CHAPTER 3

Specialized Instruction and Technology

Tell me and I forget. Show me and I remember. Involve me and I understand.

—Chinese Proverb

LEARNING OBJECTIVES

After reading this chapter, you should be able to:

3.1 Explain specialized instruction

3.2 Differentiate specialized instruction from accommodations and modifications

3.3 Explain clinical teaching

3.4 Define differentiated instruction

3.5 Give examples of controlling instructional variables

3.6 Describe how to build self-esteem and motivation

3.7 Give examples of how to work with students in general education

3.8 List accommodations for students with learning disabilities and related disabilities

3.9 Describe effective instructional strategies for general education

3.10 Explain task analysis

3.11 Give an example of how to provide Technology in the classroom.

STANDARDS Addressed in This Chapter:

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

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

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

CEC Initial Preparation Standard 2: Learning Environments

- 2.0—Beginning special education professionals create safe, inclusive, culturally responsive learning environments so that individuals with exceptionalities become active and effective learners and develop emotional well-being, positive social interactions, and self-determination.
- 2.2—Beginning special education professionals use motivational and instructional interventions to teach individuals with exceptionalities how to adapt to different environments.

CEC Initial Preparation Standard 3: Curricular Content Knowledge

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

CEC Initial Preparation Standard 4: Assessment

- 4.4—Beginning special education professionals engage individuals with exceptionalities to work toward quality learning and performance and provide feedback to guide them.

CEC Initial Preparation Standard 5: Instructional Planning and Strategies

- 5.0—Beginning special education professionals select, adapt, and use a repertoire of evidence-based instructional strategies to advance learning of individuals with exceptionalities.
- 5.1—Beginning special education professionals consider an individual's abilities, interests, learning environments, and cultural and linguistic factors in the selection, development, and adaptation of learning experiences for individuals with exceptionalities.
- 5.2—Beginning special education professionals use technologies to support instructional assessment, planning, and delivery for individuals with exceptionalities.
- 5.4—Beginning special education professionals use strategies to enhance language development and communication skills of 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.
- 5.6—Beginning special education professionals teach to mastery and promote generalization of learning.

In Chapter 3, we review the teaching portions of the assessment-teaching process and discuss the meaning of specialized instruction. We also look at the important role of Technology in designing specialized instruction.

3.1 Specialized Instruction

specialized instruction
Tailor made instruction designed for an individual student that is based on the specific needs of that student and that provides remediation and compensation.

Instruction based on the individualized needs of the students constitutes specialized instruction. It is what is special about special education. It is the instruction that is unique to a particular child. Provided with a thorough assessment of the student, the special education teacher plans instruction based on the individualized needs of the student. One size does not fit all. Rather we provide the instruction that is needed by the child. One student may need a specific multisensory approach to teach him reading because he has poor auditory and visual memory skills; another may need to be taught a specific learning strategy because she does not know how to take tests well and has a high degree of anxiety. One student may need a fading approach to learn his math facts Another student may be preparing for a job in a laundromat and needs to be taught how to fold clothes utilizing a particular folding board. Figure 3.1 reflects the critical components in designing an appropriate approach to instruction for the student with special needs.

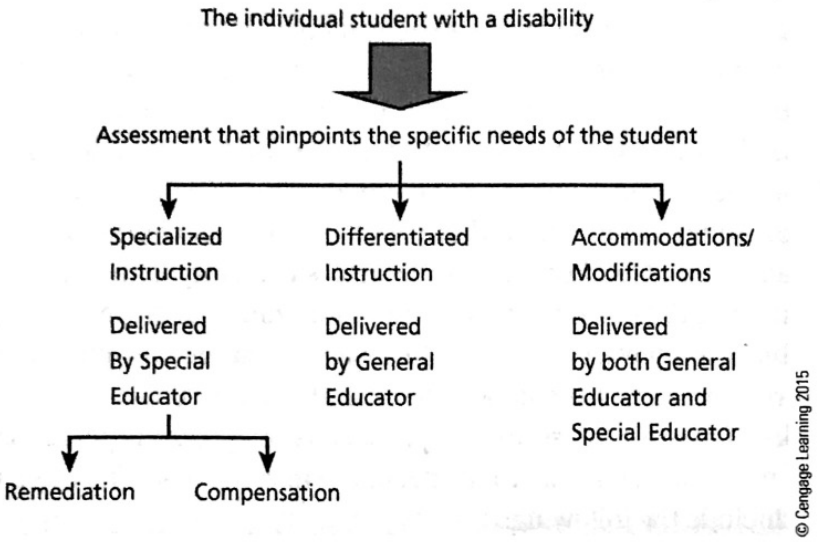

FIGURE **3.1**
Providing Appropriate Instruction

Did You Get It?

In the words of the authors of your text, "this is what is special about special education." Educational principles that always put the needs of the student above any other consideration are the hallmark of _____.

a. person-first language
b. specialized instruction
c. special needs education
d. individualized educational plans

3.2 Differentiate Specialized Instruction from Accommodations and Modifications

Oftentimes we hear individuals discussing the accommodations and modifications a student needs. If the child cannot read, we may provide them with someone who can read the material to them. This is not enough and this is not specialized instruction. The student must also be taught to read in the specialized way in which he or she can learn. Services for students with disabilities must include specialized instruction provided by a credentialed special educator. That special education must include remediation of the specific disability. In the case of students who cannot read, students must be taught to read in a way that is appropriate for them. The student must also be taught compensatory strategies for his or her reading disability. The student will need to be taught how to use context clues, how to attack a word he or she does not know, and what techniques help as they struggle with reading.

This differentiated instruction takes place within the general education classroom and involves the classroom teacher using techniques that are designed to meet the range of diversity within the classroom. Accommodations and modifications are provided to students to assist them. Accommodations will be discussed later in this chapter; they are tools provided to students, such as extended timelines or large print materials. Accommodations do not change content. Modifications, on the other hand, change the content of material being learned.

Accommodation should always be utilized together with specialized instruction. If a student is provided with extended timelines, then the student must also be taught time management skills. If a student is provided with a scribe, the student must also be taught how to write. Accommodations or modifications are not specialized instruction; they are tools that are provided to assist in instruction.

Special education must truly be special. It is different from the typical instruction and it is something that general education cannot be. (Kauffman & Hallahan, 2005). Good general education is certainly demanding but special education requires more precision and more dimensions including pacing or rate, intensity, relentlessness, structure, reinforcement, low pupil teacher ratio, monitoring, and assessment. (Kauffman & Hallahan, 2005).

Kirk's diagnostic-prescriptive approach is the pillar of special education. It is what makes special education special. (Minskoff, 1998). The steps in the approach include the following:

1. Assessment of a child's special physical, intellectual, social, emotional, and educational needs.
2. Determination of the focus of the instruction through the development of the annual goals and short-term objectives of the IEP.
3. Decisions about how instruction should be delivered through task analysis and specialized instructional techniques.
4. Measurement of the child's progress. (Kirk & Chalfant, 1984).

Did You Get It?

Which of the four following steps of Kirk's "diagnostic-prescriptive approach" is neither complete nor accurate in the form in which it is stated?

a. Step #1: Assessment of a child's physical and educational needs
b. Step #2: Determination of instructional focus, goals and objectives via the IEP
c. Step #3: Determination of viable and effective instructional methods is crystallized
d. Step #4: Ongoing assessment of the child's progress

3.3 Clinical Teaching

clinical teaching
Teaching that designs learning experiences to the unique needs of an individual learner

Assessment is only a starting point. The process continues with teaching—a special kind of teaching that is required to help students who encounter difficulty in learning, which we call clinical teaching. Clinical teaching embodies methods and strategies to reach students with learning disabilities and related disabilities.

3.3a What Is Clinical Teaching?

Clinical teaching implies a concept and attitude about teaching. Clinical teachers enjoy teaching, they believe that they can make a difference in the life and learning of a student, and they are jubilant when a student shows that he or she "gets it" with the "aha" moment. Several terms describe this special kind of teacher, such as *effective teachers, specialized instruction, remedial teachers, educational therapists,* or simply *good teachers.* All of these concepts describe a teacher who is enthusiastic, sensitive, optimistic, and serious about student

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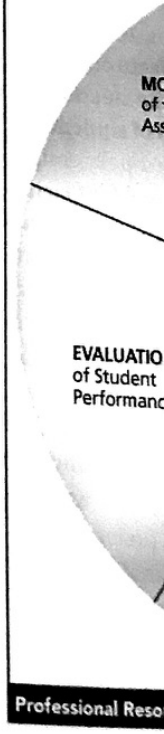


learning. Clinical teaching does not require any one particular instructional system or educational setting. Clinical teaching can reflect the teaching of special education teachers, of general education classroom teachers, of secondary subject matter teachers, or of collaboration teams.

The goal of clinical teaching is to tailor learning experiences for the unique needs of an individual student. By using information gathered through the evaluation of the student, along with an analysis of the student's specific learning characteristics, the clinical teacher designs a plan of instruction for that student. Assessment does not stop when teaching begins. In fact, the essence of clinical teaching is that assessment and instruction are continuous and interwoven. The clinical teacher modifies the teaching as new needs become apparent.

Many different intervention strategies can be used in clinical teaching. A clinical teacher is a "child watcher," carefully observing what the student is doing. For example, by observing the kinds of errors a student makes, the clinical teacher can obtain information about the student, such as the student's current level of development, way of thinking, or underlying language system. A student's oral reading errors can provide insight into the student's way of thinking.

Clinical teaching can be viewed as a cycle. The student is evaluated, and then a unit of work based on the evaluation is taught. After teaching, the student is again evaluated to determine what has been learned. If the student performs well, the clinical teacher knows that the teaching has been successful and plans for the next step of learning. If the student performs poorly, the teacher must reassess the teaching plan, analyze the errors to try to determine the cause of the failure to learn, and develop a new course of action for teaching. This clinical teaching cycle is shown in Figure 3.2.

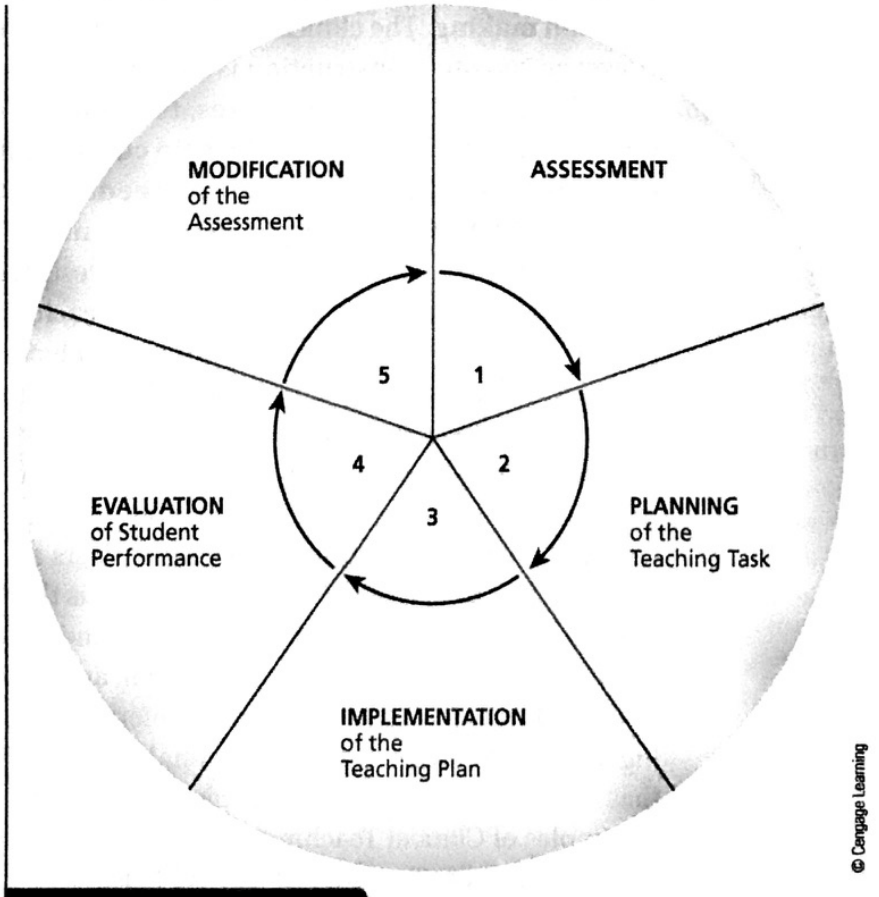


FIGURE **3.2**
Stages of the Clinical Teaching Cycle

TEACHING TIPS 3.1

Examples of Clinical Teaching

- Sammy had difficulty going from the overhead transparency the teacher was showing to the class to the work he was doing at his desk. His teacher realized that this difficulty reflected Sammy's problem with visual perception. The teacher gave Sammy a printed copy of the material on the transparency so that he did not have to make the transfer from the transparency to the work at his desk.
- Debby failed the arithmetic word problem on the test. Her teacher observed that Debby could read the words and perform the arithmetic calculations, but she could not picture the items to be calculated in the word problem. The clinical teacher recognized that Debby's arithmetic failures were related to her difficulty in visualization and spatial orientation. The teacher noted that Debby could not remember how to get to school, to the store, or to her friend's house, and she constantly lost her way. Her teacher directed the teaching toward strengthening Debby's visualization skills and her ability to visualize the situation in the word problem.
- Saul, a high school student, was failing in most of his subjects. He appeared to be uninterested and uninvolved in his school courses. Although his word-recognition skills were good, his reading comprehension was very poor. When questioned in class, Saul usually blurted out his first answer, which was typically wrong. His reactions were the same in his written work. Saul did not have a dependable system for learning. He did not know how to become actively involved in the learning task and responded impulsively. Saul's teacher recognized that he lacked learning strategies to go about learning. Saul was taught specific strategies for learning.

Professional Resource Download

The five stages of the clinical teaching cycle are:

1. **Assessment.** This is the process of gathering evidence about a student's skills or knowledge. It can be administered through a test or as an integral part of instruction.
2. **Planning of the teaching task.** The assessment information is used to plan the instruction.
3. **Implementation of the teaching plan.** This stage involves the actual teaching.
4. **Evaluation of student performance.** The teacher now evaluates how well the student has responded to the teaching.
5. **Modification of the assessment.** Now, it may be necessary to modify the assessment.

Note that the response-to-intervention (RTI) model for teaching (discussed in Chapter 2, "Assessment and the IEP Process") shifts the sequence of these stages. With RTI, the first stage is to teach the student, and then to determine the student's response to the instruction.

3.3b Qualities of Clinical Teaching

Many critical decisions must be made about what and how to teach. In many respects, teaching remains an art. One can never tell where a teacher's influence stops. Clinical teaching is unique in the following ways:

- **Clinical teaching requires flexibility and continual decision making.** The clinical teacher is a decision-maker. However, too often, instruction is determined by the material being used. In many classes, textbooks dominate the instruction, becoming the de facto curriculum.
- **Clinical teaching focuses on the needs of a unique student rather than a large group of students.** Lessons in the general education classroom are usually designed for the entire class. However, the *best* method for teaching a class may not be the best method for teaching individual students, with the student's unique behaviors and learning needs.
- **Clinical teaching can be accomplished in a variety of settings.** Clinical teaching can occur in a group or in an individual setting, in a general education classroom, or in a special education classroom. Clinical teaching reflects an attitude on the part of the teacher. What is important is the teacher's ability to integrate feedback information and be ready to make decisions, modify the teaching plan, and be sensitive to the individual student's interests, preferred way of learning, level of development, and personal feelings. Examples that illustrate clinical teaching are given in Teaching Tips 3.1, "Examples of Clinical Teaching," and Student Stories 3.1, "A Remembrance of a Remarkable Clinical Teacher."

STUDENT STORIES 3.1

A Remembrance of a Remarkable Clinical Teacher

A grateful student wrote the following remembrance of Grace Fernald, a remarkable clinical teacher.

I was the oldest of eight children. Even when very young, my parents talked with me about the world and the politics of the day—we were in the middle of World War II. I liked learning about things. With my second-grade teacher, my otherwise happy world seemed to come to an end. While I was well behaved in school, everything I did or said, from the teacher's perspective, was wrong. While only a second grader, I knew I wanted to be a doctor and a medical researcher and, in my heart, I believed I would be able to do those things well. She asked to see my parents. Because of all the young children at home, my father came alone. It was after school, and I was at one end of the room sitting quietly. I can remember hearing her tell my father I was retarded and, of course, would never be a doctor. I can also remember him patiently, but very firmly, telling her he disagreed about my intelligence and that I would be whatever I wanted.

My parents revered education. They called UCLA and were given the name of Grace Fernald, who agreed to see me in her private practice. I remember Dr. Fernald's house from the first visit. I thought it was grand. It was, to me, a very big Spanish home in a very nice area of Westwood (what is now called Little Holmby Hills). It had a tall, vaulted ceiling of wood and big timbers with a huge stone fireplace. I was amazed by the furniture, which I thought must be antique, and enjoyed looking at the oriental carpets. There were many shelves with books. Everything was very neat and very quiet.

Dr. Fernald was friendly, gray-haired, with a wonderful smile. After talking to my parents, she took me into her office. It was a small office with a big desk and many, many books. It seemed quite cozy and comfortable. We talked. She then told me I would be given an IQ test. It was fun. At a couple of points we both laughed at some of the questions: "If you fire two bullets at somebody and the first bullet kills the person, what does the second bullet do?" She also did some other testing. I did not feel at all nervous. At the end, she told me that I had done just fine and would be learning to read and spell very quickly. She and I were going to impress Miss Potter. And, we did!

Dr. Fernald's kinesthetic approach involved writing in the air as well as tracing words in large written or scripted format. In those visits, Dr. Fernald was always cheerful and always smiling. As a child, I felt I had a new friend, one who I knew was helping me in very important ways. I wanted to do well.

By the summer, Dr. Fernald decided I should enroll in the class being taught at UCLA for children with my type of problem. My parents taught me to take the big blue bus from Pico and Robertson in West Los Angeles directly to the UCLA bus stop and to navigate to the other side of campus across its various little ravines to the wood school building near Sunset Boulevard that housed Dr. Fernald's program. The building was a simple, barracks-style green structure that smelled very much of wood, cheap drawing paper, and the type of paint that children used many years ago. In the course of getting back and forth to her building I, of course, explored many buildings and many ravines!

The class had fewer than 16 pupils. We sat two pupils to a table. For every two pupils, there was a student teacher who was a UCLA trainee. Dr. Fernald was in the background circulating among the pupils and the student teachers.

She did not run the class, but was clearly in charge. The student teachers rotated being in charge of the class. The method of instruction was quite interesting. Every day, each pupil had to dictate a story to his or her student teacher. It could be as long as you wanted—mine were quite long! The teacher wrote it all down. The next day she (all the student teachers were, as I remember, young women) would bring the story back, typed up on a special typewriter that made letters that I recall as being about a half inch in height. We then read our stories to the student teachers from the neatly typed manuscript. We then would practice some of the words of the story, which were written on big cards (in my mind's eye, the cards were about 2- or 3-inches high and about 10-inches long). We would trace the words and learn to spell them. While one of the student teacher's pupils was reciting his story (most of the pupils were boys), the other pupil was doing the word practice, including softly repeating his story and tracing words. There was some work involving the group as a whole with larger cards.

Dr. Fernald always seemed to be in a good mood and seemed to have an individual relationship and concern for each of the pupils and student teachers. Some students had trouble behaving themselves. She was stern about the class being a place to learn. Students who could not behave in the class had to leave and go outside. I remember one or two of those students had to leave the class permanently.

The sessions lasted a half day. They included recess breaks as well as some time for painting. Much of that was finger painting, dipping our hands into chalky paints, which had a rather nice smell.

Once I got the notion of reading, I became quite avid. I tried to explain to Miss Potter what I was learning from Dr. Fernald. But Miss Potter made it quite clear that she was not interested.

(continued)

instruction, the teacher seeks to find that special method that will be successful for an individual student to help that student learn (Bender, 2006). A website for differentiated instruction through universal design is *http://www.cast.org*.

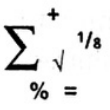
3.4a Multiple Intelligences

The concept of "multiple intelligences" presents another view of differentiated learning. Many parents and teachers correctly observe that their children may encounter learning problems in school, but they have incredible talents that are generally undervalued or not well represented in school curricula. Multiple intelligences is a view of learning that reflects the idea that people possess different kinds of intelligences that are not represented in the school curriculum. Howard Gardner (1983, 1993, 1999) suggests that there are at least eight different types of intelligence. Each type of intelligence calls for a distinctive approach for teaching (Table 3.1).

multiple intelligences
Many different talents or intelligences, such as verbal or linguistic intelligence and visual or spatial intelligence.

TABLE 3.1

Gardner's Multiple Intelligences

Type of Intelligence	Description	Symbol
Verbal/linguistic	Related to words and language (qualities of *writers* and *poets*)	
Logical/ mathematical	Abilities with quantitative thinking, numbers, and logical patterns (qualities of *mathematicians* and *scientists*)	
Visual/spatial	Abilities to visualize objects and to create internal mental images and pictures (qualities of *artists, architects,* and *engineers*)	
Musical/rhythmic	Sensitivities to tonal patterns, rhythms, and musical expressiveness (qualities of *musicians*)	
Bodily/kinesthetic	Related to abilities to control one's physical movement (qualities of *athletes* and *dancers*)	
Interpersonal	Skills in dealing with other people (qualities of *salespeople* and *politicians*)	
Intrapersonal	Inner states of being, self-reflection, and knowledge of one's self (qualities of *persons with accurate self-knowledge*)	
Naturalistic	Attuned to nature, animals, and plant life (qualities of *farmers, forest rangers,* and *gardeners*)	

Source: Adapted from *Frames of mind: The theory of multiple intelligences*, by Howard Gardner, 1983, New York: Basic Books.

3.4b Differentiated Instruction and Teaching Approaches

In this section, we describe some of the teaching approaches to meet the unique learning needs of students who learn differently. Teachers should know and have at their disposal many strategies to meet the needs of an individual student, and teachers should not be overly dependent on a single teaching approach. Such a flaw is exemplified in Student Stories 3.2, "A Fable for Teachers." The point of the fable is that each student (or animal) is different, and that one method cannot be relied on as the *best* way for teaching in every case. There is no magic formula for teaching a child. Teachers need to have a wide range of instructional approaches at their disposal, and they need to be imaginative and flexible enough to adapt them to the particular needs of each child.

In the following sections, we look at two distinctive approaches to teaching students who learn differently: (1) cognitive processing, and (2) direct instruction and mastery learning.

cognitive processing
The mental processes involved in thinking and learning, such as perception, memory, language, attention, concept formation, and problem solving.

Cognitive Processing The notion of cognitive processing refers to the different ways that children process information within the brain as they learn (Sousa, 2001). Federal law permits states to use of research-based procedures for determining if a child has a learning disability (IDEA, 2004; Regulations for IDEA, 2006). Many states allow the use of a procedure that determines if a student exhibits a pattern of strengths and weaknesses in areas of cognitive processes that interfere with learning (Schultz, 2009).

Identifying a student's cognitive processing approach to learning has given meaning to the most salient components of the federal definition of learning disabilities, which is *a disorder in one or more of the basic psychological processes*

STUDENT STORIES 3.2

The Animal School: A Fable by George Reavis

Once upon a time the animals decided they must do something heroic to meet the problems of a "new world" so they organized a school. They had adopted an activity curriculum consisting of running, climbing, swimming and flying. To make it easier to administer the curriculum, all the animals took all the subjects.

The duck was excellent in swimming. In fact, better than his instructor. But he made only passing grades in flying and was very poor in running. Since he was slow in running, he had to stay after school and also drop swimming in order to practice running. This was kept up until his webbed feet were badly worn and he was only average in swimming. But average was acceptable in school so nobody worried about that, except, the duck.

The rabbit started at the top of the class in running but had a nervous breakdown because of so much makeup work in swimming.

The squirrel was excellent in climbing until he developed frustration in the flying class where his teacher made him start from the ground up instead of the treetop down. He also developed a "charlie horse" from overexertion and then got a C in climbing and D in running.

The eagle was a problem child and was disciplined severely. In the climbing class, he beat all the others to the top of the tree but insisted on using his own way to get there.

At the end of the year, an abnormal eel that could swim exceeding well and also run, climb and fly a little had the highest average and was valedictorian.

The prairie dogs stayed out of school and fought the tax levy because the administration would not add digging and burrowing to the curriculum. They apprenticed their children to a badger and later joined the groundhogs and gophers to start a successful private school.

Does this fable have a moral?

Source: This story was written when George Reavis was the Assistant Superintendent of the Cincinnati Public Schools back in the 1940s. This content is in the public domain and free to copy, duplicate, and distribute.

REFLECTIVE QUESTION

1. How does this fable illustrate the statement that "one size does not fit all"?

(IDEA, 2004). Information about a student's cognitive processing can be linked to the student's ability to perform academically (Flannagan, Ortiz, Alfonso, & Mascolo, 2006; Kavale, Holdnack, & Mostert, 2005).

Cognitive processes are thinking procedures that learners use in learning and performing academic tasks. Several different distinctive cognitive processes are identified by Schultz, 2009; Mather and Jaffe, 2002; and Flangan, et al., 2006:

- **Fluid intelligence**—mental operations when a person is presented with a novel task
- **Crystallized intelligence**—a person's general fund of knowledge
- **Short-term memory**—ability to apprehend and hold information for a very short time
- **Visual processing**—ability to think with visual patterns and stimuli
- **Auditory processing**—ability to notice and discriminate separate sounds
- **Long-term storage and retrieval**—ability to store new or previously acquired information and fluently retrieve that information
- **Processing speed**—ability to fluently and automatically perform cognitive tasks

FIGURE 3.3
Visual Perception—Liar, Liar, Optical Illusion

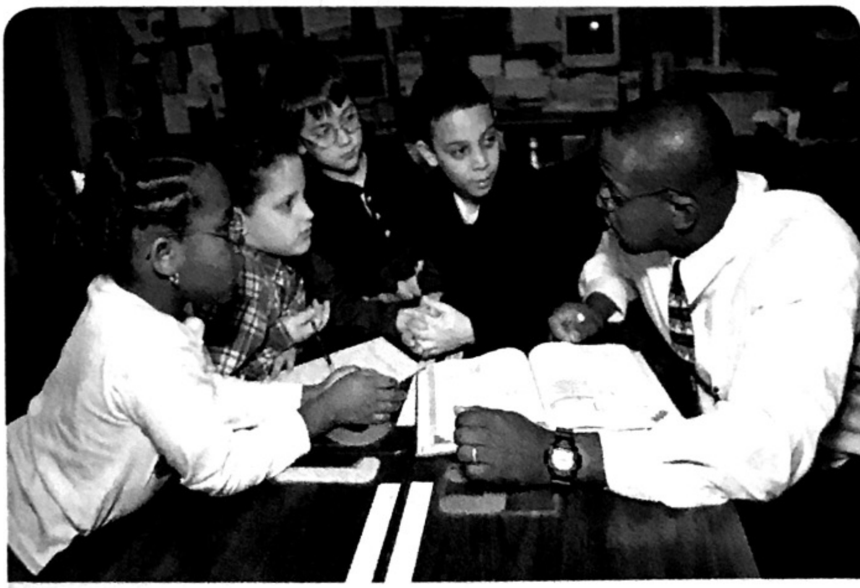
Cognitive process occurs within the brain. Figure 3.3 illustrates how information can be perceived in different ways. What do you see in this figure? The written word *Liar,* or a profile of a face? (Turn the figure sideways.) How do different perceptions affect the interpretation of this figure? Perception occurs in the brain.

Here are two examples of cognitive processing and applications for teaching:

- Jeff's teacher is aware of his difficulty with auditory processing so his teacher understands why Jeff has so much difficulty in learning phonics. Jeff's teacher therefore makes accommodations in how she teaches phonics that consider Jeff's difficulty in auditory processing.
- Susan has difficulty with visual perception and cannot remember printed words. Her teacher uses strategies to help her recognize printed words.

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

Direct Instruction and Mastery Learning Direct instruction is a method of teaching the academic skills of the curriculum in a structured and controlled manner. With direct instruction, the curriculum and the tasks that the student is to learn are first analyzed. Then the desired academic curriculum skill is carefully sequenced so that the teacher teaches each step in sequence. The student practices and repeats each step of the sequence until the skill is mastered. Research shows that direct instruction is very effective, and that students do learn the academic skills with this procedure (Carnine, Silbert, & Kame'enui, 1990; Mainzer et al., 2003).



Cognitive strategies are thinking processes that learners use to perform academic tasks

Characteristics of direct instruction include:

- Teaches academic skills directly
- Is teacher directed and controlled
- Uses carefully sequenced and structured materials
- Provides student mastery of basic skills
- Sets goals that are clear to students
- Allocates sufficient time for instruction
- Uses continuous monitoring of student performance
- Provides immediate feedback to students
- Teaches a skill until mastery of that skill is achieved

mastery learning
The steps of a subject are put in sequential order. Mastery learning determines if the child has learned (or mastered) each step.

Mastery learning is an outcome of direct instruction. The student must learn each of a sequence of skills in order to learn a task. Learning each skill of a task is likened to climbing the rungs on a ladder. Each rung must be touched in climbing to the top; the student who misses some rungs may fall off. The skill of reading, for example, is analyzed as consisting of many subskills; by mastering the component subskills, the student should master the skill of reading.

Did You Get It?

The concept of "differentiated teaching" takes into account that once information is presented, unique students will intake and "_____" that information in and by a myriad of unique styles, manners, and processes.

a. internalize
b. make sense of
c. value
d. store

3.5 Controlling Instructional Variables

The teacher and the school can do relatively little about many factors linked with learning disabilities and related mild disabilities. The home environment or the genetic or biological makeup of the student may be key elements contributing to the learning problem, but such variables cannot be modified by the teacher. Other factors, however, can be changed by teachers, and these factors should receive careful consideration. Variables in learning that can be readjusted by teachers include the difficulty level, space, time, and language.

3.5a Difficulty Level

readiness
The state of maturational development that is necessary before a skill can be learned.

zone of proximal development (ZPD)
A term, used by Vygotsky, envisioning a range of levels of difficulty for a student. The lower end is very easy, the upper end beyond the student's capacity. The ZPD is the midpoint and is an appropriate level for learning.

The *difficulty level* of material is an extremely important consideration. Difficulty level can be modified to meet a student's present performance and tolerance levels. The concept of readiness, which is defined as the state of maturational development that is necessary before a skill can be learned, applies here, as does Lev Vygotsky's notion of the zone of proximal development (ZPD). The zone of proximal development is a concept that envisions a range of difficulty levels for a student, with the ZPD at the midpoint of a student's capacity and an appropriate level for the student's learning (Vygotsky, 1962). (See Chapter 5, "Theories of Learning.") Many students fail tasks simply because the

tasks are too difficult and the required level of performance is beyond their present skill level. Expecting a student to perform a task far beyond her or his skill level can result in a complete breakdown in learning. A synthesis of intervention research shows that "control of task difficulty" is a critical feature of effective intervention (Vaughn, Gersten, & Chard, 2000).

Many skills or responses must be overlearned so that they can become automatic. Many skills must be internalized or become automatic before they can be used quickly in new situations or transferred to new situations. The internalization permits a shift from the conscious, cognitive level to the automatic response, or habitual level. For example, in reading, the student initially may use phonic skills in a conscious, deliberate way to decode words; but later, the process must become automatic for effective reading.

3.5b Space

Space refers to the physical setting, which should be conducive to learning. Among the ways to modify space are using partitions, cubicles, screens, special rooms, quiet corners, and removing distracting stimuli. Space also involves the student's work area, such as the size of the paper and the desk surface. The school environment should not be a distraction from learning, but rather should enhance learning.

The goal of space control is to slowly increase the amount of space with which the student must contend. Gradually, students must internalize their own controls so that they can get along in an unmodified space environment.

3.5c Time

There are a number of ways to control *time* in the teaching setting. Lessons for students with a very short attention span can be limited so that they can be completed in less time. For example, one row of mathematics problems can be assigned instead of an entire page. The work page can be cut into squares or strips to shorten the time required to complete one section. Fewer spelling words can be given in a spelling assignment. In timed exercises, the allotted time can be increased. Time can be broken into shorter units by varying the types of activity so that quiet activities are followed by livelier ones. Planned activity changes, such as having the student come to the teacher's desk or walk to a shelf to get supplies, can be useful breaks during long lessons. Homework assignments can be shortened. The goal is to gradually increase the time that the student works on a task.

3.5d Language

Language can also be modified to enhance student learning. To ensure that language clarifies rather than confuses, teachers should examine the wording of their directions. The language should match the student's level of understanding. For students whose first language is not English, it is especially critical that the teacher's language be clear, precise, and unambiguous. Using a visual support, such as a chart, can be helpful in understanding the language.

For some students, the language quantity must be reduced to the simplest statements. Techniques to simplify language include: (1) reducing directions to "telegraphic speech," or using only essential words; (2) maintaining visual contact

with the learner; (3) avoiding ambiguous words and emphasizing meaning with gesture; (4) speaking in a slow tempo; (5) touching the student before talking; and (6) avoiding complex sentence structure, particularly negative constructions.

Did You Get It?

Zone of proximal development (ZPD) refers to the _____ of a student's abilities being the optimal/most appropriate level to facilitate learning when he or she is presented with a range of difficulty levels and variables.

a. apex
b. low-end
c. midpoint
d. 80% mark

3.6 Building Self-Esteem and Motivation

Robert Louis Stevenson observed that life is not so much a matter of holding good cards but of playing a poor hand well. This observation expresses the plight of students with learning disabilities and related mild disabilities and the call for teachers to help students learn how to play their hand well. Clinical teaching requires an affirming and positive teacher-student relationship. Although effective teaching requires objectivity and a thorough knowledge of the curriculum, skills, and methods, it also requires a subjective understanding of the student as an individual with feelings, emotions, hopes, and dreams (Brooks & Goldstein, 2002; Brooks, 2000). Students often feel lost and frightened because they have suffered years of despair, discouragement, and frustration. Sometimes they experience feelings of rejection, failure, and hopelessness about the future that affect every subject they study in school and every aspect of their lives. The emotional plight of students who are failing is further explored in Student Stories 3.3, "The Emotional Plight of Students With Learning Disabilities and Related Disabilities."

3.6a **Self-Esteem**

A problem in learning can impinge upon every aspect of the student's world. It is important to recognize the emotional impact of failure on the student. Not only are parents and teachers displeased with the child, but the parent's anxiety also often becomes uncontrollable. The parents wonder whether their child is unable to learn or is just plain lazy. Even the most loving parents can become so alarmed at their child's inability to learn that they will tend to punish, scold, and threaten, or even reward with the hope of producing desired results. Teachers also feel frustrated by their inability to reach the child. A student's problems in learning do not begin and end at the classroom door; they pervade every aspect of the child's life. They interfere with everything important to the child—from riding a bicycle to making friends, from knowing how to behave at recess to being an effective student (Silver, 2003, 2006).

3.6b **Fostering Motivation**

An important responsibility for the clinical teacher is to motivate students who have been failing and to attract them to learning. In discussing motivation, Rick Lavoie (2007) uses the phrase, "Batteries Not Included: Motivating the Struggling

STUDENT STORIES 3.3

The Emotional Plight of Students with Learning Disabilities and Related Disabilities

This box describes the emotional feelings of failure.

For 12 long years of school and after, the student with learning disabilities contends with a situation for which he or she can find no satisfactory solution. When schoolwork becomes insurmountable, the student has few alternative resources. Adults who are dissatisfied with their job may seek a position elsewhere or find solace outside of work or may even choose to endure these difficulties because of a high salary or other compensations. For the student, however, there is no escape; he or she is subjected to anything from degradation to long-suffering tolerance. Proof of inadequacies appears daily in the classroom. In the end, the student is held in low esteem, not only by classmates, but also often by his or her family.

Source: Roswell, R. and Natchez, G. (1977) *Reading Disability*. New York: Basic Books.

REFLECTIVE QUESTION

1. For a student with learning disabilities, what factors can lead to low self-esteem?

Learner." Lavoie observed that teachers lack training and exposure to the basic tenets of motivation. Each student responds to a different form of motivation. If a motivational strategy works, do more of it; if it doesn't, do something else. Lavoie identifies eight different forces of motivation: (1) the need to have friends, (2) the need for independence, (3) the need to be important, (4) the need to know, (5) the need to assert, (6) the need for control, (7) the need to be recognized, and (8) the need to have affiliations and belong to a group. Because each student responds to a unique set of motivators, teachers cannot count on motivating all students by using one solitary motivational approach (Lavoie, 2007).

When a student experiences success in learning, it has a beneficial effect on personality, enhances feelings of self-worth, and rekindles an interest in learning. Such teaching can be considered therapeutic (Brooks, 2000). (See Chapter 6, "Social, Emotional, and Behavioral Challenges," for a further discussion of ways to build self-esteem.)

3.6c Building Rapport

A good relationship between the teacher and student is an essential first step in clinical teaching. Much of the success in clinical teaching depends on the establishment of healthy rapport. The teacher must accept the student as a human being worthy of respect in spite of a failure to learn. A healthy relationship implies compassion without over-involvement, understanding without indulgence, and a genuine concern for the student's development. The clinical teacher's relationship with a student should provide a new atmosphere of confidence and acceptance. Because it may be extremely difficult for a parent or a family member to retain an accepting, yet objective,

Dmitriy Shironosov / Shutterstock.com.

Success in learning has a beneficial effect on personality, enhances feelings and self-worth, and rekindles an interest in learning.

attitude, the student becomes very sensitive to the parent's disappointment. Parents are often unaware of their child's reaction to their efforts. For example, one well-intentioned father in a public library helping his son pick out a book and listening to him read, was overheard saying, "I'll tell you that word one more time, and then I don't want you to forget it for the rest of your life." This is not an attitude that is conducive to learning. Children need to see a word dozens of times before they readily recognize the word.

3.6d Sharing Responsibility

Involvement of both the student and the teacher is another factor in clinical teaching. Students should participate in both the analysis of their problems and the evaluation of their performance. In the same collaborative spirit, the student should also take an active role in designing lessons and choosing materials.

3.6e Providing Structure

Providing structure and establishing routines are important factors for introducing order into the chaotic lives of students with learning problems. Many students need and welcome such order. Structure and routine can be provided in many aspects of teaching—in the physical environment, in knowing the specific schedule for the day, in the sequence of activities, and in the manner in which lessons are taught.

3.6f Conveying Sincerity

Students are skillful in detecting insincerity, and they will soon detect dishonesty if a teacher tells them they are doing well when they know otherwise. Instead, the teacher might try to minimize anxiety about errors by saying that many students have similar difficulties and by conveying confidence that together they will find ways to overcome the difficulties.

3.6g Showing Success

Success is similar to a vitamin. If you don't get enough of it growing up, you suffer a very severe deficiency that could result in long-term problems (Levine, 2002). Self-esteem cannot be injected or taught; it is a result of many success experiences (Richardson, 2003). Students should become aware of and appreciate their successes. Students should know what they can do well, and teachers and families should help them pursue their areas of strengths. Many students and adults with learning disabilities and related mild disabilities achieve success by understanding the nature of their learning problems and learning to use their strengths.

Lessons must be designed and materials selected to permit students to experience success. For example, the teacher can obtain books at the reading levels that meet the students' areas of interest. In addition to selecting the appropriate level of difficulty of teaching materials, the teacher can make students conscious of their success and progress by:

- Praising good work
- Using extrinsic rewards as reinforcement
- Developing visual records of progress through charts and graphs

3.6h Capitalizing on Student's Interests

The chance of successful achievement increases when a teacher provides materials based on the student's special interests. Teachers can find student interests through conversations with the student or by administering interest inventories. By finding materials in the student's area of interest, teachers can give the student a strong motivation to learn.

Students have a range of reading interests that include sports, adventure and action, history, science, biography and memoir, mysteries, and humor. Valuable reading lessons can be developed from materials that students have an interest in—*TV Guide,* newspapers, baseball and football programs, music, popular magazines, and even computer manuals. The first real interest in reading shown by some high school students is stimulated by the need to pass a written test in order to get a driver's license. Engaging this interest, some teachers have successfully used the driver's manual as material to teach reading. A favorite author or series books have been the impetus for other youngsters to become readers. The right book can be a powerful tool to build interest, provide motivation, and improve academic learning. The following are some examples of students who made great strides once an interest had been tapped.

- Antonio, an eighth-grade boy with learning disabilities, found the first book he ever read from cover to cover, *The Incredible Journey,* so fascinating that he was completely oblivious to class changes, ringing bells, and classroom incidents from the time he started the book until he completed it.
- Maria developed an interest in successful women who had, in her words, "made it." Her teacher helped her find many books and articles that related stories of successful women in many fields. Her reading improved dramatically after she read these materials.
- Dave had a keen interest in the Chicago Cubs baseball team. His teacher helped him find newspaper stories about the games and biographies of the players. His interest led him to read more, and his reading improved.
- Sometimes a television show or a movie based on a book can spark an interest. After seeing a television show about *Robinson Crusoe,* Juan, who had severe reading problems, was introduced to a simplified version of this book. His teacher reported that he became so immersed in the story that he would grab the book as soon as he entered the room.

Once in a while, dramatic changes occur in a student's attitude and outlook because of clinical teaching. When such a change occurs because of a book the child has read, it is sometimes called bibliotherapy. Learning about

Video Case Activity

Watch the TeachSource Video Case entitled "Academic Diversity: Differentiated Instruction." In this video, a third-grade teacher instructs her students in written expression. She differentiates her lesson for academically diverse students by providing different instruction for three groups: children who learn the lesson easily, children who need significant support, and individualized instruction for children who have difficulty in creating the written document.

QUESTIONS

1. Based on watching the video case and reading the chapter, what are your ideas for differentiating instruction for diverse learners when teaching written expression?
2. How can differentiated instruction be used in teaching reading?

bibliotherapy
A technique of using characters in books to help children work through personal problems.

the experiences of others can foster release and insight as well as hope and encouragement. Students with personal problems (e.g., children who are short, overweight, unpopular, or who have physical or academic disabilities) identify with book characters who suffer similar problems and are helped by the characters' resolution of their problems (Sridhar & Vaughn, 2002). For example, Peter, a seventh-grade student with learning disabilities, was fascinated by Houdini, the great escape artist. Peter read all the books he could find on Houdini in the school library and in the public library. During this period of extensive reading about Houdini, Peter's teachers observed personality and attitude changes, as well as tremendous improvement in his reading.

Did You Get It?

In recognizing and targeting what makes a student tick, it might be helpful to remember Lavoie's eight forces of motivation. Which of the following four forces is not one of those recognized by the author?

a. A need for recognition
b. A need to control
c. A need to manipulate
d. A need to feel important

3.7 Including Students with Learning Disabilities and Related Disabilities in General Education

Most students with learning disabilities receive their instruction in general education classrooms. About 87% of students with learning disabilities spend at least a portion of their school day in general education classrooms. This includes about 55% (who are in the regular classroom for 80% or more of the day) and 32% (who are in the regular class for 40% to 70% of the school day). Only 12% of students with learning disabilities are in the regular classroom for less than 40% of the day. (U.S. Department of Education, 2012).

3.7a **Section 504 Students**

As noted in Chapter 1, some students with disabilities receive instruction in the general education classrooms under the law known as Section 504 of the Rehabilitation Act of 1973. The law of Section 504 falls under the purview of a federal agency called *Office of Civil Rights.* It is *not* a law of Department of Education and IDEA (Individuals With Disabilities Education Improvement Act-2004). Section 504 is a civil rights law that prohibits discrimination against individuals with disabilities. The provisions in the Americans with Disabilities Act Amendments (ADAA) (2008) applies to students in Section 504.

Under Section 504, a student may have a disability but the student may not be eligible for special education services under a state's diagnostic criteria for that disability. These students may be entitled to Section 504 services

in the general education classroom. The Section 504 plan is an accommodation plan that outlines the specific accommodations that are needed for the student. Section 504 students will not have an IEP but they may have a Section 504 plan. The 504 plan may include the following: specialized instruction, modifications to the curriculum, and accommodations (Zirkel, 2009; *http://www.wrightslaw.com/info/sec504.index.htm*; *http://www.concordspedpac.org/section504.html*).

Students identified as Section 504 students are served in the general education classrooms, and they are entitled to "reasonable accommodations in general education classrooms." States must have accommodation guidelines for Section 504 students.

reasonable accommodations The phrase used in Section 504 of the Rehabilitation Act to describe what can fairly easily be done in a setting to make adjustments for an individual with a disability.

3.7b Student Diversity in General Education

In today's pluralistic society, most general education classrooms have students from many different ethnic, language, and cultural populations. Some culturally and linguistically diverse students were born in the United States or Canada; others are recent immigrants from all parts of the world. Some students are English-language learners (ELL) and have limited English proficiency. ELL students are discussed in more detail in Chapter 11, "Spoken Language Difficulties: Listening and Speaking."

Understanding the cultures and language backgrounds of students is essential for effective teaching, and teachers should appreciate the unique contributions of each culture. By the time children enter school, they have already absorbed many of the values and behaviors of the culture in which they were raised, which has major ramifications for school success. The child's language is one obvious consideration. If the school expects all students to be fluent in English, students from families that speak another language will be at a disadvantage. Another consideration is that many schools expect students to work independently and to compete for grades and recognition. This expectation may be in conflict with the attitudes of cultures in which cooperation and peer orientation are valued more than the qualities of independence and competitiveness (Hernandez, 2001; Montgomery, 2001). For students with learning disabilities and related disabilities, their learning problems are compounded by dimensions of the student's culture and language (Hernandez, 2002).

With the increase in cultural and linguistic diversity in our schools, teachers must recognize the impact of culture and language on a student's behavior and performance in school. Knowledge and respect for differences among cultural and language groups will help teachers provide more successful experiences for all students.

Teachers should create an atmosphere that builds on the cultural and linguistic diversity of students (Montgomery, 2001). Teaching Tips 3.2, "Culturally Responsive Teachers," offers ways to do this.

TEACHING TIPS 3.2
Culturally Responsive Teachers

- Accept and welcome culturally diverse students into their classrooms and recognize the need for these students to find relevant connections among their peers and with the subject matter of the tasks teachers ask them to perform.
- Establish a classroom atmosphere that respects individuals and their cultures by providing current and relevant bulletin boards that display positive and purposeful activities and events involving various cultures. Have a book corner with a variety of culturally diverse literature and have language arts and social studies programs that offer opportunities to showcase written and oral reports pertaining to student heritage and cultural traditions.
- Use a range of culturally sensitive instruction materials and methods, including interdisciplinary arts and journal writing.
- Foster an interactive classroom environment so that students can engage in shared inquiry and discovery. One way to *do* this is to provide cooperative learning *groups* that bring students with diverse backgrounds together. Guided and informal group discussions offer *opportunities for* students to learn from one another.
- Collaborate and communicate with culturally diverse families and professionals.

Professional Resource Download

Did You Get It?

By law, students are entitled to accommodations within the realm of the general education classroom. Which of the following terms precedes the word "accommodations" to fully describe that which a student has a right to in this context?

a. Comprehensive
b. Reasonable
c. Average
d. Sensible

3.8 Accommodations for Students with Learning Disabilities and Related Disabilities

The following accommodations will help students with learning disabilities and related disabilities in the general education classroom: (1) increasing attention, (2) improving the ability to listen, (3) adapting the curriculum, and (4) helping students manage time.

accommodations
Refers to adjustments within a general education program to meet the needs of students with disabilities. Required under Section 504 of the Rehabilitation Act and IDEA.

Some accommodations for students with disabilities in the general education classroom are described in Including Students in General Education 3.1, "Accommodations for the General Education Classroom."

3.8a Increasing Attention

A short attention span is a characteristic of many students with learning disabilities and related mild disabilities. Students may initially be attentive, but their attention soon wanders. The following activities will help students attend and prolong their concentration.

- Shorten the task by breaking a long task into smaller parts; assign fewer problems—for example, fewer spelling words or mathematics problems
- Shorten homework assignments by giving fewer problems
- Use distributed practice; instead of a few long and concentrated practice sessions, set up more short, spaced, and frequent practice sessions

Including Students in GENERAL EDUCATION 3.1

Accommodations for the General Education Classroom

- Change the setting. Give instructions or tests in a separate room, in a carrel, or in a small group.
- Change the scheduling. Extend the time and the breaks for testing and instruction.
- Change the type of presentation. Use large print; give verbal directions instead of written directions, or tape-record the directions.
- Change the expectations for responses. Have students answer questions orally or point to the answer; students can mark in a booklet instead of on an answer sheet.

Source: Council for Exceptional Children, 2001; U.S. Department of Education, 2000b.

Professional Resource Download

- Make tasks more interesting to keep students' interest; encourage students to work with partners, in small groups, or in interest centers
- Alternate highly interesting tasks and less interesting tasks
- Increase the novelty of the task; tasks that are new or unique are more appealing and will increase attention

3.8b Improving the Ability to Listen

We erroneously assume that students know how to listen. Students with learning disabilities and related mild disabilities frequently miss important instructions and information because they are not actively listening. They may even be unaware that a message is being given. Teachers expect students not just to hear or recognize the words that are spoken, but also to comprehend the message. The following strategies can help students acquire better listening skills.

- Make instructions simple by using short, direct sentences; give one instruction at a time, and repeat it as often as necessary; make sure that students know all the vocabulary being used.
- Prompt students to repeat instructions after listening to them; later, have the students repeat to themselves information they have just heard to build listening and memory skills.
- Alert students by using key phrases—for example, "This is important," "Listen carefully," or "This will be on the exam"; some teachers use prearranged signals, such as hand signals or switching the lights on or off before giving directions.
- Use visual aids (such as charts, pictures, graphics, and key points on a chalkboard or overhead transparencies) to illustrate and support verbal information.

3.8c Adapting the Curriculum

Often the teacher can change, modify, or adapt the curriculum without sacrificing its basic integrity. Even a small change can be beneficial for the student.

- Select high-interest materials to reinforce the basic curriculum; use manipulatives, or hands-on materials, whenever possible; create activities that require active participation, such as talking through problems and acting out steps—many students learn better when they actually do something in addition to just listening and observing.
- Use visual aids to supplement oral and written information; use learning aids, such as computers, calculators, and tape recordings to increase motivation.
- Accommodate test-taking, allowing students to take tests orally instead of writing the answers; teach students how to cross out incorrect answers on multiple-choice tests.

3.8d Help Students Manage Time

Managing time is a common problem area for many students with learning disabilities and related mild disabilities. They are pulled away from the task at hand and become involved with new challenges. They become procrastinators,

a trait they retain into their adult lives. The following activities are designed to help students with time management.

- Students can develop a sense of time and what must be accomplished in a given time span by making a spreadsheet, bar chart, or pie chart with a computer to illustrate time use.
- Set up a specific routine and adhere to it; when disruptions occur, explain the situation to students, as well as appropriate ways to respond.
- During the school day, alternate activities that are done sitting and those that involve standing and moving about.
- Make lists that will help students organize their tasks; have students check off tasks as they complete them.
- Use behavior contracts that specify the amount of time allotted for specific activities.

Did You Get It?

Beau is diagnosed with a learning disability and has a secondary diagnosis of acute anxiety disorder. He simply "decompensates" when he is in a crowded room where a test is being given. Which of the following would represent an effective and reasonable accommodation for him?

a. A slightly easier test
b. A personalized change of venue for taking the test
c. Verbal directions instead of written
d. Dispensing altogether with formalized testing

3.9 Effective Instructional Strategies for General Education

Effective instructional strategies for students in the general education classroom include (1) peer tutoring, (2) explicit teaching, (3) promoting active learning, (4) scaffolded instruction, (5) executive functions, and (6) learning strategies instruction.

3.9a Peer Tutoring

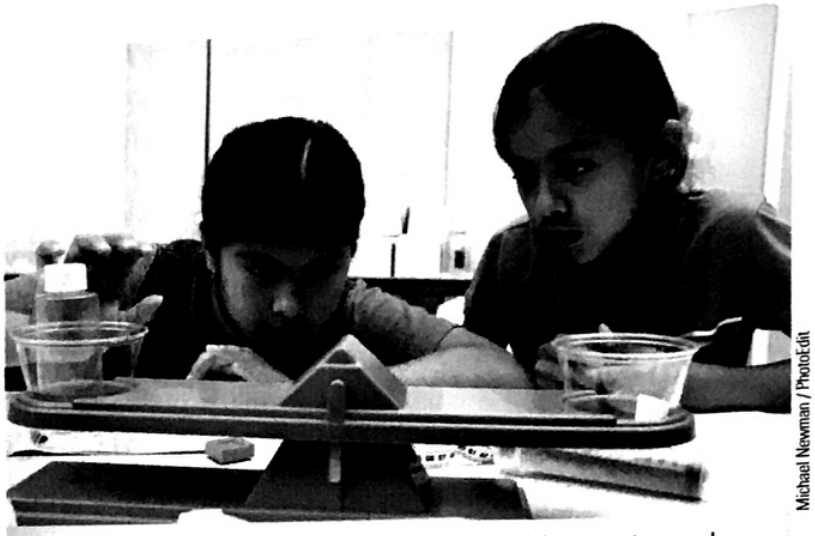
peer tutoring
A method of instruction in which the student is taught by a peer or classmate.

Peer tutoring is a strategy for the general education classroom in which two children work on learning tasks together. One child is the *tutor* and serves as a teacher; the other child is the *tutee* and serves as the learner. The children work in pairs, so peer tutoring supports one-to-one teaching in the general education classroom. The peer tutor helps the tutee learn, practice, or review an academic skill that the classroom teacher has planned. Examples of peer tutoring tasks are saying aloud or writing spelling words, reading sentences, or solving a mathematics problem. Types of peer tutoring include *same-age peer tutoring* (in which one student in the classroom tutors a classmate) and *cross-age peer tutoring* (in which the tutor is several years older than the tutee (Greenwood, Maheedy, & Delquardi, 2002).

Both the tutor and the tutee benefit from the peer-tutoring experience. For the tutee, there are gains in academic achievement. The child is able to learn more effectively from a classmate whose thinking processes are closer to that of the child than that of an adult. For the tutor, there are also academic benefits because the best way to fully learn something is to teach it to someone else. The experience

also offers the tutor a sense of accomplishment. Other advantages of peer tutoring are that the tutor serves as a model of appropriate academic and nonacademic behavior and the relationship between the two children provides opportunities for establishing additional social relationships within the classroom.

Research consistently shows that peer tutoring is a successful and valid strategy (Fischer, Schumaker, & Deshler, 1995; Fuchs & Fuchs, 1998; Greenwood et al., 2002). It is also relatively easy for teachers to implement. Peer tutoring is a practical way to provide support for children with learning disabilities and related mild disabilities in the general education classroom, and *more* importantly, children like peer tutoring.



Michael Newman / PhotoEdit

Active learning capitalizes on students' interests and encourages active involvement in learning.

Classwide peer tutoring is a more organized version of peer tutoring that involves the entire class. For this activity, tutor-tutee pairs work together on a classwide basis. At the beginning of each week, all students are paired for tutoring, and these pairs are then assigned to one of two competing teams. Tutees earn points for their team by responding to the tasks presented to them by their tutors. The winning team is determined daily and weekly on the basis of the team with the highest point total (Greenwood, 1996; Utley, Mortweet, & Greenwood, 1997).

3.9b Explicit Teaching

Many students with learning disabilities need explicit teaching. Like *direct instruction,* explicit teaching means that the teacher clearly states what is to be taught and explains what needs to be done. Students are not left to make inferences from experiences that are unmediated by such help. In explicit instruction, students are provided with models of appropriate methods for solving problems or explaining relationships. They are amply supported during the stages of the learning process, and they are provided with adequate practice (Gersten, 1998; U.S. Department of Education, 1997). Teaching Tips 3.3 provides some principles of explicit teaching.

explicit teaching
The process in which the teacher clearly states what is to be taught and thoroughly explains the concepts, provides multiple models, provides needed support, and provides ample opportunities for practice.

TEACHING TIPS 3.3

Principles of Explicit Teaching

- Provide students with an adequate range of examples to exemplify a concept or problem-solving strategy.
- Provide models of proficient performance, including step-by-step strategies (at times) or broad generic questions and guidelines that focus attention and prompt deep processing.
- Provide experiences where students explain how and why they make decisions.
- Provide frequent feedback on quality of performance and support so that students persist in performing activities.
- Provide adequate practice and activities that are interesting and engaging.

Source: From "Recent Advances in Instructional Research for Students With Learning Disabilities: An Overview," by R. Gerstein, 1998, *Learning Disabilities Research & Practice,* 75(13), pp.162–170. Reprinted with the permission of Laurence Erlbaum Associates, Inc.

3.9c Promoting Active Learning

active learning
Dynamic involvement in the learning process.

Learning is not a spectator sport. The importance of instruction that promotes active learning is advanced by research in contemporary cognitive psychology. Active learners (1) attend to instruction, (2) attribute results to their own efforts, (3) relate tasks and materials to their knowledge and experience, and (4) actively construct meaning during learning. Instruction for active learning capitalizes on the child's interests, stresses the importance of building background knowledge prior to teaching, and encourages the active involvement of students. Active learning emphasizes the concept that learning and behavior emerge from the interaction of three components: (1) the learning environment, (2) the learner, and (3) the teaching material. Ways to promote active learning are offered in Teaching Tips 3.4, "Guidelines for Promoting Active Learning."

3.9d Scaffolded Instruction

Scaffolding refers to abundant teacher supports at the initial stage of a student learning a task. An analogy is made to the scaffold used by builders. A building scaffold is a temporary structure used to support a building in the early stages of construction that is removed when it is no longer needed. Similarly, in teaching the metaphor of a scaffold describes supports that the teacher provides for the student in the early stages of learning a task. These supports are removed when they are no longer necessary (Pea, 2004; Gibbons, 2002).

TEACHING TIPS 3.4

Guidelines for Promoting Active Learning

Encourage interactive learning	Learning emerges from the interaction of three components: the environment, the learner, and the teaching material. Teachers should interrelate these three components.
Recognize the importance of prior experience	Integrate the children's background knowledge and experience into the learning activities. Learning is dependent on what children already know.
Prepare children for the lesson	Preparation for learning leads to improved understanding, motivation, and storage of information. Expose children to key concepts before they are presented in the lesson.
Encourage active involvement	When children are actively involved in their learning, they are more successful learners than when they take a passive role in the learning process.
Structure lessons for success	There is a positive correlation between learning, self-concept, and positive attitudes. Teachers should structure lessons to provide opportunities for children to experience success.
Teach "learning to learn" strategies	Teachers can help children become aware of their learning processes. For example, asking children how they found a solution to a problem will assist them in understanding the strategies they use to learn.

Professional Resource Download

The concept of scaffolded instruction is often linked to Vygotsky's (1962) notion of the zone of proximal development (ZPD). The term *ZPD* refers to the difficulty level for effective learning; it is neither too easy nor too difficult for the child (the "Goldilocks" approach to instruction; see the section titled "Developmental Psychology" in Chapter 5). Also, Vygotsky notes that learning depends upon the social interaction of an experienced adult (teacher) and the learner (student). The teacher provides the support or scaffolding that the student needs during the initial stage of learning the task (Pea, 2004; Gibbons, 2002; Rosenshine, 1997).

scaffolded instruction
Teacher supports for the student, particularly at the initial stage of learning a task.

For scaffolding to be successful, a child must enter an exchange with some prior understanding of what is to be accomplished (Pea, 2004). Examples of scaffolds include (1) simplified problems, (2) modeling of the procedures by the teacher, (3) thinking aloud by the teacher, and (4) teacher mediation to guide the student to think through the problem.

3.9e Executive Functions

The *executive functions* have been called the brain's CEO (Sousa, 2001). Executive functions are the ability to control and direct one's own learning. They orchestrate resources like memory, language, and attention to achieve a goal. As a type of traffic manager that activates, monitors, and controls a person's actions and learning, executive functions regulate thinking processes (Keeley, 2006; Swanson & Sa'ez, 2003; Barkley, 2001). Examples of executive functions are planning what one will do tomorrow, deciding things in the environment to pay attention to, and deciding how to respond to a challenging task. Executive functions disorders are characterized by the situations described in Teaching Tips 3.5.

Difficulty in organizing their lives is an executive functioning problem for many students with disabilities and related mild disabilities. Their lack of organizational skills results in incomplete assignments, unfinished homework, and procrastination. Students need to learn how to plan ahead, how to gather appropriate materials for school tasks, how to prioritize the steps to complete an assignment, and how to keep track of their work.

A news report of a well-organized bank robber was reported in Kansas. The police obtained a search warrant and searched the bank robber's home. The police found a "to-do list" that included the reminder "ROB A BANK." The police were able to apprehend the robber through the evidence in the robber's to-do list.

Teaching Tips 3.6, "Organization Steps," offers ways to help students organize.

TEACHING TIPS 3.5
Examples of Executive Functions

- Planning and organizing
- Identifying what needs to be done
- Determining the sequence of a task
- Carrying out steps in an orderly way
- Beginning tasks
- Evaluating how one is doing
- Taking feedback or suggestions

Source: Keely, 2006.

3.9f Learning Strategies Instruction

Instruction in learning strategies is increasingly being used as a teaching method for students with learning disabilities and related mild disabilities. These students tend to be inefficient learners because they lack systematic ways of learning, remembering, or directing their

TEACHING TIPS 3.6

Organization Steps

- Provide clear routines for *placing* objects—especially regularly used objects such as books, assignments, and outdoor clothes—in designated places so that they can be found easily
- Provide students with a list of materials needed for a task; limit the list to only those materials necessary to complete the task
- Provide a schedule so that students know exactly what to *do for each* class period. Use *picture cues* to illustrate the schedule
- Make sure students have all homework assignments before leaving school; write each assignment on the board and have students copy it, or write the assignment for a student in a pocket notebook
- Provide students with pocket folders to organize materials—for example, place new work on one side and completed work in chronological order on the other. Use a different color folder for each subject
- Make a to-do list. Making a to-do list is one of the key strategies for improving executive functioning. Once students learn to depend on to-do lists, they incorporate them into many of life's activities. Write down activities that the student should *do, and* then have the student check each item off as it is accomplished. For example, a student could make a written list of things to *do* to prepare for an *upcoming* test and then check each one off as it is finished: The list might include (1) re-read the chapter to prepare for the test, (2) go over your class notes on the chapter, (3) write down the key vocabulary words often given at the end of the chapter, (4) make an outline of the chapter using the topic headings used in the book, (5) make flash cards of the key words, and (6) test yourself on the key words.

Professional Resource Download

learning strategies instruction
A series of methods to help students direct their own learning, focusing on how students learn rather than on what they learn.

learning. Learning strategies instruction helps students learn the secrets of being a successful student, how to study, how to integrate new materials with what they already know, how to monitor their learning and problem solving, and how to remember or to predict what is going to happen. Research supports learning strategies as an effective way to teach students with learning disabilities and related mild disabilities (Mainzer et al., 2003; Swanson, 1999b).

Instruction in learning strategies helps students take charge of their own learning; thus, they become active learners and acquire a repertoire of learning strategies (Deshler, Ellis, & Lenz, 1996). The model for teaching learning strategies was developed at the University of Kansas Institute for Research on Learning. There are eight steps: (1) pretesting, (2) describing the strategy, (3) teaching modeling, (4) verbal practice, (5) controlled practice, (6) advanced practice, (7) post-testing, and (8) generalization.

Applications of learning strategies are presented in several sections of this textbook—Chapter 5, "Theories of Learning," Chapter 9, "Adolescents and Adults With Learning Disabilities and Related Disabilities," and Chapter 12, "Reading Difficulties."

The procedures for learning strategies instruction include the following:

1. Provide elaborate explanations
2. Model learning processes
3. Provide prompts to use strategies
4. Engage in teacher-student dialogue
5. Ask process-type questions

Did You Get It?

In both process and principle of peer-tutoring, it is generally agreed upon that there is one primary benefactor.

a. Yes — the tutee
b. No — the tutor and tutee benefit mutually
c. Yes — the tutor
d. It depends whether the tutor is part of the school's regular staff or not

3.10 Task Analysis

task analysis
A teaching approach that analyzes an activity by breaking it down into a sequence of steps

The purpose of task analysis is to plan the sequential steps for learning a specified skill. Task analysis breaks down the complexity of an activity into easier steps; these steps are organized as a sequence, and the student is taught each step of the sequence. The goal is to move the student to the desired level of skill achievement. The skill of buttoning, for example, entails a sequence of component subskills: grasping the button, aligning the button with the buttonhole, and so forth. The teacher must consider the following: (1) What are the important, specific educational tasks that the student must learn? (2) What are the sequential steps in learning this task?, and (3) What specific behaviors does the student need to perform this task? The procedures of task analysis are given in Teaching Tips 3.7, "Steps of Task Analysis."

The following list provides examples of the task analysis of instruction sequences to reach a curriculum goal:

- **Task analysis of long division** includes the steps (or subskills) of estimating, dividing, multiplying, subtracting, checking, bringing down the next digit, and then repeating the process. Each step must be planned for, taught, and assessed.
- **Task analysis of writing a report** by using the school library includes the skills of knowing alphabetical order, using the card catalog (or a computer station), finding books on a subject, using a book index to find information on a topic, getting a main idea from reading, and knowing language usage skills (Slavin, 2000).
- **Task analysis of recognizing a word** might include the skills of recognizing initial consonants, recognizing short vowels, and blending.

TEACHING TIPS 3.7
Steps of Task Analysis

Step 1. Clearly state the learning task (the behavioral objective).
Step 2. Break the learning task into the steps necessary to learn the target skill, and place these steps into a logical teaching sequence.
Step 3. Test informally to determine the steps that the student can already perform.
Step 4. Begin teaching, in sequential order, each step of the task analysis sequence.

Professional Resource Download

Did You Get It?

Task analysis is a highly effective means and method for teaching; this is of primary importance when teaching those students who have disabilities. The main goal of this analysis has to do what in relation to the task-at-hand?

a. Making it more enjoyable
b. Lessening frustration levels of the student who is tackling it
c. Reducing the complex to the achievable
d. Teaching easy ways of doing things

3.11 Technology in the Classroom

Technology should be viewed as a tool for learning and can supplement the specialized instruction that is being provided by the special educator. Students enjoy using technology in the classroom. It offers them an opportunity for active learning. Students who are technologically savvy are eager to share their knowledge with others. Using technology in the classroom increases student motivation and self esteem. Students want to learn how to use the Internet. Here are some suggested websites.

3.11a **Websites**

The following websites are designed for children:

http://kids.yahoo.com
http://www.coolmath4kids.com
http://www.kidsknowit.com

- A popular video for teaching mathematics is that of Salman Khan. You can find this website by going to http://on.ted.com/SalKhan

3.11b **Useful Technology for Writing and Creating Documents**

The following provide some samples of websites that assist students in writing

Co:Writer *http://www.donjohnston.com*
Kidspiration *http://www.kidspiration.com*
PowerPoint *http://office.microsoft.com/en-us/publisher/default.aspx*
Read Please! *http://www.readplease.com*
Smilebox for creating slideshows: *http://www.smilebox.com*
Voki for creating a talking avatar: *http://www.voki.com*
Free website creation for educators: *http://education.weebly.com*

There are multiple ways that technology can be utilized within the classroom. It can be used to support and enhance the delivery of instruction, it can be used by students as a tool to complete assignments, and it can be used as an effective means of communication.

TeachSource Video Case Activity

Watch the TeachSource Video Case entitled "Teaching Technology Skills: An Elementary School Lesson on PowerPoint." In this video, young children learn to use the technology of PowerPoint.

QUESTIONS

1. How can teachers instruct children to use computer technology?
2. What is PowerPoint?

Technology to Support and Enhance Instruction

Teachers use technology to provide instruction to students. They may utilize PowerPoint slides or prezi to provide visuals. They may download information about a given country. They may utilize the Smartboard for interactive instruction. They may use survey tools to get their students' opinion about a given topic.

More teachers are utilizing Skype as a way to feature speakers from other parts of the country. Some classrooms have a relationship with a classroom from another country that they are studying and

they use Skype to have a discussion with a classroom in Japan. Some teachers create podcasts that are short lectures about a critical topic and the student can listen to the podcast using her iPod or iPhone.

Voki is an online tool that allows the teacher to create a talking avatar. The teacher creates a character, tells it what to say, and then publishes the character with the message. This is an excellent way to gain student attention (Elliott, 2012).

Many teachers now have webpages as part of their school's website and they can utilize the webpage to provide a preview of the lecture or provide clues to a key vocabulary word that will be in the lecture. Teachers can also create their own free website utilizing weebly for education.

Some teachers have utilized Facebook as a way to enhance instruction. However be advised that some schools will not allow its use so the teacher must always check the school district's policy. Teachers who are allowed to use it create a separate account and only allow their students to utilize it for specific educational purposes. They may pose questions about a topic that they are discussing and the students can respond.

Online discussion boards are an excellent tool for teachers to use to post a question about what is being studied and all students are expected to provide one or two responses to the question.

Technology as a Tool for the Student to Complete Assignments In place of having students complete traditional assignments such as papers or book reports, students can be encouraged to do a podcast about a topic or they can put together a PowerPoint presentation about a given topic. YouTube is now available for education and students can prepare a YouTube about a given topic.

Students can also monitor their own progress in mastering spelling words or math facts by charting their work using a spreadsheet.

Students can be allowed to research a given topic utilizing technology.

For writing, students can blog utilizing such programs as WordPress (*http://www.wordpress.com*).

When expecting students to complete assignments utilizing technology, it is critical that the teacher be cognizant of whether the student has access to technology at home. The family may not have consistent electricity in the home or may not have consistent internet access; if that is the case, the student will need to be provided time to utilize school provided computers.

Technology as a Communication Tool Technology can be utilized to post homework assignments, to post helpful hints to students about how to complete an assignment, and to provide reminders to students about assignments that are due. For parents, helpful hints can be provided about the topic that is being discussed in class. Reminders can also be posted to parents about important school events.

Some teachers utilize dialogue journals with their students. Students create an e-mail specifically for school use and their journal can be sent to the teacher on e-mail. The teacher can then respond personally to the student.

Some teachers are texting parents or students to provide reminders about specific activities or assignments.

The rapid changes in technology make it very important for teachers to stay current with what is available, know what the technology policies of the school district are, keep any use of technology appropriate for school use, and supervise students' use of technology.

I Have a Kid Who...

THE CASE OF BECKY C. *Describes the Influence of a Clinical Teacher*

Becky C. is in the first semester of third grade. In first grade, she was completely baffled by the letters and words. Becky continued to struggle with reading in second grade. Her reading problems are continuing in third grade. She complains that the third grade teacher yells at her a lot. Becky is in a general education third-grade classroom. Becky does not want to go to school and has lost self-esteem. Becky likes art and seems to have a special talent for drawing, cartooning, and painting.

You are the special education teacher collaborating with Becky's general education teacher. You believe that Becky can learn and you take on the job of being a clinical teacher for Becky. You want to tailor learning experiences for Becky's unique needs.

QUESTIONS

1. What steps can you take to build Becky's self-esteem and give her confidence that she can learn?
2. How can you use Becky's talent in art to build her reading skills?
3. How can you help Becky see the progress she is making?

Did You Get It?

Technology is now an integrated and inextricable component of the educational process. Technology can and should be regarded as all but which of the following?

a. An adjunct
b. A surrogate
c. Supplementary
d. A partner

Chapter Summary

- Specialized instruction is at the heart of special education and is delivered by a special educator based on the individual needs of the student.
- Clinical teaching requires tailoring learning experiences to the unique needs of a particular student.
- Differentiated instruction is required to meet the individual needs of students with learning disabilities and related disabilities.
- One of the critical options available to teachers is to change certain variables in the school setting: difficulty level, space, time, and language. By modifying these elements, the teacher controls certain variables that affect learning.
- It is important to build the student's self-confidence.
- Most students with learning disabilities and related disabilities are in general education classrooms.
- It is essential to know instructional strategies for general education.
- Task analysis involves analyzing the small sequential steps of a specific skill.
- Technology can be utilized to supplement instruction, allow students to complete assignments, and as a communication tool.

Questions for Discussion and Reflection

1. What is meant by the term "specialized instruction"?
2. What is meant by clinical teaching?
3. Teachers can do little about many of the factors related to learning disabilities. Some variables, however, can be controlled or adjusted by the teacher. Describe and give an example of three instructional variables that teachers can change.
4. Why is it important to consider ways to accommodate students with learning disabilities and related disabilities in the general education classroom? Name three ways that general education classroom teachers can make accommodations for students.
5. Other students in the classroom may complain that it is not fair to make modifications and accommodations for students with disabilities because the students are not all being treated in the same way. How would you respond to these comments?
6. Describe task analysis. Give an example of an instructional sequence (or the steps to learning a specific skill).

Key Terms

accommodations (p. 92)
active learning (p. 96)
bibliotherapy (p. 89)
clinical teaching (p. 76)
cognitive processing (p. 82)
differentiated instruction (p. 80)
direct instruction (p. 83)
explicit teaching (p. 95)
learning strategies instruction (p. 98)
mastery learning (p. 84)
multiple intelligences (p. 81)
peer tutoring (p. 94)
readiness (p. 84)
reasonable accommodations (p. 91)
scaffolded instruction (p. 97)
specialized instruction (p. 74)
task analysis (p. 99)
zone of proximal development (ZPD) (p. 84)