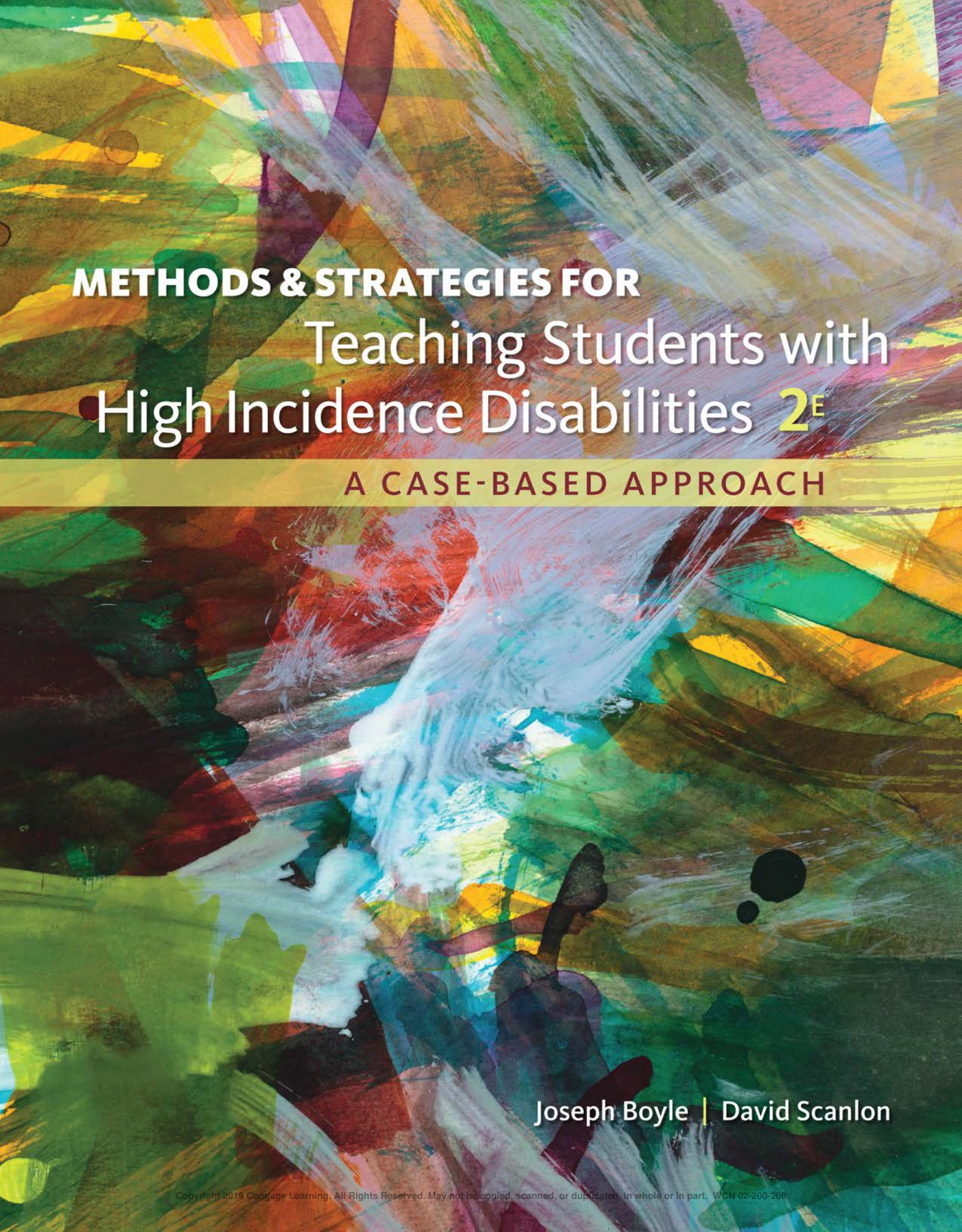
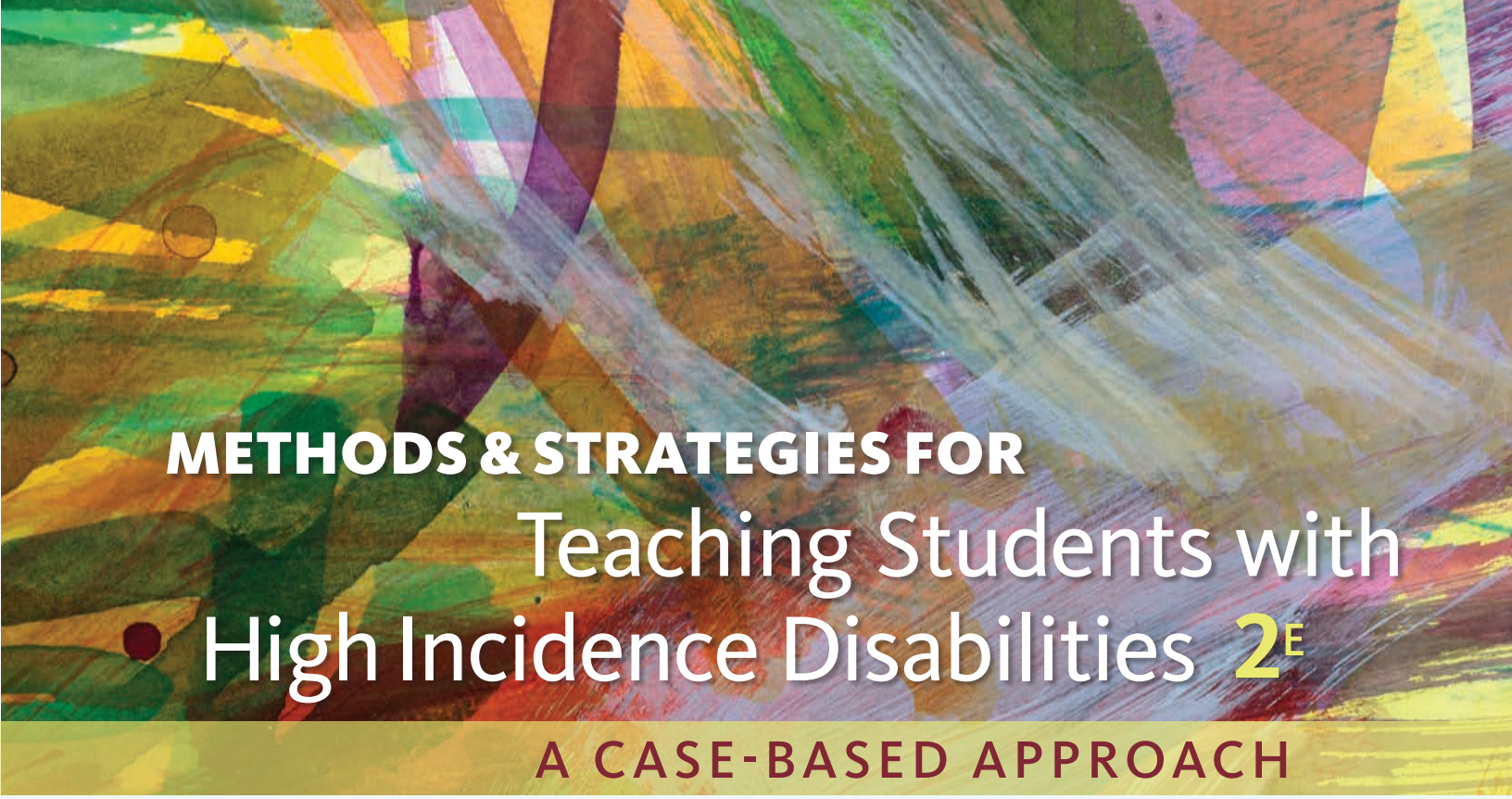


CONTENT STANDARDS FOR ALL BEGINNING SPECIAL EDUCATION TEACHERS

CEC Initial Preparation Standards		Chapters
STANDARD 1: Learner Development and Individual Learning Differences Beginning special education professionals understand how exceptionalities may interact with development and learning and use this knowledge to provide meaningful and challenging learning experiences for individuals with exceptionalities.		
1.1	Beginning special education professionals understand how language, culture, and family background influence the learning of individuals with exceptionalities.	1, 3, 4
1.2	Beginning special education professionals use understanding of development and individual differences to respond to the needs of individuals with exceptionalities.	1, 2
STANDARD 3: Curricular Content Knowledge Beginning special education professionals use knowledge of general and specialized curricula to individualize learning for individuals with exceptionalities.		
3.1	Beginning special education professionals understand the central concepts, structures of the discipline, and tools of inquiry of the content areas they teach , and can organize this knowledge, integrate cross-disciplinary skills, and develop meaningful learning progressions for individuals with exceptionalities.	9, 10, 11
3.2	Beginning special education professionals understand and use general and specialized content knowledge for teaching across curricular content areas to individualize learning for individuals with exceptionalities.	9, 10
3.3	Beginning special education professionals modify general and specialized curricula to make them accessible to individuals with exceptionalities.	2, 9, 10, 11
STANDARD 4: Assessment Beginning special education professionals use multiple methods of assessment and data-sources in making educational decisions.		
4.1	Beginning special education professionals select and use technically sound formal and informal assessments that minimize bias.	11
4.2	Beginning special education professionals use knowledge of measurement principles and practices to interpret assessment results and guide educational decisions for individuals with exceptionalities.	11
4.3	Beginning special education professionals in collaboration with colleagues and families use multiple types of assessment information in making decisions about individuals with exceptionalities.	2, 3
4.4	Beginning special education professionals engage individuals with exceptionalities to work toward quality learning and performance and provide feedback to guide them.	3, 11
STANDARD 5: Instructional Planning and Strategies Beginning special education professionals select, adapt, and use a repertoire of evidence-based instructional strategies to advance learning of individuals with exceptionalities.		
5.1	Beginning special education professionals consider an individual's abilities, interests, learning environments, and cultural and linguistic factors in the selection, development, and adaptation of learning experiences for individual with exceptionalities.	1, 2, 3, 10
5.2	Beginning special education professionals use technologies to support instructional assessment, planning, and delivery for individuals with exceptionalities.	5, 6, 7, 8, 9, 10, 12
5.3	Beginning special education professionals are familiar with augmentative and alternative communication systems and a variety of assistive technologies to support the communication and learning of individuals with exceptionalities.	6
5.4	Beginning special education professionals use strategies to enhance language development and communication skills of individuals with exceptionalities.	5, 6, 7, 8, 10
5.5	Beginning special education professionals develop and implement a variety of education and transition plans for individuals with exceptionalities across a wide range of settings and different learning experiences in collaboration with individuals, families, and teams.	1, 2, 3, 6
5.6	Beginning special education professionals teach to mastery and promote generalization of learning.	5, 6, 7, 8, 10
5.7	Beginning special education professionals teach cross-disciplinary knowledge and skills such as critical thinking and problem solving to individuals with exceptionalities.	5, 6, 7, 8, 10
STANDARD 7: Collaboration Beginning special education professionals collaborate with families, other educators, related service providers, individuals with exceptionalities, and personnel from community agencies in culturally responsive ways to address the needs of individuals with exceptionalities across a range of learning experiences.		
7.1	Beginning special education professionals use the theory and elements of effective collaboration.	2
7.3	Beginning special education professionals use collaboration to promote the well-being of individuals with exceptionalities across a wide range of settings and collaborators.	2



METHODS & STRATEGIES FOR Teaching Students with High Incidence Disabilities 2E

A CASE-BASED APPROACH

Joseph R. Boyle
Temple University

David Scanlon
Boston College

CENGAGE

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To Carole, Joshua, and Ashley—with love.
J. R. B.

To Candace Bos—friend and teacher.
D. J. S.

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About the Authors

Joseph R. Boyle is a former special education teacher. In his special education classroom and other settings, he taught students with HI. His students included students with learning disabilities, mild to moderate intellectual disabilities, traumatic brain injury, attention deficit/hyperactivity disorder, autism, and Asperger's syndrome. As a special education teacher, he has collaborated and co-taught with general education teachers and other school professionals. He received his PhD in special education from the University of Kansas. Through his research, he has developed a number of classroom interventions for students with HI in the areas of reading, writing, and note-taking.

Joseph R. Boyle is currently an associate professor of special education at Temple University, Philadelphia, PA. He has taught or currently teaches courses for university students in undergraduate to doctoral programs. The courses he has taught include methods and materials for special education, collaboration and consultation, introduction to special education and special education law, assessment in special education, special education behavior management, language disabilities, critical issues in special education, and technology in special education classrooms. He has also taught several courses online and in other web-based formats. His current research interests include examining the effectiveness of teaching techniques among students with HI, particularly in the areas of reading, writing, and note-taking. He has co-authored three special education casebooks and numerous journal articles. He is currently co-editor of the *Journal of Special Education Technology*.

David Scanlon is a former high school and community college special education teacher. In his high school resource room, he taught students with a variety of disabilities; some were "mainstreamed" and others took most or all of their academic courses with him. In the community college, he taught basic literacy courses and assisted with advising students with disabilities. He received his PhD in special education and rehabilitation from the University of Arizona. Following his graduation, he worked as an assistant research scientist at the University of Kansas Center for Research on Learning (CRL). There, he and his colleagues developed strategic interventions appropriate to the inclusive content-area classroom context. While at the CRL, David served as director of intervention research for the National Adult Literacy and Learning Disabilities Center. The Center was funded to identify best curricular practices in adult basic education.

David Scanlon is currently an associate professor of special education in the Lynch School of Education at Boston College. He teaches courses ranging from the undergraduate to doctoral level. Among the courses he teaches are an introductory special education class, special education methods for general education teachers, methods for special education teachers of students with HI, and an advanced class on scientific and social theories on the nature of learning disabilities and special education practice. He continues to research effective interventions for children and adolescents with HI disabilities, including focuses on content-area literacy, self-advocacy, and transition. He also studies IEP dispute resolution. David Scanlon has co-authored several learning strategies, in addition to curricular materials and nearly 50 research publications and book chapters. He is the past chairperson of the Special Education Research Special Interest Group of the American Educational Research Association, past chairperson of the Research Committee of the Council for Learning Disabilities, former associate editor of the *Journal of Teacher Education*, former editor of the *Learning Disability Quarterly*, and is currently editor of the *International Journal for Research in Learning Disabilities*. He is a Fellow of the Autism Consortium as well as the International Academy for Research in Learning Disabilities.

About the Cover Artist: **Anne Conway**

Anne Connolly was born in 1951. She worked as an artist at Creativity Explored from 1987 until 2015.

Connolly is a painter and printmaker who typically creates energetic abstractions using bright complementary colors. Her distinctive style features bold, forceful brushstrokes with overlapping layers of paint. The interactions between these layers produce interesting results: when opaque, one layer obscures the one underneath. When Connolly dilutes the paint, the layers combine, producing new colors at their intersection. These dynamic compositions give Connolly's work great depth.

About Creativity Explored

Creativity Explored is a San Francisco-based nonprofit visual arts organization that gives artists with developmental disabilities the means to create and share their work with the community, celebrating the power of art to change lives.

We are committed to supporting people with developmental disabilities in their quest to become working artists, and to promoting their work as an emerging and increasingly important contribution to the contemporary art world.

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Preface

Welcome to the second edition of our textbook, *Methods and Strategies for Teaching Students with High Incidence Disabilities*. We have combined our experiences as educators and researchers with our knowledge of evidence-based instructional practices to write this book and are excited to share this new edition with you.

Why We Wrote This Book

Our own experiences as former teachers—and now as teacher educators and researchers—have helped us shape the content, features, and pedagogy found in this book. Having taught graduate and undergraduate education students for more than two decades, we found many special education methods textbooks lacking. Some offered too few practical instructional methods, or represented dogmatically narrow approaches to teaching and learning. Most were a compendium of methods and techniques, often to the detriment of student learning. Our students often complained to us that their textbook had too many techniques that were presented in a superficial manner and that lacked sufficient depth for use in the classroom. We observed that students knew the features of the techniques, but didn't quite understand how to use them with their students. We also found texts that promoted instructional practices that lack supporting research.

We therefore developed this textbook with student learning at the forefront. We wanted to develop a text that would reflect first-rate pedagogy. The practices described in this book are supported by educational research involving pupils with HI and their teachers. We also wanted students to be able to apply their knowledge soon after learning it. As a result, *we designed this textbook around a common core of knowledge that we believe all special education teachers should know, and then designed activities and cases to support learning it*.

Who Should Use This Book?

This textbook was designed for students preparing to be either special education or general education teachers. It describes the current inclusive context of K-12 schooling. It also presents teaching practices appropriate to both roles. It addresses the continuum of placements and services for students enrolled in special education. Readers of this textbook will learn best and evidence-based instructional practices and how to participate in all aspects of the special education process (for example, RTI, multidisciplinary teams, IEPs, collaborating with families, co-teaching, providing accommodations, and progress monitoring) for students with HI.

The introductory chapters provide a link between traditional methods courses and other "introductory" special education courses. Instead of simply providing a redundant introductory text, we present an overview of the HI disabilities, with discussions of the special education process and various educators' roles, and theories of learning that influence instruction applicable across the different HIs, all from an applied

perspective. Hence, this book is appropriate for methods courses that build from a general/special education foundation, those that serve as students' only exposure to practices appropriate for their students with HI, and inclusion courses that provide strategies and techniques that can be used in inclusive settings.

How This Textbook Is Different From Others

As we explain here in greater detail, our textbook is unique and innovative for the following key reasons:

1. **Throughout the entire text, we link current educational research to practice.**

At the heart of the book is our philosophy of *linking research to practice* so that teachers use effective strategies and techniques to constantly improve the learning (and lives) of students with disabilities. This text reflects the most current scholarship about teaching students with HI but in a way that is accessible to preservice students and novice readers. The featured practices, and details on how to teach with them, reflect both standards expected for all learners and research-based effective practice.

2. **This special education textbook interweaves compelling case studies and research-based special education teaching strategies and techniques.**

We integrated cases into the text to connect theory and knowledge with practice. In each chapter, two cases are presented so that students can apply their knowledge of strategies and techniques. The cases reflect realistic special and general education scenarios, lending insight into the experiences and perspectives of students, educators, and families. References to the cases illustrate key concepts and practices throughout each chapter; however, the discussion is broader so that instructors are not bound to teach the cases.

3. **Instead of including every technique under the sun, each chapter focuses on several key, empirically validated teaching practices.**

This text takes a focused and integrated approach to teaching methods. Each chapter presents a limited number of teaching techniques, but with sufficient detail so that students can thoroughly learn them. As we explain each technique, we discuss typical challenges for students with HI.

4. **Equal attention is paid to each of the HI areas.**

In every chapter, the unique learning needs of students with different HI areas are described. Effective practices and the research that supports their use with students with varying disabilities are also referenced.

5. **Equal attention is paid to elementary and secondary education.**

In every chapter, the learning characteristics and needs of students with HI from kindergarten to secondary school are described. Effective practices based on developmental needs and schooling level considerations are fully explained.

6. **The relationship of student and family diversity to effective teaching and learning is presented.**

Instead of addressing diversity in feature boxes or as a separate chapter, examples in each chapter directly show how to consider types of diversity such as sex, race, ethnicity, English language learner status, economic class, family status, and sexual orientation, in

addition to disability. Empirically supported evidence of how diversity impacts schooling and learning is presented, in addition to effective inclusive practices for all.

7. **As we explain in the next sections, we use reader-friendly features to alert readers to important text content and to relate content directly back to the cases.**

In doing so, we try to facilitate readers' learning and understanding of the teaching strategies and techniques. The features and cases are structured to serve as examples that you can also use in your class teaching; however, they are not relied upon so heavily that you cannot make connections to your own perspectives or experiences.

Student Learning Features

Every chapter of this text offers the following features that were designed to enhance student learning. Each of these features represents effective pedagogic practices. They are designed to make this textbook not only informative, but a teaching and learning tool for your students.

Learning Objectives: To orient students to the information they are about to read, each chapter begins with learning objectives that represent the "big ideas" students should think about as they read.

Case Studies with Accompanying Case Questions, and a "Think Back to the Case" Feature: Each chapter contains two engaging case studies about real education issues for students to "solve." Each case study ends with questions about what teachers should do based on the case scenario. Those questions guide students to reflect on critical components of the cases as they read the chapter. As information appropriate to answer a case question is presented, a "Think Back" box summarizing an answer to that question follows.

Methods and Strategies Spotlight Boxes: In each of these special boxes, a specific practice is highlighted and discussed in depth.

Tips for Generalization Boxes: Because teachers need to learn how to generalize procedures they learn, we highlight examples of generalization practices. Readers can consult these boxes to learn ways that popular and validated practices can be properly generalized to meet the needs of individual students or unique setting demands.

Application Activities: To help students extend their learning of what they read, each chapter ends with three to five Application Activities. Each of these activities encourages students to apply and think about the practices they have learned. The activities are designed so that students may engage in them even if they are not in a student teaching situation when they read this book.

Coverage of the CEC Initial Preparation Standards 2015: The Council for Exceptional Children 2015 Standards for entry-level educators are listed inside the front cover of the text. In each chapter, explicit reference is made to the CEC. The purposes of the standards, how to use the standards, and ways to meet the standards are addressed throughout the entire book.

Text Organization and Coverage

Chapter Walk-Through

Chapter 1 begins with a discussion of the characteristics of students with HI, major legislation that affects today's schools and families, and current practices in the field

(for example, responsiveness to intervention). Instead of being simply redundant with what many students may learn in an introduction to special education class, this chapter focuses on implications for practice. In **Chapter 2**, we describe how to plan, teach, and monitor instruction in the inclusive classroom and other special education settings. The importance of collaboration, including co-teaching, is highlighted. We take readers from the pre-referral process, through individualized education program plan (IEP) development, lesson planning, and best and evidence-based practices in special education, and end with a discussion of ways to monitor the progress of students with disabilities, all focused on the roles and activities of effective general *and* special educators. **Chapter 3** explains how to collaborate with families, including how to plan for a positive transition to life beyond high school. The IDEA expectations for collaborating with families and practical methods for collaboration are explained. The benefits of collaboration for students, families, and educators are also described. How to use those valuable collaboration skills in providing effective transition programming is highlighted. The expectation to plan and provide transition services is explained as it relates to the special educator's role. Options for transition destinations are described, along with helpful information on how to select options for individual students in collaboration with the student and her or his family. Effective transition planning and programming practices are also explained with examples. **Chapter 4** discusses current learning theories in special education and techniques or methods that are derived from those theories to aid student learning. **Chapter 5** addresses strategies and techniques for improving oral language.

Next, we move on to the reading chapters. **Chapter 6** describes early reading skills such as phonological awareness and word-attack skills. **Chapter 7** covers fluency and comprehension skills and strategies. **Chapter 8** describes how to teach written language skills and strategies to students with HI.

Chapter 9 discusses how to teach math concepts and skills to students with HI, and how to implement strategies to help students overcome difficulties with problem solving. Skills from basic to advanced mathematics are included. **Chapter 10** explains ways to facilitate learning in the content areas, including content enhancement routines and techniques for helping students understand textbook information. **Chapter 11** describes how to teach students with HI much-needed organizational skills, note-taking and study skills, as well as test-taking strategies. **Chapter 12** describes how assistive technology can be used in today's classroom to bypass skill deficits or improve student learning in basic skill areas such as reading and written language. We also discuss how teachers can enhance their own teaching through technology, including using technology to manage their time by using electronic gradebooks and electronic IEPs.

Supplements for Students and Instructors

A variety of exciting supplemental materials are also available to accompany the text.

MindTap: Empower Your Students

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1 Providing Special Education to Students with High Incidence Disabilities

Learning Objectives

After reading this chapter, you will understand:

1-1 What the high incidence (HI) disabilities are, and how they affect a student's academic and social skills

1-2 The principles of instructional practices that have evidence as benefitting students with HI

1-3 Where students with HI receive their education and the types of services that may be provided

1-4 The major implications of federal laws concerning how we serve students with disabilities, and the major approaches to services endorsed by those laws

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

1-1 Beginning special education professionals understand how language, culture, and family background influence the learning of individuals with exceptionalities.

1-2 Beginning special education professionals use understanding of development and individual differences to respond to the needs of individuals with exceptionalities.

CEC Initial Preparation Standard 5: Instructional Planning and Strategies

5-1 Beginning special education professionals consider individual abilities, interests, learning environments, and cultural and linguistic factors in the selection, development, and adaptation of learning experiences for individuals with exceptionalities.

5-5 Beginning special education professionals develop and implement a variety of education and transition plans for individuals with exceptionalities across a wide range of settings and different learning experiences in collaboration with individuals, families, and teams.

What makes special education "SPECIAL"?

This question has been asked time and again in the field of special education (for example, Bateman 2011; Dunn 1968; Will 1986). As the federal special education law states, **special education** is an educational program that is designed to meet an individual student's unique needs (Individuals with Disabilities Education Act [IDEA] 2004). **Individualizing** based on both what a student needs to learn and how that student learns best is in essence what makes it "special" (Kavale and Forness 1999). Special education instruction is typically provided in an explicit way and at an intensive pace and is more structured than general education instruction (Kauffman and Hallahan 2005). Although several other factors might contribute to the uniqueness of special education (for example, low teacher–pupil ratios, provision of therapies and services related to education, and the involvement of parents), the instruction qualified educators provide is essentially what makes it unique. That is, *you* will be the defining factor that makes a student's education "special."

To teach students with disabilities, it is important first to understand the different types of disabilities and the characteristics of each type.

1-1 Practical Descriptions of the High Incidence Disabilities

Throughout this book, we will refer to students with high incidence disabilities (hereafter HI). You may recognize this term or you might know it as mild or mild/moderate disabilities. Terminology evolves as our understanding of the thing it labels evolves. Hence, for a long time "mild/moderate" has been the accepted term, representing how much these disabilities impact a person in comparison to the severe disabilities (such as deafblindness), which are known as the "low incidence" disabilities. However, terms like "mild" can carry the connotation that these disabilities impact a person in only minimal ways; that can sometimes be true but most certainly is not universally true. "High incidence" instead simply signals that these are the disabilities that occur most often, or at a high incidence rate. The acronym **HI** refers to students who have learning disabilities, speech or language impairment,[1] attention-deficit/hyperactivity disorder, autism at the "requiring support" level, mild levels of intellectual disability, and emotional or behavioral disorders. There are 13 categories of disability served by the IDEA (Table 1.1). (States sometimes use different labels for individual disabilities, but they all correspond to the IDEA's 13 categories.) The HI disability categories account for more than half of all students served in special education under the IDEA. We present them in order of prevalence, starting with the highest percentage of students in special education.

Specific Learning Disability

Specific learning disability (LD) is the most commonly identified disability among school-age students in special education (U.S. Department of Education 2016).

[1] We will not directly address SLI in this text, as students with SLI are served primarily by trained speech and language pathologists.

TABLE 1.1 Disability Categories Currently Served Under the IDEA

Autism spectrum disorder
Deaf-blind
Developmental Delay
Emotional disturbance
Hearing impairment
Intellectual disability
Multiple disabilities
Orthopedic impairment
Other health impairment (includes ADHD)
Specific learning disability
Speech or language impairment
Traumatic Brain Injury
Visual Impairment

CASE 1.1 Three Elementary School Students: Maria, Sy, and Burt

Case Introduction

In this case, you will meet Emily Holcomb and three of her students with HI. Emily is a special educator who works with the students both in their inclusive classroom and in her learning center classroom. As you read the case, you will notice that each student has some difficulties in class, but so do some of their classmates. Teachers face the challenge of knowing when a learning difference is a disability and what to do when they suspect that it is. As you read the case, ask yourself what special education services the students need.

At the end of the case, you will find case questions. These questions are meant to serve as points for reflection. Of course, if you can answer them immediately, you should do so, but you may want to wait to answer them until you have read that portion of the chapter that pertains to the particular case question. Throughout the rest of the chapter, you will see the same questions. As you see them, try to answer them based upon that portion of the chapter that you just read.

Emily is a special education teacher at Gamon Elementary. She started out as a general education classroom teacher but quickly discovered her passion was for working more individually with students. She particularly likes the challenge of working with students who struggle, figuring out how to guide them in building their skills. Three of Emily's students are Maria, Sy, and Burt. She works with all of them in the classroom where she co-teaches with José Luis Ramirez. She also works with Maria in her learning center classroom.

Maria appears to be extremely shy. She seldom asks for help, volunteers to answer a question, or participates in even fun activities. Maria also tends to sit still and observe her classmates when she is supposed to be partnering with them. Sometimes she works alone, seemingly unaware she is supposed to be participating with others. She has one "friend," whom Emily has noticed usually bosses Maria around. Maria typically withdraws from other students and remains silent if they try to be social with her. In second grade, Maria had been identified as having an emotional disturbance, specifically that she was experiencing depression. Emily believed that shyness and demure behavior were common for Mexican-American girls who live in the community, so she was surprised by the diagnosis. Also, she had trouble believing that someone so young could experience depression. Maria consistently earns low grades, averaging Cs and Ds. She is particularly behind in reading, and Emily fears the gap between her reading skills and what is expected of her is growing faster than Maria is developing her skills. Emily works with Maria in the learning center twice a week to focus on any content from José Luis's class that she needs to review.

Saed, who goes by Sy, is a quiet student, but not shy like Maria. Sy's family moved to this country last year. He had learned some English when they lived in Palestine, but his mother and father tend to speak Arabic at home. Emily gets to work with Sy when she co-teaches in José Luis's classroom. Sy is not a special education student but the teachers at Gamon suspect he may have a disability. Understanding that

continued

language differences hold him back, Emily has been comfortable with the amount of work and socializing that Sy does. At the same time, she notices that he seems to have difficulty developing sight-word vocabularies (words in print that he recognizes instantly) and recognizing sounds made by letters and letter blends. Feeling that they are not meeting his needs, Emily and José Luis sought the help of a team of colleagues comprising Sy's former-grade teacher, a teacher of English as a second language (ESL) whom Sy sees three times a week, and another special educator. Together, they have tried different instructional activities and kept records of how the activities benefited Sy. Based on that team's referral, Sy was recently evaluated for a learning disability, but the testing was inconclusive because he is still considered to be an English language learner. The team agreed that Emily should continue to work with Sy and keep data on his progress when she is in José Luis's classroom. Sy seems to lack some general knowledge expected of fifth graders, but the teachers attribute that to differences in schooling between his former home and the local community.

Burt is what Emily's principal referred to as "all boy." It seems like he always finds excuses to move around the classroom; if something interests him more than what José Luis wants him to attend to—for example, the magnifying glasses on the bookshelf or manipulatives for math time—he can't resist going after them anyway. The principal made her observation about Burt in late October when José Luis commented that Burt was a very nice boy but too disruptive and distracted compared to the other children in the room. José Luis and Emily have kept careful observations of what he does and the results of different efforts they (most Emily) made to help him control his behavior. They also kept the principal informed and spoke to Burt's parents, whom they found are at their wit's end with his behavior at home as well. In early spring, Burt was identified as having ADHD. Emily suggested an aide be assigned to help manage Burt in the classroom and that he spend 30 minutes each day in the learning center going over content from class that he missed. The rest of the team disagreed with her. They said he didn't need special education and they ultimately decided that he would receive a 504 plan and José Luis and Emily would work with him in the classroom on self-regulation strategies.

CASE QUESTIONS

1. In what ways could Sy's primary language impact the process of determining whether he has a learning disability?
2. In what ways could Maria's ethnic culture impact the process of determining whether she has an emotional disturbance?
3. What are common characteristics associated with these student's specific disabilities?

While most people refer to it simply as "learning disability" or "learning disabilities," "specific" in the official name signals that it impacts individuals in specific academic skill areas. The definition cites a significant limitation in using language to acquire, think with, and/or express information in one or more of the following areas: listening, speaking, reading, writing, spelling, or mathematical calculations (Federal Register 2006).

Just as no two students learn alike, we have increasingly come to understand that no one cognitive disorder constitutes an LD; rather, LD is a "heterogeneous group of disorders" that all include difficulties in using language to acquire information, think with it, and/or express it (National Joint Committee on Learning Disabilities [NJCLD] 2016). That explains why one student with LD may have difficulty with beginning reading skills (for example, recognizing letters or letter blends), whereas another may have trouble with higher-level reading skills (such as discerning main ideas or inferring meaning), and still another might have difficulties in writing, mathematics, or organization, but not in reading. The commonality that unites all students with LD is that they process information differently than others and frequently experience low academic achievement because of it. Put simply, an LD is an unexplained difficulty with learning among students with average or above-average intelligence (Fuchs et al. 2003; Stanovich 2005).

What LD "Looks Like" and How It Is Experienced. Students with LD have significant difficulty processing information. This processing difficulty is often evidenced in poor

performance in academic skill areas such as reading, written language, and math. Because LD can vary in its "severity," some will work in very disciplined ways in the area(s) impacted and achieve at levels commensurate with their peers. More commonly, however, students with LD will struggle and achieve at a below-average level in the area(s) impacted. Some students with LD have low self-esteem and low motivation for academics, if not more broadly (Louick 2017). Dropping out of school is also more common for students with LD than it is for the general school population, particularly for those who become frustrated with school (Scanlon and Mellard 2002).

Cognitive Processing Difficulties. Students with LD have been characterized as "inactive" and inefficient learners (Torgesen 1982). This is because they tend not to think proactively about a task (for example, reading a difficult word, solving an algebraic equation, planning to complete a project on schedule). Instead, if not told what to do, they may skip parts of the process, produce low-quality work, or simply give up on the task. For this reason, giving directions explicitly and periodically prompting appropriate performance are often needed.

The language-processing challenges at the core of LD include using language to store and recall information in memory. Weak working memory in particular is a common characteristic of students with LD, although it may be specific to just those academic skill areas impacted by the LD (Brandenburg et al. 2015; Swanson 2003). For students who are English language learners the challenge may be compounded by difficulty accessing working memory that is not dependent on proficiency in a language (Swanson Saez, Gerber, and Leafstedt 2004). These facts mean that students with LD need heavy prompting or additional practice to learn facts or skills they would otherwise not fully learn. As Jerman, Reynolds, and Swanson (2012) found, improvements in working memory skills are not likely to spontaneously lead to improvements in academic skills incumbent on working memory.

Students with LD also tend to have slower processing skills (the using language part of the definition), which means they can and do acquire, think with, and express information, but only if given ample time and support to do so. Thus, this characteristic also calls for explicit teaching of information and both allowing students additional time for processing (with scaffolding) and frequent and intensive instruction and/or practice to facilitate memory storage.

As a consequence of their slower learning rates and difficulties with comprehension and recall, students with LD tend to have a limited number of approaches for addressing a learning task, such as making sense of an unknown word when reading (Hallahan et al. 2005; Harris, Reid, and Graham 2004; Meese 2001). They can be characterized as *nonstrategic* (Harris et al. 2004). A strategic approach to performing a task would involve recognizing the task demands (for example, reading an unfamiliar word), identifying options for how to approach the task (using context clues or decoding), selecting an appropriate option, and following that plan for completing the task. While following the plan, strategic students monitor whether they have followed the steps of the plan and evaluate whether or not the plan is working. When necessary, the students "troubleshoot" strategy performance (for example, Pressley 2002; White and Frederiksen 2005). Being able to coordinate all of the thinking involved in being strategic is described by some as **executive functioning** (Meltzer et al. 2001).

Many students with LD also have difficulties with cognitive organization (Mastropieri and Scruggs 2007), which is related to strategic planning. This means that they are not aware of relationships among facts or concepts and they do not discern between salient and noncritical information. Recognizing relationships, which includes inferring them, is essential to storing information in memory and to comprehending concepts (Searlman and Herrmann 1994).

Academic Skills Difficulties. By definition, students identified as having LD have difficulties in one or more academic achievement areas (c.f. Scanlon 2013). You are likely to first observe evidence of problems in cognitive processes among students with LD as difficulties in listening, speaking, reading, writing (including spelling), calculating, or math problem solving.

As estimated 80 percent of students with LD have their primary difficulty in reading (Mercer and Pullen 2005). Reading comprises a complex array of skills (see Chapters 6 and 7) that relate to one another, ranging from recognizing letters, in sounds and print, to interpreting and generalizing the meaning of complex texts. Decoding words is a basic skill of reading. Many students who have difficulty with reading find it difficult to master the foundational skills involved in decoding—namely, phonological awareness, or the understanding that words are made up of sounds, and phonemic awareness, which is the recognition of the individually meaningful units of sound in syllables and words (Reutzel and Cooter 2004). Readers who have difficulty with decoding will further have problems with reading text fluently. Fluency, in turn, is a critical reading skill for comprehending (Good, Simmons, and Kame'enui 2001). Yet, some readers will be challenged in comprehension instead because of the inferential skills involved (again, LD is a heterogeneous group of disorders).

Written language and oral language skills rely on some of the same cognitive processes involved in reading. Some students with LD may have difficulties with spelling, word choice, and organization of information when expressing themselves. For these reasons, help with planning organized writing products or oral communications is helpful (De La Paz and Graham 2002). Students with LD are also likely to be poor spellers, at least until they have developed strong decoding skills, as the foundational skills of decoding are essential to being able to spell (Berninger 2003). Handwriting can also be challenging for students with LD. This may be due to poor fine motor control, but also to memory for forming letters. Extensive practice is necessary to improve handwriting (Berninger 2003). Sometimes educators encourage the use of a word processer as an alternative to handwriting, but this could put the student at a disadvantage in a world where handwriting is still a practical skill.

For some with LD the challenges are in mathematical conceptualizations and reasoning, and/or challenges in performing math calculations, which may be due in part to memory difficulties (Tolar, Fuchs, Fletcher, Fuchs, and Hamlett 2016). Similar to reading and writing, math difficulties most commonly involve basic skills but can extend to complex higher-level skills. Number sense, or an understanding of quantity and how numbers relate to one another, is foundational to mathematical thinking and operations (Compton, Fuchs, Fuchs, Lambert, and Hamlett 2012). For some students, memory weaknesses result in difficulty recalling arithmetic facts and operations. Others with LD will be challenged to comprehend mathematical processes (Compton et al. 2012; Tolar et al. 2016).

Social Skills Difficulties. There are differences of opinion about whether or not students with LD experience any more social challenges than their peers who do not have disabilities. However, it is reasonable to assume that the cognitive processing challenges they experience can occur in social situations (NJCLD 2016). Some students with LD report having few friends (Elksnin and Elksnin 2001), and observational evidence has indicated that their classmates sometimes avoid partnering with them, at least for academic tasks (Donahue, Pearl, and Bryan 1980; also see Toste, Bloom, and Heath 2014 regarding teachers' perceptions of their academic relationships with students with HI in their classrooms). Some students with LD may not be actively processing while in social situations, or processing quickly enough to keep up, and may not know how to conduct themselves in certain contexts (for example,

cooperative groups, whole class participation, recess, the cafeteria, or the locker room) (Hutchinson, Freeman, and Berg 2004). Still, some students with LD are well liked, in both social and academic settings. This is because of the limited ways their LD affects them, because of their own self-regulation skills, or because they use more positive social skills (Raskind et al. 1999). Sy is an example of a student who seems to be coping well in all regards but reading.

Methods and Strategies Spotlight

Gifted and LD

Learning disabilities are often thought of in terms of deficits, or the things students cannot do well. Consequently, we can form negative views of students' potential. So much of the focus of special education for LD is on remediating what students have difficulty doing that we tend to forget LD is not an *inability*. We can even find ourselves forgetting that an LD impacts only certain areas of a student's cognition and achievement. A particular subgroup of students with LD should remind us just how heterogeneous learning disabilities are: students who have an LD but are also gifted. Such students are sometimes referred to as **twice exceptional** (Reis, Baum, and Burke 2014).

Students who are twice exceptional have the following three characteristics:

- They fit the diagnostic criteria for an LD.
- They show evidence of a cognitive processing deficit.
- They have an outstanding talent or ability (Mills and Brody 1999), such as music, writing, or mathematics.

Twice-exceptional learners have been estimated to represent between 2 and 5 percent of all school students (National Education Association, 2006). We often have difficulty recognizing the dual exceptionalities of these learners. Sometimes their cognitive and academic difficulties "compete" with their cognitive strengths and they cannot demonstrate what they are capable of. For example, a student with significant reading difficulties will have difficulty in a math class that relies heavily on reading and writing skills. In other cases, we observe the low achievement that results from their LD and fail to notice their exceptional abilities that are a sign of giftedness (Mills and Brody 1999; see also Ferri, Gregg, and Heggoy 1997).

It is relatively uncommon for schools to recognize both conditions in a student (Gardynik and McDonald 2005). This may be because school personnel do not accept that students with LD can also excel intellectually (Gardynik and McDonald 2005). Such thinking represents a fundamental misconception about LD.

Once educators get past their shortsightedness about whether LD and giftedness can coexist, they should find providing appropriate interventions easy. Many of the same intervention approaches appropriate to serving those with LD are appropriate for gifted students. Effective approaches include the following:

- Matching instructional level and pace to the individual student's interests and learning needs
- Varying instructional levels for subject or topic areas across the curriculum (for example, the student participates in an English language arts curriculum below the level of classmates and in a mathematics curriculum above that of classmates)
- Using technology to help students progress at a personally appropriate pace (see Lovett and Lewandowski 2006 for source citations and further details)

When twice-exceptional students receive services appropriate to both their giftedness and their LD, they tend to be more motivated, to have high self-esteem, and to improve academic performance (see Gardynik and McDonald 2005).

THINK BACK TO THE CASE **with the three students: Maria, Sy, and Burt . . .**

In what ways could Sy's primary language impact the process of determining whether he has a learning disability?

Sy demonstrated slow development of a variety of normally expected reading skills. Sy's cultural adjustments and limited English instruction could certainly have been factors in his slow reading development. Focusing solely on those factors, however, could obscure attention to any cognitive difficulties he may be having. He seems also to have memory difficulties with language tasks. That could be a sign of an LD. Language differences can confound accurate assessment of students' language and cognitive abilities (Haager 2007), which likely explains why no clear decision was reached from Sy's evaluation.

Attention-Deficit/Hyperactivity Disorder

Like LD, attention-deficit/hyperactivity disorder (ADHD) is a cognitive disorder intrinsic to the individual. It includes difficulty regulating one's own behavior, in such ways as giving or sustaining attention, and/or controlling movements, which appears as inattention, impulsivity, or hyperactivity. Individuals with ADHD vary in terms of how they are affected.

There are four subtypes of ADHD, three of them well established: (a) predominately inattentive, (b) predominately hyperactive-impulsive, and (c) combined inattentive and hyperactive-impulsive. Note the use of the word "predominately": this is to acknowledge that persons who have either of those subtypes demonstrate some behaviors of the other subtype, but not enough (six or more for children and adolescents, five or more for adults) to satisfy the criteria for "combined." Since 2013 a new subtype has been recognized: ADHD-inattentive (restrictive), which means an individual demonstrates inattention but has had fewer than two examples of hyperactivity within the past six months (American Psychiatric Association [APA] 2013). According to the most commonly accepted definition, ADHD in all of its subtypes (a) critically impacts functioning, (b) occurs in two or more settings for a period of six months or longer, and (c) has its onset before the age of 12 (APA 2013).

A common misconception is that students with ADHD cannot receive services under the IDEA. The IDEA states that students with ADHD are entitled to services under the "other health impairment" (OHI) disability category (see Sec. 300.8 (c)(9)(i), 46757). The definition for this category includes the criterion "chronic or acute" problems with functioning. Historically, that standard has caused confusion as to when students with ADHD satisfy the eligibility criteria, because judging the level of inattention or hyperactivity-impulsivity as chronic or acute is subjective (see the "Differing Perspectives on Disability" box); in fact, all students engage some of these behaviors some of the time (Hallahan et al. 2005). In response to the misconception, the U.S. Department of Education clarified that students with ADHD can be eligible for IDEA services for the condition "ADD/ADHD," when categorized within OHI or when coexisting with another eligible disability (Davila, Williams, and MacDonald 1991; Wodrich 2000). Both LD and emotional/behavioral disorders are sometimes comorbid with ADHD. Because students with ADHD are counted under different disability labels, just what percentage of the population is served can only be estimated. An estimated 3 to 7 percent of the school-age population may have ADHD (Barkley 2006). (According to parent reports of diagnosis, 11 percent of children between the ages

of four and 17 had ever received a diagnosis of ADHD in 2011 [Visser et al. 2014].) Yet the National Institute of Mental Health (2006) reports that perhaps less than half of children and adolescents with ADHD meet the criteria for the IDEA. Many students with ADHD receive services under another law, Section 504 of the Rehabilitation Act (1973), because it relies on a more general definition of "disability" than the IDEA does, interfering with a major life function.

Differing Perspectives on Disability

When nationwide special education was passed into law in 1975, Congress noted that approximately six million American schoolchildren were denied an appropriate education because they had a disability. That was considered discriminatory treatment, and special education was the response. Today there are many different perspectives on disability and special education, particularly when it comes to the HI disabilities.

Each of the HI disabilities is identified in a subjective process; that is, the opinions of parents, educators, and other professionals play significant roles instead of relying on presumed scientifically objective measures (for instance, analyzing brain scans). Some criticize that subjectivity and note its relationship to the over-representation of students of color, low-income students, and English learners among other "minoritized" groups (for example, Costa-Guerra and Costa-Guerra 2016; Harry and Klingner 2006). There are also suggestions that the overall special education process is unfair to those same groups (Ford 2012; Kalyanpur, Harry, and Skrtic 2000; Skiba et al. 2008). However, there is some question of whether the disproportionate representation is instead a reflection of systemic racism and classism that extends far beyond schooling (for example, Morgan, Farkas, Hillemeier, and Maczuga 2016) and whether there might actually be under-representation (Morgan et al. 2005). Other scholars have questioned whether the subjective identification processes arbitrarily distinguish who is and is not entitled to individualized support (Siegel 2012; Stanovich 2005). An underlying question in this debate is whether disabilities and special education are either a negative or a privilege, neither of which was Congress' stated intention in passing the IDEA into law.

The prefix "dis" is considered by some to represent lowered expectations and a "blaming" of the student for her or his academic or social difficulties. The difficulties may be real, having been induced by the process of labeling the student, they would argue, or may be a false perception by those doing the labeling (Gallagher 2010). Christensen (1999), for example, points to terminology such as "special educator," "learning center," and "remediation" as evidence of a "medical model" orientation that presumes the student is "sick" and needs to be treated (Poplin 1988). The remedial education practices and curricular and physical segregation historically favored in special education are criticized as preventing students from advancing in meaningful and engaging learning (Poplin 1988). Some critics suggest that special education exists to excuse schools for failing to serve some of the population; that is, by labeling the student as "special ed" the school can be exonerated for her or his underachievement on the grounds that the student has a disability and more cannot be expected (Skrtic 2005). In response, some encourage a reframing of special education, signaled by positively worded terms such as "learning differences," "exceptional education," and "disABILITY," although even these are open to criticism for not fully renouncing the "evils" of special education as well as for using euphemisms that deny special education is different and is what some students with disabilities need (Kauffman 2002).

continued

There is also another perspective. Counter-critics argue that the intention of holding the same high expectations for all learners and claims that special education is the cause of students' challenges instead of a best response to them negate the reality that some students really do have disabilities that impede their learning (for example, Kauffman 2002; Kavale and Forness 2000). It may be that critics of special education have discomfort acknowledging that some students have cognitive impairments (rarely, if ever, inabilities), whereas there is no contesting the legitimacy and impact of sensory, physical, and health impairments, for example. Hehir (2007) warns well-intentioned critics of disability and special education not to go so far that they engage in "ableism," which is denying human differences and pretending that everyone is equally capable if only they would be set free of the supports and services provided based on a disability. That may be the opposite of the original intention for special education and may not actually empower students identified as having disabilities. Persons with autism and their advocates make reference to "neurodiversity" to remind "neurotypicals" (those without any cognitive disability) that the spectrum of cognitive profiles extends across all humans and that they too are different and not necessarily superior or "normal" (Fenton and Krahn 2007).

What ADHD "Looks Like" and How It Is Experienced. Being easily distracted, daydreaming during class, feeling the urge to fidget or get up and walk around, and doing so without even realizing the urge are some examples of behaviors that reflect ADHD. While the same behaviors can also be observed in "typically developing" students, in the case of ADHD the behaviors interfere with performance and the individual has difficulty regulating them. As children and adolescents grow older their ADHD profile can change. For example, by later adolescence some with ADHD-combined become less hyperactive and become identified as having ADHD-predominately inattentive (Ramsay 2010; Weyandt 2009). Table 1.2 gives examples of common behaviors of students with ADHD at different age levels. Also, while males are far more likely to be identified as having ADHD, it is a myth that ADHD is "less severe" in females (Elkins, Malone, Keyes, Iacono, and McGue 2011; Mahone and Wadka 2008).

TABLE 1.2 Sample Characteristics of Students with ADHD at Different Age Levels

Preschool		
Accidents due to acting independently Noncompliance	Resists routines Aggressive in play	Excessive talking Easily upset
Elementary/Middle School		
Fidgeting Out of seat	Interrupting Inconsistent productivity	Dependent on adults Poor social skills
Middle/Senior High		
Restless Substance use	Low self-concept Procrastination	Impulsive Difficulty following directions

Reprinted with data from M. Fowler, *C.H.A.D.D. Manual*. (Fairfax, VA: CASET Association, 1992), and S. E. Shaywitz and B. A. Shaywitz, "Attention Deficit Disorder: Current Perspectives," in *Learning Disabilities*, ed. J. F. Kavanagh and T. J. Truss (Parkton, MD: York, 1988, 369–523).

For some with the hyperactive-impulsive or combined subtype, their hyperactivity is unmistakable. They cannot seem to sit still—or to sit at all in some cases. They are restless, shift in their seats, get up a lot, and are impulsively quick to act in settings as varied as the playing field and the chemistry lab. For others, hyperactivity is more subtle, or at least not always that pronounced; these students are likely to fidget a lot. Either way, these students benefit from frequent breaks during which they are allowed to move and exert themselves (Hoza et al. 2004; also see Mulrine, Prater, and Jenkins 2008).

The distractibility and inattentiveness associated with the ADHD-inattentive subtype can be more difficult to notice than hyperactivity. Distracted and inattentive students chronically attend to what others are doing, routinely get off task by focusing on something else, or instantaneously stop paying attention, even in the middle of one-on-one conversations, but in ways that may not be readily noticeable to others. They are the students who have difficulty focusing their attention in the first place, seem never to get started with a task, or do not pay attention to details. Research from the 1990s found that those with inattention tend to achieve at lower levels than those with impulsivity (for instance, Fergusson, Horwood, and Lynskey 1993), which may be because they were not noticed and redirected. Also, females with the inattentive subtype have been found to achieve at the lowest levels (Elkins et al. 2011). For both hyperactivity-impulsivity and inattention, redirecting students to task and providing summaries of what they may have"missed"in such simple ways as repeating information, writing it down, or conducting quick reviews for the benefit of all in the class can be helpful.

Cognitive Processing Difficulties. The unique cognitive processes of students with ADHD have been characterized as problems with *inhibition* (Barkley 2000). Typical, nondisabled students do not act on their impulses; rather, they control them—their self-regulation prevents them from acting on their thoughts. The uninhibited (or *impulsive*) cognitive processing characteristic of those with ADHD is believed to be a form of limited executive function (Gualtieri and Johnson 2006). Different from the limited executive function in those with LD, those with ADHD may have the appropriate cognitive behaviors within their repertoire, but they merely are not selected.

Barkley (2000) has suggested that people with ADHD are uninhibited specifically in the areas of *time awareness* and *time management*. He suggests that they do not consider the relation of time to themselves; instead, they act spontaneously rather than delaying or regulating their actions. Moreover, they do not organize tasks based upon priority and do not take into account the proportion of time or effort necessary to complete a task efficiently. In addition, individuals with ADHD may have difficulties with working memory (Barkley 2000). They may not retain and attend to information in working memory, or they fail to attend to salient information, which results in poor comprehension. Students with ADHD can be taught to self-regulate (Reid and Johnson 2011), which involves learning to monitor their ADHD behaviors and finding ways to manage them, such as squeezing a fidget object while paying attention to class.

Academic Skill Difficulties. The cognitive processing profiles of students with ADHD serve as an explanation for their ADHD behaviors; the learning difficulties associated with ADHD are, in effect, secondary consequences. It is the consequence of being distracted or inattentive that results in students missing important information or producing poor-quality work (LeFever et al. 2002; Salend and Rohena 2003). For example, students with ADHD tend to produce poorer-quality written products because they do not sufficiently plan and self-regulate across the three stages of writing: planning, composing, and revising (Casas, Ferrer and Fortea 2013). Academically, students with ADHD do

not achieve at commensurate levels with their peers (Frazier, Youngstrom, Glutting, and Watkins 2007; Stubbe 2000) because they do not fully learn information. They often rush through assignments and do not check their work. When confronted with the consequences of being off-task or doing low-quality work, these students will often respond in a panic mode, attempting to redo and catch up on their work, resulting again in a low quality or quantity of work (see Sibley, Altszuler, Morrow, and Merrill 2014).

As the students age there is a compounding effect: they get farther behind because of what they have missed in the lower grades (Massetti et al. 2008). Overall, those with inattention get fewer interventions in the classroom than those with hyperactivity-impulsivity, perhaps because they are more easily overlooked. It may be for this same reason that females with the inattentive subtype have some of the lowest academic (for instance, grade point average) and cognitive (IQ) levels of those with ADHD, and also uniquely low academic motivation (Elkins et al. 2011). Effective intervention responses address both regulating behavior patterns and remediating academic content and skills.

Social Skills Difficulties. Socially, the status of students with ADHD depends on how the condition manifests itself. The students' distractibility behaviors may be barely noticed by their peers, or at least not be of concern to them. However, females with the inattentive subtype experience less social acceptance than males or students with any of the other subtypes; they also experience loneliness and bullying at higher rates (Elkins et al. 2011). This suggests that inattention, for females and males, is noticed at least indirectly. Students with hyperactive-impulsive behavior are more likely to be noticed. They might garner a reputation for being the class clown if their off-task and out-of-seat behaviors constantly cause them to be viewed as "goofy," or they might get a reputation as class rebel if they come across to their peers as defying the teacher's attempts to have them participate in activities. Peers are more likely to resent students with ADHD if the students' behaviors bring negative consequences to the peers (Mikami, Jack, and Lerner 2009; Olmeda, Thomas, and Davis 2003); in the case of hyperactivity-impulsivity, other students in the class may be distracted from their own work, penalized due to the student not fulfilling expected contributions to a group task, or offended or even harmed by the student's actions. Just as with academic skills, students with ADHD can learn to self-regulate their behaviors in social contexts (DuPaul, Arbolino, and Booster 2009) and also benefit from structured social situations that are responsive to their behaviors (Pfiffner, Barkley, and DuPaul 2006).

ADHD and Medication. An estimated 6.1 percent of children aged four to 17 with ADHD took medication for it in 2011 (Visser, Blumberg, Danielson, Bitsko, and Kogan 2013). These medications may be in the form of a stimulant, a nonstimulant, or in some cases an antidepressant. Students must take them at properly prescribed intervals. This may mean that a school nurse has to be available to supervise drug taking during school, and at home parents must follow the schedule. Some students use weekends and summer as "medication vacations," not taking their medications because of side effects. In a review of research on "adverse events" Cortese et al. (2013) found research does support that ADHD medications can cause appetite suppression, height and weight growth suppression (which attenuates over time for those taking the medications for multiple years), and slight increases in blood pressure and heart rate. The evidence is unclear but medication usage may be associated with difficulty falling asleep or insomnia as well. Their review found no conclusive support for an association between medication usage and tics, seizures, suicidality, or psychotic symptoms.

Prescription medications for ADHD typically have their desired effect, which is to reduce inattention (note this is not literally the same thing as increasing attention) or hyperactivity (Spencer, Biederman, and Wilens 2010). The medications

suppress but may not completely remove the ADHD "behaviors," and they will not result in improved academic or social engagement or achievement unless the student is also taught positive skills. Hence, with the exception of students with the most "severe" cases of ADHD who need the medications to regulate themselves, others should use the medications to reduce the behaviors to manageable levels while they learn skills of self-regulation (Fabiano et al. 2007). Otherwise, medication only helps to reduce the impact of the student's ADHD on others without building any strengths in the student.

Autism

An autism spectrum disorder (ASD) is a "persistent impairment in reciprocal social communication and social interaction, and restricted, repetitive patterns of behavior, interests or activities" (APA 2013). As the term "spectrum" connotes, persons with autism exhibit a range of functioning levels across these areas. Some are virtually nonverbal, may rock or flap their hands excessively, and may not perform the most basic of daily functions independently. Also, some with autism have below-average IQ. However, as it is a spectrum, others appear and function so much like typically developing individuals that their autism may not be immediately noticeable.

After being identified as having autism, the person is next classified based on her or his severity level, which represents how much support she or he will need to function independently. These severity levels are requiring support, requiring substantial support, or requiring very substantial support (APA 2013; see Aljunied and Frederickson 2011). Those with autism at the "requiring support" level may be considered as having an HI disability (note that this is our suggestion, as there is no hard-and-fast rule as to how to distinguish the levels of autism as high versus low incidence).

There is also a relatively new autism designation, social (pragmatic) communication disorder (SCD) (APA 2013). It applies to those who have difficulties with social language and communication skills but none of the other features of autism (or only rarely).

Some students on the autism spectrum might be known by a different label. The classification system for ASD was updated in 2013. Anyone who had an ASD diagnosis prior to the switch is allowed to keep using the original label at her or his (or the parents') discretion. Previously, the spectrum included (in order, from the least "severe") Asperger syndrome, autism, pervasive developmental delay not otherwise specified (PDD-NOS), Rett syndrome, and disintegrative disorder. (Some chose to recognize high-functioning autism after Asperger; however, that was never an official label and some research indicates it is indistinguishable from Asperger [Prior 2003]). Those who would have been labeled as having Asperger syndrome under the old system now are most often considered to have autism requiring support (Foley-Nicpon, Fosenburg, Wurster, and Assouline 2017; also see Kulage, Smaldone, and Cohn 2013). Some may be recognized as having SCD; however, as SCD is a newer conception and the assessment tools most commonly used to identify ASD may not be sensitive to it (Foley-Nicpon, Fosenburg, Wurster, and Assouline 2017), this designation may not be widely used.

What Autism Requiring Support "Looks Like" and How It Is Experienced. Students with autism requiring support do not exactly match many of the stereotypes of autism. They often have strong vocabularies and tend to be verbose. In fact, they may talk at length, usually about topics that interest them. Also, repetitive gestures such as hand flapping are usually minimal, if they occur at all. Students with autism requiring support are likely to thrive on sameness and routines; in fact, they can become very disoriented and upset when routines as simple as the order of events for beginning class are altered. Some also have special interest areas. They may come close to obsessing on

these topics (such as trains or how a lightbulb works), they spend significant amounts of time studying them, and they steer the conversation to them whenever they can.

Those with autism requiring support have difficulty interpreting idioms, sarcasm, and implied information. They can be very literal; Shore (2003), an adult with Asperger, describes how for years he could not understand how his friend could "feel like a pizza." They also tend to be very logical or rule-bound without considering sentiment, emotions, or exceptions to rules. For this reason, they may take perspectives and express themselves in ways perceived as rude or uncaring. This can lead to their being socially isolated. As you will read later, many are lonely.

Finally, very few persons with autism at any support level have exceptional talents, such as the ability to memorize everything they hear, to play a musical instrument flawlessly the first time they try, or hyperlexia (the ability to read words without formal reading instruction).

Academic Skill Difficulties. Even though students with autism requiring support typically have strong vocabulary and grammar skills, they have several problems with language. For example, they tend to read dysfluently and to have difficulties with reading comprehension, particularly when critical thinking and verbal reasoning are involved (Huemer and Mann 2010; Schaefer Whitby and Mancil 2009; Smith Myles et al. 2002). They also tend to have challenges with writing, particularly organizing information and taking into consideration what their audience needs to be told. They may not vary their sentence structure and vocabulary, and they commonly have graphomotor difficulties, likely due to poor coordination of their motor skills (Schaefer Whitby and Mancil 2009). In mathematics, skill difficulties are typically seen in problem solving; basic mathematics comprehension is a comparative strength, yet arithmetic skills and the abstract and logical thinking needed for problem solving tend to be poor (Schaefer Whitby and Mancil 2009). In all of these academic skill areas—speaking, reading, writing, mathematics—students with autism requiring support benefit from procedural facilitators and graphic organizers that help them to structure and vary their communications. They also can learn "rules" for skills for positive social interactions (Koegel 2007).

As this information indicates, students with autism requiring support tend to achieve at below-average levels. This contrasts with the erroneous stereotype that they are "little geniuses."

Cognitive Processing Difficulties. Those with autism requiring support tend to be "concrete" thinkers who are challenged to think abstractly. In addition, they have slow processing speeds (Holdnack et al. 2011), which means they will need guiding prompts and longer amounts of time than their peers to respond to questions and directions. Also, they are more likely to engage in a task when it interests them or when they understand its relevance (for example, "We have to write observation notes so that later we can consult a record of what we have observed over time").

Some research indicates that persons with Asperger[2] have weak working memory skills (Holdnack, Goldstein, and Drozdick 2011). However, their memory challenges are greatly reduced when they are cued to think about the source of the memory (Bowler, Gardiner, and Berthollier 2004) (for example, instead of asking, "What causes acid rain?" ask, "What mixes with water and oxygen in the upper atmosphere to cause acid rain?"). This may indicate that challenges with abstract and inferential thinking are at the root of their memory difficulties (Bowler et al. 2004).

[2] You will find several references to Asperger syndrome in this chapter because the cited resources report on persons who were identified with that label.

Students with all ASDs find it challenging to think about themselves; this interferes with tasks such as describing themselves or explaining what they are like. This is due to weak autobiographical memory (Tanweer, Rathbone, and Souchay 2010). Consequently, they find it easier to describe their traits than their identities, which is a more abstract concept.

Perhaps the most obvious indicator of autism requiring support and SCD is social communication and interaction impairments. There are at least three related reasons for this. First, these students find it difficult to read facial expressions, including eye gaze (in part because they typically avoid eye contact), gestures and body postures, and voice gestures (tone and inflection). Second, they are considered to have weak *theory-of-mind* skills (Aljunied and Frederickson 2011; Flood, Hare, and Wallis 2011; c.f. Froese, Stanghellini, and Bertelli 2013), which means they find it difficult to consider another person's perspective. For this reason they may not gauge someone else's interest in their special interest area nor consider what information a communication partner needs, or they may be so blunt that they are considered rude and insulting. Third, some theorize that they also have weak *central coherence*, which means they have the various cognitive skills to perform academic and social tasks proficiently but lack the executive function to coordinate and regulate those multiple skills (Le Sourn-Bissaoui, Caillies, Gierski, and Motte 2011). Teaching these specific cognitive skills can be effective but, they are unlikely to change the profile of the student with autism requiring support or SCD. Historically, those with ASD at all levels have been taught in very behavioral ways, especially using approaches based in *applied behavior analysis* (ABA). However, the result for those with autism requiring support has most often been limited to their learning some skills in isolation (Ryan, Hughes, Katsiyannis, McDaniel, and Sprinkle 2011).

Social Skills Difficulties. As you are now aware, social skills are a significant area of difficulty for those with autism requiring support. They tend to speak in monotones and to be repetitive, and they may fail to observe conventions such as taking turns (Shriberg et al. 2001). Their considerable challenges with making eye contact and understanding pragmatics can be further challenges when participating in social interactions. For these reasons they are sometimes more comfortable interacting with adults than with same-age peers. They also do better with someone who has shared interests.

It is important to know that at all age levels persons with autism requiring support desire socialization (Causton-Theoharis, Ashby, and Cosier 2009). While their cognitive and social skills deficits make it appear as though they are unwilling to put effort into appropriate interactions, that is not the case; rather, they have weak social perception skills (Holdnack et al. 2011) and find it challenging to interact. Further, they often feel social anxiety (Kuusikko et al. 2008). Effective interventions may teach them critical skills (for example, Koegel and Koegle 2006). Limited research evidence also supports analyzing common social scenarios and appropriate interactions, such as social stories (Ryan et al. 2011; Sansosti and Powell-Smith 2006; also see Hanley-Hochdorfer, Bray, Kehle, and Elinoff 2010) and self-modeling (Bernad-Ripoll 2007). Importantly, however, it may not be possible or ethical to "change" people with ASD. Instead, they might be taught how to think positively about themselves and to target personally feasible social goals and interactions (Bottema-Beutel, Mullins, Harvey, Gustafson, and Carter 2016).

Mild Intellectual Disability

Those not familiar with the subtypes of intellectual disability (ID) might be surprised that it can be included as an HI disability. The subtypes constitute a range of intellectual disability, divided into four levels of functioning (mild: IQ 50–55 to approximately 70; moderate: IQ 35–40 to 50–55; severe: IQ 20–25 to 35–40; and profound: IQ below

20–25). The DSM-5 (APA 2013) states that the distinctions among the four levels relate to IQ and adaptive functioning; however, in practice, the labels are typically assigned based on IQ alone. (See APA 2013 for an alternative labeling system based on levels of support needed, similar to autism, that has not been adopted in special education in the United States.) Mild intellectual disability is the highest-functioning level; it is the only one of the four considered "mild" or an HI.

A person with mild ID has overall cognitive functioning that is impaired to a degree that significantly limits age-appropriate functioning (note that "significantly" differs from "severely"). Cognitive functioning encompasses abilities such as memory, reasoning, comprehension, and abstract thinking; age-appropriate functioning refers to the range of skills involved in tasks of daily living, including participating in school.

People with ID have limitations in multiple areas of cognitive functioning. Unlike those with LD (who need support in using their cognitive skills efficiently) or those with ADHD (who are impulsively distracted from employing appropriate skills), those with mild ID are thought to have limited aptitude in terms of cognitive skills. Especially in the mild subtype of ID, the notion of limited capacity does not mean an absolute limit to what an individual is capable of learning, however. Those with ID at all levels are always capable of learning new things, but they typically learn slowly and in very concrete ways, needing constant review and support to apply their knowledge (Miller, Hall, and Heward 1995).

The label *mild* is the hardest part of mild ID to define. Those with mild ID typically function well in the general education environment and can be semi-independent in daily living. Conversely, those with profound ID perform cognitively at very low levels, including in their ability to learn, and hence need almost constant support. The difficulty in defining "mild" is in operationally defining it.

What Mild ID "Looks Like" and How It Is Experienced. Because mild ID is a cognitive disorder, physical indicators or characteristics may not always accompany it (for example, those with Down syndrome often exhibit physical characteristics such as an almond shape to the eyes, shorter limbs and digits, and protruding tongue). Indeed, students with mild ID can have such proficient social skills and independent living skills that one may not realize that they have ID.

Academically, beginning in elementary school, students with mild ID will likely be behind others in the class by roughly two or more years in skill levels such as reading or math. However, even though ID is a pervasive cognitive disorder, they will have comparative strengths and weaknesses just like any other learner and may function on grade level in some areas. In addition to academic skills, students with mild ID may also be delayed in social, emotional, and independent functioning skills. The reason for the delays is that students with mild ID learn new skills and concepts at a much slower rate than their classmates do, both academic and social skills, particularly as the complexity of the skills or concepts increases. Thus, the older the students, the further behind they will be. Students with mild ID also tend to forget skills and concepts that are not routinely reinforced by drill and practice.

Cognitive Processing Difficulties. Students with mild ID have difficulties gaining and sustaining attention, but in a different manner than the attention difficulties of students with ADHD. Because students with mild ID do not discern where to focus their attention, they may observe a procedure (for example, for an arithmetic calculation) but not identify the critical actions of each step or the order in which to perform the steps. As part of the difficulty with regulating their attention, they may shift their attention to extraneous information either because they found it interesting or could

not distinguish it as unimportant information. It appears that students with mild ID do not have the executive function to remain focused on critical content.

Students with mild ID also have difficulties with the three stages of memory: short term, working, and long term. Short-term memory is particularly difficult for them (Schuchardt, Geghart, and Maehler 2010; Van der Molen, Van Luit, Van der Molen, and Maurits 2010). As a consequence of not attending to details and recognizing relationships that help give new information significance, they tend not to grasp information well. Although students with mild ID are prone to forgetting information stored in long-term memory, especially when it is not regularly rehearsed, their long-term memory capacity tends not to be as limited as their short-term capacity (Bray, Fletcher, and Turner 1997).

Academic Skills Difficulties. Due to their lack of attention to salient details and their poor comprehension, those with mild ID typically require more exposure to content and more practice opportunities to comprehend and recall information accurately (Miller, Hall, and Heward 1995). Actual processing time can be slower as well. Thus, they will require a longer time to think about an appropriate response or to recall a needed skill, as well as guidance with the processes of thinking through and completing a task in many cases.

Typically, students with mild ID need to learn new tasks in concrete ways. Tasks that require abstract reasoning, drawing complex relationships, or constructing inferences can be challenging for them. Thus, they learn "lower-level" skills more efficiently. In reading, they will be more successful with skills of word calling and reading "comfort-level" passages that do not include complex concepts than with more abstract skills such as passage comprehension beyond the recall level. In math, they will perform simple operations with greater success than problem-solving activities.

Generalization (also referred to as transfer) is also a challenge for those with mild ID. This means the ability to apply knowledge or skills to tasks similar to or different from those with which the skill was learned. Whereas other learners may learn a skill and after some practice then readily apply it (for example, generalizing arithmetic facts to word problems), students with mild ID may need to learn the skill in context so that little transfer of learning is involved (for example, after learning addition, having to learn how to use it in solving word problems).

Social Skills Difficulties. As we noted, along with cognitive and academic skills difficulties, students with mild ID can experience social skills difficulties. Some children and adolescents with mild ID report dissatisfaction with the quality of friendships they have, and adults similarly perceive them as having fewer and poorer friendships (Hughes et al. 1999; Siperstein, Leffert, and Wenz-Gross 1997). In other words, their friendships tend to lack intimate sharing and spontaneous interactions (Siperstein, Leffert, and Wenz-Gross 1997). Additionally, young adults with mild ID more commonly report negative and even aggressive encounters with persons outside of their peer group and strangers (Larkin, MacMahon, and Pert 2012). Some of their social challenges are due to how they are perceived and valued by others, but their social difficulties are also due in part to their concrete ways of thinking, which extend to their limited capacity to take into account the interests of others and to express themselves fully. Also, those with mild ID do not always present themselves in socially appealing ways—for example, coming across as stubborn or aggressive when they are frustrated with a task or social option (Cook and Semmell 1999). In addition, as they progress into the adolescent years, the social gap widens and their friendships tend to decline (Hughes et al. 1999).

Unfortunately, some peers may not wish to associate with students with mild ID for fear it will cause them to be socially ostracized. In other cases, students without disabilities will befriend those with mild ID, not so much out of personal bonding but

because they wish to do a good deed. Although true friendships can flower from such arrangements (for example, the Best Buddies program [www.bestbuddies.org]), it can be the basis for an unequal relationship where the "friend" with mild ID is treated differently than a nondisabled friend. In the case of academics, classmates may not welcome working on group projects with classmates with mild ID for fear they will prevent the group from earning a good grade. Although they may have fewer friends and more strained friendships than others, those with mild ID also do have genuine friendships with peers who care about them just as they would any other friend (Siperstein, Glick, and Parker 2009). Also, despite potential obstacles to including students with mild ID in general education classrooms, their presence has increased over the years and has resulted in positive academic and social outcomes for all students (U.S. Department of Education 2015; Williamson et al. 2006).

Emotional/Behavioral Disorders

Emotional and behavioral disorders (EBD) can be thought of as distinct from one another. One concerns emotions in the forms of feelings, moods, and mental states such as hallucinating, whereas the other relates to actions a person makes. In a practical sense, however, both aspects are often present in a person with EBD. Those with EBD may have emotional disorders that manifest as challenging behaviors, for example. Therefore, an appropriate response would address the emotional needs as well as the behavioral needs.

There has been considerable professional disagreement as to the nature of this disorder. The disagreements are highlighted by the differences of opinion about what to call it. The IDEA names this disability "emotional disturbance." Although the term *disturbance* has also been criticized as pejorative and unlike the labels used for any other disability category (Kauffman and Landrum 2009b) it has not been changed in the IDEA. Also, many professionals argue that the term "behavioral" needs to be included in the label to ensure that students with primarily behavioral challenges are included in research on this disability and in receiving the rights and services associated with it. Observing that the disability may have something to do with a predominately emotional disorder, a predominately behavioral disorder, or a combined condition, the Council for Children with Behavior Disorders—a division of the special education professional organization the Council for Exceptional Children (CEC)—instead refers to the condition as *emotional/behavioral disorders*. The slash signals that the disorder is rarely only emotional or behavioral. The acronym EBD is fairly commonly used among school-based professionals.

Despite the controversy about which specific label to use, most professionals broadly recognize that students with EBD have similar characteristics. They have chronic difficulties in one or more areas involving socialization with others, unusual behaviors or emotions under normal circumstances, a general mood of unhappiness or depression, and physical or emotional reactions such as fearful responses to school or personal problems. These chronic problems adversely affect the student's educational performance and social interactions as well as put them at risk for harm, and are often not easily treated.

What EBD "Looks Like" and How It Is Experienced. Some of the indicators of EBD are far more obvious than others. The distinction, however, is not based on emotional versus behavioral type. The different types of EBD are traditionally separated into those that are primarily **externalized** (overt outward performances) or **internalized** (withdrawing and acting toward the self, including by self-neglect) (Lambros et al. 1998). Table 1.3 lists common externalized and internalized behaviors.

TABLE 1.3 Common Externalized and Internalized Behaviors of Students with EBD

Externalized Behaviors	Internalized Behaviors
Violent outbursts	Isolated play
Angry reactions	Frequent claims of being ill
Emotional mood swings	Depression
Physical or aggressive actions	Cutting or mutilation of self
Tantrums	Extreme shyness
Destructiveness	Disregard by peers
Disrespect and noncompliance	Anorexia
Sexual promiscuity	Panic attacks

Students with EBD display signs of emotional difficulties that are sometimes easily overlooked. Students with eating disorders, depression, or anxiety and those who are delusional may be skilled at hiding it from others. However, upon careful observation or by communicating with the student, you might discover that the student is not eating properly (eating disorders such as bulimia nervosa), is obsessively counting steps (obsessive–compulsive disorder), or is harboring harmful thoughts (such as suicidal ideation, a form of psychotic disorder).

As you might suspect, behavioral manifestations of EBD tend to be more readily observable. They might be in the form of major mood swings (bipolar or manic-depressive disorder, which is both emotional and behavioral), acts of aggression (bullying, rage, or explosive temper), or inappropriate expressions of sexuality.

Cognitive Processing Difficulties. Students with EBD have cognitive processing difficulties that interfere with their academic functioning. They may become so depressed, obsessed about their own body image, or filled with deep rage that they cannot focus on academic tasks. Although some students with EBD miss a large amount of school (Bauer and Shea 1999; Hodge, Riccomini, Buford, and Herbst 2006), many miss out on schooling because they do not fully attend cognitively due to their emotional or behavioral problems. Many of these students develop gaps in skills, such as performing well in reading but not math, or knowing well some content studied in history but having no understanding of other content. Students with EBD do not have limited ability to perform the cognitive skills needed for learning; rather, they have difficulty *regulating* their cognitive skill performance. They have difficulty attending, perceiving information correctly, and making logical deductions and decisions. As a result, they often score below average on tests of intelligence and achievement (Coleman and Webber 2002; Kauffman and Landrum 2009). Kauffman and Landrum (2009) report that students with EBD tend to have IQs in the low-average range, although as a "population" they have IQs ranging from very low to very high.

Academic Skills Difficulties. One indicator of an EBD is poor academic performance due to gaps in knowledge and skills (Gresham, Lane, et al. 1999). Regardless of whether they exhibit internalizing or externalizing behaviors, students with EBD miss out on instruction and skills practice because of their condition. Some with EBD are removed from the classroom because they are disruptive to other students, for their own personal safety or the safety of others, or because they need privacy to deal with their emotions or need to receive additional support or related services. Of all the students with HI, those with EBD are the most likely to be removed from the general education classroom or building because of their disability (U.S. Department of Education 2016).

However, some of the specific disabilities that fall within the EBD category include limited comprehension or memory skills. Effective instructional responses include reviewing missed information and skills practice. Some students with EBD learn better when instruction is explicit, as it might be for those with LD or ADHD for example. However, it is particularly important that instructional approaches are comprehensive for these students. In other words, they must address both the academics and emotional and behavioral characteristics, which includes controlling problematic thoughts and behaviors (Kaufman and Landrum 2009; Lane and Menzies 2010). Effective academic, cognitive, and behavioral interventions include consistent practice of skills (Walker and Sprague 2007).

Social Skills Difficulties. Students with EBD tend to be unpopular (Kauffman 1997; Panacek and Dunlap 2003) among peers regardless of whether they have internalizing or externalizing behaviors. On the one hand, those with primarily internalized behaviors might more accurately be described as *unnoticed*. For example, it may take a long time before others notice that a student with an eating disorder has a problem. Students who are depressed can be thought of as only shy, unless their shyness turns into chronic and acute withdrawal from others. Withdrawn behavior can easily be overlooked in the busy milieu of a school. On the other hand, because of the mood swings and atypical behaviors of some students with EBD, classmates may find them "odd" and not wish to interact with them; unfortunately, teachers may also avoid interacting with them (Feldman et al. 1983). Just as with academic skills, students with EBD learn effective socialization when they receive consistent instruction and practice in skills as part of a comprehensive approach that addresses their emotional and/or behavioral needs as well (for example, positive behavior supports interventions, cognitive-behavioral therapy).

THINK BACK TO THE CASE **with the three students: Maria, Sy, and Burt . . .**

In what ways could Maria's ethnic culture impact the process of determining whether she has an emotional disturbance?

Cultural behaviors that differ from the school's majority population, as well as assumptions about cultures, can confuse evaluations. Just as Emily presumed there was a cultural (and possibly gender) basis for Maria's different behaviors, another educator could assume a student demonstrates inappropriate behaviors by failing to take cultural norms into consideration. Evaluators should use a variety of measures before making assumptions about disabilities, and actively take cultural (and linguistic) differences into consideration. If they lack cultural knowledge themselves, they can consult colleagues and the student's family for insights; this is something the school administration should be prepared to help them with as well. In Maria's case it would help if Emily and her colleagues knew that Latina and Native American students are sometimes reticent to assert themselves in school, even in such expected ways as answering questions, demonstrating their knowledge, or asking for help (Sparks 2000). However, they should be careful not to presume that cultural trait necessarily applies to Maria; instead, they should look for evidence that supports or refutes it. Webb-Johnson (2002) observed that culturally typical expressive behaviors of African-American students with EBD are often discouraged. As a consequence, the students either acted out more than they would in a culturally responsive environment or focused more on behavioral compliance than on academic engagement.

Students with EBD are often considered to be among the most challenging students to teach. Like all students with disabilities, they do challenge teachers who fear academic diversity and consider it beyond their capability or job description. However, when teachers collaborate with other educators, service providers, and parents and use the student's individualized education program (IEP) to guide them (see the next section of this chapter), they can be successful in including students with EBD in the general education classroom, as appropriate, and, in the process, help those students manage their disability.

Positive Behavior Supports

Many teachers have found themselves in the situation of having a student challenge their authority. The situation can quickly become a power struggle between the teacher and student, and regardless of who "wins" that one struggle, a negative relationship develops and both "sides" may be determined to fight harder to win the next time. This kind of relationship is common for students with HI who pose attentional or behavioral challenges in schools. Even in those situations where there is more tolerance for the student's behavior, it is unproductive for these routines to simply continue occurring (tolerance is not a special education goal). Of course, attention and behavioral challenges that some students with HI present in an inclusion classroom interfere with their own and classmates' learning and with the teacher's ability to teach (Lane, Menzies, Bruhn, and Crnobori 2010).

The U.S. Department of Education Office of Special Education and Rehabilitation Services encourages the use of positive behavior supports in special education and inclusion (Hehir 2009). *Positive behavior support* (PBS) (also sometimes referred to as positive behavior intervention and supports [PBIS]) is an approach to both prevent and replace undesired behaviors (Dunlap, Kincaid, Horner, Knoster, and Bradshaw 2014; Sugai and Horner 2002). Instead of reacting to students' problematic behaviors, PBS is used to instruct students in positive behaviors and encourage their use (Menzies and Lane 2011). It is proactive and preventive. Students are rewarded for what they do right instead of punished for what they do wrong.

Using PBS, educators observe for trends in a student's persistent undesirable behavior. They make note of the antecedent, or the event that triggers the behavior (for example, a student creates disruptions in the classroom when individual seatwork lasts more than 20 minutes). Then they develop a plan to either remove the antecedent (shorten the amount of time for individual seatwork assignments) or teach the student an alternative behavior that competes with the undesired behavior (taking a break after every 15 minutes of continuous work). The process can be managed fully by the educators but can be more effective when it involves the student in learning to self-regulate her or his own behaviors (as in our example) (Menzies and Lane 2011).

Conducting PBS properly involves conducting a *functional behavioral assessment* (identifying the behavior's antecedents as well as more desirable or competing behaviors) and then using that information to develop a *behavior intervention plan*. The IDEA requires that such a plan be developed and acted upon whenever (1) a student in special education has disability-related behaviors that impede her or his learning or put others at risk, (2) the student is suspended for a total of more than 10 days, or (3) another serious disciplinary action is taken, particularly if it includes a change in placement.

In this era of accountability in schools (for example, high-stakes assessments and the "challenging" curriculum standards for all learners associated with ESSA), schools

continued

are less tolerant of students who do not conform to traditional expectations. Certainly students who present attentional or behavioral challenges to school routines fall into that category. However, it is also true that students who do not reflect a school community's majority culture may be regarded critically. As Menzies and Lane (2011) explain, "teachers may view students as noncompliant or less socially competent when they interact in ways that reflect the student's home culture, but are not congruent with the school culture" (p. 181). Banks and Obiakor (2015) propose that educators adopt a culturally responsive PBS approach.

PBS can also be enacted schoolwide, with all teachers consistently applying the same practices across the school day (Lane, Kalberg, and Menzies 2009).

1-2 Meeting the Learning Needs of Students with HI

When someone asks what we do for a living and we say we are special education teachers, we commonly hear, "You must have a lot of patience." That is very telling of what people think about students with disabilities and what it takes to teach them. There might be some truth to it, but it misses by a mile what special education teaching is all about. Special educators do have some methods of teaching that are different from what general educators typically use, but for the most part we teach the same content and skills that general educators do. This is especially true in the case of students with HI, who are almost always included in general education for some or all of the school day.

Earlier in the chapter we explained each of the HI disabilities as a difference in how students process information during the stages of acquiring, constructing, and expressing knowledge, as well as differences in behaviors that impact learning. Special educators employ principles of effective practice that are based upon the processing and behavioral strengths and needs of students with HI. What is also different about special education students is that, more so than their general education peers, they exhibit gaps in skills and are less likely to benefit from the traditional teaching methods used in general education classrooms. Students with HI tend to have a limited range of learning strengths and, therefore, need to be instructed in specific ways if they are going to benefit fully from a lesson.

Researchers have identified the following practices as effective for students with HI, and their general education peers can also benefit from these practices. Therefore, both special *and* general educators can use these practices in pull-out or inclusive settings.

THINK BACK TO THE CASE **with the three students: Maria, Sy, and Burt . . .**

Given the learning challenges that Maria, Sy, and Burt present, are there generally effective teaching practices Emily should use with them?

Yes. We have translated facts about the ways students with HI learn best into important **principles of effective instruction**. Even though the three students each have a different disability (a *potential* disability in Sy's case) and different learning challenges, these practices can be appropriate for each of them.

Clear and Explicit Instruction

To provide clear and explicit instruction, the teacher must be unambiguous and leave no doubt as to what he or she is communicating to students (Good and Brophy 2003). Some students with HI have poor attention and are easily distracted. They may not pick up on essential details during instruction. Even more commonly, students with HI have difficulties with short-term memory and recognizing how information is organized. They are typically not efficient at making inferences and drawing relationships between and among knowledge and skills. Students with such difficulties may become confused if content and skills are presented in a disorganized fashion or if the cues to the organization are not clear. Those students benefit from instruction that is *clear* and *explicit*.

Students in general education classrooms are expected to make assumptions about what they hear or read, to make connections to prior knowledge as well as across the new knowledge they are acquiring/constructing, and to think about the demands of the task. Students with HI perform those cognitive skills poorly in terms of both quality and consistency. Consequently, they need to be taught how to perform them and need frequent cues to help them remember to use those newly learned skills and strategies.

To be clear and explicit, first think carefully about whether your explanations or directions name a topic. For example, you could say, "You are to *write an essay* that *tells me . . .*" or "When your numerator—*remember, that's the number on the top, the one you are dividing into*—is bigger than your denominator. . . ." Also consider whether you are stating the major concepts or discussion points overtly and clearly: "Remember, an essay is at least five paragraphs and it contains . . ." or "When people started to work in factories during the Industrial Revolution they had to leave some old work skills behind. Where did they work before factories, and what kind of skills did they have that wouldn't be needed in a factory?" Get into the habit of asking yourself, "Do they know what I mean?" It can be helpful to ask students to repeat directions back to be sure they fully understand them or to restate concepts "in their own words" to check for clarity.

Frequent and Intensive Instruction

Information that is heard only once is not likely to be transferred to long-term memory. Because of memory difficulties and the complexities of building comprehension, students with HI are particularly prone to gaps in comprehending information and forgetting important facts when there are delays between exposures to content or skills (Mastropieri and Scruggs 2007). Exposure, whether to content or skills, needs to occur multiple times, and those multiple exposures should occur in close proximity to one another (Gleason, Carnine, and Vala 1991). *Frequent* instruction involves providing multiple opportunities to practice new content or skills, and those multiple opportunities should be close together in time. It could mean working on the same information for three successive class sessions instead of once per week, for example. *Intensive* instruction means that students are exposed to the concept or skill a number of times within a single lesson, including practice sessions. If instruction is intensive, within each of the frequent lessons the students will have multiple practice opportunities. Although drill and practice has benefits (Gleason, Carnine, and Vala 1991), lessons do not need to be overly repetitive. Any concept or skill can be incorporated into further iterations of the topic, and practice activities can be varied (for example, Bulgren et al. 2000).

Effective learning involves contemplating knowledge and applying it. When teachers show students a new skill, the logical next step is to have them practice it.

One purpose of multiple practices with informative feedback is so students can eliminate mistakes, develop proficiency, and encode the information to long-term memory. To have students develop fluency of skills, some special education techniques call for fast-paced, intensive practice (for example, Direct Instruction [Carnine, Silbert, and Kame'enui 1997] and the Strategy Intervention Model [Ellis et al. 1991]). Although the need for speedy practice can be debated, the benefit of providing students with HI with intensive lessons is well established. The more frequency and intensity, the more likely new lessons can build on previous lessons instead of repeating them.

Modeling and Examples

To **model** is to demonstrate a skill or task. To provide an example is to show or explain what something is like. Students with HI particularly benefit from modeling and examples because they remove one potential source of confusion about what is being learned. With a mental image in mind, the students have a better chance of replicating the skill or comprehending a concept (Uberti, Scruggs, and Mastropieri 2003). Without a mental model or concrete representation, students would have to guess at what the expectations were and would have nothing against which to judge the quality of the product (or process) they produced. For students who have difficulty monitoring their own cognitive processes, using a model as a reference can be a tremendous help.

Teaching with think-alouds is another example of effective teaching. Think-alouds are important particularly for modeling of cognitive processes, such as a cognitive strategy (Fisher and Frey 2015). In think-aloud modeling, teachers not only overtly show expected behaviors (for example, the steps of a mathematical calculation or for writing a complete paragraph), but they also demonstrate for students what they are thinking while performing the behaviors. This helps students to "see and hear" the cognitive thought processes involved in completing the task. Students with HI typically have inefficient cognitive processes, so modeling more appropriate thought processes is essential for them to learn the skill or task. A teacher modeling how to write a good paragraph might demonstrate clearing the desk and holding the paper and pen at the proper angles while saying, "Now that I have my writing space clear and paper and pen in front of me and ready, I need to plan. So first I will think of the main idea of my paragraph. Let's see, I know that I am supposed to write about the life of factory workers in England during the Industrial Revolution. That's a big topic, so I need to make a specific point about it. One thing that I think is interesting is . . ." Think-aloud modeling includes labeling the parts of the process as well. In this example, the teacher cued students to first prepare their materials and writing environment, next to plan, then to execute the plan, and so on.

Practice/Application Opportunities

Along with the principle of *frequent and intensive instruction*, providing practice through application activities is another essential component for student learning. Offering multiple exposures is not enough; students need multiple chances to practice and/or apply what they have learned. This may be the point at which learning truly occurs, because it is through their use of knowledge or a skill that students come to "own" it. Students with HI may not fully appreciate a concept that they merely read about but never discussed, and they may not understand directions or a skill that they only heard about or observed. However, through practice, they come to understand and assimilate the knowledge into long-term memory.

It is almost intuitive that students will need to practice new skills; the same is true for applying concepts they learn. Application can be a low-level cognitive process such as actively thinking about something, or it can be higher-level manipulation of information that students need to comprehend, store, and later recall. However, inclusive classroom teachers report moving on when approximately half of the class seems to grasp a concept or skill (Scanlon et al. 2006), but that leaves the other half not having fully learned.

Informative Feedback

At the very least, feedback by itself tells students whether they got something right or wrong. Even more effective is feedback that is *informative*. **Informative feedback** tells students what was right or wrong about their performance of a task, or it tells them why something did or did not work and what they should change to correct their actions. You might say to a student, "The reason you got that right was because . . ." or "What you want to do differently on your next attempt is . . ." These types of informative feedback statements provide students with clear, actionable feedback on their performance.

Because students with HI tend to be inefficient at monitoring, modifying, and abandoning inappropriate approaches to completing a task (for example, Harris, Reid, and Graham 2004), informative feedback can be valuable at helping them to correct their actions.

If you cannot provide students with informative feedback due to time constraints or other limits on their instruction, at least provide them with **consequated feedback** (that is, telling them the consequences of their performance—right or wrong, or a total score). In doing so, students can at least judge whether they are getting the content correct or not. However, whenever possible, use informative feedback with students so that they can better understand how well they are doing and take corrective actions to improve future performance.

Instruction Within the Student's Range

Effective instruction is instruction that is given on a student's cognitive and instructional level. As students with HI get older, a gap can develop between what is expected of them and what they know/can do well (Baker, Gersten, and Scanlon 2002; Bulgren and Scanlon 1997/1998). As this gap continues to grow, students with disabilities may become frustrated because the skills that they are currently learning, based upon their *grade level*, may not be the same as their *knowledge level*. In those cases, they may need first to learn prior knowledge and prerequisite skills.

Because students with HI are typically less proficient in abstract reasoning and understanding relationships among new and known information, they are less likely to benefit from instruction that is beyond their current knowledge of the topic. Instead, by working within their instructional level—what they are able to learn with supports—they can gradually increase the sophistication of their knowledge or skill. The cognitive psychologist Lev Vygotsky (1978) referred to this as the "zone of proximal development." Vygotsky suggested that students can gradually raise the "ceiling" of their capabilities, developing the potential to learn successively new and more complex information, when teachers provide appropriate supports or scaffolding.

The challenge for teachers is to try to gauge the zone for a particular student. Teachers often rely on grade-level calibrated standards and curricula to guide them;

however, this can be a challenge when teaching students with HI who differ in cognitive processing, knowledge, and skill gaps. It can be particularly valuable for teachers of students with disabilities to conduct a pretest to determine their baseline (that is, starting level) knowledge or skills. The process can be as simple as making informal observations with careful reflection, but better yet, supported by student work samples. In some cases, students could give a demonstration or explanation or complete practice exercises or a test—be it a quick probe or a comprehensive standardized measure. Information from students' IEPs should also be helpful to identify starting points for teaching them.

Structured Instruction

Often, students are not sure why they are learning certain information or skills, other than because the teacher said so. It would be far more instructive if students knew what they were learning and how it related to things that they previously learned or to events in their life (Lenz, Marrs, et al. 2005).

Because of inefficient or distracted learning traits, students with HI often have difficulty seeing the "big picture" of a lesson or reading. For them, it can seem like a collection of random facts and concepts. It can help for teachers to present an overview of what students will learn prior to teaching. Virtually any theory of learning explains how information is understood, remembered, and recalled for usage by forming associations to other information in long-term memory (for example, schema theory, information processing theories, social constructivism; Schunk 2004; Snowman and Biehler 2006). When teachers make the organization of content overt, all learners, especially those with HI, understand its relationship to prior knowledge and better understand how it links to new knowledge.

To reveal the structure of instruction, teachers can do things as simple as orienting students to what they will be learning and why (for example, Lenz, Marrs, et al. 2005). Basically, this can occur by sharing the day's agenda with students. Too often, teachers treat their lesson plans as secrets. A much better practice would be to discuss what they will learn and how it relates to previous lessons. To further improve instruction, teachers could also discuss why the day's content matters, including how it relates to previously learned information. Also, when students know what is expected of them, both in terms of actions and products, the outcomes of a lesson are more likely to be achieved.

Supporting Technologies

Students with HI can benefit from the use of **instructional technologies**. These technologies can help to make the content visible, including abstract aspects such as relationships among key concepts, through the use of maps and organizers (Bulgren and Scanlon 1997/1998; Englert et al. 2007) or through the use of grids to help them understand the concept of place value, for example.

The term *technology* here means the wide range of materials that support instruction (Edyburn 2010; Swanson and Hoskyn 1998), not just things that require a power source to operate. From this perspective, lists or figures on the chalkboard constitute technology, as do graphic devices (see Baker, Gersten, and Scanlon 2002) or laptop computers loaded with specialized hardware for reading text to students. (See more about technology in Chapter 12.)

The CEC standards for effective special educators (2015; also see the inside cover of this text) identify additional important practices for teaching students with special needs.

CASE 1.2 The Role of the Special Educator

Case Introduction

In Case 1.1, you read about three students with disabilities and their general education teacher. Now you will read about where they receive additional instruction. As you read the case, think about when Maria is and is not receiving special education. If students with disabilities are enrolled in an inclusion classroom, how can they still receive their individually appropriate special education? What is the rationale for Maria receiving reading instruction in the classroom but other services in the learning center?

Emily and José Luis had been assigned to co-teach because there were five students in special education enrolled in his inclusion class. Maria was one of the few who also spent time with Emily outside of the general education classroom. There was another student with a disability who, like Burt, was not in special education but did receive related services through Section 504 in the classroom. Emily knew her main responsibility in the class was the students in special education, but she and José Luis had agreed that they would both do their best to work with all learners in the room.

Their classroom was an RTI class. Emily was part of a group of teachers at Gamon Elementary who planned to conduct screenings of all students for reading, math, and writing three times a year, early in the fall, in the middle of the school year, and early in the spring (this made more sense than late in the spring, as that time of year would not leave much time to work with students). Even though Maria was already enrolled in special education at the beginning of the year, she was included in the screening because the educators wanted up-to-date data on how she was performing on reading tasks.

Based on the screening results, Maria and Sy were found to need Tier 1 intervention, along with a few other students. Emily and the team of teachers selected a reading intervention that had research evidence indicating its match to the Tier 1 students' needs. During English/language arts time Emily worked with those students at a table in the reading area in the back of the classroom while José Luis worked with the other students in the class. This arrangement made the most sense because Emily had trained in the reading approach and José Luis was only minimally familiar with it. Under this arrangement Emily was able to work with the few struggling readers intensively. (While Tier 1 would be successful for Maria, Sy would eventually be graduated to Tier 2, when he would receive additional reading instruction time with Emily and just two other students.) Emily sometimes addressed reading with Maria again during their time together in the learning center, but for the most part they worked on other academic skills there.

At other times in the classroom Emily was teaching both Maria and Burt to be more aware of the ways they disengaged from learning during class; she planned that once they became strong at this skill she would teach them to self-regulate those behaviors. Emily and Maria also worked on this in the learning center. (Maria also had regularly scheduled time with a mental health counselor, and Emily and the counselor periodically informed each other on their progress.)

CASE QUESTIONS

1. *Why do some students receive special education services in the general education classroom whereas others go to a separate setting for their individualized instruction?*
2. *If students have special learning needs, why are there three different options for how schools can respond to those needs (special education, Section 504, RTI)? Are the same services provided across the different options?*

1-3 Where Special Education Is Provided

In the early days of special education, students with HI were often segregated from their peers, both physically and in terms of the curriculum used to teach them. Much has changed since then, and now you are more likely to find students with disabilities in general education with their special education supports being provided to them in the classroom, such as the classroom in Case 1.2, where Emily and José Luis co-teach. Some of those students are "pulled out" from time to time to receive more intensive interventions. Interestingly, in the case of some of the HI disabilities, students spend more time in pull-out settings in secondary school than they do in elementary (U.S. Department of Education 2016). This is likely due to their needing more individualized instruction than the content-area general education classroom can provide.

The General Education Classroom

According to the U.S. Department of Education (2016), nearly half of all students in special education aged six to 21 receive at least 80 percent of their education in a general education classroom; this is a particularly common special education placement for students with HI. Among only students with HI, those with EBD are the least likely to be included (statistics for those with mild ID and ADHD are not readily disaggregated from the broader disability categories in which they are counted). For the most part, students with HI receive their instruction from the general education teacher, although others (for example, special education teachers, behavior specialists, paraprofessionals) may also be involved. As such, students with HI typically participate in the general education curriculum. (See Chapter 2 for a discussion of instructional accommodations for the general education classroom.)

Aides and paraprofessionals are often assigned to provide academic assistance in the classroom. If a student needs more intensive or unique instruction, a special educator might accompany the student to the class and provide the instruction there. The special educator might also provide instruction to others in the class at the same time.

There is no official definition and there are no criteria for what constitutes an inclusive classroom. In fact, while inclusion is common for most students in special education with HI, the IDEA (2004) prefers inclusion but does not require it ("removal . . . from the regular education environment occurs only when . . . education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily"). Individual states or districts, however, may have "inclusion policies," meaning that, with rare exceptions, students must be placed in general education classrooms and that appropriate supports for their success there should be identified and provided (Kauffman, Bantz, and McCullough 2002). Depending on the students' academic

THINK BACK TO THE CASE **about Emily and the Role of the Special Educator . . .**

Why do some students receive special education services in the general education classroom whereas others go to a separate setting for their individualized instruction?

Students enrolled in special education who participate in the general education classroom and curriculum still have an individually designed education program that indicates what types of special instruction they need to benefit from their education. Depending on how much the IEP differs from the general education curriculum and classroom routine, the general educator might be responsible for delivering the special education components of the program, or a special educator or other specialist would be. Whenever possible, that individually appropriate education is delivered in the general education classroom. "Possible" means that it can be delivered effectively so that the student benefits from it and it is reasonable to do it that way (for example, it does not detract from the education other students receive). In the case, Maria worked on reading at a separate table in the classroom along with Sy and a few other students, even though she was the only one enrolled in special education. She had additional times in the learning center with Emily and with a counselor. This allowed her even more individualized instruction.

needs, they may be placed in inclusive classrooms for all subject areas or for only those in which they can participate with minimal support. In some cases, **inclusion schools** offer classes with a reduced number of students. If the school is truly "inclusive" and does not just offer a seat in the classroom, then the classroom teacher directly interacts with students with disabilities.

Special educators sometimes consult with general education teachers and observe in their classrooms but do not directly teach the special education students present. That is yet another way that special education can be provided in the general education classroom.

The Learning Center and Resource Room

Some students go to another setting to receive some or all of their special education. The special education classroom has no universal name. In some schools it is called the special education room, but it is most typically called the learning center or resource room. The distinction between the latter two, if any, depends on the school. Some schools distinguish between a room where students only sporadically visit for support (the learning center) and where students attend on a routine schedule (the resource room). As a general rule, the more differentiated the curriculum or instructional practice, the more likely it will be taught in a resource room.

Sometimes students in special education need to receive their education outside of the general education environment. This may be because they are working on a curriculum that is substantially different from the general education curriculum, they cannot work with peers in their general education class or even grade level, they may need to work with peers who have similar learning needs, they require one-on-one instruction, or they may simply like more privacy as they receive their specialized instruction. For example, students who are significantly behind their peers in reading may be more comfortable practicing their skills outside of the view of others.

More Restrictive Settings

Some students receive their education in "substantially separate" placements, which are often in a separate building. Typically, these students have more severe disabilities. As we noted, of students with HI, only those with EBD are highly likely (in percentages) to be placed in programs more restrictive than the general education classroom (U.S. Department of Education 2016). This usually occurs in the case of students who are prone to highly disruptive and injurious behaviors (to themselves or others) and those whose internalizing behaviors pose a significant threat to themselves, such as self-mutilation or suicidal tendencies. As distracting as a student such as Burt in Cases 1.1 and 1.2 can be, she or he is not likely to be placed outside of the general education environment. Some experts in the field of special education see this as a disparity based on the fact that those with EBD make others more uncomfortable than do those with ADHD, despite the fact that both are disruptive to the classroom (see Hallahan et al. 2005).

Even though many teachers have reported apprehension about inclusion, they have been found to be supportive of the practice (Hernandez, Hueck, and Charley 2016; Monson, Ewing, and Kwoka 2014; Vaughn et al. 1999). Indeed, research findings show that inclusive approaches can be effective (Rea, McLaughlin, and Walther-Thomas 2002).

THINK BACK TO THE FIRST CASE about Emily and the Role of the Special Educator . . .

When students have special learning needs, why are there three different options for how schools can respond to those needs (special education, Section 504, RTI)? Are the same services provided across the different options?

It can be confusing as to why there are so many options for students with disabilities. To understand, first remember that sometimes students have a disability but don't require any special services to benefit from their education. Those students would not be in special education, nor would they receive Section 504 services. However, when a student does need an individually appropriate curriculum or approach to instruction because of a disability, then she or he should receive special education as described in an IEP. Based on the individual's needs, that special education might be only slightly different from the regular general education curriculum and methods of instruction, or there may be significant differences. Related services through Section 504 are provided if a student with a disability does not need special education but does need related services to access her or his (general) education. Of course, some students may need both special education and related services (to access their general or special education), and they would be enrolled in both special education and Section 504.

Maria had a special education goal to improve her self-regulation of participation in class, and Emily's services to Maria included instruction on that. Burt was receiving the very same instruction, at the same time as Maria (however, Maria received additional instruction on the skill in the learning center), but in his case it was as a related service. The difference is that Maria's IEP team determined this was a goal she needed to meet (an IEP goal), and she needed a different level of instruction to learn the skill. Burt didn't need special education to learn the skill; he merely needed to be taught how to do it and then be monitored and prompted to use it. So what's different? Burt didn't have an outcome goal because his teachers didn't think it would be challenging for him to learn the skill and he didn't need specialized instruction. Emily simply found it efficient to teach him the same way she was teaching Maria.

RTI may *look* like special education, but it is not. Also, RTI is not a related service, because it is instruction and not a service that enables access to instruction. RTI only requires that a student be found to perform (achieve) below an expected level. Therefore, students who show signs of beginning to struggle on an RTI screening measure immediately receive early intervening to address the "problem." It can lead to special education if students progress to the highest tier of RTI and still do not make satisfactory learning progress. Thus, any student can receive services through RTI. It is designed to speed services to students who are beginning to struggle and to prevent unnecessary referrals to special education. Students already in special education for the skill area in question (for example, reading) would be included in RTI procedures only if they were in an inclusive classroom and the educators found it helpful to get an updated screening or the IEP team agreed the instruction provided through RTI would be the most appropriate way to address their special education goal, as was the case for Maria.

1-4 Three Major Laws Pertaining to Special Education

Three major federal laws call for disability-related education services in schools. They make distinct contributions to how we provide special education. In addition, each state has its own laws governing special education practices, and the federal Americans with Disabilities Act requires schools to protect the civil rights of students with disabilities.