After studying this chapter, you will be able to answer the following questions:

• What are the categories for students with disabilities?
• How are disabilities organized for special education?
• What are the attributes of students with learning disabilities?
• What are the attributes of students with speech or language impairments?
• What are the attributes of students with attention deficit/hyperactivity disorder (ADHD)?
• What are the attributes of students with intellectual and developmental disabilities?
• What are the attributes of students with emotional or behavioral disorders?
Chapter 2: Understanding Learners With Special Needs: High-Incidence Disabilities

**OPENING challenge**

**Working in Inclusive Classrooms**

**ELEMENTARY GRADES** Ms. Clarkson is several months into her second year of teaching and is so glad that she was assigned to third grade both years. She loves working at Jackson Elementary School, and she has great kids. The more experienced teachers are always there for her. They answer questions and help her navigate the bureaucracy, figure out how to get paperwork through the system, and think through issues related to her students’ programs and how to respond well to their learning challenges. The teachers and administrators all work together as a team. When Ms. Clarkson received a note from Central Office asking her to come to a meeting because the IEP team was considering a change of diagnosis for one of her students, she went to some of the senior teachers at her school.

The IEP team was concerned about her student Darren, who has received special education services since kindergarten. Ms. Clarkson knows Darren’s history well and has met with his parents on several occasions. Darren didn’t begin talking until he was about 3 years old. As a kindergartner, he was unable to rhyme words, couldn’t identify sound-letter relationships as well as his peers, was behind in language development, and seemed to have difficulty keeping up with classmates. In kindergarten, Mr. Frank, Darren’s teacher, referred him for speech and language services. Darren qualified for special education and was identified as having language impairments. Now, the speech and language therapist thinks it’s important to reclassify Darren as having learning disabilities. Ms. Clarkson can’t understand the concern. Darren is receiving special education help, and he is improving. She wonders, “Why are we going to spend so much time on changing a special education label for Darren? Do all these different special education categories make a difference in the way we teach? Will all the professional time spent on reclassification actually benefit Darren?”

**SECONDARY GRADES** Mr. Suarez is a 10th-grade history teacher at Jackson High School. He is getting ready for his third year of teaching and is reviewing student record folders to learn about his class and their individual needs. The special education teacher is meeting with him to review the IEPs of three students he will have in his classes. One student has a learning disability (LD), another has attention deficit/hyperactivity disorder (ADHD), and a third student has a mild emotional/behavioral disorder (EBD). The students will be in his third-period class, and the special education teacher will work with him in his class during that period. Reading is an issue for the student with the LD; the student with ADHD needs assistance with paying attention, and the student with EBD is on a behavior plan. Mr. Suarez starts to think about questions for the special education teacher.

**What are the learning characteristics of these three students? How severe is their disability? How can the special education teacher help me?**

**REFLECTION QUESTIONS** In your journal, write down your answers to the following questions. After completing the chapter, check your answers and revise them on the basis of what you have learned.

1. Do you think identifying students by specific disability is useful?
2. Why do you think Darren’s special education label is being reconsidered at this point in his schooling?
3. Is Darren’s situation unusual? Why or why not?
4. Will a change in category influence the way Ms. Clarkson teaches Darren?
5. Will it change the services Darren receives?
6. What do you think are some learning characteristics of the three students in Mr. Suarez’s class?
7. What help might he be looking for from the special education teacher for these three students?
About 6.4 million or 13% of U.S. public schoolchildren, ages 3 to 21, have a disability that affects their educational performance to such a degree that they require special education services (U.S. Department of Education, OSEP, 2013). Looking at the statistics by age-groups shows the need to provide children and youth with special education services. About 2.8% of the population of infants and toddlers, birth through age 2, were served under IDEA, Part C (Chapter 6 provides more information about this population), and for children ages 3 through 5, about 5.9% of the general population were served under IDEA, Part B. In 2011, approximately 68 million students ages 6 to 21 attended school in the 50 states and the District of Columbia. Of this group, about 8.4% were identified with disabilities and were eligible for services under IDEA, Part B (U.S. Department of Education, Office of Special Education and Rehabilitative Services, Office of Special Education Programs, 2014). Figure 2.1 illustrates the percentage of students ages 6 to 21 with disabilities across the special education categories identified in Chapter 1. Clearly, the learning disabilities category and the speech or language impairments category together account for more than half the percentage of students with disabilities.

The “other disabilities combined” category includes deaf-blindness (less than 0.03 percent), developmental delay (2.1 percent), hearing impairments (1.2 percent), multiple disabilities (2.2 percent), orthopedic impairments (0.9 percent), traumatic brain injury (0.4 percent), and visual impairments (0.4 percent).

Disabilities create very special needs for individuals, their families, and the education system. Teachers and other educators can help students achieve their potential by addressing their special needs, by providing them with many opportunities for learning and for success, and by ensuring they receive a high-quality educational experience in order to succeed at school. Teachers who are well-prepared, use proven practices and instructional procedures, and provide students with additional assistance or accommodations do make real differences in the educational lives of these students (Futernick, 2006). In this text, we provide you with tools that improve the results of all students. Before you learn about how to teach these students effectively, let’s think more about students with disabilities and specifically about the special education categories considered to be high-incidence disabilities. More information about prevalence figures for students from diverse backgrounds is provided in the Considering Diversity feature.
Chapter 2: Understanding Learners With Special Needs: High-Incidence Disabilities

PERCENTAGE DISTRIBUTION OF CHILDREN AGES 6 TO 21 SERVED UNDER IDEA, PART B, BY DISABILITY TYPE: FALL 2012

**FIGURE 2.1**

- Specific learning disabilities (40.1%)
- Speech or language impairments (18.2%)
- Other health impairments (13.2%)
- Autism (7.6%)
- Intellectual disabilities (7.3%)
- Emotional disturbance (6.2%)
- Other disabilities combined (7.3%)
- Other disabilities combined (7.3%)

**SOURCE:** U.S. Department of Education, National Center for Education Statistics (NCES), Common Core of Data (CCD) (2012). These data are for the 50 states; Washington, DC; Bureau of Indian Education schools; Puerto Rico; the four outlying areas; and the three freely associated states. For actual data used, go to http://www.ed.gov/about/reports/annual/osep.

OVERREPRESENTATION AND UNDERREPRESENTATION IDENTIFICATION ISSUES

As we discuss in other chapters, the overrepresentation of schoolchildren from some racial and ethnic groups has been an issue in the field of special education for many years (Yates & Ortiz, 2004). The underrepresentation of schoolchildren from other racial and ethnic groups, for example, those of Asian heritage, also has been an issue for different reasons. As you review the statistics that follow, think about why children and youth from various racial and ethnic groups are identified for special education services while others are identified to a lesser degree. The following statistics report information about special education service under IDEA by ethnic and racial group for

(Continued)
What Are the Categories for Students with Disabilities?

Only students with disabilities are eligible for special education services, but not all of them actually require special education services to meet their special needs. For example, many students with physical disabilities do not require special education services. They excel as they learn the content of the general curriculum alongside their peers who do not experience physical challenges. These students may or may not need assistance or accommodations, such as special floor mats so their wheelchairs can glide easily into the school building or the classroom. These are students who have a disability and special needs, but they are not special education students because their disability does not negatively affect their educational performance.

Some physical disabilities do result in the need for special education services—possibly from a physical therapist and an assistive technologist—to reduce the...
impact of the disability on learning. Other students may have special needs and are entitled to accommodations as well as extra help, but they do not have a disability. For example, some students may require help managing their own behavior so they do not disrupt the learning environment and so they themselves profit maximally from instruction, but they do not have an emotional or behavioral disorder. And, as in the case of ADHD, some students with a specific condition qualify for special education services, but many do not. In this and the next two chapters, you will learn about students who have special needs because of the disabilities or special conditions they have. You will learn that some of them are eligible for special education services and supports, whereas others need accommodations or adaptations to overcome the learning challenges they face.

There are many types of disabilities, each requiring unique services, and they are not equally distributed; some occur more often than others. For example, many more students have learning disabilities than have vision or hearing problems that hinder their educational performance. According to the federal government, of students ages 6 to 21 who are served under IDEA, Part B, about 73% have a learning disability, a speech or language impairment, a mild to moderate intellectual disability, or an emotional or behavioral disorder. These frequently occurring disabilities are often referred to as high-incidence disabilities and make up about 8% of the school-age population (U.S. Department of Education, OSEP, 2013). The remaining disabilities recognized in IDEA ’04 (the national special education law)—orthopedic and other health impairments, low vision and blindness, hard of hearing and deafness, traumatic brain injury, deaf-blindness, autism spectrum disorders, and multiple-severe disabilities—are sometimes grouped together and called low-incidence disabilities because together they affect a very small proportion of students with disabilities (U.S. Department of Education, OSEP, 2013). You will learn about these disabilities and the individuals affected in Chapter 3. In Chapter 4 you will learn about other groups of students who do not qualify for special education services and supports but still require accommodations or extra assistance to fulfill their potential. All these students have special needs that must be addressed for them to succeed in school.

Students with identified or documented disabilities are eligible for additional services and supports through special education. As you learned in Chapter 1, the vast majority of students with disabilities receive nearly all their education in inclusive general education settings alongside their classmates without disabilities. Although it is not common for students with high-incidence disabilities to be grouped together by their identified special education category (students with learning disabilities in one group and students with intellectual disabilities in another group), the federal government does require that all students older than age 8 be identified and counted in one of the 13 special education categories called out in IDEA ’04 (see Chapter 1 for a review). As

**VIDEO CASE 2.1**

**Meeting the Needs of Students With Disabilities**

1. What supports does Nicole Santana provide to illustrate the concept of “fair is not always equal”? How do these supports assist the students with disabilities who are included in her classroom?

2. What advice does April Jacobsen offer to new teachers to help them meet the needs of students with disabilities who are included in their classrooms? How can teachers increase the acceptance of students with disabilities in their general education classrooms?
discussed in Chapter 1, children between the ages of 3 and 8 may fall under the developmental delays category.

**HOW ARE DISABILITIES ORGANIZED FOR SPECIAL EDUCATION?**

Three major schemes are used to group disabilities for the purposes of meeting educational needs. One classification system uses disability types or special education categories (learning disabilities, intellectual disabilities). Another groups students by the severity of the disability (mild, moderate, severe). And the third considers disabilities in terms of how often they occur (high incidence, low incidence). Let’s look at each organizational system in turn.

**SPECIAL EDUCATION CATEGORIES**

IDEA ’04 and many parent organizations (such as Learning Disabilities Association of America and Autism Society of America) encourage the use of disability labels, which translate into special education categories. When it comes to schoolchildren, the government has elected to define disabilities by using a categorical approach, and states are required each year to use these categories to report the numbers of students with disabilities being served (U.S. Department of Education, OSEP, 2013). Although many states use terms slightly different than those used by the federal government, the similarities are obvious (Müller & Markowitz, 2004). Within each of the 14 categories defined as disabilities in IDEA ’04 and listed in Chapter 1 of this text, many conditions are included. For example, ADHD, asthma, sickle-cell anemia, and many other health conditions are part of the “other health impairments” category, not separate categories of their own. Notice that giftedness is not included in the prevalence figure because it is not part of IDEA. Its prevalence rate is estimated to be about 3% to 5% and includes students who can benefit from services to address their intellectual levels, talents, and creativity.

Possibly because it is so difficult to change federal and state laws, the names some government agencies use for disabilities might not always be what parents and professionals consider modern or up to date. In this text, we have tried to use terms preferred by individuals who have each specific disability, parents of children with each disability, and the respective professional organizations. Here are a few examples of how terms and thinking about specific disabilities vary. Ideas and research about autism have been developing rapidly. Today, this disability is considered a spectrum of at least five similar disorders, of which autism is one (DSM-5, APA, 2013). Thus, although IDEA ’04 still uses the term *autism*, the more current conceptualization of this disability is much broader, as reflected by the name *autism spectrum disorders* or ASD.
As another example, IDEA ’04 uses the term *specific learning disabili-
ties*, but parents, professionals, and individuals with the condition use the term *learning disabilities*. And although IDEA ’04 separates deaf-
ness from hearing impairments, it does not separate visual disabili-
ties into two groups (blindness and low vision).

These categories developed because at one time, they related directly to how and where students with spe-
cific disabilities were educated and what they were taught. For exam-
ple, years ago, the category called “mental retardation” signaled sep-
ate classrooms, separate schools, even separate living and schooling in institutions, and strict adherence to a curriculum of life and self-help skills and training for low-level jobs. Today, the public, professional organizations, educators, and policymakers embrace the term “intellectual disabilities” to replace an outdated view of this dis-
ability and believe alternate curricula should not be matched to specific dis-
abilities; rather, the general education curriculum should be offered to all students. Different curricular options are then extended to individuals who have demonstrated that they cannot successfully access the standard curricu-
um offered in general education (McLaughlin & Nolet, 2004).

Also, instructional methods are not uniformly effective for all students labeled with a specific disability. Knowing a student has learning disabilities does not help a teacher figure out which reading method to use. Educational interven-
tions must be matched to the individual learner’s performance, not to a special education category (Fuchs, Fuchs, & Vaughn, in press). Many interventions effective with one student with disabilities are also powerful for classmates without disabilities who find learning a challenging situation. Thus, although special education categories have proved not to offer precision in guiding instructional decision making, they remain the primary way students are ident-
tified and labeled and qualify for special education services.

**SEVERITY OF DISABILITY**

As we have just noted, many educators believe that special education cat-
egories and the resulting labeling of individuals have little or no educa-
tional function (Fisher, Frey, & Thousand, 2003; Gargiulo, 2003). These
professionals prefer a noncategorical approach that groups students by the severity of their problems, not by the type of disability they have. How does this system work?

Instead of thinking about the specific disability, educators consider how the condition influences an individual's performance. Typically, they use four groupings: mild, moderate, severe, and profound. This system reflects the types of supports the individual needs in life and at school (Luckasson & Schalock, 2013). Individuals with mild disabilities require some accommodations, and those with severe disabilities require intensive supports and assistance for a long time. We must be very cautious, however, when thinking about disabilities by level of severity. First, it is a mistake to assume that one disability, such as intellectual disability, is more severe than another, such as stuttering. All disabilities are serious, and the effects on the individuals and their families should never be minimized. Second, each disability grouping takes in a continuum of severity from mild to severe. It is incorrect, for instance, to think all learning disabilities are mild.

Today, both the categorical and noncategorical approaches are used in classrooms. Students are identified and reported to the federal government by disability, but fewer and fewer separate schools or classes are available for students with a specific disability (OSEP, 2006). Some professionals and advocacy organizations (such as TASH, an organization representing individuals with severe and profound disabilities) have advocated for the closure of all segregated programs for students with disabilities (TASH, 2004). Thus, although IDEA '04 requires that students qualify for special education by being identified as having a specific disability, schools typically serve these students according to their needs and educational performance. In both general education classes and special education classes, students with disabilities are classmates but do not always share the same disabilities.

Neither of these first two organizing systems—by category or by severity—is related to the number of individuals affected. Another way to organize our thinking about disabilities is thus to group them by how often they occur. For example, some disabilities (such as learning disabilities) occur more frequently than others; more students have mild disabilities than have severe disabilities. Let's consider organizing by prevalence.

**PREVALENCE OF DISABILITY**

Figure 2.2 illustrates that disabilities are not equally distributed across special education students. Almost half of all students with disabilities are identified as having learning disabilities, and most other disabilities are very rare. Some believe educators' response to high-incidence disabilities should be different from their response to low-incidence disabilities.
The latter often require specialized services from a multidisciplinary team of professionals, such as an orientation and mobility specialist, assistive technology specialist, and vision teacher who knows Braille instruction. General education teachers work with many students with high-incidence disabilities every school year, but across their entire careers, they may never work with a student with a specific low-incidence disability such as blindness or deafness. In this chapter, we discuss ADHD and those disabilities considered high-incidence conditions. In Chapter 3, we discuss low-incidence disabilities.

We decided to organize our discussions about students with disabilities and special needs by prevalence. Although they are not comprehensive, several tables in this chapter provide commonly adopted definitions for each high-incidence condition. Compare these definitions and think about the different perspectives that contributed to each definition’s development to gain a better understanding of the condition and the students affected. Let’s start learning about high-incidence conditions by thinking about the one most common among schoolchildren: learning disabilities. Clearly, educators encounter students with this disability every school day in almost every classroom. Therefore, it is important that educators and specialists work together to ensure that all students are receiving an appropriate education. The Working Together feature illustrates how educators and specialists can collaborate for educational planning and instruction.
WHAT ARE THE ATTRIBUTES OF STUDENTS WITH LEARNING DISABILITIES?

Often incorrectly considered a mild condition, learning disability (LD) is a serious disability. It is a severe, pervasive, and chronic condition that requires intensive intervention (Bender, 2007; Pierangelo & Giuliani, 2006). Over the years, debate has focused on whether there is a difference between low achievers and students with learning disabilities. Some still question the validity of classifying learning disabilities as an actual disability (Fletcher et al., 2002). However, parents and researchers are confident that having learning disabilities is a complex and lifelong condition (Goldberg, Higgins, Raskind, & Herman, 2003; Lerner & Kline, 2006).
DEFINITION

Although definitions for learning disabilities differ across the states, the federal government’s definition, the one included in IDEA ’04, is the basis for them. The IDEA ’04 definition, along with that of the National Institutes of Health (NIH) and the latest version by the American Psychiatric Association (APA, 2013), is found in Table 2.1. Like the NIH definition, many states’ definitions reflect a more modern approach that has less of a medical orientation, acknowledge that learning disabilities is a general term referring to a heterogeneous group of disorders, allow for other conditions such as visual disabilities to coexist with learning disabilities, and recognize the problems many affected individuals have with social skills (Müller & Markowitz, 2004).

Look at Figure 2.2 again to see the disproportionate percentage of students included in this special education category. Clearly, parents, policymakers, and education professionals are most concerned about the number of students included in the learning disabilities category. Another concern stems from the way the identification process works. The traditional process requires that a student’s achievement be two years behind the expected level. In other words, a third grader reading at the first-grade level is a prime candidate for referral to special education because of a reading/learning disability. However, this scenario also means the student has struggled for at least two years and has not received specialized attention in a timely fashion. Many maintain such students struggle without assistance unnecessarily. They can be identified as demonstrating academic difficulties as early as kindergarten, and for many, supplemental evidence-based reading and mathematics intervention prevents years of failure (Bryant et al., 2011; Fuchs & Vaughn, 2012; Vaughn & Linan-Thompson, 2004).

Therefore, IDEA ’04 allows for a different way to intervene early and provides systematically more intensive instruction to all students struggling with reading and mathematics during their beginning school years. The law also allows for a new way to identify students as having learning disabilities; no longer must there be a significant discrepancy between their ability and their academic performance before they get the individualized instruction they need to succeed in school (U.S. Department of Education, 2006). This system, called response to intervention (RTI), incorporates multitiered systems of support before the devastating effects of school failure take their toll (Fuchs & Fuchs, 2006; Kukic, Tilly, & Michelson, 2005; The Consortium for Evidence-Based Early Intervention Practices, 2010). This method is also referred to as early intervention because it is applied as early as possible to every student who is struggling, particularly those having difficulty learning basic reading, writing, and mathematics skills. According to the RTI system, those who do not learn sufficiently with high-quality instruction, and those who do not learn reading, writing, and mathematics skills well enough after supplemental, intensive, evidence-based intervention, are referred for special...
The outcome of this evaluation may be the identification of learning disabilities (The IRIS Center, 2006). Once they are eligible for special education services, they receive intensive, *individualized* intervention.

**TYPES**

To better understand the diversity—the heterogeneity—of students with learning disabilities, let’s examine these common profiles or types of learning disabilities:

- Overall underachievement
- Reading disabilities
- Mathematics disabilities
- Written expression disabilities

Despite having normal intelligence, students with learning disabilities do not achieve academically on a par with their classmates without disabilities. Some face challenges in almost every academic area. Most experts are certain that cognitive problems, poor motivation, and/or an insufficient instructional response to their learning disabilities can be at the root of some of these students’ learning challenges (Compton, Fuchs, Fuchs, Lambert, & Hamlett, 2012). Some experts have long thought learning disabilities reflect deficits in the ability to process or remember information (Torgesen, 2002). What
appears quite certain is that learning disabilities are **resistant to treatment** or “resistant to intervention” (Vaughn et al., 2011). Affected students do not learn at the same rate or in the same ways as their classmates (Fuchs & Fuchs, 2006; Vaughn, 2005). The instruction or intervention typically used in general education programs is not sufficient and does not help them improve; more intensive individualized intervention is necessary.

Reading difficulties—very low reading abilities—are the most common reasons for referrals to special education (Fuchs & Fuchs, 2001). Because reading and writing are related, most students with reading learning disabilities (sometimes called dyslexia) have written expression learning disabilities (Graham & Harris, 2011; Hammill, 2004). Reading and writing, obviously, are important skills; in school, students must be able to read information from a variety of texts (social studies, science, literature) and write in varying formats (essays, reports, creative writing, notes). As the complexity of academic tasks increases, students not proficient in reading and writing become unable to keep pace with academic expectations (Jenkins & O’Connor, 2002). As they progress through school, reading disabilities compound and make it almost impossible to perform well on other academic tasks, contributing to overall underachievement.

Although reading problems are the most common reason for referral, more than 50% of students with learning disabilities also have mathematics learning disabilities (Fuchs, Fuchs, & Compton, 2013). Some seem to have difficulties with mathematics alone, but for most, this difficulty is part of an overwhelming and pervasive underachievement (Bryant, Bryant, Porterfield, et al., 2014). Even so, as you will learn later in this text (in Chapters 10, 11, and 12), many of these problems associated with academic learning can be overcome with explicit instruction and intensive efforts.

**CHARACTERISTICS**

**Unexpected underachievement** is the defining characteristic of learning disabilities (Vaughn, Elbaum, & Boardman, 2001), meaning affected students perform significantly below their peers and below levels that teachers and parents would expect from children of their ability. Although some students have problems in only one academic area, most have pervasive problems that affect the entire range of academic and social domains (Bryant, Bryant, & Hammill, 2000; Gregg & Mather, 2002). Teachers often cite this group’s heterogeneity as challenging because it seems that each student requires a unique response.
(Fletcher et al., 2002). For example, some students might demonstrate difficulties with reading and writing, yet their mathematics abilities are in the average range. Other students could have difficulties in reading, writing, and mathematics plus exhibit problems with social interactions. The characteristics listed in Table 2.2 are usually evident to varying degrees.

Compounding these general characteristics are frustrations with the difficulties of learning academic tasks that classmates seem to easily understand and master. Students with learning disabilities cannot see the relationship between effort and accomplishment. When teachers and parents remind them that working hard, studying, and applying effective learning strategies to their schoolwork pays off, youngsters also learn that their efforts can lead to success.

Many of these students are said to be inattentive (Pierangelo & Giuliani, 2006). Either they do not focus on the task to be learned or they pay attention to the wrong features of the task. They are said to be distractible, disorganized, and unable to approach learning strategically (Bender, 2007). Most students with learning disabilities also have problems with generalization; that is, they have difficulty transferring their learning to different skills or situations (Vaughn & Bos, 2012). They might apply a newly learned study skill in history class but

### TABLE 2.2

**CHARACTERISTICS OF STUDENTS WITH LEARNING DISABILITIES**

<table>
<thead>
<tr>
<th>Academic</th>
<th>Social</th>
<th>Behavioral Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Prone to unexpected underachievement</td>
<td>• Immature</td>
<td>• Inattentive</td>
</tr>
<tr>
<td>• Resistant to treatment</td>
<td>• Capable of socially unacceptable behavior</td>
<td>• Distractible</td>
</tr>
<tr>
<td>• Difficult to teach</td>
<td>• Prone to misinterpret social and nonverbal cues</td>
<td>• Hyperactive</td>
</tr>
<tr>
<td>• Unable to solve problems</td>
<td>• Poor decision-making skills</td>
<td>• Impulsive</td>
</tr>
<tr>
<td>• Demonstrate uneven academic abilities</td>
<td>• Victimized</td>
<td>• Poorly coordinated</td>
</tr>
<tr>
<td>• Weak in basic language skills</td>
<td>• Unable to follow social conventions (manners)</td>
<td>• Unmotivated</td>
</tr>
<tr>
<td>• Possess poor reading skills in word reading, fluency, and/or comprehension</td>
<td>• Rejected</td>
<td>• Dependent</td>
</tr>
<tr>
<td>• Possess poor written language skills in spelling, grammar, and written expression</td>
<td>• Naive</td>
<td>• Disorganized</td>
</tr>
<tr>
<td>• Possess poor mathematics skills in numbers sense, calculations, math reasoning, and problem solving</td>
<td>• Shy, withdrawn, insecure</td>
<td></td>
</tr>
<tr>
<td>• Have difficulties with metacognitive and cognitive abilities</td>
<td>• Unable to predict social consequences</td>
<td></td>
</tr>
<tr>
<td>• Have memory deficits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Unable to generalize</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
not in English class. Teachers can encourage generalization by making clear connections between familiar problems and those that are new or novel (Fuchs et al., 2002). 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 that require regrouping without zeros in the minuend, for example, the teacher should carefully point out the similarities between problems that include zeros (500 − 354 = ?) and those that do not (467 − 189 = ?).

Another long-standing explanation for these students’ learning problems is that they have trouble with information processing (Hallahan, Kauffman, & Pullen, 2015). A break occurs somewhere along the processing chain that leads from gaining the information, or input, to understanding the information, to finding an effective means of using new knowledge, or output. The break may be attributed to memory difficulties and the way students receive, organize, and store information to aid in recalling it. Many students with learning disabilities benefit from being taught strategies to help them identify, organize, understand, and remember important information in their textbook reading. For learning arithmetic facts, students can be taught strategies for retrieving answers quickly and correctly. Other students with learning disabilities may need to use alternative means or assistive technology to do their schoolwork. For example, a student with severely impaired writing abilities may find that the speech recognition system, a standard feature of personal computers, is helpful when writing term papers. Another student who cannot read well enough to keep up with classmates as they read their sixth-grade social studies textbook might profit from using the digital version of the text and the speech output option. This chapter’s Tech Notes feature provides information about the use of computer tablets as an example of how technology can promote access to the curriculum and independence.

**TECH notes**

**MOBILE DEVICES**

The use of mobile devices rather than desktops or laptops has been gaining in popularity as a means for delivering instruction and helping students to access the curriculum. Mobile devices, such as small and handheld computing devices (e.g., smartphones, iPads), typically have a touch-screen display and allow for Internet access. These devices have the potential for being useful tools for students with disabilities due to the following reasons: (a) the availability of downloadable, inexpensive apps; (b) the touch-screen feature that allows students with disabilities to use the device without having to operate a mouse or a touchpad; (c) instant turn on/off ability; and (d) Internet access and built-in video, a camera, and audio hardware features. Instructional applications, commonly called apps, have gained in popularity for use with mobile technologies to help students acquire skills in various academic areas.
Finally, it is estimated that about three-fourths of individuals with learning disabilities have problems with social skills, and the results are negative self-concepts, an inability to make friends, ineffective approaches to schoolwork, and poor interactions with others (Bryan, Burstein, & Ergul, 2004; Vaughn & Bos, 2012). For example, many students with learning disabilities are naive and unable to judge other people’s intentions accurately. They cannot understand nonverbal behaviors, such as facial expressions, and therefore they do not comprehend other people’s emotional messages (Dimitrovsky, Spector, & Levy-Schiff, 2000). This inability puts them at a great disadvantage and results in low acceptance by their peers and teachers. Difficulty with social skills, coupled with low achievement and distracting classroom behavior, in turn influences the social status of children with learning disabilities. Peers consider them overly dependent, less cooperative, and less socially adept (Kuhne & Wiener, 2000). Consequently, they are less likely to become leaders—or even to be included in groups. Teachers can play an instrumental role in reducing peer rejection. One approach is to pair these students with classmates without disabilities in areas of mutual interest (Harris & Graham, 1999). For example, teachers might assign students with common interests like sports, music, or a hobby to work together on an academic task such as a science report.

**PREVALENCE**

Learning disabilities form the largest special education category (review Figure 2.2), including about 5% of the total public school enrollment and about 40% of all students identified as having a disability (U.S. Department of Education, OSEP, 2013). Although prevalence has declined slightly, the rates of learning disabilities remain the highest of all disability groups. Two-thirds of students identified with learning disabilities are male; gender is evenly split in public school enrollment. Parents, educators, and policymakers are concerned about this special education category for this and other reasons (Bradley, Danielson, & Hallahan, 2002).

1. Prevalence: About 40% all students identified as having a disability are identified as having learning disabilities.
2. Cost: Although variation exists across the nation and even between districts, every student with a disability costs more to educate than a classmate without disabilities, usually almost three times as much (Parrish & Esra, 2006).
3. Misidentification: Some experts have called the category of learning disabilities a “dumping ground” where any student unsuccessful in the general education curriculum can be placed (Reschly, 2002).

Not surprisingly, the field of learning disabilities has been in a state of transition. For example, because of the RTI focus, students no longer must fail for years before receiving specialized and intensive help. It is possible that
the RTI multitiered systems of support have contributed to the recent decline in the number of students identified as having learning disabilities. These are exciting times, in particular for those concerned about students who struggle with reading, writing, and mathematics, because many have great confidence that ongoing changes will positively affect the lives of these students and their families (Bradley et al., 2002; Kukic et al., 2005). However, more research is needed on the long-term benefits of the RTI system as a valid model for early intervention and disability (Compton et al., 2012).

WHAT ARE THE ATTRIBUTES OF STUDENTS WITH SPEECH OR LANGUAGE IMPAIRMENTS?

Learning disabilities form the largest special education category, but the federal government allows students with disabilities to be reported in only one special education category. Thus, a fourth-grade student with reading/learning disabilities and also a speech problem might well be included in the learning disabilities category but also receive services from a speech/language pathologist (SLP) as a related service. Speech problems and language impairments go hand in hand with learning disabilities; in fact, their rate of co-occurrence is estimated to be 96% (Sunderland, 2004). Students with cognitive disabilities typically face challenges in the area of language development (Taylor, Richards, & Brady, 2005). Therefore, many students with disabilities receive services from both special education teachers and SLPs. Also, because of the relationship between having language problems as a preschooler and having later problems with reading and writing, as Figure 2.3 shows, during the early school years speech and language impairment is clearly the larger special education category. When we consider both primary and secondary disabilities, speech or language impairments are clearly the most common disability among schoolchildren. Speech and language are the foundations for many things we do as human beings. Let’s briefly think about how problems in these areas affect learning.

Communication requires the receiver to use eyes, ears, and even tactile (touch) senses (as do those who use Braille) to take messages to the brain where they are understood and to interpret the sender’s code so it has meaning. If either the sender or the receiver has a defective mechanism for sending or receiving the information, the communication process is ineffective. We distinguish among three related terms: communication, language, and speech.

- Communication: the process of exchanging knowledge, ideas, opinions, and feelings through the use of verbal or nonverbal language
- Language: the rule-based method of communication relying on the comprehension and use of the signs and symbols by which ideas are represented
- Speech: the vocal production of language
Now let’s turn our attention to problems that can interfere with communication by impeding either language or speech.

**DEFINITION**

Although they make up a single special education category, speech impairments and language impairments are really two separate but related disabilities. A speech impairment exists when a person’s production of speech sounds is unintelligible, is unpleasant, or interferes with communication (Bernthal & Bankson, 2004; Hall, Oyer, & Haas, 2001). Speech impairments are distracting to the listener and can negatively affect the communication process. A language impairment disrupts communication and interferes with accurate understanding of messages, the intent of communications, and interactions among people. See Table 2.3 for the IDEA ’04 definition, as well as the one adopted many years ago by the American Speech-Language-Hearing Association (ASHA), the nation’s largest organization representing professionals in the areas of speech, language, and audiology.

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**FIGURE 2.3**

**INDIVIDUALS WITH SPEECH OR LANGUAGE IMPAIRMENTS AND WITH LEARNING DISABILITIES SERVED THROUGH IDEA ’04**

[Sourced data from U.S. Department of Education, National Center for Education Statistics (NCES), Common Core of Data (CCD) (2012). These data are for the 50 states, Washington, DC, Bureau of Indian Education schools, Puerto Rico, the four outlying areas, and the three freely associated states. For actual data used, go to http://www.ed.gov/about/reports/annual/osep.]

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Chapter 2: Understanding Learners With Special Needs: High-Incidence Disabilities

TYPES

Both types of communication disorders—speech impairments and language impairments—can be further subdivided. The three types of speech impairments follow:

1. Articulation problems: The process of producing speech sounds is flawed, and resulting speech sounds are incorrect. Table 2.4 describes each of the four articulation problems.

2. Fluency problems: Hesitations or repetitions interrupt the flow of speech. Stuttering is one type of fluency problem.

3. Voice problems: The voice is unusual in pitch or loudness given the age and gender of the individual.

Some young children between 3 and 5 years of age demonstrate misarticulations and dysfluencies (nonfluencies) in the course of normal speech development. These mistakes are not usually indicative of a problem in need of therapy (Conture, 2001; Ramig & Shames, 2006).

TABLE 2.3
DEFINITIONS OF SPEECH OR LANGUAGE IMPAIRMENT

<table>
<thead>
<tr>
<th>Source</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDEA '04</td>
<td>Speech or language impairment means a communication disorder, such as stuttering, impaired articulation, a language impairment, or a voice impairment, that adversely affects a child's educational performance.</td>
</tr>
<tr>
<td>American Speech-Language-Hearing Association</td>
<td>A speech and language disorder may be present when a person's speech or language is different from that of others of the same age, sex, or ethnic group; when a person's speech and/or language is hard to understand; when a person is overly concerned about his or her speech; or when a person often avoids communicating with others.</td>
</tr>
<tr>
<td>DSM-5</td>
<td>Language Disorder: Persistent difficulties in the acquisition and use of spoken, written, or sign language. Language abilities are quantifiably below those expected for age with an onset of symptoms in the early developmental period. Speech Sound Disorder: Persistent difficulty with speech sound production that interferes with speech intelligibility or prevents verbal communication with an onset of symptoms in the early developmental period.</td>
</tr>
</tbody>
</table>

Language impairments are not typically broken down into types, but we often discuss problems with language in terms of the aspect of language where the problem exists.

- **Syntax**: the rule system used for all language (oral, written, and sign)
- **Semantics**: the intent and meaning of spoken and written statements
- **Pragmatics**: the application of language based on the social content

Rules in each language govern the way vowels, consonants, their combinations, and words are used (Small, 2005). The relationship between development of an awareness of sounds in words (phonological awareness) during the preschool years and later ease of learning how to read is now clear (Bishop, 2006). To prevent reading failure later during the school years, teachers should refer preschoolers who have problems mastering phonology to specialists for early intervention.

### CHARACTERISTICS

The ability to distinguish among these three language-related situations helps general education teachers make prompt and correct referrals and avoid misidentifying students:

1. Language impairments
2. Language delays
3. Language differences

A typical child at the age of 3 can use some fairly sophisticated language. At the same age, a child with language impairments might speak in only two-word combinations. We look not just at how quickly or slowly a child...
develops language but also at how the child’s language development is different from that of typical peers.

Children with **language delays** generally acquire language in the same sequence as their peers but more slowly. Many do not have a disability and catch up with their peers. However, some children who acquire language in the correct sequence do so very slowly and never complete the acquisition of complex language structures. For example, most children with intellectual disabilities have language delays, and their language development is below the norm for their age (Wetherby, 2002).

What about children who are learning English as a second language? Many teachers have difficulty determining whether a child who is not a native speaker of English is merely **language different** or has a language impairment (Baca & Cervantes, 2004; Salend, 2005). Truly mastering a second language takes a long time. Many **English language learners (ELLs)**, now beginning to be referred to as **English learners (ELs)**, may appear to be fluent because they converse with their classmates on the playground and express their basic needs in the classroom, but even so, they may not yet have developed sufficient English fluency to participate fully in academic instruction. Speaking English as a second language does not result in a disability, but some ELs may be slow in mastering their second language, particularly because of the impact of poverty, and some do have language impairments.

Dialects of American English are not impairments either (Payne & Taylor, 2006). They result from historical, social, regional, and cultural influences on speech, but children who speak them are sometimes perceived by educators as inferior or misidentified as having language impairments. Teachers need to understand and be sensitive to the differences between dialects and language impairments, but when in doubt, they should seek the advice of specialists. SLPs who can distinguish between language differences and language impairments are proficient in the rules of the particular child’s dialect and in the use of nondiscriminatory testing procedures. It is equally a mistake to assume students have disabilities simply because of their cultural or linguistic backgrounds and to fail to qualify students for services they need for fear of being discriminatory. We discuss linguistically diverse students again in Chapter 4.

**PREVALENCE**

As we saw in Figure 2.1, speech or language impairments accounted for 18.2% of students ages 6 to 21 with identified disabilities. In Figure 2.2, official reports show speech or language impairments as the second-largest special education category, behind learning disabilities. In 2013, nearly 1,373,000 school-age children were identified as having a speech or language impairment, representing 2.8% of the school-age population. And remember that when we consider both primary and secondary disabling conditions, speech or language impairment is clearly the largest special education category.
During the 2013 school year, speech or language impairment was the most common label used for children between the ages of 3 and 5.

Look again at Figure 2.3 to see how quickly the balance shifts: By third and fourth grade more students are included in the learning disabilities category, while the size of the speech or language impairment category declines. Clearly, the prevalence of speech or language impairment is associated with the age of the student and the demands of the curriculum (Bakken & Whedon, 2002). The data shown in Figure 2.3 also confirm what you learned earlier about students with learning disabilities. They tend not to be identified early, at the beginning of their school careers, when their struggle to succeed in the curriculum begins. These data contributed to justifications found in IDEA ’04 for the application of early intervening procedures and new ways to identify students with learning disabilities.

WHAT ARE THE ATTRIBUTES OF STUDENTS WITH ATTENTION DEFICIT/HYPERACTIVITY DISORDER (ADHD)?

The American Psychiatric Association places the percentage of children affected by ADHD at about 5% (APA, 2013); ADHD falls under the Other Health Impairments special education category (see Chapter 3). Here are some interesting facts about ADHD to help you better understand this condition:

1. ADHD is not a separate category called out in IDEA ‘04, so states do not report ADHD students separately to the federal government. Not all students with ADHD are eligible for special education services. If the condition does not adversely influence their academic performance, they are not reported to any agency and instead receive accommodations for their unique learning needs through Section 504 of the Rehabilitation Act (see Chapter 1).

2. Few additional students are identified as having a disability because of ADHD. Many were already being served in other categories, such as learning disabilities or emotional or behavior disorders, before the condition was called out within the “other health impairments” category.

3. Many ADHD symptoms overlap with those of other disabilities.

4. It is estimated that more than half of all students with ADHD do not qualify for educational services because their condition does not seriously affect their educational performance (CHADD, 2004).

DEFINITION

Table 2.5 gives the IDEA ’04 and DSM-5 definitions of ADHD. As you review this table, think about what ADHD is and what it is not.
TYPES

ADHD is a complicated condition. Students with ADHD tend to fall into three main groups:

1. Those who do not qualify for special education
2. Those who qualify for special education
3. Those who have coexisting disabilities

Most students with ADHD approach learning differently from typical learners. They can have difficulty focusing intently on learning tasks, and many tend not to be motivated. They also lack the persistence to make the extra effort to learn when it is difficult for them (Carlson, Booth, Shin, & Canu, 2002). Teachers can make a real difference in the educational experience for students with ADHD by

- Providing structure to the classroom routine.
- Teaching academic content directly.
- Holding high expectations.
- Encouraging appropriate academic and social performance.

### TABLE 2.5

<table>
<thead>
<tr>
<th>Source</th>
<th>Definition</th>
</tr>
</thead>
</table>
| IDEA ’04  | ADHD is listed as one condition within the “Other Health Impairments” category. Other health impairments means having limited strength, vitality, or alertness, including heightened alertness to environmental stimuli that results in limited alertness with respect to the educational environment, that:
  i. Is due to chronic or acute health problems such as asthma, attention deficit disorder or attention deficit/hyperactivity disorder, diabetes, epilepsy, a heart condition, hemophilia, lead poisoning, leukemia, nephritis, rheumatic fever, sickle cell anemia, and Tourette syndrome; and
  ii. Adversely affects a child’s educational performance. |
| DSM-5²  | In its DSM-5 manual, the American Psychiatric Association (APA) calls ADHD “a persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development” (APA, 2013, p. 61). |
| A.       | Several inattentive or hyperactive-impulsive symptoms were present prior to age 12 years. |
| B.       | Several inattentive or hyperactive-impulsive symptoms are present in two or more settings (e.g., at school, work, or home). |
| C.       | There is clear evidence that the symptoms interfere with, or reduce the quality of, social, academic, or occupational functioning. |
| D.       | The symptoms do not occur exclusively during the course of schizophrenia or another psychotic disorder and are not better explained by another mental disorder (e.g., mood disorder, anxiety disorder, dissociative disorder, a personality disorder, or substance intoxication or withdrawal). |

Those students with ADHD whose educational functioning is seriously affected by the condition do qualify for special education services. Many experience problems in both academic achievement and social skills. These students’ poor academic performance is often due to their distractibility and their inability to focus on assignments for long periods of time. Hyperactivity and poor social skills often lead to rejection and bullying by their peers, leaving these individuals lonely and without friends (Olmeda, Thomas, & Davis, 2003). They come to judge themselves as social failures and tend to engage in solitary activities such as playing computer games and watching television. This situation can contribute to alienation and withdrawal.

ADHD often coexists with other disabilities (National Institute of Mental Health [NIMH], 2005). For example, compare the characteristics of learning disabilities, found in Table 2.2, with those of ADHD, found in Table 2.6. In some cases the characteristics of ADHD are very similar to those of other disabilities, and in some cases the individuals involved have more than one disability, or they have coexisting disabilities.

ADHD is likely to be identified in boys with externalizing emotional or behavioral disorders (Reid et al., 2000). For example, a teenager who cannot control his reactions to highly charged situations, or who may misread social interactions, might engage in hostile and reactive behaviors. When ADHD and antisocial behaviors both occur, the combination can be dangerous (Gresham, Lane, & Lambros, 2000). Violent behaviors tend to be infrequent, so many of these students have not qualified for special services and therefore did not receive interventions to prevent serious misbehavior. The end result of this situation can be disastrous.

ADHD is now a separate condition included in the “other health impairments” category. However, determining when it is separate, when it coexists with other disabilities, and when its characteristics are merely similar to those found in other disabling conditions can be challenging to professionals. Whether spending the time and effort to make true distinctions matters for diagnosis and treatment is open to debate.

CHARACTERISTICS

The three main characteristics associated with ADHD follow:

1. Hyperactivity
2. Impulsivity
3. Inattention

The judgment about whether a certain level of a specific activity is too much, or “hyper,” is often subjective, and this makes hyperactivity difficult to define. If, for example, we admire the behavior, we might describe the child as energetic or enthusiastic rather than hyperactive. Nevertheless, the DSM-5 gives
some good examples about which there is considerable consensus (APA, 2013, pp. 59–60). Hyperactivity can be manifested by

- Fidgeting or squirming in a seat.
- Not remaining seated when expected to do so.
- Running or climbing excessively in situations where it is inappropriate.
- Having difficulty playing or engaging quietly in leisure activities.
- Appearing to be often “on the go” or as if “driven by a motor.”
- Talking excessively.

Students with ADHD, and many with learning disabilities, are said to be impulsive. **Impulsivity** may explain why they are unable to focus on the relevant components of problems to be solved or tasks to be learned and why they often disrupt the learning environment for an entire class. The third characteristic teachers and researchers commonly observe is **inattention** (Mercer, 2004). Children who do not focus on the task to be learned or who pay attention to the wrong features of the task are said to be distractible. Table 2.6 provides specific examples of characteristics of ADHD.

<table>
<thead>
<tr>
<th><strong>TABLE 2.6</strong> CHARACTERISTICS OF ATTENTION DEFICIT/HYPERACTIVITY DISORDER (ADHD)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inattention</strong></td>
</tr>
<tr>
<td>Often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities</td>
</tr>
<tr>
<td>Often has difficulty sustaining attention in tasks or play activities</td>
</tr>
<tr>
<td>Often does not seem to listen when spoken to directly</td>
</tr>
<tr>
<td>Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behavior or failure to understand instructions)</td>
</tr>
<tr>
<td>Often has difficulty organizing tasks and activities</td>
</tr>
<tr>
<td>Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)</td>
</tr>
<tr>
<td>Often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, or tools)</td>
</tr>
<tr>
<td>Is often easily distracted by extraneous stimuli</td>
</tr>
<tr>
<td>Is often forgetful in daily activities</td>
</tr>
</tbody>
</table>

**SOURCE:** Adapted from *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision* (Copyright 2013) (pp. 85–90). American Psychiatric Association.
Many students identified as having ADHD receive medication to control their behavior. Ritalin, Dexedrine, and Concerta do help some children with ADHD focus their attention on assigned tasks and reduce hyperactivity (Spencer, Biederman, & Wilens, 2010). They do not seem to have a positive effect on academic performance, however (Gotsch, 2002). Because of its time-release feature, which relieves school staff of the need to distribute and monitor the use of prescription drugs, medication is not always necessary and should be considered a last resort, used if behavioral techniques, direct and systematic instruction evaluated on a frequent basis, and highly motivating instructional materials have proved insufficient. In these cases, a combination of behavioral and medical intervention is most powerful in the treatment of ADHD (Fabiano et al., 2009).

PREVALENCE

As we have noted, obtaining precise indications of the number of students who are affected by ADHD is impossible. First, because ADHD is not a separate disability category, the federal government does not require separate reporting (students with ADHD are included in the count of students with “other health impairments”). Second, the government does not require a count of those students with ADHD who do not qualify for special education services but receive accommodations through Section 504. Third, the government does not require the states to report students’ secondary conditions or disabilities. When a student’s primary disability is learning disabilities and that student’s secondary disability is ADHD, the student is reported only in the learning disabilities category.

Studies have shown that 70% of children with ADHD also have a learning disability (Mayes, Calhoun, & Crowell, 2000; Pierce, 2003). In another study, parents reported that 64% of students with emotional or behavioral disorders also had ADHD. Whether a student’s ADHD is considered a primary or a secondary condition and whether it negatively influences educational performance, ADHD does result in special needs that can be met by perceptive and effective teachers.

WHAT ARE THE ATTRIBUTES OF STUDENTS WITH INTELLECTUAL AND DEVELOPMENTAL DISABILITIES?

As you will learn in the following sections, the field of intellectual and developmental disabilities has been in a state of transition for over a decade. In 1992 and again in 2002, two new definitions were developed. In 2007, the name of the disability was changed from mental retardation to intellectual and developmental disabilities by the field’s oldest professional organization, which also
changed its own name to reflect the new term. The American Association on Mental Retardation (AAMR) is now the American Association on Intellectual and Developmental Disabilities (AAIDD). In part, these changes seek to reduce the stigma and bias often associated with this disability (Luckasson & Schalock, 2013).

For some years to come, these changes may be a bit confusing. The definition supported by AAIDD was developed when this organization was called AAMR. IDEA ’04 uses the term mental retardation, as do most states’ regulations and statues. In this text, when we discuss this disability and its impact on the individuals and families involved, we use the term intellectual and developmental disabilities.

People often make many incorrect assumptions about intellectual and developmental disabilities. First, they assume the disability is infrequent and therefore a low-incidence condition. Second, they assume it is always severe. Here’s what is true: Like all other disabilities, intellectual and developmental disabilities occur along a continuum ranging from mild to very severe conditions. In fact, the foundation for all of today’s special education emanates from a likely case of intellectual and development disability. Recall the famous story recounted in Chapter 1 about Victor, the young boy found in the forest of southern France by farmers in 1799. That boy became known as the Wild Boy of Aveyron, and the Parisian doctor who cared for Victor, Jean-Marc-Gaspard Itard, is acknowledged as the father of the field of special education.

**DEFINITION**

In 2002, the American Association on Mental Retardation (AAMR), as it was then known, adopted the current definition of intellectual and developmental disabilities, the organization’s 10th since 1921. That definition and its five assumptions are found in Table 2.7. How is this modern view different from previous orientations? Before 1992, definitions followed a deficit model, describing the limitations of the individual, such as “significantly subaverage general intellectual functioning.” Today, the disability is conceptualized in terms of the adaptive behavior each individual possesses and the intensity of supports needed for him or her to function in the community as independently as possible (Luckasson & Schalock, 2013). “Adaptive behavior is the collection of conceptual, social, and practical skills that have been learned by people in order to function in their everyday lives” (AAMR, 2002, p. 73). Systems of supports enable us to function in everyday life and address the demands that face us. The intensity or level of these supports varies as a function of the needs and capabilities of each individual.

One defining feature of intellectual and developmental disabilities is that the individual has problems with cognition or intellectual functioning. The 2002 definition includes a cautious use of IQ scores, and caution is well-advised.
because relying on such scores leads to many mistakes and erroneous assumptions about individuals’ abilities. These individuals have cognitive abilities “significantly below average” or below levels attained by 97% of the general population. When a standardized test is used, the individual must score at least two standard deviations below the mean for that test. Recall our discussion of the normal curve in Chapter 1. Intelligence is regarded as one of those traits distributed among people in a predictable manner and reflected by a statistical distribution representing a bell-shaped curve, also called the normal curve. The majority of the population falls in the middle of the bell, at or around an intelligence quotient (IQ) score of 100, and fewer and fewer people fall at either end of the distribution, having very low or very high intelligence. IQ level is then determined by the distance a score is from the mean, or average, score. The 2002 definition uses a cutoff score of about 70 and below to designate intellectual and developmental disabilities. This disability is also classified according to levels of severity that can affect the individual’s performance:

- Mild intellectual and developmental disabilities
  
  *Outcomes*: learning difficulties, able to work, maintain good social relationships, contribute to society

- Moderate intellectual and developmental disabilities
  
  *Outcomes*: marked developmental delays during childhood, some degree of independence in self-care, adequate communication and academic skills, require varying degrees of support to live and work in the community
• Severe intellectual and developmental disabilities
  *Outcomes:* continuous need of support

• Profound intellectual and developmental disabilities
  *Outcomes:* severe limitation in self-care, continence, communication, and mobility, continuous need of supports

Another defining characteristic of intellectual and developmental disabilities is adaptive behavior, which is what everyone uses to function in daily life, such as eating, dressing, using the toilet, having mobility, preparing meals, using the telephone, managing money, taking care of the house, and taking medication. People with intellectual and developmental disabilities, as well as many people without disabilities, can have difficulties with such skills that can impair their ability to function independently.

All of us also use systems of supports. We ask our friends for advice. We form study teams before a difficult test. We expect help from city services when there is a crime or a fire. We join together in a neighborhood crime watch group to help each other be safe. And we share the excitement and joys of accomplishments with family, friends, and colleagues.

For individuals with intellectual and developmental disabilities, systems of support are a means for promoting independence and bridging the gap between classroom expectations and the student’s current levels of functioning. Supports have been defined as “resources and strategies that aim to promote the development, education, interests, and personal well-being of a person and that enhance individual functioning” (Schalock et al., 2010, p. 105). Seven support needs areas associated with school-age students follow (Thompson et al., 2008):

• **Home Life Activities:** pertain to an individual’s personal care
• **Community and Neighborhood Activities:** relate to participating in community activities
• **School Participation Activities:** involve being an active member of class and school activities
• **School Learning Activities:** focus on being successful with school tasks and assignments
• **Health and Safety Activities:** pertain to maintaining healthy habits and keeping oneself safe
• **Social Activities:** involve skills associated with interacting with others in various settings
• **Protection and Advocacy Activities:** focus on self-advocacy

The primary goal of supports is to help the person meet the demands of life’s various contexts. Because support needs have only recently found their way
into the special education field, there are few support programs that have been proven effective by research. However, there is a growing body of research that has demonstrated that a combination of assistive technology services and assistive technology devices can help bridge the gaps between functional limitations and independent functioning (e.g., Bryant, Seok, Ok, & Bryant, 2012; Bryant, Shih, Bryant, & Seok, 2010; Fisher & Shogren, 2012; Wehmeyer, Tassé, Davies, & Stock, 2012).

Supports also can be offered at different intensity levels—intermittent, limited, extensive, pervasive—and can be of different types (Chadsey & Beyer, 2001; Kennedy & Horn, 2004):

- **Natural supports:** the individual's own resources, family, friends, and neighbors, as well as coworkers on the job or peers at school
- **Nonpaid supports:** neighborhood and community groups, such as clubs, recreational leagues, and private organizations
- **Generic supports:** public transportation, states' human services systems, and other agencies and services to which everyone has access
- **Specialized supports:** disability-specific services such as special education, special early intervention services, and vocational rehabilitation

**TYPES**

One way to consider the types of this disability is to think about causes. Some of these conditions are genetic in origin, others are environmental, and still others are caused by an interaction of biology and the environment. Today, more than 500 genetic causes of intellectual and developmental disabilities are known, and because of advances in medical research, more are being identified (The Arc, 2005). A condition identified in 1991 and now recognized as the most common inherited cause of intellectual and developmental disabilities is fragile X syndrome, which affects about 1 in 4,000 males and results from a mutation on the X chromosome (Taylor, Richards, & Brady, 2005). The associated cognitive problems can be severe, and it is believed that some 86% of fragile-X-affected males have intellectual disabilities and 6% have autism.

Another biological example caused by a chromosomal abnormality is Down syndrome. Certain identifiable physical characteristics, such as an extra flap of skin over the innermost corner of the eye, are usually present in cases of Down syndrome. The degree of cognitive difficulty varies, depending in part on the speed with which the disability is identified, the adequacy of the supporting medical care, and the timing of the early intervention (National Down Syndrome Society, 2006). Individuals with Down syndrome have a higher prevalence of obesity, despite typically consuming fewer than average...
calories (Roizen, 2001). Their reduced food consumption may explain why they are less active than their brothers and sisters and less likely to spend time outdoors. In turn, their opportunities for satisfying friendships, social outlets, and recreation are reduced. Teachers can help by encouraging them to be more active and to play sports with their peers during recess.

In the hereditary condition phenylketonuria (PKU), a person is unable to metabolize phenylalanine, an amino acid that then builds up in the body to toxic levels that damage the brain. If untreated, PKU eventually causes intellectual disabilities. Changes in diet, such as strictly eliminating certain foods that contain phenylalanine, such as milk, can control PKU and reduce its devastating impact. Here, then, is a condition rooted in genetics but brought on by the environment—by ingesting milk. Prompt diagnosis and parental vigilance are crucial to minimizing the associated problems. Teachers can help by monitoring these students’ diets and ensuring that snacks and treats provided by classmates’ parents for sharing do not include milk products that might be harmful. Now let’s look at some toxins that do not have a hereditary link.

One well-recognized nonhereditary type of birth defect, considered by Congress to be the most common and preventable cause of intellectual and developmental disabilities, is fetal alcohol syndrome (FAS; U.S. Senate Appropriations Committee, 2004). This condition results from the mother drinking alcohol during pregnancy (The Arc, 2005). The average IQ of people with FAS is 79, which is relatively close to the cutoff score (about 70) for intellectual and developmental disability. These data explain why about 58% of individuals with FAS have intellectual and developmental disabilities, and why about 94% have a strong need for support assistance at school. Most also have problems in the areas of attention, verbal learning, and self-control (Centers for Disease Control, 2004). Estimates are that some 5,000 babies are born with FAS each year, and an additional 50,000 show symptoms of the less serious condition fetal alcohol effects (FAE; Davis & Davis, 2003).

**CHARACTERISTICS**

According to AAIDD, the three defining characteristics of intellectual and developmental disabilities follow:

1. Problems with cognition
2. Problems with adaptive behavior
3. Need for supports to sustain independence (Schalock et al., 2010)

Impaired cognitive ability has pervasive effects, whether the disability is mild or severe. Learning new skills, storing and retrieving information from memory, and transferring knowledge to either new or slightly different situations...
are challenges for these individuals. Short- and long-term memory are often impaired, making it hard to remember events or the proper sequence of events, particularly when the events are not clearly identified as important. Even when something is remembered, it may be remembered incorrectly, inefficiently, too slowly, or in inadequate detail. Teachers can help students with memory problems develop memory strategies and learn to compensate by having them create picture notebooks that lay out the sequence of steps in a task that needs to be performed, the elements of a job that needs to be done, or a checklist of things to do before leaving the house.

Through explicit, systematic instruction and the delivery of supports, adaptive behavior can improve. However, for these gains to happen, it is sometimes necessary for students to receive a separate curriculum that targets life skills, which are skills used to manage a home and job and engage in activities in the community. When goals for independent living become the target of instruction, students may then have reduced access to the general education curriculum and typically learning classmates.

The making of friendships between people with and people without disabilities has received considerable attention during the last decade, because friends are natural supports and sources of social interactions (AAMR, 2002). Research findings show that children of elementary school age with and without intellectual disabilities can become real friends who play together, express positive feelings for each other, and respond to each other reciprocally (Freeman & Kasari, 2002). However, as children get older, the odds of real friendships developing between typical students and classmates with disabilities seem to diminish (Hughes & Carter, 2006). During middle school, for example, children without disabilities tend to form friendships with others of similar backgrounds, age, gender, and interests.

Inclusion and friendships between individuals with and without disabilities have benefits beyond those that help the people with disabilities, however. The attitudes of students who attend school alongside students with disabilities are more positive and reflect a better understanding of the challenges they will face throughout their lives (Hughes & Carter, 2006; Kennedy & Horn, 2004).

**PREVALENCE**

According to the federal government, almost 1% (that is, not quite 1 of every 100) of U.S. students are identified as having intellectual and developmental disabilities as their primary disabling condition through IDEA '04. Recent data show that some 434,586 children with intellectual and developmental disabilities were served across the country. Most students with intellectual and developmental disabilities function at high levels and need few supports. In other words, most fall at the mild level.
WHAT ARE THE ATTRIBUTES OF STUDENTS WITH EMOTIONAL OR BEHAVIORAL DISORDERS?

The emotional or behavioral disorders category is the last of the high-incidence special education categories. Emotional/behavioral disorders (EBD) are very worrisome, because the connections between this disability and the criminal justice system, the commission of violence against self or others, and a life of unhappiness are well recognized (Walker, Ramsey, & Gresham, 2004). There is clear evidence that early intervention makes a real difference in the lives of these individuals. Unfortunately, such services are not delivered often enough to those who exhibit signs of troubling behaviors (Lane, 2004). Let’s look more closely at this last high-incidence condition.

DEFINITION

IDEA ’04 uses the term emotional disturbance to describe the characteristic of children to whom we refer as having behavioral or emotional disorders. Remember that this condition is expressed over a long period of time, is obvious to many observers, and adversely affects educational performance. Table 2.8 gives the IDEA ’04 and National Mental Health and Special Education Coalition definitions of emotional or behavioral disorders.

TYPES

Emotional or behavioral disorders can be divided into three groups:

1. Externalizing
2. Internalizing
3. Low incidence

Students who exhibit externalizing and internalizing behaviors are the two main groups of students with emotional or behavioral disorders, but they do not account for all the conditions that result in placement in this special education category. Externalizing behaviors are characterized by an undercontrolled, acting-out style that includes behaviors we could describe as aggressive, arguing, impulsive, coercive, and noncompliant. These behaviors are expressed outwardly, usually toward other persons, and generally include some form of hyperactivity, including persistent aggression and a high level of irritating behavior that is impulsive and distractible. Many youngsters with this type of emotional or behavioral disorder engage in bullying and victimize their classmates (Hartung & Scambler, 2006). Some examples of externalizing behavior problems follow:

- Violates basic rights of others
- Has tantrums
TABLE 2.8 DEFINITIONS OF EMOTIONAL OR BEHAVIORAL DISORDERS

<table>
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<tr>
<th>Source</th>
<th>Definition</th>
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| IDEA '04                                    | Emotional disturbance means a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child’s educational performance:                                                                                     - An inability to learn that cannot be explained by intellectual, sensory, or health factors.  
  - An inability to build or maintain satisfactory interpersonal relationships with peers and teachers.  
  - Inappropriate types of behavior or feelings under normal circumstances.  
  - A general pervasive mood of unhappiness or depression.  
  - A tendency to develop physical symptoms related to fears associated with personal or school problems.  
  Emotional disturbance includes schizophrenia. The term does not apply to children who are socially maladjusted, unless it is determined that they have an emotional disturbance.                                                                 |
| National Mental Health and Special Education Coalition² | The term emotional or behavioral disorder means a disability characterized by behavioral or emotional responses in school so different from appropriate age, cultural, or ethnic norms that they adversely affect educational performance. Educational performance includes academic, social, vocational, and personal skills. Such a disability  
  - Is more than a temporary, expected response to stressful events in the environment;  
  - Is consistently exhibited in two different settings, at least one of which is school-related; and  
  - Is unresponsive to direct intervention in general education, or the child’s condition is such that general education interventions would be insufficient.  
  Emotional or behavioral disorders can coexist with other disabilities. This category may include children or youths with schizophrenic disorders, affective disorders, anxiety disorder, or other sustained disorders of conduct or adjustment when they adversely affect educational performance. |

Young children who have serious challenging behaviors that persist are the most likely to be referred for psychiatric services (Maag, 2000). A pattern of early aggressive acts, beginning with annoying and bullying, followed by physical fighting, is a clear pathway to violence in late adolescence, particularly for boys (Archwamety & Katsiyannis, 2000). While still in high school, students with emotional or behavioral disorders are 13 times more likely to be arrested than other students with disabilities (OSEP, 2001). Some 30% to 50% of youth in correctional facilities are individuals with disabilities, and almost half of those have emotional or behavioral disorders (IDEA Practices, 2002).

Internalizing behaviors, the second type of emotional or behavioral disorders, are characterized by an overcontrolled and inhibited style that includes behaviors we would describe as withdrawn, lonely, depressed, and anxious (Kauffman, 2005). Anorexia, bulimia, depression, and anxiety are examples of internalizing behaviors. Anorexia and bulimia are serious eating disorders that usually occur during students’ teenage years (Manley, Rickson, & Standeven, 2000), typically among girls and often because of their preoccupation with weight and body image, their drive for thinness, and their fear of becoming fat.

Often hard to recognize in children, depression includes components such as guilt, self-blame, feelings of rejection, lethargy, low self-esteem, and negative self-image. Children’s behavior when they are depressed may appear so different from the depressed behavior of adults that teachers and parents may have difficulty recognizing it. Even so, a severely depressed child might engage in self-harm. Anxiety disorders may be demonstrated as intense response upon separation from family, friends, or a familiar environment, as excessive shrinking from contact with strangers, or as unfocused, excessive worry and fear.

Additional low-incidence conditions are included in the category of emotional or behavioral disorders. Some are very rare but are quite serious when they do occur. For example, schizophrenia is extremely rare in children, although approximately 1% of the general population over the age of 18 have been diagnosed as having the disorder. It usually includes bizarre delusions (such as the belief that your thoughts are controlled by the police), hallucinations (such as voices telling you what to think), “loosening” of associations (disconnected thoughts), and incoherence. Schizophrenia places great demands on service systems. Children with the disorder have serious difficulties with schoolwork and often must live in special hospital and educational settings during part of their childhood. Keep in mind that emotional or behavioral disorders are high-incidence disorders, but the category includes many different specific conditions, including many that are themselves low-incidence conditions.
CHARACTERISTICS

Social skills are the foundation for practically all human activities in all contexts—academic, personal, vocational, and community—and we use them to interact with others and to perform most daily tasks. Possibly more than any other group of children with disabilities, students with emotional or behavioral disorders present problems with social skills to themselves, their families, their peers, and their teachers (Kauffman, 2005). One related characteristic, antisocial behavior, seems to be a prime reason for these students’ referrals to special education (OSEP, 2001). Antisocial behavior includes impulsivity and poor interpersonal skills with both peers and adults. These students’ behavior patterns can be self-defeating, impairing their interactions with others in many negative ways. Most students with externalizing behavioral disorders exhibit at least some of the following behaviors in excess:

- Tantrums
- Aggression
- Noncompliance
- Coercion
- Poor academic performance

On the other hand, students with internalizing patterns tend to exhibit behaviors that reflect the following:

- Depression
- Withdrawal
- Anxiety

Fortunately, intervention can make a difference and improve the outcomes for students with externalizing or internalizing behaviors. For example, instruction in social skills can positively influence the development of social competence (Bullis, Walker, & Sprague, 2001). But such instruction and the use of positive behavioral instructional techniques should be initiated no later than first grade (Frey, Hirschstein, & Guzzo, 2000). Effective instruction is embedded within the general education curriculum and includes considerable demonstration and practice. Peers learn to help and provide support for each other, but getting peers to help these classmates can be challenging, because they tend to reject them (Bullis et al., 2001).

At the beginning of this chapter, we noted that all students identified through IDEA ’04 as having a disability have problems with their educational performance. Here, too, even though emotional or behavioral disorders have their roots in social behaviors, the condition negatively affects academic performance. Regardless of intellectual potential, students with
emotional or behavioral disorders typically do not perform well academically (Lane & Wehby, 2002). Clearly, being in personal turmoil affects our ability to attend to school tasks and to learn in general. Failure at academic tasks compounds the difficulties these children face not only in school but also in life. Their frustration with the educational system, along with its frustration with them, results in their having the highest dropout rates of all students (National Center for Educational Statistics [NCES], 2005). The outcomes of students who do not complete high school are not good. There is also evidence that when students are engaged in academic work, their disruptive behaviors decrease (Lane, 2004). Thus, in addition to helping these students with their behavior, it is constructive for teachers to address their academic skills.

PREVALENCE

The federal government reports that slightly less than 1% of all schoolchildren have emotional/behavioral disorders, with some 373,154 public school students identified with this disability. Figure 2.1 shows that emotional disturbance accounts for 6.2% of all students ages 6 to 21 with disabilities. However, it is likely that these figures substantially underestimate the prevalence of these problems. Why might this be so? First, the definition is unclear and subjective. Second, because the label is so stigmatizing, many educators and school districts are reluctant to identify many children. Some believe the actual prevalence should be approximately 3% to 6% of all school-age students (Kauffman, 2005; Walker, Nishioka, Zeller, Bullis, & Sprague, 2001). Important factors in prevalence for this group of learners are gender and race.

Most children identified as having emotional or behavioral disorders (about 74%) are male, and this is the highest ratio of boys to girls in all special education categories. The reason for this gender difference is not clear, but it is probably linked to boys’ higher propensity to be troublesome and violate school rules, coupled with girls’ tendency toward less disruptive, internalizing behaviors that are less likely to result in referral. Whereas Asian American and Hispanic students tend to be underrepresented in this special education category, African Americans are overrepresented: Twenty-nine percent of students identified as having emotional or behavioral disorders are Black, even though Blacks represent only about 14% of the student population (OSEP, 2006).
The notion that the vast majority of the nation’s students are typical learners is inaccurate. The special needs that many students present to their teachers and schools are considerable and varied. Students with disabilities are guaranteed an appropriate and individualized education, tailored to each of their exceptional learning needs, through IDEA. Other students with special needs are entitled to accommodations through Section 504. And many others require a special response to their unique learning challenges so that they can reach their potential and profit maximally from school.

Certainly, special needs arise from disabilities, but they come from a variety of other sources as well. Special learning needs result from conditions that are not disabilities but that still present considerable learning challenges and put students at risk for school failure, dropping out, or underachievement. What you should now understand is that the majority of America’s students present an exciting mixture of learning strengths to each classroom situation.

Let’s review the learning objectives for this chapter. If you are uncertain and cannot talk through the answers provided for any of these questions, reread those sections of the text.

- **What are the categories for students with disabilities?**

  Some students with a disability and special needs are not special education students because their disability does not negatively affect their educational performance. For students who do qualify for special education services, frequently occurring disabilities are often referred to as high-incidence disabilities; low-incidence disabilities affect a very small proportion of students with disabilities.

- **How are disabilities organized for special education?**

  Three major schemes are used to group disabilities for the purposes of meeting educational needs. One classification system uses disability types or special education categories (learning disabilities, intellectual disabilities). Another groups students by the severity of the disability (mild, moderate, severe). And the third considers disabilities in terms of how often they occur (high incidence, low incidence).

- **What are the attributes of students with learning disabilities?**

  The largest special education category is learning disabilities, which can be severe, complex, pervasive, and lifelong. Learning disabilities are characterized as “unexpected underachievement” and as resistant to treatment. Learning disabilities are disorders that affect the ability to understand or use spoken or written expression, perform mathematical calculations, coordinate movements, or direct attention. Problems with reading and writing are the most common, yet a significant number of students with learning disabilities may also have mathematics learning disabilities.

- **What are the attributes of students with speech or language impairments?**

  Although they make up a single special education category, speech impairments and language impairments are really two separate but related disabilities. Speech or language impairments result in problems with communication, language, and/or speech. Speech impairments include articulation, fluency (stuttering), and voice problems. Many students with disabilities receive services from both special education teachers and SLPs. Language impairments are not the same as language differences, and their prevalence changes by age (the number lessens across the school years). Speaking English as a second language does not result in a disability, but some ELs may be slow in mastering their second language. Dialects of American English are also not impairments.
Chapter 2: Understanding Learners With Special Needs: High-Incidence Disabilities

- **What are the attributes of students with attention deficit/hyperactivity disorder? (ADHD)**

  *Attention deficit/hyperactivity disorder (ADHD)* is a condition included in the IDEA ’04 category of “other health impairments.” Behaviors associated with ADHD (such as distractibility, hyperactivity) are also symptomatic of other disabilities, such as learning disabilities and emotional or behavioral disorders. Most students with ADHD approach learning differently from typical learners. About half of the individuals with this condition are eligible for special education because their educational performance is adversely affected by the condition; most of the other students with ADHD receive supports and accommodations through Section 504. It is estimated that more than half of all students with ADHD do not qualify for special education services because their condition does not seriously affect their educational performance.

- **What are the attributes of students with intellectual and developmental disabilities?**

  *Intellectual and developmental disabilities* result in problems with intellectual functioning, adaptive behavior, and independence. Individuals with intellectual and developmental disabilities have problems with cognition or intellectual functioning and demonstrate difficulties with adaptive behavior. Responses to intellectual and developmental disabilities include different intensities of supports (intermittent, limited, extensive, pervasive) and different types of supports (natural supports, nonpaid supports, generic supports, specialized supports). Also, seven systems of support needs areas should be focused on to promote success for individuals with intellectual and developmental disabilities with the demands of life’s various contexts.

- **What are the attributes of students with emotional or behavioral disorders?**

  *Emotional or behavioral disorders* can be externalizing (aggressive, argumentative, impulsive, coercive, noncompliant), internalizing (overcontrolled, inhibited, withdrawn, lonely, depressed, anxious), or low incidence (such as schizophrenia). Internalizing behaviors (such as anorexia, bulimia, depression, anxiety) are less frequently identified early, and externalizing behavior disorders are highly associated with delinquency. Problems with social skills cause issues for the students themselves, their families, their peers, and their teachers. Evidence indicates that early intervention can make a difference in the lives of these individuals.

**REVISIT THE OPENING CHALLENGE**

Check your answers to the Reflection Questions from the Opening Challenge and revise them on the basis of what you have learned.

1. Do you think identifying students by specific disability is useful?
2. Why do you think Darren’s special education label is being reconsidered at this point in his schooling?
3. Is Darren’s situation unusual? Why or why not?
4. Will a change in category influence the way Ms. Clarkson teaches Darren?
5. Will it change the services Darren receives?
6. What do you think are some learning characteristics of the three students in Mr. Suarez’s class?
7. What help might he be looking for from the special education teacher for these three students?

Test your understanding of chapter content. Take the practice quiz.
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KEY TERMS

- anorexia, 77
- assistive technology devices, 72
- assistive technology services, 72
- bulimia, 77
- coexisting disabilities, 66
- English language learners (ELLs), 63
- English learners (ELs), 63
- explicit, systematic instruction, 74
- externalizing behaviors, 75
- high-incidence disabilities, 47
- hyperactivity, 66
- impulsivity, 67
- inattention, 67
- intelligence quotient (IQ), 70
- intensity of supports, 69
- internalizing behaviors, 77
- language delays, 63
- language different, 63
- loudness, 61
- low-incidence disabilities, 47
- pitch, 61
- pragmatics, 62
- resistant to treatment, 55
- semantics, 62
- stuttering, 61
- syntax, 62
- unexpected underachievement, 55

PROFESSIONAL STANDARDS AND LICENSURE

For a complete description of Professional Standards and Licensure, please see Appendix on page 569.

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

INTASC Core Principle
Standard 1: Learner Development
Standard 2: Learning Differences

Praxis II: Education of Exceptional Students: Core Content Knowledge
I. Understanding Exceptionalities: Human development and behavior

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