Norwicki, 2003). It is not surprising that some students with learning disabilities prefer pull-out programs and do not like inclusive classroom situations (Vaughn, Elbaum, & Boardman, 2001). Teachers can make a real difference and help students with learning disabilities who also experience social problems. Some ideas about how to take direct action are listed in *Tips for Classroom Management*.

Signs of these problems begin early, during the preschool years, as these children experience strong feelings of loneliness and lack of friends (Bryan, Burstien, & Ergul, 2004). Rejection and inadequate social skills persist through adolescence (Le Mare & de La Ronde, 2000). During the later school years, these students do not seek the support of peers or friends as do their classmates without disabilities, so feelings of loneliness, rejection, and isolation persist. Of even more concern is their tendency to be victimized—threatened, physically assaulted, or subjected to theft of their belongings—more than their peers.

The use of social skills training programs, even though they sometimes have limited results, is strongly encouraged by researchers (Kavale & Mostert, 2004).

**social competence** Being able to understand social situations and respond appropriately in them

Experts recommend implementing programs that match the intervention to the individual's unique problem areas. For example, if a student has not acquired a social skill, then modeling, coaching, practice, and specific feedback can make development of the missing skill possible. Peer tutoring, reinforcement, and contingencies that reward the entire class (those with and those without disabilities) can help to extend or generalize initial learning. Also, teachers can play an instrumental role in reducing peer rejection by pairing classmates in areas of mutual interest. For example, teachers might plan activities so that students with and without learning disabilities who share common interests (sports, music, hobbies) are assigned to work together on an academic task such as a social studies report.

## Prevalence

Across the nation, policymakers and parents express great concern about the number of children identified by school personnel as having a learning disability (Finn, Rotherham, & Hokanson, 2001; Vaughn & Fuchs, 2003). Three major issues are the basis for concerns about the prevalence of learning disabilities.

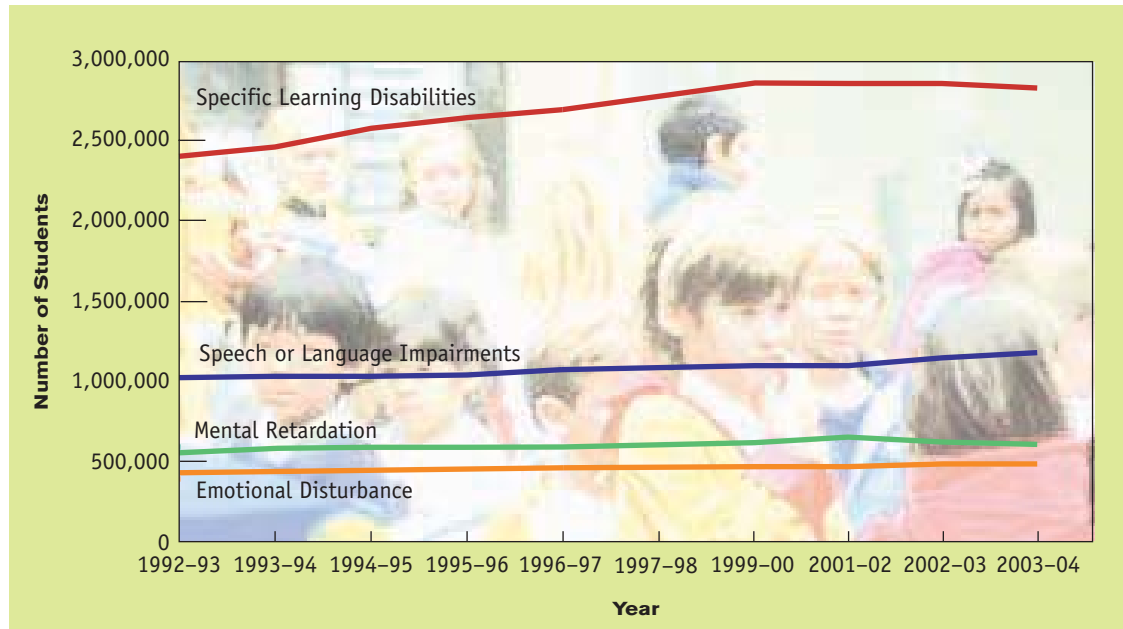
- 1 *Size:* Nearly half of all students with disabilities are identified as having learning disabilities, and the number increases each year.
- 2 *Cost:* Special education costs almost twice as much as general education.
- 3 *Misidentification:* Diverse learners are disproportionately represented in special education.

This special education category is by far the largest, including 5.4 percent of all schoolchildren and almost half of all students identified as having a disability (U.S. Department of Education, 2005a). When IDEA was first passed and was being implemented in 1976–77, only about one-quarter of all students with disabilities were served through the learning disabilities category. In the 10-year period from the 1990–91 to the 1999–2000 school year, the learning disabilities category grew by 34 percent (U.S. Department of Education, 2002). The rate at which assignment to the learning disabilities category has increased far surpasses that for students with speech or language impairments or emotional or behavioral disorders, and the prevalence of mental retardation among students has decreased slightly over the years. These relationships are shown in Figure 5.2.

Why is there such concern about the size of the learning disabilities category? One reason is cost (Vaughn & Fuchs, 2003). Although variation exists across the nation and even district by district, every student with a disability costs more to educate than their classmates without disabilities (Chambers, Parrish, & Harr, 2002). It costs about twice as much to educate a student with disabilities as to educate a student without disabilities. Because the federal government does not fully cover these costs, the public and the media make the case that students with disabilities are being educated at the expense of their classmates without disabilities. This situation has caused many to believe that the special education rolls should be reduced, and partly because of its size, the learning disabilities category is the one they target (Finn et al., 2001; Lyon et al., 2001).

The third concern is whether students are being correctly identified. Some experts have called the category of learning disabilities a “dumping ground” where any student unsuccessful in the general education curriculum can be

**Figure 5.2** • Comparison of Prevalence Rates of Students with High Incidence Disabilities



The numbers of children with learning disabilities, mental retardation, emotional disturbance, and speech or language impairments served under IDEA are shown for ages 6 to 21 and school years 1992–93 through 2003–2004.

**Source:** From the *Twenty-Second and Twenty-Third Annual Reports to Congress on the Implementation of the Individuals with Disabilities Education Act*, U.S. Department of Education, 2000, 2001. Washington, DC: Government Printing Office, and U.S. Department of Education, *Number of Children Served Under IDEA by Disability and Age Group, 1994 through 2003*, Table AA9, Age Group 6–21, 2005c, [www.ideadata.org](http://www.ideadata.org)

placed (Reschly, 2002). Thus it is possible that some of these students do not have a disability but simply are failing in the general education curriculum and were given the label so they could get extra attention and special assistance. Which students are being included in this category? One very carefully conducted study gives us a hint (MacMillan, Gresham, & Bocian, 1998). These researchers matched the state's guidelines for learning disabilities with 61 actual students who were identified by school districts. Their results indicated that 10 did not meet the criterion for any special education category, 19 had IQ scores below 76 (which should have qualified them for services in the mental retardation category), and 9 also met the criteria for ADHD (see Chapter 6 for more information about this condition).

Despite these three serious concerns, experts do not foresee the number of students classified with learning disabilities decreasing in the years to come. Even if identification procedures and the definition of learning disabilities are changed to reflect newer ideas, such as unexpected underachievement and resistance to treatment, it is doubtful that fewer students will be identified with learning disabilities. In fact, estimates are that as many as 6 percent of all children have unexpected underachievement and also experience resistance to treatment (Learning Disability Summit, 2001). Clearly, these students require very special attention.

## Causes and Prevention

Just as there are numerous manifestations of learning disabilities, there are multiple causes, levels of severity, and preventive measures. Unfortunately, researchers do not have much concrete information about the causes of learning disabilities (Bender, 2004). Without definitive causes or explanations for the problem, effective prevention will remain illusive.

### Causes

Surprisingly little is actually known about the causes of learning disabilities. One assumption embedded in definitions of learning disabilities is that the origin of many of these individuals' problems is neurological—that there may be brain damage. For the vast majority of students with disabilities, there is *no* documentation of neurological impairment, but for those who do have brain damage, there are many specific causes. For example, lack of oxygen before, during, or after birth can result in neurological difficulties that affect the individual's ability to learn.

Heredity may make a more significant contribution to learning disabilities than was previously understood. Many individuals with learning disabilities report they have relatives who have similar problems, but a genetic link to learning disabilities has proven difficult to document (Decker & Defries, 1980, 1981). Today, because of modern scientific techniques, researchers are discovering some genetic causes of learning disabilities. For example, Turner syndrome has a definite link to mathematics disabilities in girls (Rovet, 2004). Some experts are searching for an interactive relationship among several genes hoping to identify risk factors for reading disabilities (Wood & Grigorenko, 2001).

Finally, a strong relationship exists between learning disabilities and low socioeconomic status (SES) (Blair & Scott, 2002). Whether factors associated with poverty (such as limited access to health care, living in dangerous environments filled with toxins, or the lack of a supportive environment) puts these children at great risk for learning disabilities is not known, but the relationship is clear. Certainly, cases of learning disabilities attributable to poverty could be prevented.

### Prevention

Without knowing a specific cause of learning disabilities, it is impossible to develop a set of preventive procedures or strategies. But, when we *do* know a cause of a disability, we should take action. For example, as we have noted, environmental toxins can cause neurological damage, which in turn can result in a learning disability. Clearly, society at large and local communities should do everything they can to eliminate toxins from children's lives. As reported in *Disability in the News*, such dangers are even found at the nation's schools (Herszenhorn, 2004, October 29). We can all make a difference in the lives of all children by not tolerating situations that place America's children at risk for such harm. Until such time as specific causes for learning disabilities are discovered, definitive prevention strategies cannot be developed. However, the impact of the disability can be lessened, and in some cases the condition remediated or compensated for, through education.

### Overcoming Challenges

Although poor teaching can cause school failure and may be a factor in the identification of some students, it is not an actual cause of learning disabilities. Good teaching, on the other hand, can prevent school failure and can also help students compensate for their learning challenges (Fuchs & Fuchs, 2001; Graham, Harris, &

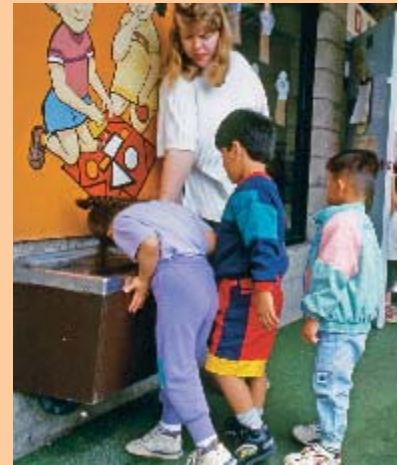
## Reaction Time to Fixing Lead in Schools' Water Is Disputed

David M. Herszenhorn

**NEW YORK CITY** – The chairman of the State Assembly Education Committee charged yesterday that New York State health and education officials failed to follow up on reports that dangerous levels of lead had been detected in the drinking water at 120 schools and day care facilities. . . . [R]esults [from a statewide survey] tallied in August found that the lead levels in water from fountains and sinks were high enough to require action under the federal Environmental Protection Agency guidelines. . . .

Repeated exposure to hazardous lead levels can result in lead poisoning, which can cause irreversible neurological damage, including learning disabilities, hearing loss, and other problems. Mr. Sanders, a Democrat from Manhattan, called the agencies “shamefully negligent” for failing to follow up on the survey and request detailed information from schools.

*Source:* “Reaction Time to Fixing Lead in Schools' Water Is Disputed” by D. M. Herszenhorn, October 29, 2004, *New York Times*. Copyright © 2004 by The New York Times Co. Reprinted with permission.



Larsen, 2001). Obviously, poor teaching should be eliminated as a reason for school failure! When educators target the right skills, set goals and expectations high, use validated instructional procedures, and support students as they stretch to meet their goals, education makes a real difference in the results of these students.

How can teaching be considered a preventive measure? Evidence is mounting that one way to reduce the number of school-age students who struggle with academic learning is to teach the foundations of reading during the preschool years. The notion is “catch them before they fail” (Torgeson & Wagner, 1998). For instance, systematic instruction before first grade to develop skills prerequisite to reading, such as sound-symbol awareness, has great benefits. This early instruction may reduce the degree of a reading disability or even help some students avoid reading challenges altogether (Compton, 2002). This knowledge has caused educators to modify the ways in which students with learning disabilities are identified, by merging assessment with instruction. Let’s now turn our attention to these new systems.

## Assessment

Each Assessment section of this text highlights different features of the evaluation process. Each begins by discussing identification during the preschool years, continues through the pre-referral and identification stages, and concludes with at least one aspect of evaluating students’ progress. Although IDEA ’04 does not require states to change the way they identify students with learning disabilities, it does allow them to adopt a new method (see *What IDEA ’04 Says About Eligibility for Learning Disabilities*). This new approach gives general education teachers more of the responsibility and also sets the stage for drastic changes in the identification

process for students with learning disabilities. In this chapter, we first talk about the preschool situation and then focus on features of the new way to identify students with learning disabilities.

## Early Identification

Preschoolers typically are *not* identified as having learning disabilities. Look again at Figure 4.5, on page 134 in the previous chapter. During the preschool years, more youngsters are identified with language impairments, but then, in third grade, learning disabilities becomes the prevailing label. At present, most students with reading/learning disabilities are not identified or given special services during the preschool years; their first identification is later during their school years. Some of them are not even identified until college.

With the importance of early intervention so well understood, why are individuals with learning disabilities typically not identified earlier? For one thing, professionals have been reluctant to identify or label children as having a learning or reading disability in the preschool years, or even by first grade, for fear of making a diagnostic mistake. Young children do not develop at exactly the same rate. Some children who do not develop as quickly as their peers do not have a disability; they will catch up. Still others are the youngest in their class and are thus not, and should not be, developmentally equal to their classmates. Another reason lies in the concept of “significant discrepancy” between achievement and potential. When children are very young, such discrepancies are impossible to detect.

Might there be a way to identify those preschoolers who would profit from intensive early intervention that might prevent later reading problems? One way might be to identify young children at risk. Another way might be to find those showing early warning signs. Who might be likely candidates? Preschoolers at risk are those who were not talking by age 3, had low birth weights, were premature babies, or come from poverty (Anderson & Shames, 2006; Blair & Scott, 2002). Those displaying early warning signs are not developing the precursors to reading, such as phonemic awareness (sound–symbol relationships) and knowing the letters and sounds of the alphabet (Bursuck et al., 2004). Researchers are now confident that these precursors are reliable predictors of reading success; that is, those preschoolers who possess these skills become good readers (Bishop, 2003; Speece et al., 2003; Torgesen & Wagner, 1998). In the section *Early Intervention*, on page 178, you will learn more about delivery of services to preschoolers who might be at risk for later learning disabilities. But now let’s turn our attention to the new pre-referral and identification process just approved in IDEA ’04 for schoolchildren.

## Pre-Referral: Response to Intervention

Until the reauthorization of IDEA in 2004, a few places in the nation were piloting and implementing a new identification process for learning disabilities. This new process is not mandated by IDEA ’04, but it is encouraged in the law and most likely will become widely adopted (OSEP, 2005). To better understand these changes, it may be helpful first to review the traditional method for identifying students with learning disabilities. The standard procedure uses **discrepancy formulas** to determine whether the gap between a student’s achievement and her or his potential is significant and accounts for that student’s learning failures. Although many different types are applied across the nation, such formulas have been the common way to identify students as having learning disabilities (Schrag, 2000). Two test results are needed to apply every discrepancy formula: an IQ score and the score from a standardized achievement test. Considerable dissatisfaction

what  
IDEA '04  
says about...

### Eligibility for Learning Disabilities

When determining eligibility for the category of learning disability, a local educational agency (e.g., school district):

- Is *not* required to consider whether a child shows a discrepancy between school achievement and intellectual ability
- May include documentation on the child’s response to scientific, research-based intervention as part of the formal evaluation procedures

#### discrepancy formulas

Calculations used to determine the gap between a student’s achievement and her or his potential; used to identify students with learning disabilities

with discrepancy formulas exists (Bradley, Danielson, & Hallahan, 2002). Here are just a few criticisms:

- IQ tests are not reliable and are unfair to many groups of children.
- Results have little utility in planning a student’s educational program.
- The process does not help determine which interventions might be successful.
- Outcomes are not related to performance in the classroom, in the general education curriculum, or on state- or district-wide assessments.
- Children must fail before they can qualify for needed services. Thus early intervention is delayed until the gap becomes great enough for children to meet this criterion.

With such concerns, why were discrepancy formulas used for so long? One important reason is that they give the identification process some appearance of objectivity. Another reason is that the results are easy for parents and teachers to understand (Ahearn, 2003). Diagnosticians or school psychologists give a child an IQ test and an achievement test and then apply the formula. Whether the child is included in the learning disabilities category thus becomes a cut-and-dried, “yes or no” answer. Another reason is that the discrepancy system is fairly easy to apply. The teacher refers the student, the diagnostician gives some tests, and the identification process moves along.

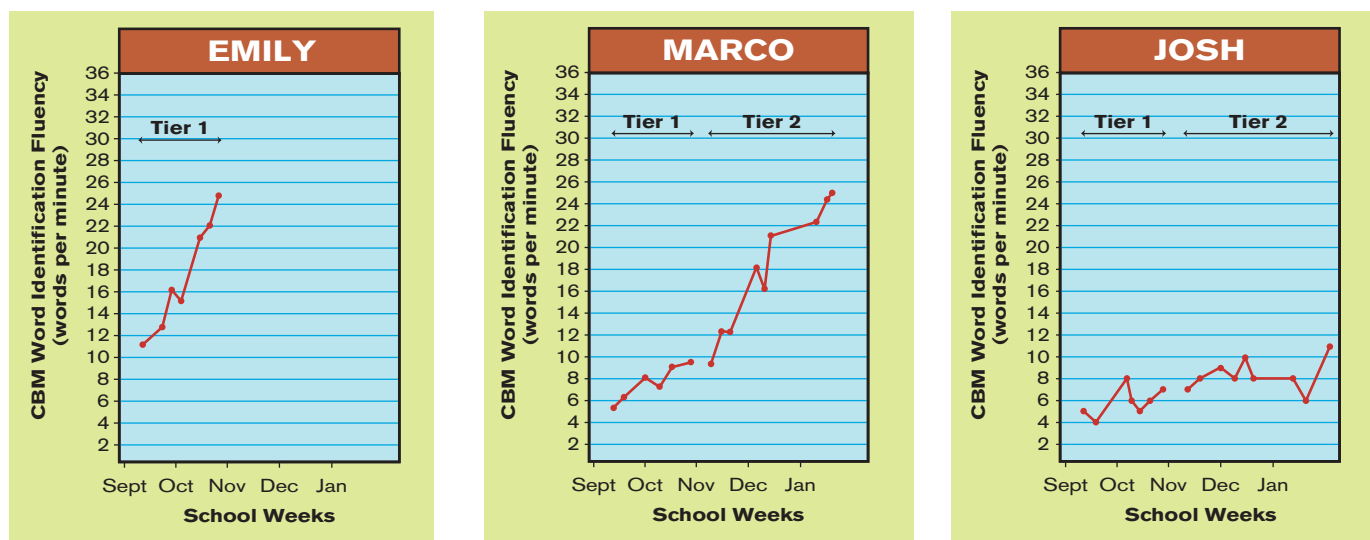
IDEA '04 now allows states and school districts to use the pre-referral step in the IEP process for at least initial identification of students with learning disabilities, and even for full identification. The purpose is to find those students who are “resistant to treatment” through a process that determines their **response to intervention (RTI)**. The RTI system “filters” children through many stages of learning opportunities to determine whether they are resistant to instructional intervention (Fuchs, Fuchs, & Compton, 2004). The system does this evaluation by systematically providing students with more and more intensive instruction (Fuchs & Fuchs, 2005).

How does this pre-referral process work? Although it can be applied for any academic area, RTI is receiving most attention for its application to reading—the most common problem among students with learning disabilities. Lynn and Doug Fuchs and Sharon Vaughn are some of the innovators who have researched this concept and developed one approach to its implementation. Here’s what they suggest should happen in the general education setting (Fuchs & Fuchs, 2005; Vaughn, 2005):

- 1 All students in kindergarten or in first, second, third, or fourth grade experience universal screening and are tested once in the fall.
- 2 Students demonstrating skills that put them at risk for reading failure are identified for intervention.
- 3 Validated procedures (e.g., direct instruction on reading skills such as sight word vocabulary and phonics) are implemented, and students’ progress is monitored throughout and after intervention.
- 4 Students who do not learn after receiving three increasingly intensive levels of instruction are either identified as having learning disabilities or sent on for further assessments by a multidisciplinary team, depending on the district’s rules for identification.

**response to intervention (RTI)** A multitiered pre-referral method of increasingly intensive interventions; used to identify “nonresponders,” or students with learning disabilities

Which students are they looking for? This process is intended to identify students who are resistant to treatment—those who fail to make adequate progress (Fuchs, 2003; Speece, Case, & Molloy, 2003). These are the students who do not profit from instruction in the general education classroom and are in need of special education (Fuchs & Fuchs, 2005; Vaughn, 2005). Figure 5.3 indicates how this

**Figure 5.3** • Comparison of CBM Data for Three Students

Emily and Marco, general education students who responded to intervention, and Josh, is resistant to treatment and needs sustained, intensive, and explicit intervention.

process might be implemented. During *Step 1, Screening*, each first grader in a class read a list of words aloud, and the number of correctly read words in a one-minute sample was recorded. The data from each student scoring below criterion (Marco, Emily, and Josh) were graphed. These three first graders remained in the general education class but moved on to *Step 2, Tier 1 Assessment*. Their performance on the word identification task was assessed each week to determine whether peer tutoring, extra attention, and modified textbooks resolved their reading problems. Marco, clearly at risk for reading failure, as indicated by the score he received on the initial screening assessment, responded satisfactorily to intervention at this level and returned to the general education program. Emily and Josh's progress was insufficient, however, so they moved on to *Step 3, Tier 2 Assessment*. They both remained in the general education program but received more intensive instruction from a paraprofessional under the supervision of a reading specialist who carefully matched the types of instruction chosen for them (such as active responding, cues, prompts, and/or direct instruction on phonics) to their skill levels. As you can see from Emily's chart in Figure 5.3, she responded to this level of instruction, so she returned to the general education program. But Josh's performance indicated that he is "resistant to treatment," and he entered *Step 4, Disability Classification/Special Education Placement*. At this step, a multidisciplinary team will determine the exact nature of Josh's disability, his strengths, and his needs for supports and sustained, intensive intervention.

Lynn and Doug Fuchs report that over 60 percent of students in a pilot program testing this new identification process could not sustain the improvement made in their first intensive experience and had to return to special education to resume academic growth (Fuchs & Fuchs, 2001). Others report that referrals to special education declined by 74 percent (McNamara & Hollinger, 2003). Progress-monitoring systems (see Chapter 2 for a review), such as curriculum based measurement (CBM), that do not rely on infrequently administered standardized achievement tests are embedded in the RTI approach. You will learn more about CBM later in this chapter (see page 177).

What skills for reading are being tested through the RTI system? Different abilities are assessed in different grades (Fuchs, 2003; Fuchs & Fuchs, 2005).

- *Kindergarten*: letter–sound fluency; say the sound represented by a letter
- *Grade 1*: word identification fluency; word recognition on a timed test
- *Grades 2–3*: passage reading; read a paragraph aloud
- *Grade 4*: maze fluency; fill in missing words when reading a passage

Examples of targets for each grade are shown in Figure 5.4. There you find segments of the Fuchs’ assessments. Now review again the sample graphs shown in Figure 5.3 for Emily, the “responder,” and for Josh, the student who is resistant to treatment. Compare their performances, and you should see how students can respond differently to intensive interventions. Such assessments tell teachers which students need sustained and intensive intervention to overcome their challenges mastering reading.

What are the benefits of RTI? Proponents of this approach are confident that RTI resolves the problems with the traditional “discrepancy between intelligence and achievement” model (Speece, Case, & Molloy, 2003; McNamara & Hollinger, 2003). Here are some of the advantages that RTI is usually described as offering:

- 1 *No delay in receiving intervention.* More intensive instruction is delivered promptly, eliminating a long waiting period of continued failure before help is received.
- 2 *Reduces inappropriate referrals.* RTI provides teachers with better guidance in determining which students are in need of special education.
- 3 *Poor teaching not a reason.* Inefficient instruction is eliminated as a reason for learning disabilities.
- 4 *Assessment leads to intervention.* RTI combines assessment with intervention.

**Figure 5.4** • Response to Intervention Assessment Samples: Kindergarten Through Fourth Grade

<p style="text-align: center;"><b>Kindergarten</b> <b>Letter-Sound Fluency</b></p> <hr/> <p>Teacher: <i>Say the sound that goes with each letter.</i></p> <p>Time: 1 minute</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin-left: auto; margin-right: auto;"> <p>p U z u y i t R e w O a s d f v g j S b k m n b V Y E i c x É _____</p> </div>	<p style="text-align: center;"><b>Grade 1</b> <b>Word-Identification Fluency</b></p> <hr/> <p>Teacher: <i>Read these words.</i></p> <p>Time: 1 minute</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin-left: auto; margin-right: auto;"> <p>two for come because last from ...</p> </div>
<p style="text-align: center;"><b>Grades 2–3</b> <b>Passage Reading Fluency</b></p> <hr/> <ul style="list-style-type: none"> <li>• Number of words read aloud correctly in 1 minute on end-of-year passages</li> </ul>	<p style="text-align: center;"><b>Grades 4–6</b> <b>Maze Fluency</b></p> <hr/> <div style="border: 1px solid black; padding: 5px;"> <p>A SCARY NOISE</p> <p>Ray lived in Georgia. He was born there and had ____ friends. One day Dad had come home ____ work to say that they would have ____ move far away. Dad worked in ____ factory. The factory had closed and Dad ____ a new job. Dad had found a ____ job and now they had to move.</p> <p>Ray ____ sad because he did not want ____ leave his school. He did not ____ to leave his friends.</p> <p>“I am ____, son,” said Dad.</p> <p>“It is OK,” ____ Ray with a smile. He did ____ want Dad to feel bad.</p> <p>They ____ up the car and moved to a ____ state. Their new</p> </div>

*Source:* Adapted with permission. Courtesy of Lynn Fuchs and Doug Fuchs.

- 5 *No stigma*: All students enter the process.
- 6 *Low achievement is distinguished from learning disabilities*. Low performance improves but growth remains insufficient, thereby separating these two groups of students.

The support for RTI is growing, although some professionals adhere to the traditional discrepancy model (Kavale, Holdnack, & Mostert, 2005). Others remain concerned about what it will take to implement this new model (Ahearn, 2003). What will it take to make the RTI system work in schools across the country? Clearly, changing to this new system will require considerably more support for general education teachers who are adding assessment to their instructional duties (Denton, Vaughn, & Fletcher, 2003). General and special education teachers will need to collaborate more than ever before by helping each other tie assessment to intervention. Although making these changes takes considerable effort, this new system has the potential to make real differences in the education of students with learning disabilities.

## Identification

As more and more states adopt RTI, the pre-referral process may replace the identification step in the IEP process for learning disabilities (Fuchs, Mock et al., 2003). In many states, however, traditional diagnostic procedures will follow the pre-referral stage. Information about the student's academic performance gathered during the pre-referral stage is used in the final identification step. In other words, pre-referral does not replace, but rather supports, formal referrals to special education for all students who do not succeed with more intensive instruction (Speece, Case, & Molloy, 2003). Then, just as under the guidelines of IDEA before the 2004 version was passed, a multidisciplinary team administers a comprehensive assessment battery of tests that might include standardized tests of intelligence, achievement, hearing, and vision. The purposes of this step in the assessment process are to specifically determine the cause of the student's problems and to ensure that a student with mental retardation or another disability is not misidentified as having a learning disability.

## Evaluation: Curriculum Based Measurement (CBM)

As you learned in Chapter 2, *progress monitoring* is an important component of an effective education for students with disabilities. **Curriculum based measurement (CBM)** is a form of progress monitoring that uses direct and frequent measurements of students' actual performance, such as oral reading rate, percentage of correct answers to mathematics problems, and number of homework assignments produced correctly and turned in on time. CBM enables elementary, middle school, and high school teachers to evaluate individual students' progress and also to assess the effectiveness of the instructional methods they are using (Espin, Weissenburger, & Benson, 2004; IRIS Center, 2005). It can also be used to compare one student's daily achievements with those of classmates and to track trends across time.

Six steps are used in the CBM system (Fuchs, Fuchs, & Powell, 2004).

- 1 *Create or select appropriate tests (probes)*. Probes are matched to the student's grade, and they sample skills to be mastered across the school year. Thus, as time progresses, students should get more items correct.
- 2 *Administer and score probes*. Probes are presented frequently (e.g., weekly or monthly) to ensure that students' data are valid (reflect performance of the same skills being taught) and reliable (consistently represent the students' abilities on the targeted skills).

**curriculum based measurement (CBM)** A system of progress monitoring; evaluates performance frequently (daily or weekly) by collecting data directly on mastery of academic subjects being taught

- 3 *Graph the scores.* Visual representations of student's performance enable students to see their progress and teachers to make instructional decisions (see Figure 5.3 again for some sample charts).
- 4 *Set goals.* Targets, which sometimes are called benchmarks, help students and teachers understand how much growth is expected or required.
- 5 *Make instructional decisions.* The student's performance is used to evaluate the instructional program in order to retain effective strategies and discontinue ineffective ones.
- 6 *Communicate progress:* CBM data and graphs facilitate communication with parents, other teachers, and students.

CBM has many benefits, besides being an integral part of the new RTI system for pre-referral and identification of students with learning disabilities. Teachers who use CBM find that it facilitates communication with parents and students because it focuses everyone's attention on instructional targets and the student's performance (Hosp & Hosp, 2003). CBM also helps teachers plan more effective instruction, helps students see that they are responsible for their learning and resulting performance, and reflects progress on learning the curriculum content.

## Early Intervention

The importance of the preschool years, when the foundations for learning are developing and become established, cannot be overstated. This is true for all children. Early childhood is a critical period, in which many developmental milestones—the basis for school achievement and life success—occur. Most youngsters learn these basic skills naturally, but for others they need to be taught directly. Although very few preschoolers are identified as having learning disabilities, those who do have such disabilities, along with some peers without disabilities, begin their struggle learning to read during these early years. For many of them, early

action by teachers can divert their path away from reading and school failure toward success. Let's first look at these foundation skills and then learn about some ways in which teachers can make a difference in the results of these preschoolers.

## Core Skills of Reading

Reading is crucial to school success, and it is a skill that is difficult for most students with learning disabilities to master. Researchers are now confident that the essential, foundation, or core skills that make for good readers are developed much early than was originally thought (Jenkins & O'Connor, 2002). In particular, three skills that begin to develop during the preschool years are important for later success with reading. They are

- Phonological awareness
- Rapid naming of alphabetic sounds and letters
- Beginning phonics

Mastering language is a prerequisite for reading. As you learned in the previous chapter, the importance of facility with language explains why so many preschoolers



Learning basic reading skills like sound-to-symbol relationships is essential for reading success. Students who do not learn these skills naturally must receive direct instruction aimed at achieving mastery. The preschoolers are listening to a story about Willy the gorilla and his adventures.

who are identified with language impairments during the preschool years are identified with learning disabilities during their school years. One important set of skills both for language development and for later reading success is **phonological awareness**—identifying, separating, and manipulating the sound units of spoken language (Vaughn & Linan-Thompson, 2004). Indicators of phonological awareness include hearing and identifying sounds in words, breaking or segmenting words and phrases into their smallest units, and rhyming. Although some experts believe that skills such as actual letter and word identification and decoding are superior to phonological awareness as predictors of which students will later have trouble mastering reading, it is clear that this core skill develops early (Hammill, 2004; Ehri et al., 2001; Nelson, Benner, & Gonzalez, 2003). The second skill that seems to predict later success with reading is **letter fluency**, which is indicated by calling out quickly the letters of the alphabet upon seeing them in any order (Speece et al., 2003). The third set of skills that begins to develop during these early years is **phonics**—the ability to decipher printed words or identify the sounds that are represented by individual letters and groups of letters. A good start on learning phonics and on learning how to decode printed words is also an indication that the individual will become a good reader (Bursuck et al., 2004). These three skills, along with others (such as vocabulary and sight word development), form the early foundations for the good start students need as they begin the process of mastering reading. For those who do not develop these skills on their own, teachers can make a real difference through instruction. It is also important to understand that teaching isolated skills, such as phonological awareness or rapid naming of letters and their sounds, might not be sufficient for many students with reading/learning disabilities. They are more likely to need intensive instruction to put those and other core skills together to become proficient readers (Hammill, 2004; Swanson et al., 2003).

## Early Reading Instruction

Thus the origins of literacy take shape during early childhood, long before children actually begin to read (Dickinson & McCabe, 2001). Early instruction in phonological awareness (e.g., *cat* has three sounds, *fall* and *wall* rhyme), letter naming, and decoding is helpful for all preschoolers (Pullen & Justice, 2003). Whether they are English language learners with learning disabilities or native English speakers, for preschoolers and kindergarteners who do not learn these precursors to reading on their own, instruction in these very important skills can avoid later reading problems (Leafstedt, Richards, & Gerber, 2004). For some, direct instruction in the general preschool or general education setting is sufficient; for others, intensive intervention is necessary. In either case, a long-term, positive impact on youngsters' reading abilities can be the outcome (Fuchs, Fuchs, & Thompson, 2002). Unfortunately, success is not universal, and some 30 percent of these youngsters remain resistant to treatment (Jenkins & O'Connor, 2002).

In addition to explicit instruction on skills that form the foundation for reading, preschool and kindergarten teachers should not lose sight of the importance of developing language- and literacy-rich environments (Katims, 1994). Literacy is not just decoding or even comprehending the printed work; it is a reflection of a greater set of skills and abilities that include reflective thinking. Children need

what  
IDEA '04  
says about...

### Early Intervening Services

In order to provide early intervening services, a local educational agency (e.g., school district) may

- Use a specified portion of IDEA funds for students in kindergarten through grade 12 who need additional academic and behavioral support to succeed in the general education classroom but have not yet been identified as needing special education or related services
- Emphasize services for students in kindergarten through grade 3

The services and activities provided may include

- Professional development for teachers and other school staff that will enable them to deliver scientifically based academic instruction and behavioral interventions
- Instruction for teachers and school staff on the use of adaptive and instructional software
- Educational and behavioral evaluations, services, and supports (which may include scientifically based literacy instruction)

#### phonological awareness

Identifying, separating, or manipulating sound units of spoken language

**letter fluency** Quickly reading and naming letters of the alphabet

**phonics** The sounds represented by letters and letter-groups

to develop a love for reading, to gain skills and attitudes that favor future literacy, and to recognize both that reading is important to them and that it is fun. Through their retelling and reenacting their favorite stories, the important concept that print has meaning is understood early and becomes a basis for future instruction.

## Teaching Students with Learning Disabilities

Again, one defining characteristic of individuals with learning disabilities is their unexpected underachievement—performance that demands a unique, individualized, and intensive reaction. These students' low achievement separates them more each school year from their classmates without disabilities (Deshler, 2005), as is illustrated in Figure 5.5.

### Access to the General Education Curriculum: Early Intervening

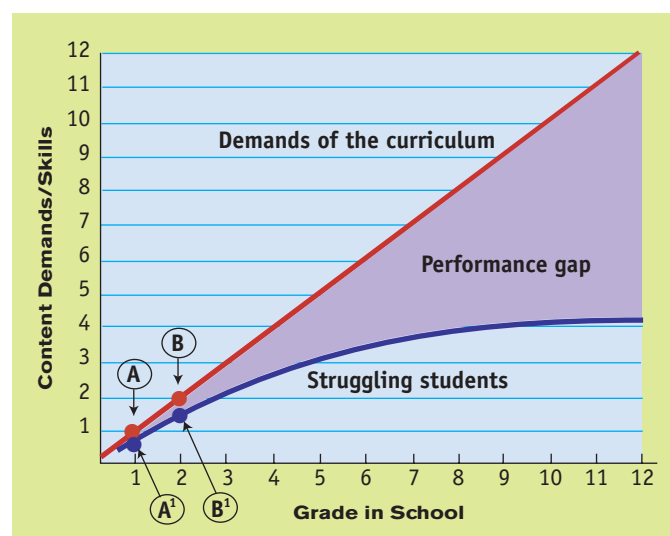
In this chapter we have stressed the importance of preschoolers and students in the elementary grades developing the foundation skills for reading. In the early grades, reading is an academic target for instruction, but quickly it becomes a skill needed for overall academic success. Reading is one important way in which students access the content presented in the basic general education curriculum. Whether students are at risk for school failure, are diverse learners facing the challenges of learning English as a second language, or are on the way to being identified as having learning disabilities, it is critical that they receive extra help and learn the core skills of reading (see Table 5.3) as early as possible. The exciting news is that explicit instruction in these core skills makes a genuine difference and can turn many struggling readers into confident readers (Bishop, 2003; Bursuck et al., 2004).

What makes educators so certain about the power and importance of providing explicit instruction in the core skills of reading as soon as students show signs of strug-

**Figure 5.5** • The Widening Performance Gap Between Students with and without Learning Disabilities as They Get Older

**NOTE:** First grade student (A) and second grade student (B) is meeting the demands of the curriculum, showing grade-level achievement. Struggling first grade student (A<sup>1</sup>) and second grade student (B<sup>1</sup>) begin the path of under achievement.

**Source:** “A closer look: Closing the performance gap” by D. D. Deshler, *StrateNotes*, 13 (January 2005), page 1. Reprinted by permission.



**Table 5.3** • Core Skills of Reading

Domain	Explanation	Example
Phonological awareness	Includes identifying smallest units of sound, segmenting words (breaking words into sound units), manipulating sounds in words	Knowing <i>cat</i> has three sound units, c-a-t Saying each sound (phoneme) in the word <i>cat</i> Rhyming <i>cat</i> and <i>mat</i>
Letter-sound correspondence	Knowing the sound each letter or combinations of letters represents	Identifying the names and sounds of letters presented in random order
Phonics	Sound-symbol relationships for reading and spelling	The letter <i>s</i> indicates both the sounds <i>s</i> and the sound <i>z</i> as in <i>saw</i> and <i>was</i>
Word identification fluency	Reads individual words quickly	Reads words from lists accurately and at a satisfactory rate
Fluency	Reads passages orally correctly and quickly	Reads sentences and paragraphs accurately and at a satisfactory rate
Comprehension	Comprehends reading passages	Understands content of a paragraph

gling? Here are some key findings that support this conclusion (Dion et al., 2004; Ehri et al., 2001; Fuchs, Fuchs, & Compton, 2004):

- Students who fail to acquire the core skills of reading soon after entering school become poor readers.
- Students who complete first grade without having mastered phonological awareness tend to be poor readers in fourth grade.
- Readers who are struggling at third grade tend to be poor readers at ninth grade.
- Struggling readers do not catch up on their own.
- Intensive and explicit instruction on the core skills of reading (such as sound-symbol relationships), delivered early, often helps such students become better readers.

Armed with the knowledge that intervening early can be critical to the success of so many students, federal, state, and school district officials have been trying to figure out how to get additional services to all students who need them. Of course, students with reading/learning disabilities qualify for special education. For them, intensive and explicit instruction is part of their IEPs and their guarantee for an appropriate education. However, for those who do not have disabilities (or have not yet qualified for special education), the challenge is to get services to them quickly. IDEA '04 allows restricted funding for a new process to deliver prevention services to struggling learners. **Early intervening** brings intensive instruction to all struggling learners in the hope of preventing learning problems that will only compound as time passes. See *What IDEA '04 Says About Early Intervening Services* on page 179 to learn what the law allows.

## Instructional Accommodations

Universal design for learning, which we discussed in Chapter 2 on pages 42–43, provides multiple ways for all students to access the general education curriculum. You may recall that universal design for learning uses the computer to provide greater access to printed material for those students who profit more by listening to

**early intervening** Providing explicit and intensive instruction to all struggling students to prevent the compounding of learning problems

## \* Accommodating for Inclusive Environments

### Adjusting Content and Providing Instructional Supports

#### Provide Structure and a Standard Set of Expectations

- Help students develop organizational skills.
- Establish sets of rules for academic and social activities and tasks.
- Adhere to a well-planned schedule.
- Match your language to the comprehension level of the student.
- Be consistent.

#### Adjust Instructional Materials and Activities

- Individualize instruction; be sure the reading level is appropriate.
- Break tasks down into smaller pieces (or chunks).
- Begin lessons with advance organizers.
- Supplement oral and written assignments with learning aids (computers).
- Assign a peer tutor.
- Modify tests, allowing the student to take more time or complete the test in a different way (listen to a tape of the test).

- Evaluate the effectiveness of your instructional interventions, and when they are not effective, change them.

#### Give Students Feedback and Reinforcement for Success

- Tell students when they are behaving properly.
- Reward students for improvement.
- Praise students when they have done well or accomplished a goal.
- Inform students when they are not meeting expectations.
- Encourage students to develop partnerships among themselves, and reinforce those who do so.

#### Make Tasks Interesting

- Develop attention by making assignments interesting and novel.
- Vary the format of instruction and activities.
- Use high-interest curriculum materials.
- Encourage students to work together during extracurricular activities.

print-to-speech translations of texts or by being able to refer to definitions or examples of difficult words and concepts. Clearly, classroom computers can be used to make excellent accommodations. On the horizon is a special typeface for use in textbooks. For the benefit of students with reading/learning disabilities, the typeface was designed specifically to avoid letters that can be inverted or mirrored (Curtis, 2005). Read Regular<sup>®</sup> (see Figure 5.6 to see examples of this new typeface) helps clarify specific letters that are often confusing by making them more clearly unique (Frensch, 2005). Also, teachers who adjust the content and presentation of

**Figure 5.6** • Example of Read Regular<sup>®</sup> and Times Roman Typefaces



Source: Read Regular typeface copyright © 2001–2005 by Natascha Frensch. Reprinted by permission.

their instruction improve outcomes of students with disabilities. Some techniques are useful for students with many different disabilities but are critically important to the success of students with learning disabilities. For example, the link between learning disabilities and language impairments is now clear. Therefore, teachers who adjust their language to the level of listening comprehension of their students or break learning tasks into smaller segments help many students with many different types of learning needs. *Accommodating for Inclusive Environments* provides several ideas about adjusting content and providing instructional supports to students.

## Validated Practices

Over 30 years of research findings have demonstrated that students with learning disabilities learn well when taught with validated practices (Swanson & Sachse-Lee, 2000; Vaughn, Gersten, & Chard, 2000). Teachers must deliberately select instructional materials and procedures that have been systematically evaluated, even though they will not be uniformly powerful. Remember that students with learning disabilities have great individual differences. Because of their heterogeneity, teachers cannot assume that a tactic effective with one student will be effective with every other. Let's consider two practices that have broad applications:

- Peer tutoring
- Learning strategies

Having students teach each other—**peer tutoring**—is one practice that is consistently effective across all grades and subjects (e.g., early ready skills, reading comprehension, mastery of high school world history). It also benefits different types of learners, such as those at risk, English language learners, and students with learning disabilities (Fuchs, Fuchs, Al Otaiba et al., 2001; Mastropieri et al., 2003; Sáenz, Fuchs, & Fuchs, 2005). Teachers are most excited about one particular application of peer tutoring, **Peer-Assisted Learning Strategies (PALS)**. PALS is an instructional tactic utilizing classmates as academic peer tutors. It works with students often referred to as difficult to teach, can be implemented with entire classes of general education students, and frees teachers to work more intensively with students who need more help (Dion et al., 2004; Mathes & Babyak, 2001). Many general education teachers use PALS during the pre-referral and RTI process described in the Assessment section of this chapter. This one-on-one tutoring system is considered to be of low intensity and seems powerful enough to help about 80 percent of low-achieving students (Mathes, Torgesen, & Allor, 2001). The remaining students require more intensive one-on-one instruction. See *Validated Practices* to learn how PALS is put into action.

Another set of validated practices developed for middle school and high school students with learning disabilities helps them become more strategic learners. Don Deshler, Jean Schumaker, and their colleagues at the University of Kansas Center for Research on Learning began developing the learning strategies approach some 25 years ago. Their work has grown from one strategy into a powerful and effective curriculum (Deshler et al., 2001; Swanson & Sachse-Lee, 2000). Its purpose is to give these students a plan and methods for success. The **Learning Strategies Curriculum** comprises many individual learning strategies that help students learn and remember information more efficiently. These powerful interventions help students compensate for their learning disabilities (Deshler, 2005; Deshler & Roth, 2002).

The learning strategies concept caused the nation to change its thinking about the purpose of high school special education. Formerly, secondary special education teachers practiced “crisis teaching”—that is, tutoring students with learning disabilities so that they might have a better chance of receiving a passing grade on tomorrow's test or the term paper due next week. The Learning Strategies



When peers tutor each other, the academic performance for each member of the pair of students improves, and teachers are free to work with other students.

**peer tutoring** Students teaching each other

**Peer-Assisted Learning Strategies (PALS)** A validated method wherein students coach each other to improve academic learning; peer tutoring for reading and mathematics

**Learning Strategies Curriculum** Instructional methods to help students read, comprehend, and study better by helping them organize and collect information strategically; a supplemental high school curriculum designed for students with learning disabilities; developed at the University of Kansas Center for Research on Learning

## \* Validated Practices Peer-Assisted Learning Strategies (PALS)

### What Is PALS?

Peer-Assisted Learning Strategies (PALS) is an instructional approach that uses classmates as tutors who exchange the roles of coaches and players. PALS is used across a wide range of grade levels—from kindergarten through high school—to teach students many different skills. For example, kindergarteners have helped each other learn the core or foundations skills of reading (e.g., sound-symbol relationships, sight words). English language learners (ELLs) with learning disabilities have improved their reading comprehension, and middle school students have improved their skill in charting and graphing data.

### Why PALS Is beneficial

The PALS instructional approach multiplies the opportunities for individualized instruction and the implementation of validated instructional tactics across entire classes of students. Using classmates as teachers frees the teacher to provide more intensive supports to students who need them the most. The procedures also actively involve students in learning. When students are trained in how to tutor and are taught the instructional tactic they are applying, peer tutoring has consistently proved effective, boosting gains in learning. Also, students report that they enjoy tutoring each other, which adds a motivating element to the classroom routine.

### Implementing PALS

PALS is designed to supplement, not replace, regular instructional routines or elements of the standards-based curriculum. Before classmates work together, the teacher instructs

the class about the application of the tactic, the roles each pair will exchange, when to take turns, and how to provide corrective feedback. The teacher practices the instructional routines with the entire class until they demonstrate understanding of their roles and responsibilities. Student pairs work together on a specific academic task (e.g., letter-sound recognition in reading, sight word vocabulary, math facts, story comprehension) for four weeks and then switch partners. Here's a general example of how PALS is applied:

#### Frequency

- PALS is usually scheduled three or four times per week.
- Sessions last between 20 and 35 minutes.
- Each session is divided into 10-minute segments so each peer has a turn as coach and player.
- Sessions may be divided in half so that more than one skill can be the target of instruction.
- Sessions continue for a semester or half of the school year.

#### Partners

- Rank-order students in a class from the strongest to the weakest on the targeted skill.
- Divide the class in half.
- Pair the top-ranked student in the high-performing group with the top-ranked student in the low-performing group.
- Continue the process until every student has a partner.
- Each member of the pair, during every session, takes a turn at being the “coach,” or tutor, and being the “player,” or student being tutored.

Curriculum includes many different strategies and addresses a variety of skills that students with learning disabilities need to access the general education curriculum successfully and perform well on state- and district-wide assessments. Some strategies help students write multiparagraph themes, personal narratives, reports, letters, and even essays (Isaacson, 2004; Schumaker & Deshler, 2003). Many strategies assist students in gaining meaning from complicated social studies and science texts, and others help them remember information.

Each learning strategy typically includes these key features:

- Advance organizers
- Step-by-step procedures for application of the strategy
- Mnemonics
- Built-in systems for progress monitoring

**advance organizers** A tactic that previews lectures and provides organizing structures to acquaint students with the content, its organization, and its importance before the lesson

At the beginning of a lesson or unit, students are given a rationale, or reason, to learn and apply a strategy (“This strategy will help you remember history better”). Accordingly, each unit begins with an **advance organizer** that explains to students why the content is important (“This information will be on the state’s achievement test”) and mentions some features of the content on which to focus their

- Student pairs work together for about a month and then are assigned new partners.

#### Roles

- The coach asks the player to do the task (e.g., read a passage, compute subtraction problems).
- The player performs the task (e.g., reads out loud, solves the problems).
- The coach listens or watches and provides corrective feedback.
- Pairs change roles every 10 minutes.

Figure A is a sample worksheet for use by a pair of kindergarten students learning sight words. Special worksheets or materials do not have to be prepared to implement peer tutoring. Texts and workbooks used for standard instruction can be utilized for PALS lessons.

#### What Word?

Students learn to recognize common words (sight words) that cannot be easily sounded out.

The coach points to the sight word on a lesson page and asks,

- “What word?”
- The Player responds.

The coach follows with praise or correction, as in the “What Sound” activity.

- Students take turns identifying the words.
- Lessons build cumulatively across lessons.

**Figure A** • “What word?” Activity from Lesson 30.

and	on	was	is	What word?
the	and	is	was	
				☺ ☹ ☺ ☹

This scientifically validated practice is a teaching method that has been proved effective by many systematic research efforts. A complete annotated reference list can be found on the PALS Web site: <http://kc.vanderbilt.edu/kennedy/pals>. Interactive modules demonstrating K-PALS (for kindergarteners) and PALS (for elementary-age students learning to read) are available on the IRIS Web site: <http://iris.peabody.vanderbilt.edu>

*Source:* Copyright © IRIS Center for Faculty Enhancement, Vanderbilt University and the John F. Kennedy Center, PALS Project. <http://iris.peabody.vanderbilt.edu> Reprinted by permission.

—By Kimberly Paulsen, Vanderbilt University

attention (“Notice that the American soldiers in the Revolutionary War used non-conventional fighting tactics, while the British soldiers lined up in rows, shooting their rifles in the traditional way across a field”). Each strategy is organized systematically and follows a definite sequence. To help students remember the strategy, the first letters of the steps spell out an easy word to remember. Try this simple paraphrasing strategy as you study this chapter; it has helped thousands of high school students remember information from general education texts. The strategy is called RAP:

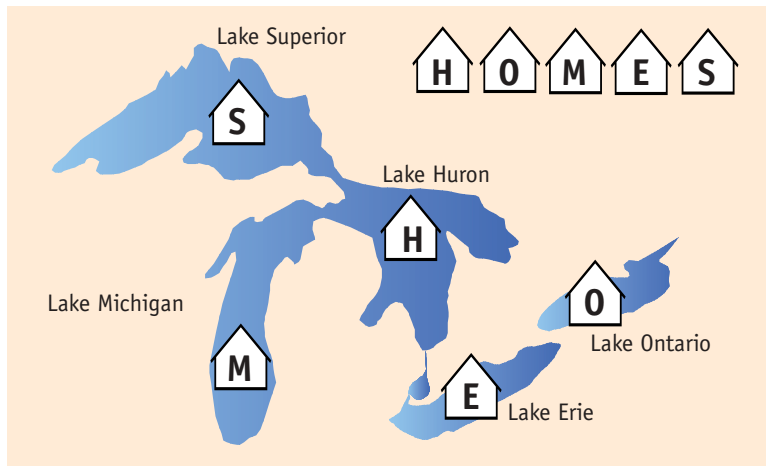
Read the paragraph.

Ask yourself the Main Idea and Details in the paragraph.

Put the Main Idea and Details in your own words.

Notice that RAP is a mnemonic. **Mnemonics** are memory aids that help people remember items that go together. These simple “word tricks” are useful when preparing for tests (even the SAT), learning vocabulary needed to access the general education curriculum, or studying complex information (Jitendra et al., 2004; Mastropieri & Scruggs, 1997; Terrill, Scruggs, & Mastropieri, 2004). Here’s another

**mnemonics** A learning strategy that promotes remembering information by associating the first letters of items in a list with a word, sentence, or picture (e.g., HOMES for the Great Lakes)

**Figure 5.7** • The Great Lakes Mnemonic: HOMES

example, one that is also shown in Figure 5.7: The word HOMES helps us remember the names of the Great Lakes (Huron, Ontario, Michigan, Erie, and Superior).

## Technology

Today, computers are common in schools and at home. The 1990s saw expanded capabilities of computers as well as substantial price reductions, making access to technology available to all students in most school settings. The benefits to students with disabilities are many, and the possibilities opened up by technology continue to be discovered. Some educators are suggesting that technology be viewed as a “cognitive prosthesis” for students with learning disabilities (Lewis, 1998). Rapid advances have changed the way educators design instructional

opportunities. Let’s look at a few of those advances and see how they benefit students with learning disabilities. For example, technology can

- Augment an individual’s strengths
- Compensate for the effects of disabilities
- Provide alternative modes of performing tasks

Much of the technology that benefits everyone is particularly useful to students with learning disabilities by helping them become more efficient and effective learners (Bryant & Bryant, 2003; Raskind & Higgins, 1998). Table 5.4 highlights some of these benefits and suggests how assistive technology can reduce the barriers to success that these individuals face at home, at school, and in daily life. Special devices dedicated to one function, such as the Quicktionary Reading Pen from Seiko Instruments, which actually rolls over a printed word and both provides a definition and “says” the word for the user, can help students compensate for a particular problem. In Chapter 4 you learned about graphic organizers, such as story maps and about special software, such as *Kidspiration*<sup>®</sup> and *Inspiration*<sup>®</sup>, that help students of all ages to take notes or create visual displays of the content being learned. (See again *Validated Practices* on page 146.) Graphic organizers have application across academic subjects and ages and are especially useful when the student is organizing the content being studied for social studies or science. Their effectiveness in helping students comprehend even difficult reading passages in basal readers or high school science texts has been demonstrated again and again (Boulineau et al., 2004; Masterpieri et al., 2003). Translating content into visual displays is also helpful to students with mathematics/learning disabilities studying algebra—one subject that is a “gatekeeper” to a standard high school diploma (Ives & Hoy, 2003).

As you learned earlier in this chapter, one characteristic that most students with learning disabilities share is their poor motivation for learning. Many teachers describe students with learning disabilities as “inactive learners.” We also noted that teachers can make a difference by assigning work that is interesting and interactive. Incorporating technology with instruction serves two purposes: It can help students with learning disabilities participate more fully in the general education curriculum, and it creates active learning environments (Bryant & Bryant, 2003). The Internet and related telecommunications applications (such as e-mail) have great benefits for us all, but particularly for students with learning disabilities. Here are some examples: Instead of just reading about art and history in textbooks, students can visit virtual museums and libraries all around the world to experience the content of their teacher’s lessons. And students who are studying World War II in Holland can find information about Anne Frank to use in class

**Table 5.4** • Assistive Technology Options for Students with Learning Disabilities

Barriers	Difficulties	Assistive Technology Solution
Print	Reading	Audiotaped books "Talking" computers Captioned film and videos Semantic mapping software (story mapping) Web-based texts Hypermedia and hypertext
	Writing	Word processing programs (including grammar assistance) Desktop publishing Computer-based thesauruses Editing aids Planning aids Word prediction software
	Spelling	Spellcheckers Voice input devices
Communication	Organization	Manipulating graphics Presentation packages (e.g., Powerpoint, Persuasion) Semantic mapping software
	Speech	E-mail Voice output systems Synthesized speech
Solving problems	Calculating	Handheld calculators Spreadsheets Graphics programs
Being organized	Daily life	Personal organizers Electronic calendars Computer "stickies" Electronic address books
	Study skills	Organizing software (outlines, graphic organizers) Timing devices
Learning	Researching topics	CD-ROM-based reference books Internet databases Computer-based instruction (hypermedia, hypertext)
	Remembering	Outlining systems (main ideas from details)

reports and term papers (Mulholland, 2005). The Web offers excitement and enrichment that might otherwise be missing from the curriculum. It also might provide the motivation necessary to elicit the extra effort that students with learning disabilities must invest.

Word processing technology is also a boon to students with learning disabilities who need to improve their writing abilities or who find writing assignments aversive (Graham, Harris, & Larsen, 2001; MacArthur, 2000). The task of writing a term paper and other major assignments can be daunting for students with learning disabilities. Many give up before completing all of the steps necessary to produce a final version: select a topic, generate and organize the content of their paper,

create drafts of the text, revise it, proofread it, edit it, and so on. However, print on a computer screen is easier to see and read than print on paper. The spellchecker, thesaurus, and grammar correction functions available on most word processing programs are a big help to those struggling to get a term paper written. A written paper produced on a computer is more attractive than the often-messy product of students with poor handwriting and visual organizational skills. Many features of word processing programs (e.g., table features, tracking for editing, word predictions) help students improve both the quality and the quantity of their writing (Bryant & Bryant, 2003). The computer can also facilitate collaboration between students, making it easier for two or more students to work together on a writing task. Advances in software and hardware can help students with learning disabilities compensate for their learning challenges. However, teachers and parents must beware: Not all software is equally useful, and not all of it has been carefully evaluated (Higgins, Boone, & Williams, 2000).

## Transition

Many adults with learning disabilities have productive careers and are highly successful, but too often people with this disability struggle to realize their potential. Clearly, the experiences of adults with learning disabilities are as varied as the population itself. What we know is that despite individual success stories, there is room for a lot of improvement. One key to positive results is postsecondary education. Let's first consider the outcomes of adults and then turn our attention to how postsecondary educational experiences can make a real difference in the lives of these individuals.

### Adult Outcomes

Remember the story you read in this chapter's "Making a Difference" section about Charles Schwab, the founder of the discount stock brokerage firm. He is not the only billionaire with learning disabilities (Jones, 2003). Richard Branson, a British entrepreneur whose first business was a mail-order record sales company and whose second business was Virgin Music (a highly successful recording studio), is probably best known in the United States as the founder of the Virgin Atlantic Air, the discount airline. Less well known is that Branson had a reading disability and reports that he continues to struggle with spelling (Branson, 1998). Another billionaire with reading disabilities is Craig McCaw, who is often credited with pioneering the nation's wireless (cell phone) communications systems (Academy of Achievement, 2005). These highly successful businessmen are not the only individuals who have been able to overcome or compensate for their problems. For example, several present-day celebrities—Cher, Magic Johnson, Brook Theiss, Bruce Jenner, and Greg Louganis, among others—have acknowledged having a learning disability. And Stephen Cannell, a prolific TV writer and producer (*The Rockford Files*, *The A-Team*, *Hunter*) and author, has learning disabilities (Cannell, 1999). Success stories also are told about individuals from previous times presumed by many to have had learning disabilities. Debate continues, for example, about whether Hans Christian Andersen and Albert Einstein had the condition (Aaron, Phillips, & Larsen, 1988; Kihl, Gregersen, & Sterum, 2000; Thomas, 2000). And many are convinced that Leonardo da Vinci, Thomas Edison, Nelson Rockefeller, and President Woodrow Wilson had learning disabilities.

For most adults with learning disabilities, being rich or famous is not in their futures, but being happy and productive should be a goal for each of them. For many adults with learning disabilities, life is complicated by problems that began in early childhood. Even those individuals who compete well in college often report persistent problems with reading and writing (Wilson & Lesaux, 2001). Many

explain that they have difficulty understanding what they read, retaining information, and reading quickly enough to feel effective in daily life (Shessel & Reiff, 1999). As you have learned throughout this book so far, validated practices used today bring about great improvements in performance. In fact, the use of these effective teaching tactics may well be one reason why high school graduation rates and college attendance rates have increased for these individuals. More and more adults with learning disabilities are college graduates, earn the same wages as their coworkers without disabilities, and report high satisfaction with their jobs (Madaus et al., 2003).

It is important for teachers to recognize that improved academic performance is not the only answer to better outcomes for these individuals. Teachers can help students master additional sets of important life skills, such as self-advocacy and self-regulation. For example, **self-advocacy**—being able to explain what accommodations help improve performance and to ask for them—can make a real difference at school, in the workplace, and for life in general (Gerber & Price, 2003). Learning how to advocate effectively for oneself is not always easy. It requires the individual to truly understand the problem that needs to be addressed, what accommodation helps to overcome the challenge, and how and when that accommodation should be put into effect. And the individual needs to be able to discuss the problem and potential solutions in a positive, nonthreatening manner. Employers, particularly in this age of the Americans with Disabilities Act (ADA), report that they would like to know how to help their employees with disabilities perform optimally, but too often they don't even know that they have hired a person with a learning disability. The reason for this is that many workers with learning disabilities believe they face discrimination on the job, and they fear that revealing their disability to their employers will result in negative consequences (Dickinson & Verbeek, 2002). These beliefs may stem from their insecurities, negative self-concepts, and internalized assumptions about being “dumb” because they were unable to compete successfully during their school years. Teachers can help replace this negative thinking with the pride that comes from setting and attaining goals. They can also help their students understand and explain, to employers and others, the challenges their learning disabilities present and which accommodations actually reduce their impact.

Workers with learning disabilities who have college degrees earn substantially more than those who did not receive postsecondary degrees (Madaus et al., 2003). Among these college graduates, two important factors lead to success and job satisfaction. First, those workers who use accommodations at work have high job satisfaction. Second, college graduates with learning disabilities who like their jobs indicate that they use **self-regulation** techniques—strategies that help them be independent, such as setting goals for themselves and using time effectively. This information should help teachers decide which additional curriculum targets are important for middle school and high school students with learning disabilities. Helping more of these individuals transition to postsecondary education is clearly a promising way to improve their quality of life and success as adults. Let's consider these issues next.

## Postsecondary Options

Although the number of college students and graduates with learning disabilities is increasing, the number could be far greater (Sitlington, 2003). Many individuals with learning disabilities believe that **postsecondary education**—educational opportunities beyond high school—is not an option for them because they did not complete high school. Whereas the high school graduation rate for all of America's students is 72 percent, it is 62 percent for those with learning disabilities; the other

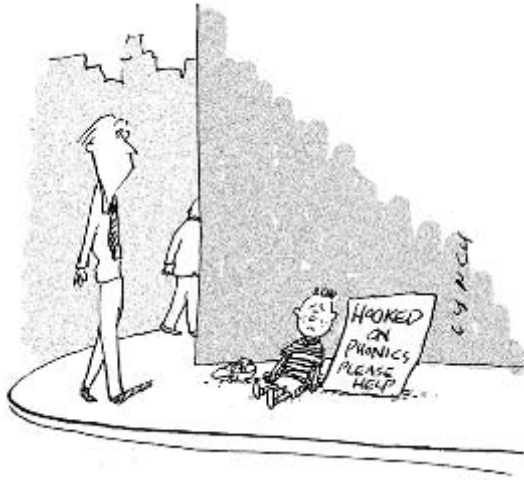


Attending college is becoming a reality for more and more students with learning disabilities, and what a difference this experience can make in their lives.

**self-advocacy** Capacity to understand, ask for, and explain one's need for accommodations

**self-regulation** Managing one's own behaviors through goal setting, time management, self-reinforcement, and other self-management techniques

**postsecondary education** Educational opportunities beyond high school; two-year or four-year colleges and universities



Cartoon by Mike Lynch. Reprinted by permission.

28 percent drop out of high school (National Center for Educational Statistics [NCES], 2003; U.S. Department of Education, 2002). However, for both those who are high school graduates and those who are not, college attendance is now more of a possibility. Although entrance requirements vary greatly from college to college, many community colleges do not require their students to have a high school diploma or even a graduation equivalence diploma or certificate (GED) (Savukinas, 2002). And some colleges even have a separate admissions route for students with disabilities (Madaus, 2005). Today the ADA also helps students with disabilities once they are admitted. The law makes it quite clear: Students with disabilities must have access to postsecondary education, and colleges and universities must make reasonable accommodations to ensure such access (Simon, 2001). However, supports and services vary greatly. The offices of disability services at some colleges and universities have large staffs that offer many different services (e.g., tutoring, study groups, instruction about time management, coordination of testing accommodations), but other such offices may have only one staff member who provides help in locating interpreters for the deaf, in obtaining e-textbooks, or arranging for testing accommodations (Block, 2005).

More and more people with disabilities are taking advantage of 2-year and 4-year postsecondary educational opportunities. In 1978 only 3 percent of college first-year students reported having a disability, whereas in 1998 some 9 percent of all undergraduates reported that they have a disability. Of those, 11 percent indicated that they had learning disabilities (the largest group—29 percent—of college students with disabilities were those with physical impairments). However, over half (51 percent) of all college students with disabilities who asked for accommodations were students with learning disabilities (NCES, 2003). Clearly, learning self-regulation and self-advocacy skills in high school are generalizing to the postsecondary experience and yielding success that is seen later in the workplace!

What supports and accommodations are becoming more widely available to assist students during their college experience? Here are some recommended by parents and professionals in this area (Mull, Sitlington, & Alper, 2001; Ofiesh, Hughes, & Scott, 2004):

- Alternative exam formats
- Extended time
- Electronic versions of textbooks
- Tutors
- Readers, classroom notetakers, or scribes
- Registration assistance, priority class registration, course substitutions
- Adaptive equipment and technology (phonetic spellcheckers, hand-held organizers)
- Flexible course schedules

Some college graduates with learning disabilities have some additional recommendations to help others succeed (Mooney & Cole, 2000). One important tip is to get organized: Every notebook should have a return address, backpacks and notebooks need a consistent “home” or place to be stored, notes and notebooks should be reorganized weekly, and mental checklists should be completed at the end of every class (“Do I have all of my stuff?” “Did I leave anything under the seat?” Middle school and high school teachers can help students master these self-management skills before they enter college. Because attending college is often a family decision, we continue this conversation about students with learning disabilities and postsecondary experiences in the section Partnerships with Families and Communities.

## Collaboration

More than ever before, the importance of general education professionals working closely with specialists in learning disabilities is self-evident. Two major shifts in practice make real partnerships a necessity:

- The inclusion of more and more students with learning disabilities in the general education classroom
- The increased role of general education teachers in the pre-referral process and the multilevel, RTI identification system for students with learning disabilities (review this chapter's Assessment section)

Before considering these growing realities in today's classrooms, let's examine the concept of collaboration and what it takes to make it work. Collaboration—educators with different areas of expertise working in partnerships—is one key to the development of successful educational experiences for students who are difficult to teach (Friend & Bursuck, 2006). “True” collaboration blooms when certain important conditions exist:

- Communication is open and ongoing.
- Participation is voluntary.
- Parity exists in the relationship.
- Goals are shared.
- Evaluation of student performance is continual.
- Decision making is done as a team.
- Resources are pooled.
- Trust and respect are the basis of the partnership.
- Planning time is scheduled.

In such collaborative settings, all students profit. General education students benefit from the unique expertise of the special educator, and students with disabilities find the general education classroom responsive to their learning needs.

Are there many opportunities for collaboration among special and general education professionals? The answer is “yes!” It is particularly true for students with learning disabilities. As you will recall, they represent nearly half of all students identified by the schools as having a disability and thus qualifying for special education services. And, almost all of them spend almost 80 percent of their school day in the general education classroom, accessing the general education curriculum. In fact, fewer resource rooms are in operation today than some 15 years ago. In 1988–89, 58 percent of students with learning disabilities received special education services through resource room arrangements; in 1999–2000, that figure had dropped to 37 percent (U.S. Department of Education, 1991, 2005a). As the number of resource rooms is declining, however, the size of these classes is increasing to levels that sometimes exceed the general education class size (Moody et al., 2000). Therefore, special and general education teachers must forge effective partnerships to deliver an appropriate education to these students.

Even with the best collaborative efforts, however, some students with learning disabilities need more intensive instruction than can be offered in the general education setting (Deshler et al., 2001). Sometimes, to actually master a learning strategy, these students need many opportunities for individualized instruction, repeated practice, feedback from the instructor, and extra time to become independent in the learning strategy's use. Often, this instruction needs to be delivered

## Considering Culture

### *Service Challenges in College Learning Disabilities*

All eyes in the family are on Alan. He is to be the first member of the family to go to college. His parents have worked hard all of their lives for this moment, and they are so proud that Alan was admitted to the *premier* university in the state. Their words of advice as he trundled off to his new experience were to “always work hard and make your family proud!” But his first semester at college has been a learning experience in more ways than one! Alan has alternately been thrilled to be in college, and totally disheartened and determined to drop out of college and get a job. He often laments, “Why does this have to be so hard! Why is it happening to me now? How can I face my family? I can’t tell them that I need ‘special help’ in *college!*”

Alan reflects on the support he had in high school. There his teachers did so much to help him, because he was identified as having learning disabilities and he had an IEP. He typically was allowed more time on tests, his teachers reviewed notes with him and worked with him individually, and at times they gave him optional assignments. He also received individualized coaching on study skills. His grades were excellent. In fact, in his senior year when he told a friend that he had learning disabilities, she exclaimed, “How can that be? You’re so smart!”

But college was a whole different ballgame. No one seemed to care. He was truly on his own. At the advice of classmates in his dorm, he signed up for a linguistics class that freshmen often took. He floundered. Learning the phonetic alphabet was not his cup of tea! His academic

world seemed to be falling apart. But then his life turned around when one of his professors suggested that he work with the campus Office for Students with Disabilities. What a difference that made! The staff there helped him find notetakers for classes, encouraged him to use computers in class as needed, and helped him get approval to have more time for tests. They even worked with him to find an alternative to fulfill the university’s foreign language requirement. He also learned to screen classes and then select those that best suited his learning style.

#### Questions to Consider

- 1 Think about your family’s expectations for your development and your future. What cultural values, beliefs, and events in your family’s history have you internalized and have probably played a role in your goal setting? (Some of these may be so subtle that they are difficult to identify.)
- 2 We often think that cultural issues apply only to people who speak a language other than English or who were not born in this country. What are some primary values inherent in the majority culture? How are these enacted in our educational systems?

— By Eleanor Lynch, San Diego State University, and  
Marci Hanson, San Francisco State University

by a specialist. Once the skill or strategy is mastered, the student can apply it in the general education classroom. Here again, the general education and special education teachers must work closely together to be sure the student actually uses this new information appropriately within the general education content and curriculum. Students who have difficulty transferring knowledge and information to other settings and situations require extra supports from their teachers working as a team. Here’s how teachers can help students generalize the application of a study strategy, such as RAP, to a general education science class—and also help students take more responsibility for managing their own instructional programs: The special education teacher explains the RAP strategy to the science teacher and asks the science teacher (1) to remind the student to apply the strategy while studying and (2) to check to be sure that the student is using RAP correctly. The special education teacher then teaches the student to keep a record of the times he or she used the strategy. Finally, the teacher rewards the student for improved performance in science class.

## Partnerships with Families and Communities

So many issues are important to families of individuals with disabilities. Throughout this book we highlight many concerns unique to these parents and families. In this chapter, we briefly discuss two issues that on the surface do not seem to be uniquely pertinent to individuals with learning disabilities. But recently they have taken on greater importance to such students. As you have just learned, more and more students with learning disabilities are continuing their educational careers on through the postsecondary years. College selection decisions are a major event for most of us, but if you have learning disabilities, picking the right college is often the key to becoming a graduate. Also, with the ever-increasing inclusion of students with disabilities in general education programs, and with more and more expectations for students with learning disabilities to access the general education curriculum, homework has taken on greater meaning for these students. We will examine both of these issues, first turning our attention to the developing (and changing) partnership between parents and their children with learning disabilities in selecting the “right” college and then turning our attention to homework.

### College Selection

Leaving high school can be a troubling time for both the individual with learning disabilities and her or his family (Madaus, 2005). In high school, students have IEPs to guide the delivery of their educational programs and supportive services. There is no IEP for college. In high school, students’ teachers often seek them out; such is not the case in the typical college experience. Flexibility and freedom of choice can be almost overwhelming, and as you will read in *Considering Culture*, they can be significant issues for many families of these students.

For all students, picking the right college is one key to a successful outcome. College can be a more positive experience for students with learning disabilities if they plan ahead while in high school and choose a college carefully (Shaw, 2005). Many students with learning disabilities elect to attend community colleges close to their homes, where they can continue to receive support from their families, test out their success with college coursework, attend smaller classes, and shift to either a technical program or a bachelor’s degree program later (Brinckerhoff, 2005).

Any individual who wants to enter a 4-year college as a first-year student should visit different college campuses, investigate what support services are offered, and meet with college staff. Attending special summer programs or taking a college class can help sharpen study skills and time management skills—a problem that plagues most first-year students, not just those with learning disabilities. Issues related to selecting the “right” college are not the exclusive concern of those with learning disabilities, but such individuals do have more factors to weigh (Lissner, 2005).

Like everyone thinking about attending college, these questions must be considered:

- Does the school have the right academic programs?
- Where is the school located?
- What are its admissions standards?
- How big is the overall student body, and how large are the typical introductory courses?
- Does the school have extracurricular programs? The right ones?
- How much are tuition and fees, along with other costs?



## for Effective Teaching

### ASSIGNING AND ADAPTING HOMEWORK

- 1 Make sure students can complete the home-work assignment.
- 2 Write the assignment on the board.
- 3 Explain the assignment carefully.
- 4 Remind students of the due date periodically.
- 5 Coordinate with other teachers to avoid homework overload.
- 6 Establish with parents and other teachers a standard policy about late and missed assignments.
- 7 Provide additional one-on-one assistance.
- 8 Allow for alternative formats (audio taping rather than written assignments) or the use of learning tools (calculators, word processing, diagrams and charts).
- 9 Adjust assignment length.
- 10 Provide access to a peer tutor.

**Source:** Adapted from “Homework Practices That Support Students with Disabilities” by B. Bursuck, M. Montague, and S. Vaughn, 2001 Spring, *Research Connections in Special Education*, 8, pp. 2–3 (ERIC/CEC).

For students with learning disabilities, these additional questions should be considered:

- How comprehensive is the school’s office of disabilities?
- What types of supports and services are offered?
- What supports and services do I need for success?

As we mentioned in the Transition section of this chapter, the range of services available through the office of disability services at different colleges varies greatly. One way for potential applicants to find out what services are available is to analyze each school of interest. Many different software programs and college directories are available to help with this task. Once decisions are made about the types of supports needed, possible academic majors or career training programs, and location, many more issues need to be discussed. For example, costs are always important to families as they make decisions about which college is right for their child. Few scholarships are available for students with disabilities, and sometimes college costs are higher (Brinckerhoff, 2005). But many colleges and universities—including Stanford, the University of Connecticut, the University of North Carolina–Chapel Hill, and the University of Georgia—now offer comprehensive supports and services particularly designed for their students with learning disabilities. Such services might include faculty who have received special training about accommodations, tutoring, learning strategy instruction, frequent monitoring of student progress, and summer transition programs (the summer before the first

year begins). However, there are usually a limited number of slots for such special programs, so they require special application and also come at extra cost. For many students with learning disabilities, it is the partnership they create with the staff at their college’s office of disability services that makes success in postsecondary education more easily achieved.

Many variables need to be considered, but one thing is clear: Preparation to go to college must begin early in students’ academic careers. In elementary school they learn the fundamentals on which future learning will be based. In middle school they begin being independent learners, and in high school they learn the basic content and skills they will need to succeed when they experience the freedom and challenges of college. One mechanism used to help students learn to study on their own is homework. So let’s consider this important component of the general education curriculum.

## Homework

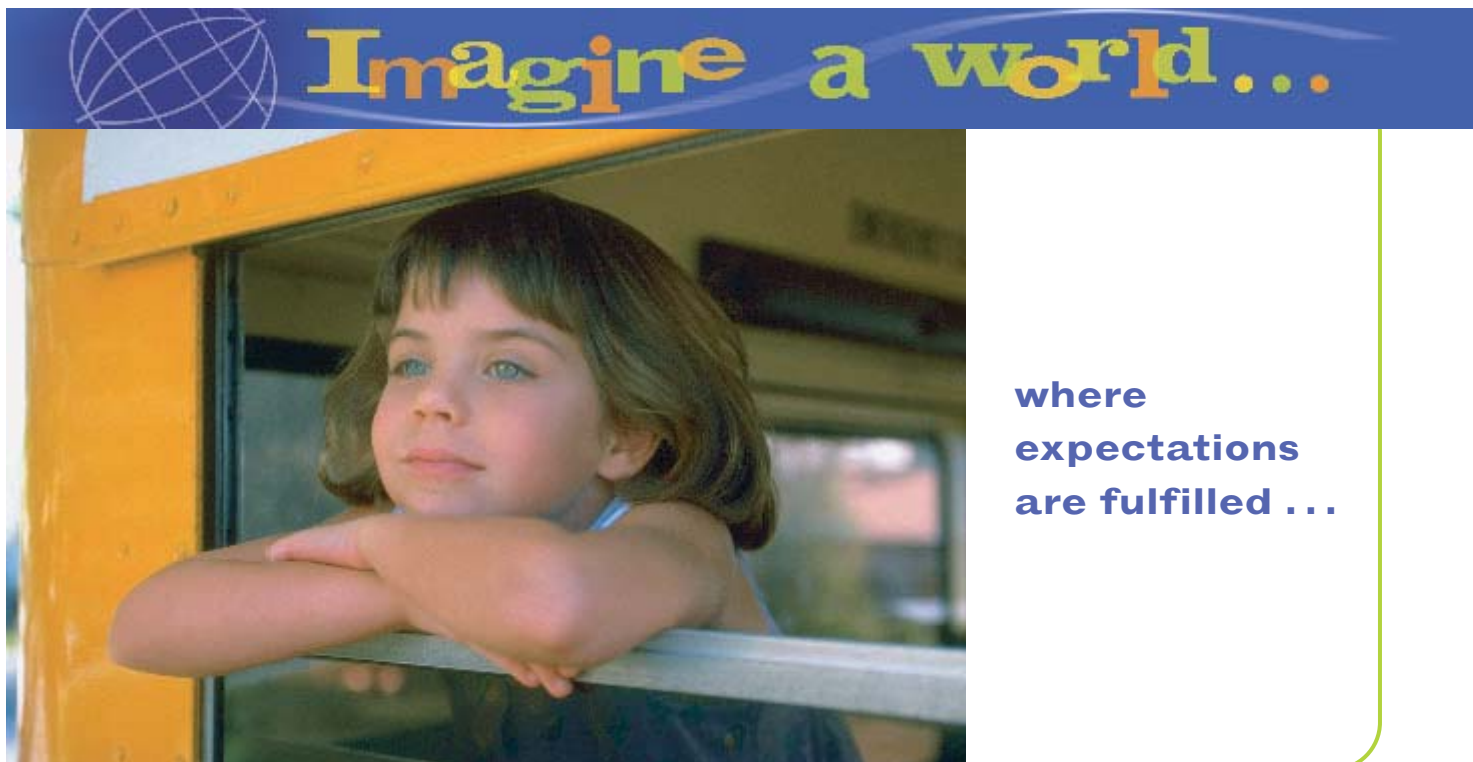
Homework is a time-honored component of the general education program. It is intended to help students become independent learners. Homework also serves as one communication tool to keep parents informed both about the work being done at school and about their child’s progress in the curriculum (Bursuck, Montague, & Vaughn, 2001). However, the word *homework* can strike terror into the parents of students with learning disabilities—and probably into the children as well. The mere mention of the word may revive memories of long, unpleasant nights spent cajoling a student with learning disabilities into completing unfinished assignments. Such nights often end in shouting matches between parent and child, sometimes with one or both in tears.

Homework is a reality of school life, and teachers can make homework a more positive experience by making certain that students know how to do the assign-

ment. *Tips for Effective Teaching* provides some guidelines that teachers can follow to get more benefits from assigning homework and even use it to forge an improved partnership with families. When homework assignments are considered carefully, with planning and instruction, the benefits can be many.

Despite the negative situations that homework can create for the family, it accounts for about 20 percent of the time most children spend on academic tasks (Bryan & Sullivan-Burstein, 1998). Although many students and their parents would like to see homework “just go away,” it is unlikely that homework will be discontinued. General education teachers place great importance on homework. They consider homework to be a serious part of the instructional program and also to provide opportunities for home–school communication. Many teachers believe that when homework is not completed, parents have not met their expectations (Epstein et al., 1997). How might communication between teachers and parents about homework improve? Research has yielded some guidelines (Jayanthi et al., 1997):

- Parents and teachers need to communicate more about homework, with both parties feeling free to initiate the conversation.
- Parents need to tell teachers about homework difficulties.
- Teachers need to tell parents about the quality and completion of homework assignments.
- Parents need to implement consequences when homework is not completed or is unsatisfactory.
- Parents need to know whom to contact at school about homework issues.
- Teachers need to find ways to communicate with parents who do not speak English.
- Teachers need to determine alternative ways for children to get assistance with homework assignments that their parents do not know how to help them complete.



## Summary

Individuals with learning disabilities do not learn in the same way or at the same pace as their classmates without disabilities. These students are resistant to treatment, and they often do not learn along with their classmates through validated instructional practices used in general education classes. They require sustained, intensive, and explicit instruction to succeed. Students with learning disabilities are often characterized as having unexpected underachievement because their academic performance does not match their potential or what their other abilities would lead one to expect. Reading/learning disabilities are the most common type of this disability. These

students are very different from each other in characteristics, learning preferences, and the accommodations they require to access the general education curriculum and to acquire basic skills needed for content instruction. New methods for pre-referral assessments and multitiered interventions are being implemented to avoid the long periods of instructional inaction that resulted from traditional identification procedures. When taught by highly qualified teachers who can effectively apply interventions validated by research, these students make substantial progress, and many overcome their learning challenges.

### \* Addressing the Chapter Objectives

#### 1 What are the key features of the current federal definition of learning disabilities?

- Involves one or more of the psychological processes needed to understand or use spoken or written language
- May result from central nervous system dysfunctions
- Can result in problems listening, thinking, speaking, reading, writing, spelling, or computing
- Excludes students whose primary problems are due to visual disabilities, hearing impairments, physical disabilities, mental retardation, behavioral or emotional disorders, cultural or linguistic diversity, or poverty

#### 2 What are the different types of learning disabilities?

- *General unexpected underachievement*: overall low academic performance, general school failure
- *Reading/learning disabilities*: reading performance is both below that of classmates *and* below what is expected on the basis of the student's other abilities; most common type of learning disabilities
- *Mathematics/learning disabilities*: mathematics performance is both below that of classmates *and* below what is expected on the basis of the student's other abilities; most often co-occurs with reading/learning disabilities
- *Resistant to treatment*: nonresponsive to standard instruction in the general education classroom; requiring sustained, intensive, explicit instruction that is monitored for progress frequently

#### 3 How is an individual's response to intervention (RTI) assessed?

Through the pre-referral process, four general steps are followed:

- All students experience universal screen in the fall of every school year.
- Those students exhibiting a level of skills that puts them at risk for school failure are identified for intervention.
- General educators, peer tutors, or paraprofessionals deliver increasing levels of intensive and individualized instruction to those students who continue to perform unsatisfactorily.
- Students who do not learn sufficiently after experiencing at least three tiers of multilevel intervention are either referred for special education assessment or identified as having learning disabilities (depending on each state's regulations).

#### 4 What is the practice of "early intervening," and why does it hold great promise?

Early intervening:

- Is allowed by IDEA '04, but funds meant to provide services to students with disabilities cannot be used for these activities
- Provides more intensive instruction to all students who are not profiting from instruction being provided in the general education classroom, whether they have disabilities, are at risk, or are struggling learners

Benefits of early intervening and RTI:

- No delay in receiving intervention
- Reduced inappropriate referrals to special education
- Eliminates poor teaching as a reason for disabilities
- Assessment directly leads to instruction
- No stigma in being referred to special education because all students are universally screened
- Low achievement is distinguished by learning disabilities

## 5 What are two validated practices that are effective with students with learning disabilities, and how do they work?

Two of the many validated practices that have proved effective with students with learning disabilities are Peer-Assisted Learning Strategies (PALS) and the Kansas Learning Strategies Curriculum.

The key features of PALS:

- Peer tutoring
- Coaches and players exchange turns during each session
- Students are trained in the method of instruction, their roles, and how to provide corrective feedback
- Pairs are exchanged every month
- Pairs work together on specific assignments (e.g., sight words, math facts)

The key features of the Learning Strategies Curriculum:

- Developed for middle school and high school students with disabilities
- Goes beyond crisis teaching

- Helps students become strategic learners
- Incorporates mnemonics, advance organizers, and structured materials with measures for monitoring progress



MyLabSchool is a collection of online tools for your success in this course, your licensure exams, and your teaching career. Visit [www.mylabschool.com](http://www.mylabschool.com) to access the following:

- Online Study Guide
- Video cases from real classrooms
- Help with your research papers using Research Navigator
- Career Center with resources for:
  - Praxis exams and licensure preparation
  - Professional portfolio development
  - Job search and interview techniques
  - Lesson planning

## Supplementary Resources

### Popular Novels and Books

- Branson, R. (1998). *Losing my virginity*. New York: Three Rivers Press, Random House.
- Brown, C. (1965). *Manchild in the promised land*. New York: Macmillan.
- Louganis, G., & Marcus, E. (1996). *Breaking the surface*. New York: Random House.
- Mooney, J., & Cole, D. (2000). *Learning outside the lines*. New York: Simon & Schuster.
- Moss, P. B. (1989). *An autobiography: P. Buckley Moss: The people's artist*. Waynesboro, VA: Shenandoah Heritage.
- Sacks, O. (1985). *The man who mistook his wife for a hat*. New York: Summit Books.

### Movies

#### **Summer School (1987). Paramount**

This light-hearted comedy is about a number of students forced to attend summer school as a consequence of their poor academic performance during the school year. After wasting much of the summer term, in fear of failure and of costing their teacher his job, the students make a tremendous effort on their final exam.

One student in the class has reading disabilities, and even though this film is a comedy, it provides an example of how a student with a significant learning disability can slip through the cracks of the educational system. The film shows how not receiving specialized services

can affect such students' confidence and why they fall further behind. The film also shows that once a learning disability is recognized, individualized instruction can aid students.

### Professional, Parent, and Advocacy Groups

**Council for Learning Disabilities (CLD)** in Overland Park, Kansas  
[www.cldinternational.org](http://www.cldinternational.org)

**Division for Learning Disabilities (DLD) Council for Exceptional Children** in Arlington, Virginia  
[www.cec.sped.org](http://www.cec.sped.org) or [www.teachingld.org](http://www.teachingld.org)

**Learning Disability Association of America (LDA)** (formerly the Association for Children with Learning Disabilities [ACLD]) in Pittsburgh, Pennsylvania  
[www.ldanatl.org](http://www.ldanatl.org)

**National Center for LD (NCLD)** in New York City  
[www.nclld.org](http://www.nclld.org)

**LD OnLine** in Washington, DC  
[www.ldonline.org](http://www.ldonline.org)

**Charles and Helen Schwab Foundation** in San Mateo, California  
[www.schwablearning.org](http://www.schwablearning.org) and [www.sparktop.org](http://www.sparktop.org)

## Professional Standards and Licensure Tests

After reading this chapter, you should be able to link basic knowledge and skills described in the CEC Standards and INTASC Principles with information provided in this text. The table below shows some of the specific CEC Learning Disabilities Knowledge and Skill Standards and INTASC Special Education Principles that can be applied to each major section of the chapter. Other standards may also be applied to this chapter. Associated General Praxis II topic areas are identified in the right column.

Major Chapter Headings	CEC Knowledge and Skill Core Standard and Associated Subcategories	INTASC Core Principle and Associated Special Education Subcategories	PRAXIS II Exam Topic
Where We've Been ... What's on the Horizon?	<b>1: Foundations</b> LD1K1 Historical foundations, classical studies, and major contributors in the field of learning disabilities	<b>1: Subject Matter</b> 1.13 Special education teachers know major trends and issues that define the history of special education and understand how current legislation and recommended practice fit within the context of this history.	1: Understanding Exceptionality 2: Legal and Social Issues
Learning Disabilities Defined	<b>1: Foundations</b> LD1K5 Current definitions and issues related to the identification of individuals with learning disabilities	<b>1: Subject Matter</b> 1.12 Special education teachers serve as a resource to others by providing information about the laws and policies that support students with disabilities and how to access additional information when needed.	1: Understanding Exceptionality 2: Legal and Social Issues
Characteristics	<b>2: Development and Characteristics of Learners</b> LD2K3 Psychological, social, and emotional characteristics of individuals with learning disabilities	<b>2: Student Learning</b> 2.07 Special education teachers seek to understand the current and evolving development and learning of individual students from a life-span perspective.	1: Understanding Exceptionality
Causes and Prevention	<b>2: Development and Characteristics of Learners</b> LD2K1 Etiologies of learning disabilities	<b>2: Student Learning</b> 2.08 Special education teachers seek a holistic understanding of each student's current learning and development, based on knowledge of the student's performance within a variety of settings.	1: Understanding Exceptionality 2: Legal and Social Issues

Assessment	<p><b>8: Assessment</b> LD8S1 Choose and administer assessment instruments appropriate to the individual with learning disabilities</p>	<p><b>8: Assessment</b> 8.06 All special education teachers understand how to administer, score, interpret, and report on formal and informal assessments related to their areas of specialization.</p>	<p>1: Understanding Exceptionality 3: Delivery of Services to Students</p>
Teaching Students with Learning Disabilities	<p><b>4: Instructional Strategies</b> LD4S9 Implement systematic instruction in teaching reading comprehension and monitoring strategies</p>	<p><b>4: Instructional Strategies</b> 4.11 Special education teachers collaborate with general education teachers to infuse individualized goals and specialized strategies into instruction for students with disabilities.</p>	<p>3: Delivery of Services to Students</p>
Transition	<p><b>5: Learning Environments and Social Interactions</b> LD5S1 Plan instruction for independent functional life skills relevant to the community, personal living, sexuality, and employment</p>	<p><b>7: Planning Instruction</b> 7.07 Special education teachers oversee the development of individualized transition plans to guide learners' transitions from preschool to elementary school, middle school to high school, and high school to postschool opportunities.</p>	<p>3: Delivery of Services to Students</p>
Collaboration	<p><b>10: Collaboration</b> LD10K1 Co-planning and co-teaching methods to strengthen content acquisition of individuals with learning disabilities</p>	<p><b>10: Collaboration, Ethics, and Relationships</b> 10.05 All special education teachers provide leadership that enables teams to accomplish their purposes.</p>	<p>2: Legal and Social Issues 3: Delivery of Services to Students</p>
Partnerships with Families and Communities	<p><b>10: Collaboration</b> LD10K2 Services, networks, and organizations that provide support across the life span for individuals with learning disabilities</p>	<p><b>10: Collaboration, Ethics, and Relationships</b> 10.06 Special education teachers take a life span view of students with disabilities and use their knowledge of disabilities, legislation, special education services, and instructional strategies to ensure implementation of each student's individual education program.</p>	<p>1: Understanding Exceptionality 2: Legal and Social Issues 3: Delivery of Services to Students</p>